Cisco Unified Workforce Optimization

Quality Management Administrator User Guide
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Introduction

Cisco Unified Workforce Optimization Quality Management (Quality Management) is a comprehensive recording solution that addresses the common needs for recording customer interactions—whether it is for compliance, quality management, or both.

Quality Management Administrator is used to:

- Assign user roles
- Set up groups
- Create evaluation forms, manage evaluation forms
- Set up workflows for recording customer contacts
- Set up recording archiving
- Maintain the Quality Management system

Quality Management Administrator controls how devices are configured, calls are recorded, and who has access to Call Recording and Quality Management.

Call Recording provides a solution to record all calls—commonly done to meet regulatory compliance requirements or to handle customer disputes. Call Recording makes the task of recording, archiving, and retrieving 100% of customer calls more manageable in the following ways:

- An organization can choose to record all calls for everyone, or for specific teams of agents and knowledge workers configured in the system
- Archive parameters are flexible and storage is secure
- Advanced query options let users find recordings quickly and easily among thousands of logged interactions

Quality Management helps businesses refine their processes and improve their bottom line in the following ways:

- Increase revenue by improving customer satisfaction and increasing customer loyalty
- Provide consistent, high-quality customer experiences
- Identify customer needs and expectations
- Reduce labor costs for agent identifications

Getting Started

This topic provides the essential information for accessing Quality Management Administrator, synchronizing the databases, and understanding the automated update feature.

Logging into Quality Management Administrator

This task describes how to log in to Quality Management Administrator.

Quality Management Administrator is installed on the Quality Management Base Services server by default during a normal install. You can also install it on a client machine, see the *Installation Guide* for more information.

TASK

1. Choose Start > All Programs > Cisco > WFO > Quality Management Administrator.

   STEP RESULT: The Administrator Login dialog box appears (Figure 1).

   Figure 1.   Administrator Login dialog box
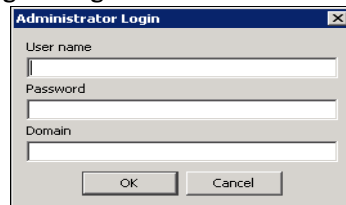
2. Complete the dialog box as follows, and then click OK or press the Enter key.

   – In a non-Active Directory environment, type `administrator` in the User Name field and the password that was set up during system installation in the Password field.

   NOTE: The username, administrator, is a default username. You cannot change it. The Username field is not case sensitive and the Password field is case sensitive.

   – In an Active Directory environment, type an AD Account username in the User Name field, the password associated with the AD Account user in the Password field, and the domain that is associated with AD Account user in the Domain field.

> NOTE: The Username field is not case sensitive but the Password and
> Domain fields are case sensitive.
>
> *STEP RESULT:* Quality Management Administrator validates your login, and then logs
> you in to Quality Management Administrator.

Changing the Administrator Password

PREREQUISITE

This feature only allows you to change the administrator password in a non-Active
Directory environment.

The administrator password must be between 1 and 32 alphanumeric characters long.
It is case sensitive. The password should remain confidential. If your password is no
longer confidential, change the password.

TASK

* From the menu bar, choose Settings > Change Administrator
  Password, complete the fields in the Change Password dialog box, an
  then click OK.

Synchronizing Databases

PREREQUISITE

Teams, agents, supervisors, and devices must be set up in Cisco Unified Contact
Center Express (Unified CCX) before you can synchronize the Unified CCX database
with the Quality Management database.

Quality Management automatically synchronizes the following databases at 10-minute
intervals.

* Unified CCX database
* Quality Management database

Use this task if you need to manually synchronize the databases.

TASK

* On the menu bar, choose File > Synchronize Databases.

STEP RESULT: The synchronization process starts. While the process is running, Quality Management changes the menu option from Synchronize Databases to Synchronize Databases (Running) and disables the option.

> **NOTE:** You might see a Microsoft Windows Security Alert saying that the Windows Firewall had blocked Java(TM) 2 Platform Standard Edition (SE) binary. To add an exception for this binary, click Unblock and try again.

When the process is complete, Quality Management returns the menu option to Synchronize Databases and enables the option.

Logging Out of Quality Management Administrator

TASK

- To log out and leave Quality Management Administrator running, choose File > Log Off, and then click OK.

STEP RESULT: You are logged out of Quality Management Administrator and the application remains available.

- To log back in when Quality Management Administrator is running, choose File > Administrator Login, type `administrator` in the User Name field and the administrator password in the Password field, and then click OK.

- To log out and close Quality Management Administrator, choose File > Exit or click the Close in the upper right corner of the window.

Automated Updates

You can enable automated updates in Quality Management. When a newer version of Quality Management is installed on the servers, the automated update feature updates all instances of the client applications (Quality Management Administrator and Desktop Recording service) when you start a client application. A dialog box notifies you that your instance of Quality Management Administrator will be updated. Click OK and follow the prompts.

> **NOTE:** If the automated update process is running, do not start another client application, or another instance of the automated update process might start.

When the update completes, click OK, and then restart client application.

> **NOTE:** If you cancel an update, the update fails. However, you still see a message that the upgrade has completed. The next time you start client application, the automated update process runs again.

Depending on the version you are upgrading from, Quality Management might not allow you to use automated updates. When automated updates are not allowed, you will see the following message on the client machine:

```
You are trying to update to a version that does not allow
over the top updates.
```

Automated update logs are located on the client machine in the following folder:

- **Windows XP:** C:\Documents and Settings\<username>\Local Settings\Temp\Calabrio Quality Management Software Update Log.txt

- **Windows 7:** C:\Users\<username>\AppData\Local\Temp\Calabrio Quality Management Software Update Log.txt

where <username> is the user's login ID.

Administrator Interface

The Quality Management Administrator interface (Figure 2) has two panes. The left pane is a navigation tree. The right pane displays the node that you selected in the left pane.

Figure 2.   Quality Management Administrator interface
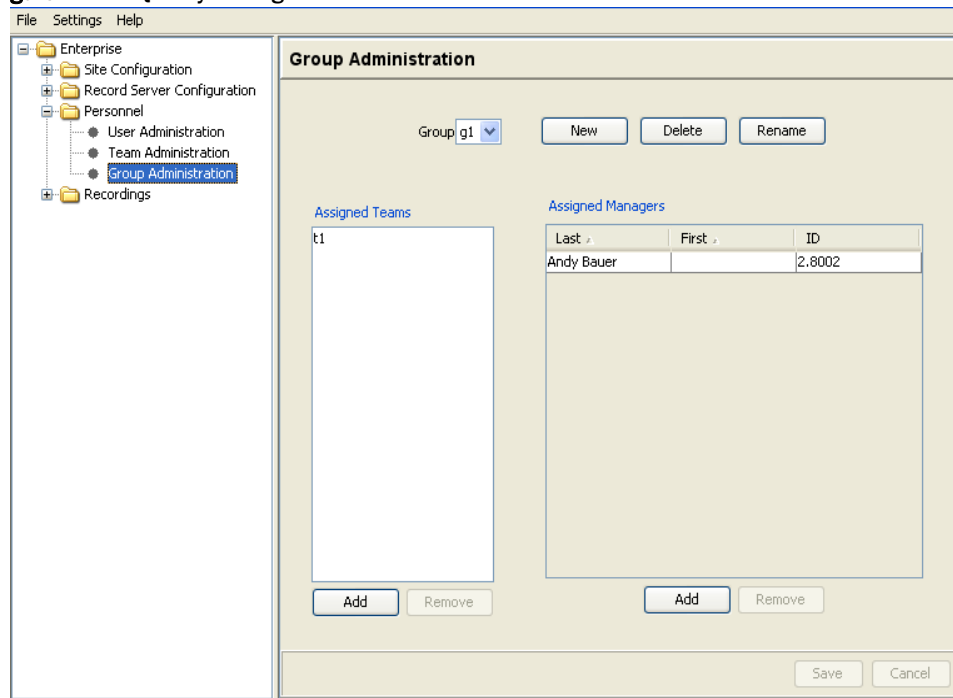
Moving Within the Navigation Tree

Use the following mouse or keyboard actions to move within the navigation tree.

Mouse

- Double-click an icon/node name to expand or collapse the tree.
- Click the plus sign (+) to the left to expand the tree.
- Click the minus sign (−) to the left to collapse the tree.

Keyboard

- Press the Up and Down arrow keys to move from one node to the next.

- Press the Left arrow key to collapse the tree.

- Press the Right arrow key to expand the tree.

Sorting Tables

Data that appears in a table can be sorted by as many columns as there are in the table. The sort can be ascending or descending.

The small triangles at the right of the column heading display the direction of the sort. These arrows also change size depending on the column's position in the sort. The triangle in the primary sort column is biggest, the one in the secondary sort column is slightly smaller, and so on.

Sorting a Table by One Column

TASK

- To sort a table by one column, click the column heading.

- To reverse the sort order, click the column heading again.

Sorting a Table by Multiple Columns

TASK

1. Press the Ctrl and click the primary sort column heading.

2. Continue holding down the Ctrl key and click any other column headings you want to sort the table by.

System Configuration

Use the System Configuration windows to modify the Quality Management environment.

If you are running Quality Management Administrator on a client desktop, some features are disabled under System Configuration. You can only modify these features from Quality Management Administrator or System Configuration Setup (PostInstall.exe) on the Base server. For more information about System Configuration Setup, see the *Installation Guide*.

> **NOTE:** The Inclusion List does not appear in the System Configuration Setup tool. It is located under the System Configuration node in Quality Management Administrator.

Modifying the System Configuration

The following task describes how to modify the system configuration information.

TASK

1. Expand the System Configuration node in the navigation tree, and then select the window you wish to modify.

   STEP RESULT: The selected window appears in the right pane.

2. Complete the fields.

3. Click Save.

   STEP RESULT: Modifications take effect after you save your changes.

System Database

Use the System Database window (Figure 3) to configure connection information for the Quality Management system database (system database).

> **NOTE:** You can only change the information in the System Database window from the System Configuration Setup (PostInstall.exe) or Quality Management Administrator on the Base server. The System

Database window in Quality Management Administrator on a client desktop is read-only.

Figure 3.   System Database window
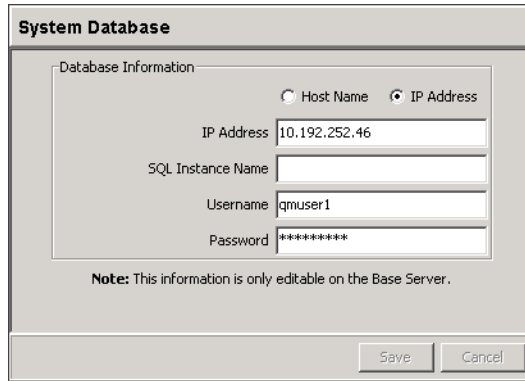
Table 1.   System Database fields

Field	Description
Host Name/IP Address	The hostname or IP address of the system database server (the server on which SQL Server is installed). If you need to specify a configured port on the system database server, choose Host Name and use the following format in the IP Address field: `<IP address or hostname>:<port number>` where <IP address or hostname> is the IP address or hostname and <port number> is the configured port number of the system database server (for example, 10.188.252.11:1455).
SQL Instance Name	The SQL instance name of the SQL Server. Leave this field blank if you want to use the default instance.
Username	The username used by the DB Proxy service to access the system database. See "Microsoft SQL Server" in the *Installation Guide* for more information.
Password	The password used by the DB Proxy service to access the system database. See "Microsoft SQL Server" in the *Installation Guide* for more information.

Configuration Settings Used By Services

If you change the settings on the System Database window, the following table shows when your changes take effect.

Table 2.   When services start using the changed configuration settings

Service	Configuration settings applied when...
Data API Service	Restart the service.
DB Proxy Service	Restart the service.
Sync Service	No restart required. The next sync period (every 10 minutes) applies the configuration settings.

Cisco Unified CC Database

Use the Cisco Unified CC Database window (Figure 4) to configure connection information for the Cisco Unified Contact Center Express (Unified CCX) database. Quality Management uses this information to sync agents and teams from Cisco Unified CCX.

Figure 4.   Cisco Unified CC Database window

Sync, Data API, and MANA use the settings in the Cisco Unified CC Database window.

> **NOTE:** You can only change the information in the Cisco Unified CC Database window from the System Configuration Setup (PostInstall.exe) or Quality Management Administrator on the Base server. The Cisco Unified CC Database window in Quality Management Administrator on a client desktop is read-only.

Table 3.   Cisco Unified CC Database fields and buttons

Field	Description
Side A Server Name	The name of the Unified CCX server for the Side A (primary) Cisco Unified CC database. If the server name contains a hyphen (-), replace the hyphen with an underscore (_) when you enter the server name in this field. This ensures the correct configuration of the file name. System Configuration Setup appends _uccx to the name that appears in this field the next time you run System Configuration Setup. **NOTE:** Do not remove _uccx from the name.
Side B Server Name	The name of the Unified CCX server for the Side B (secondary) redundant Cisco Unified CC database, if one exists. If the server name contains a hyphen (-), replace the hyphen with an underscore (_) when you enter the server name in this field. This ensures the correct configuration of the file name. System Configuration Setup appends _uccx to the name that appears in this field the next time you run System Configuration Setup. **NOTE:** Do not remove _uccx from the name.
DB Instance Name	The name of the Cisco Unified CCX database. The name is rdsaux01_uccx and the field is disabled by default.
Port	The port number used by the Cisco Unified CCX database. The port number is 1504 and the field is disabled by default.
User	Login ID used to access the Cisco Unified CC database. This user must have write permission to the database. The login ID is uccxworkforce and the field is disabled by default.
Password	Password used by uccxworkforce to access the Cisco Unified CC database.
JDBC Driver	The path to the ifxjdbc.jar file. For example: C:\Program Files\IBM\Informix_JDBC_Driver\lib\ifxjdbc.jar See "Informix JDBC Driver" in the *Installation Guide* for more information.
Filters	Allows you to determine what data is synced and determines which devices are available in a telephony implementation. See "Touch-Point Filtering" on page 24.

Configuration Settings Used By Services

If you change the settings on the Cisco Unified CC Database window, the following table shows when your changes take effect.

Table 4.   When services start using the changed configuration settings

Service	Configuration settings applied when...
Sync Service	No restart is required: • After the initial installation • After you fix incorrect sync information The next sync period applies the configuration settings without restarting the Sync service. When there are substantial changes to the database, best practice recommends updating the settings in the Cisco Unified CC Database in the following order: 1. Stop the Sync service and the Upload Controller service. 2. Back up the SQMDB catalog. 3. Change the configuration settings on the Cisco Unified CC Database window. 4. Start the Sync service. 5. Verify the data by looking for mass deactivations. 6. Restart the Upload Controller service. Restarting the Upload Controller services adds new calls to the database.
MANA Service	The next polling period applies the configuration settings.
Data API service	Restart the Data API service.

Touch-Point Filtering

Touch-Point Filtering allows you to determine what data is synced and determines which devices are available in a telephony implementation. A "touch point" is a 3rd party system that has data that can be synced with Quality Management for recording purposes. The ability to filter this data so that Quality Management sees only a subset of the touch point's data is useful in the following environments:

- Multi-tenancy environments where a single ACD/telephony implementation is used by multiple customers and each customer has their own Quality Management installation.

- Environments where an ACD/telephony implementation has more data than Quality Management requires. For example:

- Only a subset of all extensions are assigned to agents and therefore required for recording purposes.

- Quality Management will only be used by a subset of the call center.

By default, all teams and users are synced and available to be configured in Quality Management Administrator. Touch-Point Filtering allows you to you to configure filters so that Quality Management only has access to the ACD/Telephony data that matches the filter. The available filters depend on the ACD and telephony implementations.

When you add a filter, the ACD Filter dialog box appears. The fields associated with this dialog box are described in the following table.

Table 5.   ACD Filter fields

Field	Description
Name	The name of the ACD filter.
Prefix Type	The type of prefix that Touch-Point Filtering will use to filter the data. In this instance, the data is filtered by Team Name.
Prefix Value	The name of the team. No wildcards are allowed. For example, if you enter Team1, both Team1 and Team10 will be synced.
Trim Prefix	Remove the prefix before adding synced information to Quality Management database. Your options are as follows: • True—removes the prefix. True is the default value. • False—keeps the prefix. Example: QM_TeamA becomes TeamA.
Extension Range	The range of extensions that you want to include in the sync.
Device Name Range	The range of devices names that you want to include in the sync.

Telephony Groups

The Telephony Groups window (Figure 5) allows you to add, modify, and delete the following telephony group types:

- Cisco MediaSense clusters

- Unified CM clusters

Figure 5. Telephony Groups window
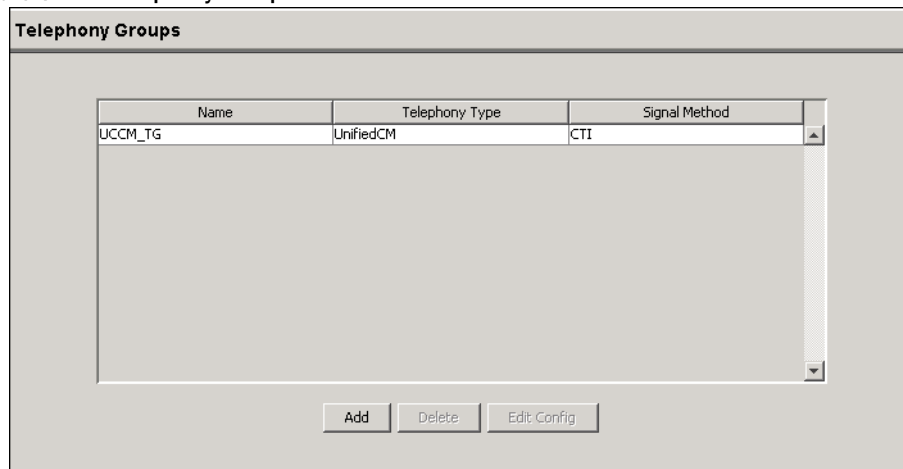
Table 6. Telephony Groups fields

Field	Description
Name	The name of the telephony group.
Telephony Type	The telephony signaling method for Cisco Unified CM. The possible options are as follows: • UnifiedCM • MediaSense
Signal Method	The telephony signaling method for Cisco Unified CM. The possible options are as follows: • CTI • MediaSense

Table 7.   Telephony Groups buttons

Field	Description
Add	Add a telephony group.
Delete	Delete one or more selected telephony groups.
Edit Config	Modify a selected telephony group.

Telephony Group Configuration

The Telephony Group Configuration dialog box (Figure 6) appears when you add a telephony group. It allows you to assign a name to the telephony group and associate it with a telephony signaling method.

Figure 6.   Telephony Group Configuration dialog box
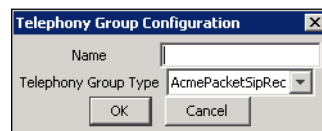
Table 8.   Telephony Group Configuration fields

Field	Description
Name	The name of the telephony group. The name must be unique.
Telephony Group Type	The telephony signaling method associated with the telephony group. The possible options are as follows: • UnifiedCM • MediaSense

Unified CM Configuration

The Unified CM Configuration dialog box (Figure 7) appears when you add or edit a telephony group with a Unified CM telephony type. It allows you to configure a Cisco Unified CM cluster.

Figure 7.   Unified CM Configuration dialog box

The Cisco Unified CM window also allows you to configure the following users:

- Simple Object Access Protocol (SOAP) Administrative XML Layer (AXL) user
- Unified CM Java Telephony Application Programming Interface (JTAPI) user

These users are used by the Computer Telephony Integration (CTI) service to log in to Unified CM.

A Unified CM cluster has one or more CTI Managers. The CTI Manager is a service that runs on Unified CM and handles JTAPI events for every Unified CM in the cluster. You can specify a primary and backup CTI Manager.

You can specify a primary and backup CTI Manager through Quality Management. Any Unified CM that has the CTI Manager running on the subscriber can be your primary or backup CTI Manager.

> **NOTE:** You can configure any machine as the primary CTI Manager, but it is a good idea to avoid using the publisher, because it already has

the highest load. Using another server as the primary CTI Manager helps avoid decreasing the Unified CM performance.

You can specify one or more Unified CM telephony groups.

> **NOTE:** A Unified CM telephony group requires at least one CTI Manager.

You enter each Unified CM in the Unified CM telephony group in System Configuration Setup so that the Desktop Recording service can find the location of the Recording CTI service. Quality Management stores an association between the Recording CTI service and the Unified CMs in the cluster. If a Unified CM is not in the list, the Desktop Recording service will not know where to register for events.

> **NOTE:** Adding a new Unified CM telephony group here does not actually add a Unified CM cluster. It creates the association between the Recording CTI service and the Unified CMs in the cluster.

Table 9.　　Unified CM Configuration fields

Field	Description
Name	The name of the telephony group.
Telephony Group Type	The telephony signaling method for Unified CM. The field displays UnifiedCM by default.
Endpoint only does Screen Recording	When selected this check box indicates that the Unified CM telephony group is being used for screen recording only. This only applies when you are using one of the following recording methods: • MediaSense Recording
Enable Network Recording	When selected this check box indicates that the Unified CM telephony group is using Network Recording and the Recording CTI service will listen for SIP messages. The Recording CTI service will not listen for SIP messages when the check box is cleared.
SOAP AXL Access Username	The AXL (Administrative XML Layer) authentication username for this cluster. The SOAP AXL account is used to access devices in Unified CM from the VoIP Devices window. This username is created when you configure Unified CM.
SOAP AXL Access Password	The AXL authentication password. This password is created when you configure Unified CM.
SOAP AXL Access Version	The Unified CM version. **NOTE:** An error message will appear if the Version field is not configured.

Table 9.   Unified CM Configuration fields (Continued)

Field	Description
JTAPI Username	The JTAPI username for CTI. All phone devices, used for recording are associated with this application user (end user). The Recording CTI service logs into the Unified CM with this user. The username must be between 1 and 32 alphanumeric characters. This field is enabled when you choose CTI or Mixed from the Telephony Signaling Method drop-down list.
JTAPI Password	The JTAPI user's password for CTI. This must be between 1 and 32 alphanumeric characters. This field is enabled when you choose CTI or Mixed from the Telephony Signaling Method drop-down list.
IP Address	The host name or IP address of the subscriber (if any) Unified CMs. You can enter 1 publisher Unified CM, and one or more subscriber Unified CMs. **NOTE:** When using hostnames, verify the server can resolve the name of the subscribers. If the hostname cannot be resolved, the Recording CTI service cannot log in.
Primary/Back up	The type of CTI Manager. The possible values are as follows: • Primary—the primary CTI Manager. There can be only one primary CTI Manager. Once entered, a primary CTI Manager can be reassigned, but not deleted. In a typical configuration, the Primary CTI Manager is a subscriber, not a publisher. • Backup—the backup CTI Manager. There can be one or no backup CTI Manager. • Blank—the CTI Manager is not associated with a primary or backup server. See "Subscriber Configuration" on page 33 for more information.
Publisher	The field indicates whether or not the provided Host Name/IP address is associated with the publisher CTI Manager. If the field is blank, the Host Name/IP address is associated with a subscriber CTI Manager.
CTI Services Primary Host Name/IP Address	The hostname or IP address of the primary Recording CTI service.
CTI Services Backup Host Name/IP Address	The hostname or IP address of the backup Recording CTI service.

Table 10.   Unified CM Configuration buttons

Field	Description
Add	Add a new publisher or subscriber. See "Subscriber Configuration" on page 33 for more information.
Delete	Remove the selected publisher or subscriber.
Find Subscribers	Use the AXL user to locate subscribers associated with the publisher entered. This is a good way to validate the AXL user and to populate the list of subscribers, if any are found.

Unified CM Configuration Settings Used By Services

If you change the settings on the Unified CM Configuration window, the following table shows when your changes take effect.

Table 11.   When services start using the changed configuration settings

Service	Configuration settings applied when…
Recording CTI Service	Restart the service.
Quality Management Administrator (VoIP Devices)	Reload the VoIP Device window.
Network Recording Service	No restart required. The next polling period applies the configuration settings.
Desktop Recording service	Restart the service.

Adding a Backup CTI Service

This task describes how to add a backup CTI service. The primary CTI service was configured when you installed Quality Management.

TASK

1. From the Quality Management Administrator, choose Telephony Groups.

    STEP RESULT: The Telephony Groups window appears.

2. Select a telephony group with UnifiedCM as the Telephony Type and click Edit Config.

   STEP RESULT: The Unified CM Configuration dialog box appears.

3. Choose Host Name or IP Address for the CTI Services Backup, and enter the hostname or IP address, and then click OK.

4. Click Save to save your changes.

5. From the backup CTI server, double-click the file setup_MonRec_<version><build>.exe to start the installation wizard, where <version> is the version number and <build> is the build number.

   STEP RESULT: The Custom Setup dialog box appears.

6. Click the icon next to the feature named CTI Services and select "This feature will be installed on local hard drive," from the pop-up menu.

   ADDITIONAL INFORMATION: You can change the location where the services will be installed by clicking Change and entering a new path.

7. Click Next, and then click Install.

   STEP RESULT: The installation wizard installs the services you selected and starts the System Configuration Setup tool.

   NOTE: If Cisco Security Agent (CSA) is running on the server, the installation process stops it temporarily during the installation and restarts it after the installation finishes.

8. Click Next on each window in System Configuration Setup, and then click Finish to complete the installation.

AFTER COMPLETING THIS TASK:

You must restart the Network Recording service for the change to take effect. If you do not restart the Network Recording service, it will not connect to the backup CTI Service.

Subscriber Configuration

Use the Subscriber Configuration dialog box (Figure 8) to add a Unified CM server to the Cisco Unified CM cluster.

Figure 8. Subscriber Configuration dialog box
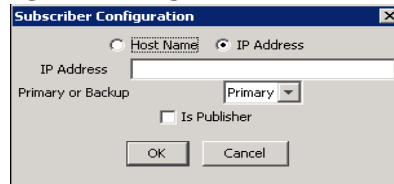
Table 12. Subscriber Configuration fields

Field	Description
Host Name/IP Address	The host name or IP address of the publisher or subscriber (if any) Unified CMs. You can enter up to 8 subscriber Unified CMs. **NOTE:** When using hostnames, verify the server can resolve the name of the publisher or subscribers. If the hostname cannot be resolved, the Recording CTI service cannot log in.
Primary or Backup	The type of CTI Manager. The options are as follows: • Primary—the primary CTI Manager. There can be only one primary CTI Manager. Once entered, a primary CTI Manager can be reassigned, but not deleted. In a typical configuration, the Primary CTI Manager is a subscriber, not a publisher. • Backup—the backup CTI Manager. There can be one or no backup CTI Manager. • Neither—the CTI Manager is not designated as a primary or backup.
Is Publisher	Select this check box if the provided Host Name/IP address is associated with the publisher CTI Manager. Only one publisher CTI Manager is allowed. This check box is disabled when a publisher CTI Manager is configured. **NOTE:** A publisher CTI Manager must be configured before you can add subscriber CTI Managers.

Subscriber Configuration Settings Used By Services

If you change the settings on the Subscriber Service window, the following table shows when your changes take effect.

Table 13.   When services start using the changed configuration settings

Service	Configuration settings applied when...
Recording CTI Service	Restart the service.
Quality Management Administrator (VoIP Devices)	Reload the VoIP Device window.
Network Recording service	Restart the service. NOTE: If you add a backup Recording CTI Service from the System Configuration Setup utility while in Update Mode, you must restart the Network Recording service.
Desktop Recording service	Restart the service.

MediaSense Configuration

The MediaSense Configuration dialog box (Figure 9) appears when you edit a telephony group with a MediaSense telephony type. It allows you to configure the Cisco MediaSense cluster associated with the telephony group. Quality Management uses this information to download call recordings from Cisco MediaSense.

Figure 9.   MediaSense Configuration dialog box
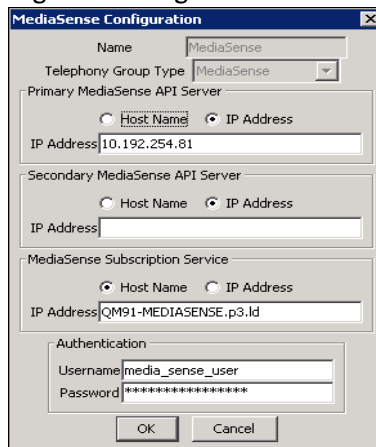
Table 14. MediaSense Configuration fields

Field	Description
Name	The name of the telephony group.
Telephony Group Type	The telephony signaling method for Cisco MediaSense. The field displays MediaSense by default.
Primary MediaSense API Server IP Address or Hostname	The hostname or IP address of the primary Cisco MediaSense API server.
Secondary MediaSense API Server IP Address or Hostname	The hostname or IP address of the secondary Cisco MediaSense API server.
MediaSense Subscription Service IP Address or Hostname	The hostname or IP address for the MediaSense Subscription service.
MediaSense Subscription Service Port	The MediaSense port number used by the MediaSense Subscription service. Default = 8440.
Authentication Username	The username for the Cisco MediaSense API server.
Authentication Password	The password for the Cisco MediaSense API server.

MediaSense Configuration Settings Used By Services

If you change the settings on the MediaSense Configuration window, the following table shows when your changes take effect.

Table 15.   When services start using the changed configuration settings

Service	Configuration settings applied when...
Monitoring and Recording MediaSense Subscription service	Restart the service.

Enterprise Settings

Use the Enterprise Settings window (Figure 10) to configure Quality Management.

Figure 10.   Enterprise Settings window

NOTE: The Active Directory section appears in the Enterprise Settings window only if your system is configured to use Active Directory.

You can use Enterprise Settings window to do the following:

- Share login fields with other products.

- View license information and update software licenses, if you are not using an ACD, by importing a new software license file.

- Specify when the DB Cleaner service runs.

- Configure Microsoft Active Directory domains (in an Active Directory system only).

- Configure the method (SMTP, SNMP, or CDR) used to notify administrators or supervisors of a system problem

- Configure session time-outs for Call Recording and Quality Management and Quality Management Administrator.

- Configure the locale for your system if your version of Quality Management supports other languages in addition to English.

Configuration Settings Used By Services

If you change the settings on the Enterprise Settings window, the following table shows when your changes take effect.

Table 16.   When services start using the changed configuration settings

Service	Configuration settings applied when...
All Clients (Enable Updates change)	Restart the client application.
Quality Management Administrator (AD Authentication and Administrator session timeout change)	Log into Quality Management Administrator.
Workforce Optimization (AD Authentication and localization changes)	Start the Data API service.

Sharing Workforce Optimization with Multiple Products

Workforce Optimization allows you to access several different products from a single login page. You can choose to access all products with a single password or separate passwords for each product when you run the System Configuration Setup tool.

Share Login Fields

You can choose to allow access to one or more of the following products from Workforce Optimization:

- Quality Management
- Calabrio Speech Analytics
- Calabrio Desktop Analytics
- WFM

You can also choose to share common login fields for these products by selecting the Share Login Fields with Other Products check box. If you select this option for each product, users are prompted for a single set of common login credentials.

If a user is not configured for multiple WFO products or the user wants to log into both of the WFO products with different login credentials, the user can select the Separate Product Logins check box in the Login window.

If you do not select the Share Login Fields with Other Products check box, users are prompted for separate login credentials for each WFO product.

Cisco recommends using shared login fields when the users use the same username and password for both products.

See the *Application User Guide* for more information on single-user login authentication.

License

This section displays the available licenses and allows you to import licenses.

What appears in the License section after the initial installation depends on whether the Synchronize Users with ACD check box is cleared or selected. If you select the Synchronize Users with ACD check box, you are running Quality Management with Unified CCX with mixed-mode licensing enabled. Quality Management obtains the licenses from the Cluster View Daemon (CVD) in Unified CCX and then displays the active license information in the License section. Your licenses can be updated through Unified CCX Licensing.

NOTE: If a connection to the CVD cannot be made when initially running System Configuration Setup, Quality Management will continue to try connecting to the CVD. You will not be able go to the next window until Quality Management can successfully connect to the CVD.

NOTE: If you add new license types (for example, change from only the QM license type to QM and AQM license types), you must ensure Quality Management Administrator is configured to support the new license types (for example, add a quality management workflow and assign users to the AQM license).

Contact your sales representative to obtain a new license file.

Licensing Rules

The license type determines what Quality Management records.

When you log into Workforce Optimization, you have access to all Quality Management applications allowed by the license and roles assigned to you.

The license determines what is recorded, not what is viewed, in Workforce Optimization. For example, if Agents X and Y use AQM or AQMA license, they can record their screens. If the supervisor for these agents only has a QM or QMA license, the supervisor can still view the screen recordings made by these agents.

Importing a License File

This task describes how to import a Cisco CR license file.

TASK

1.   Click the Upload License button.

     STEP RESULT: The Upload License File dialog box appears.

2.   Navigate to the folder where your updated Cisco CR license file is stored, and select the file.

3.   Click Upload File.

     STEP RESULT: The Licensing Server uploads the Cisco CR license file.

Cleanup

The Database Cleanup Time field specifies when the DB Cleaner utility runs. This utility deletes expired recordings from the database. The value provided must be between 00:00 and 23:59 in 1-minute increments. Choose a time when no uploads are occurring to reduce the load on the system. Default = 00:05.

Active Directory

The Active Directory section appears in the Enterprise Settings window only if your system is configured to use Active Directory. Use the Active Directory section to configure Active Directory domains.

- There must be at least one domain configured
- Each domain must have at least one user path configured

Domain Information

The connection information that you enter for Active Directory in the Domain Information dialog box (Figure 11) is verified using the entered credentials, and the user paths are validated when you click OK in the Domain Information dialog box.

Figure 11.   Domain Information dialog box

Table 17.   Domain Information fields

Field	Description
Base DN	The location of all Active Directory users in the directory server tree. This field is autofilled with a sample format with variable names that you replace with the domain information. Maximum number of characters allowed = 1000. If your hostname has more than 3 parts, add additional DC=*domain* statements to the beginning of the Base DN field.
Domain Name	Defaults to the first part of the string entered in the Base DN field. In most cases this is the domain name, but in some cases you must edit the default.

Table 17.   Domain Information fields (Continued)

Field	Description
Host Name/IP Address	The host name or IP address of the Active Directory server.
Port	The port used to access the Active Directory server. The field is autofilled with the default port 389, or 636 if you are using SSL (Secure Socket Layer). **NOTE:** If you change the port to anything other than 389 or 636, clearing or selecting the Use SSL check box will not change the port. The Quality Management server must allow socket communication on this port to be able to access the Active Directory server for user authentication.
Display Name	The name (not the login name, but the display name as configured in Active Directory) of a user with read access to the Active Directory database. Maximum number of characters allowed = 1000.
User Password	The user's password.
User Search Base	The node in the Active Directory folder under which the user resides. Maximum number of characters allowed = 1000.
Use SSL	Select this check box to use SSL for connection to Active Directory. The check box is clear by default and indicates SSL is not enabled. Clearing or selecting this check box changes the default port number in the Port field.
Admin Group	The name of the security group in Active Directory. The users assigned to this security group will be allowed to log in to Quality Management Administrator and Workforce Optimization as an administrator. **Best practice:** Create a security group with a unique name in Active Directory and add the users who you want to have administrator privileges in Quality Management Administrator and Workforce Optimization. Specify the name of that security group in this field. This prevents any conflict any with default security groups in Active Directory. **NOTE:** Only users who are a member of this admin group can be an administrator.

Table 17.   Domain Information fields (Continued)

Field	Description
User Records (OUs)	One or more paths to user records (OUs). Click Add to add at least one path, or Remove to remove an existing path. Maximum number of characters allowed = 1000.
	You must specify Active Directory paths from the most specific to the least specific (from left to right in the path statement). For example, if the Active Directory tree is:
| | ```
ou=US
    ou=Minnesota
        ou=Minneapolis
            ou=Users
``` |
	Then the user record appears as follows:
	`ou=Users,ou=Minneapolis,ou=Minnesota,ou=US`
	Quality Management will search subtrees by default. For example, you could write the user record path as follows, and Quality Management will search all the subtrees under Minnesota.
	`ou=Minnesota,ou=US`

Table 18.   Domain Information buttons

Field	Description
Add Certificate	Locate the Certificate Authority (CA) certificate for Active Directory. Active Directory with SSL requires this certificate. The certificate provides the Active Directory identity and public key for SSL communication.
	Contact your Active Directory administrator for the location of the CA certificate for Active Directory. In many cases, the Certificate Authority on the Active Directory machine issues the CA certificate for Active Directory. If this is the case, you can access the certificate from:
	http://<Active Directory server IP address or hostname>/certsrv
	Download the certificate from this website by clicking Download a CA certificate, Certificate Chain, or CRL and save it to a folder. Then click Add Certificate to import the certificate.
	NOTE: After you import the certificate and save your changes, log out of Quality Management Administrator and log back in to verify the certificate works.
View Certificate	View the certificate associated with Active Directory.
Add	Add a user record.

Table 18.   Domain Information buttons (Continued)

Field	Description
Remove	Remove a user record.
Edit.	Modify a user record.
OK	Save your changes.
Cancel	Exit without saving changes.

Managing Active Directory Domains

This task describes how to add or delete an Active Directory domain from the Enterprise Settings window.

TASK

- To add an Active Directory domain, click Add in the Active Directory section. The Domain Information window appears. Complete the fields and click OK.

- To delete an Active Directory domain, select the Active Directory domain you want to delete from the list in the Active Directory section, and then click Remove.

SMTP Configuration

SMTP Configuration allows you to configure the SMTP email connection.

> **NOTE:** This feature is only enabled on the Base server.

Notifications can be sent to either the Event Viewer or in emails to specified recipients. To use email notification, enable the Use Email Notification check box and then configure up to 5 email addresses.

Notification emails will be sent from the sender email address configured in the SMTP Configuration dialog box (Figure 12). If you are using email notification, you must configure SMTP. This can be done only from the Quality Management Base server.

Figure 12.   SMTP Configuration dialog box

Table 19.   SMTP Configuration fields

Field	Description
Host Name/IP Address	Choose Host Name or IP Address, and then enter the hostname or IP address of the SMTP server.
Port	The port used by the MANA service to communicate with the SMTP server.
Use Authentication	Select this check box if authentication is needed to access the SMTP server.
User	The username needed to access the SMTP server.
Password	The password needed to access the SMTP server.
From Address	The email address from which all notifications will come.

Table 19.   SMTP Configuration fields (Continued)

Field	Description
Emergency Address	The email address where notification will be sent if the Quality Management database is down when the MANA service attempts to get its initial configuration. The notification email addresses configured in the Monitoring and Notification window are stored in the Quality Management database, and thus will not be functional in the event that the Quality Management database is unavailable when the MANA service first starts.
	If the MANA service has already obtained a valid configuration from the Quality Management database, and the Quality Management database goes down while the MANA service is running, the MANA service will use the valid configuration it already has. As a result, the notification that the Quality Management database is down will go to the configured email address, not to the emergency address.

Configuring the SMTP Settings for Email

Use this task to configure SMTP settings for email.

TASK

- Click SMTP Configuration, complete the fields, and then click OK.

SNMP Configuration

SNMP Configuration allows you to configure the SNMP connection.

NOTE: This feature is only enabled on the Base server.

Notifications can be sent by Simple Network Management Protocol (SNMP). SNMP is an application-layer protocol that provides a message format for communication between Quality Management and a trap destination.

Figure 13. SNMP Configuration dialog box

Table 20. SNMP Configuration fields

Field	Description
Trap Destinations	The available trap destinations.

Table 21. SNMP Configuration buttons

Field	Description
Add	Add a trap destination.
Remove	Remove a trap destination.
Edit	Edit a trap destination.

Configuring the SNMP Settings

Use this task to configure SNMP settings for notification.

TASK

- Click SNMP Configuration, choose one of the following options, and then click OK.
  - Click Add to add a new trap destination.

– Select a listed trap destination and then click Edit to change the IP address.

– Select a listed trap destination and then click Remove to delete IP address.

AFTER COMPLETING THIS TASK:

Restart the Windows SNMP service to enable your changes.

NOTE: You must restart the SNMP service any time you make a change in trap destinations.

CDR Configuration

CDR Configuration allows you to enable the Unified CM's Call Detail Records (CDR) Report.

Figure 14. CDR Configuration dialog box

Table 22.   CDR Configuration dialog box fields

Field	Description
Cluster <number> <IP address or hostname>	Displays the CDR connection information and ignored extensions associated with the cluster. The number of cluster tabs that appear depend on the number of clusters configured for this system. The fields listed under the Cluster tab applies only to that cluster.
Unified CM Version	Select the version of the Cisco Unified CM you are using.
Host Name/IP Address	Choose host name or IP address, and then enter the information for the Unified CM.
Username	The name of the user with rights to access the CAR reports.
Password	The password of the user with rights to access the CAR reports.
Ignored Extensions	Displays the list of ignored extensions. Quality Management does not send notifications about extensions that appear in this list. Select one of the following options to modify the extensions that appear in this list. • Add—add a new extension to the list • Remove—delete an extension from the list • Edit—modify a selected extension in the list

CDR Information Formats for the QM3002 Notification Trigger

You can specify in which format you want to display the CDR information in the CDR Configuration dialog box. Examples of the available formats are listed here.

In these reports, call durations are expressed in milliseconds.

If the agent is listed as "Unknown" it means the agent has not successfully logged in to a PC that has the Desktop Recording service. It is probable that the agent was not configured correctly. Notifications for unknown agents are filtered out if the "Notify on users configured in QM" check box is enabled.

Summary Only

```
Status Report
Start Time: 01/11/2008 15:25:53
End Time:   01/11/2008 16:25:53
Extensions with Missed Calls:
Ext   Agent      Found   Missed      % Missed
```

```
1545   JonesM    0          8              100%
2201   SmithB    0         15              100%
```

Detail (Tab Delimited)

```
Status Report
Start Time: 01/11/2008 15:23:41
End Time:   01/11/2008 16:23:41
Extensions with Missed Calls:
        Ext      Agent    Found   Missed    % Missed
        1545     JonesM   0         8         100%
        2201     SmithB   0        16         100%
Missed Calls (all times in GMT):
CallID      Agent    Ext    ANI   DNIS   StartTime    Duration
16778554    JonesM   1545   2671  1545   01/11/2008   03:29:3613000
16778560    JonesM   1545   2671  1545   01/11/2008   03:29:5214000
16778561    JonesM   1545   2671  1545   01/11/2008   03:30:097000
16778594    JonesM   1545   2671  1545   01/11/2008   03:36:0112000
16778596    JonesM   1545   2671  1545   01/11/2008   03:36:1811000
```

Detail (Plain Text)

```
Status Report
Start Time: 01/11/2008 15:24:57
End Time:   01/11/2008 16:24:57
Extensions with Missed Calls:
        Ext      Agent    Found Missed    % Missed
        1545     JonesM      0     8        100%
        2201     SmithB      0    16        100%
Missed Calls (all times in GMT):
Call ID = 16778554
Agent = JonesM
Ext     = 1545
ANI     = 2671
DNIS    = 1545
Start   = 01/11/2008 03:29:36
End     = 01/11/2008 03:29:49
Duration= 13 sec
Call ID = 16778560
Agent = JonesM
Ext     = 1545
ANI     = 2671
DNIS    = 1545
Start   = 01/11/2008 03:29:52
End     = 01/11/2008 03:30:06
Duration= 14 sec
```

Managing Ignored Extensions

TASK

- To add an ignored extension, click Add in the Ignored Extensions section, enter the extension in the field, and then click OK.

- To edit an ignored extension, select the connection you want to edit in CDR connections, click Edit, make the necessary changes in the Edit Extension dialog box, and then click OK

- To remove an ignored extension, select an extension from the Ignored Extensions list and click Delete.

Allow Emailing of Reports

When selected, the Allow Emailing of Reports check box allows you to email a report to a specific person or distribution list. For more information on creating a distribution list, see "Notification Distribution" on page 69.

Session Timeout Options

You can configure Quality Management Administrator or Quality Management in Workforce Optimization for one of the following options:

- Close all open popup windows and log off the user after a specified number of minutes of inactivity (session time-out)

- Allow a user to remain logged in indefinitely (default setting)

To configure the session timeout period, enter the desired number of minutes of inactivity before timeout occurs in the minutes field.

> **NOTE:** When you change the Session Timeout value for Quality Management Administrator, you must restart Quality Management Administrator before the changes can take effect.

If a user accessed one or more Quality Management applications, each application displays a Timeout Warning dialog box 30 seconds before the application actually times out. If the user does not respond to the Timeout Warning dialog box, the dialog box and the application are closed and an alert is sent to the user stating that the application timed out and was closed.

When you are playing a contact recording, the session remains in an active state. Workforce Optimization does not time out when you are playing a contact recording.

Locale

Use the Locale section to enable the default language in the Workforce Optimization interface. Users can change the default language when they log in to Workforce Optimization.

> **NOTE:** The Locale section only appears when multiple locales are available.

Changing the Default Locale

The following task describes how to change the default locale for the Workforce Optimization interface.

TASK

- Select the desired language from the Locale drop-down list.

Site Settings

Use the Site Settings window ([Figure 15](#)) to configure one or more sites and associate teams and Recording Clusters with each site.

Figure 15.   Site Settings window

When you install the Site Upload Server on a server, this is the first screen to appear in System Configuration Setup (PostInstall.exe).

> **NOTE:** The Site Settings window only appears when you install the Site Upload Server.

You can use the Site Settings window to do the following:

- View the current site configuration
- Modify or remove a site
- Add or remove teams from a site
- Add or remove Recording Clusters from a site
- Enable or disable automated software updates for client desktops associated with a specific site
- Change the default site

- Specify when, where, and how many uploads can occur
- Schedule uploading of peak and off-peak recordings from the agent desktops to the Site Upload servers

Table 23.   Site Settings fields

Field	Description
Default Site	The default site is assigned to new teams that have not been associated with a site. In rare circumstances, it also becomes the default site when a service cannot find a site for a recording.
Site Name	The name of the site.
Enable Automatic Updates for all QM Clients	When selected, enables automated software updates for client desktops associated with the selected site.
Peak Hours Begin	The time, in 24-hour format, when peak hours in the contact center begin. Must be between 00:00 and 23:59 in 1-minute increments. Default = 09:00.
Peak Hours End	The time, in 24-hour format, when peak hours in the contact center end. Must be between 00:00 and 23:59 in 1-minute increments. Default = 17:00.
Max Peak Hour Uploads	The maximum number of recordings that can upload simultaneously during peak hours. Must be a value from 1 to 100. This limit is set to conserve bandwidth on the network. When one upload completes, another takes its place, but there can be no more than the configured number uploading at any one time. Default = 5.
Max Off Hour Uploads	The maximum number of recordings that can upload simultaneously during off hours (the hours not specified as peak hours as defined by the Peak Hours Begin and Peak Hours End fields). Must be a value from 1 to 200. This limit is set to conserve bandwidth on the network. When one upload completes, another takes its place, but there can be no more than the configured number uploading at any one time. Default = 100.
Storage Location	You can change the storage location to any local or external folder. You do not have to store recordings on the machine that hosts the Site Upload Server. NOTE: If you are using remote storage, the File Transfer Servlet that is part of the Site Upload Server must run as a user who has access to the location you choose for recordings.
IP Address	The IP address of the machine that hosts the Site Upload Server and the voice recordings, and the path where voice recordings are stored.

Table 23.   Site Settings fields (Continued)

Field	Description
Local Storage Location	Choose this option to store the voice and screen recordings on the Quality Management server.
External Storage Location	Choose this option to store the voice and screen recordings on an external server. **NOTE:** If you change the storage location from local to external storage in update mode, you must first uninstall the PROXY Pro Gateway service on the server that hosts the Site Upload Server (in the Control Panel's Add or Remove Programs, remove PROXY Pro Gateway). When you run the Set Recording Home Directory tool, the PROXY Pro Gateway service is reinstalled automatically. See "Entering Configuration Data in Update Mode" in the *Installation Guide* for more information.
Storage Location Path	The path where voice and screen recordings are stored. Click Browse and navigate to the storage folder. **NOTE:** The default path is C:\Program Files\Common Files\QM\Recordings. If you need to change the path, do not specify the root directory (for example, D:\ or E:\). Always include at least one folder in the path (for example, D:\Cisco).
Username	If you selected an external storage location, enter the username required to access that location. If the user is a domain user, enter the name with the format <domain>\<username>. For external screen storage and playback to work, you must provide a domain user that has read and write access to the local server and the external storage system. This user must meet these requirements: • The local server must know the user (the user is a trusted domain user). • If the user is a domain user, the domain specified must be trusted by the local server. This means the Voice Record Server that you are configuring has to be on a domain that trusts or is trusted by the domain you are entering. • The user must be able to log on as a service. • The user must have read and write access to both the external drive location entered AND the location where Quality Management is installed on the local server.
Password	If you selected an external storage location, enter the password required to access that location.
Teams	A list of available teams.

Table 23.   Site Settings fields (Continued)

Field	Description
Assigned Teams	A list of teams assigned to this site.
Recording Clusters	A list of available Recording Clusters
Assigned Recording Clusters	A list of Recording Clusters assigned to this site.

Table 24.   Site Settings buttons

Field	Description
Delete Selected Site	Remove an existing site.
Browse	Locate a folder.
>	Move selected teams in the teams list to the Assigned Teams list.
>>	Move all teams in the Teams list to the Assigned Teams list.
<	Move selected teams in the Assigned Teams list to the Teams list.
<<	Move all teams in the Assigned Teams list to the Teams list.

Configuration Settings Used By Services

If you change the settings on the Site Settings window, the following table shows when your changes take effect.

Table 25.   When services start using the changed configuration settings

Service	Configuration settings applied when…
Upload Controller service	The next End of Day applies the configuration settings. If you want the changes to take effect immediately, restart the Upload Controller service.

Table 25. When services start using the changed configuration settings (Continued)

Service	Configuration settings applied when...
DB Cleaner service	The next cleanup time applies the configuration settings. If you want the changes to take effect immediately, restart the DB Cleaner service.
FTS webapp (Jetty service)	Restart the Jetty service.

Site Considerations

If you plan to use multiple recording storage locations, you can associate each recording storage location to a site.

When configuring sites, consider the following:

- A site is a single Site Upload server associated with a set of teams. A site can be configured to be the system's default site. The default site is used for teams that have not been associated with a site or whenever a recording service cannot find a site for a recording (this can happen in rare circumstances).

- You can configure one or more sites for a Quality Management system and define the teams that are assigned to each site.

- When a site is taken down for maintenance or failure, the recordings created by the agents while the site was down will be uploaded when the site recovers.

- When upgrading from 9.0 or earlier, Quality Management will create a single site and assign the Site Upload server, Upload Controller service, and all defined teams to that site. Peak and off-peak settings will also be moved to the site. Once Quality Management is installed, you can add more sites.

- When an agent plays a recording from the Recordings application, the Recordings application will play back the recording from the Site Upload server that is associated with the agent's team.

- For Desktop Recording, Quality Management records the agent's calls while the agent is logged in to the client desktop. When the agent logs out, the recordings are uploaded to the Site Upload server that is associated with the agent's team. It is possible to have two different agents using the same computer at different times and have their recordings uploaded to different Site Upload servers.

Figure 16 shows three sites—two external sites that communicate with the rest of the system over a WAN and one site that communicate over a LAN. Each site has a Site Upload server with an Upload Controller and a Recording Cluster. Each site has one or more teams assigned to it and the users in those teams will upload to the proper site.

For example, the Base server is located in the United States (site 3) and a Site Upload server is located in Germany (site 1) and all the German teams or groups are assigned to the German site. When a German agent records a call, the recording is uploaded to the German site recording storage location in Germany. When the agent plays back the recording, the recording is retrieved locally and avoids wide area network (WAN) traffic.

Figure 16.   Multiple site configuration example

Software Updates

Use the Automated Update feature to update the Quality Management Administrator and Desktop Recording service. When you enable the Automated Update feature, every time a client application starts, it checks the services for Quality Management to determine if a newer version is available. If there is a newer version, the Automated Update feature automatically installs the update on the client desktop.

> **NOTE:** If you apply a Service Release (SR) update to the system, the best practice is to disable the Automated Update feature first. After the SR update is installed, manually test an updated instance of the Desktop Recording service, Workforce Optimization, and Quality

Management Administrator to verify they work. When you are satisfied they work, you can re-enable the Automated Update feature.

Use the Automated Update feature to update up to 500 client desktops. If your site has more than 500 client desktops, Cisco recommends using push notifications.

Patches

When you install a patch on the server that includes patches for the client desktop, the patch installs a webpage called Patches.htm on the server. If the automatic update feature is disabled, you can download the patch for the client desktop from http://<Base server>/TUP/QM/Patches.htm.

Managing Site Settings

TASK

- To view the existing site configuration, expand the System Configuration node in the navigation tree, and then click Site Settings.

STEP RESULT: The Site Settings window appears.

- To view a different site, click the tab associated with the site.

ADDITIONAL INFORMATION: New sites appear in Site settings when you install Quality Management on the server associated with the new site and configure the new site in the Site Settings window.

- To remove a site, click the tab for the site you want to remove, click Delete Selected Site, click Yes in the Confirm Delete dialog box, choose where you want to move recordings from the deleted site, and then click OK.

STEP RESULT: The Manually Move Recordings dialog box appears. You need to manually move the existing recordings from the server associated with the old site to the server associated with the new site. The teams from the old site are now assigned to the new site and future recordings for those teams will now be stored on the server for the new site.

- To modify a site, select the site's tab, complete the fields, and then click Save.
- To change the default site, select a site from the Default Site drop-down list, and then click Save.
- To enable or disable automatic updates on client desktops associated with a site, click the tab for a site, select or clear the Enable Automatic Updates for all QM Clients check box, and then click Save.
- To modify the current upload settings for a site, click the site's tab, complete the fields under Peak Uploads, and then click Save.

- To change the recording storage location, complete the fields under Storage Location and then click Save.

- To add teams or Recording Clusters to a site, select the site's tab, select one or more teams or Recording Clusters from the Teams or Recording Clusters list and click the > button to move the teams to the Assigned Teams or Assigned Recording Clusters list. To move all teams or Recording Clusters to the Assigned Teams or Assigned Recording Clusters list click the >> button, and then click Save.

- To remove teams or Recording Clusters from a site, select the site's tab, select one or more teams or Recording Clusters from the Assigned Teams or Assigned Recordings Clusters list and click the < button to move the teams to the Teams or Recording Clusters list. To move all teams or Recording Clusters to the Teams or Recording Clusters list click the << button, and then click Save.

Inclusion List

Quality Management uses the Inclusion List window (Figure 17) to determine which calls to record and which calls to ignore. Quality Management only records calls that match the extension patterns in the Patterns to be Recorded list.

Figure 17.   Inclusion List window

A tab appears in the Inclusion List window for each configured telephony group. You can configure extension patterns for inclusion or exclusion for each telephony group.

If you are using Cisco MediaSense Recording, the Inclusion List affects which recordings are uploaded to Quality Management. Initial recording decisions are based on the Cisco MediaSense configuration.

The Patterns to be Recorded list contains extension patterns that will be recorded. By default, the Patterns to be Recorded list displays an asterisk (*) in the Pattern column, Extension in the Type column, and Either in the Direction column. This indicates that all incoming and outgoing calls on all extensions in the telephony group will be recorded. As soon as specific extension patterns are configured in the Patterns to be Recorded list, recording is limited to those extension patterns only.

The Pattern column lists the extension pattern that will be filtered in the Patterns to be Recorded or Patterns to be Excluded from Recording lists. You can use the following wildcards to configure ranges:

- The asterisk (*) in a string can represent any quantity of any character, as long as the other characters in the string match.

- The question mark (?) in a string can be replaced by any character, but the length of the string must be exactly as represented.

Extension patterns can be further filtered by selecting:

- The direction of the call (for recorded calls only). Your options are:

    – Inbound—filters all inbound calls that match the extension pattern

    – Outbound—filters all outbound calls that match the extension pattern

    – Either—filters all inbound and outbound calls that match the extension pattern

- The type of call. Your options are:

    – Any—filters all called, calling, and extensions calls that match the extension pattern

    – Called—fillers all calls received by the phone numbers that match the extension pattern

    – Calling—filters all calls made by the phone numbers that match the extension pattern

    – Extension—filters all extensions that match the extension pattern

A scroll bar is available if you add more than 9 extensions to the list. Use the scroll bar to move up and down the list.

To rearrange the order of extension patterns that appear in the Patterns to be Recorded list, select an extension pattern from the list and use the Up or Down arrow buttons to move the extension pattern to the desired location. Extension patterns are filtered starting at the top of the list and continues down to the bottom of the list.

The Patterns to be Excluded from Recording list displays extension patterns that will not be recorded. Extension patterns that appear in the Patterns to be Excluded from Recording list are filtered before any extension patterns that appear in the Patterns to be Recorded list. Only extension patterns found in the Patterns to be Recorded list will be recorded.

Any changes you make to the Inclusion List take window take effect at the next recording client login.

Table 26.   Inclusion List buttons

Field	Description
Add	Add an extension pattern.
Remove	Remove an extension pattern.
Modify Type	Change the call type associated with an extension pattern.
Modify Direction	Change the direction associated with an extension pattern.

Cisco MediaSense Recording Considerations

When configuring the Inclusion List for Cisco MediaSense Recording, consider the following:

- The entire call is recorded and saved on the Cisco MediaSense Recording cluster.

- Quality Management only downloads Cisco MediaSense recordings that appears in the Patterns to be Recorded list.

- Quality Management does not download Cisco MediaSense recordings that appear in the Patterns to be Excluded from Recording list.

Managing Extension Patterns

Use this task to add a extension pattern to the Inclusion List.

TASK

1. Select the appropriate telephony group cluster tab in the Inclusion List window.

2. Choose one of the following options:

   – Add an extension pattern. Click Add beneath the Patterns to be Recorded or Extensions to be Excluded, type a number in the Add Pattern dialog box, click OK, and then complete the remaining fields in the table.

     You can enter the exact number or use the * or ? wildcards plus numbers to configure a range of numbers. For example:

Enter This:	To Record:
6124	Number 6124.
61*	Any number that start with 61 and are of any length (for example, 6124, 61555, 613).
61??	Any number that start with 61 and are 4 digits long (for example, 6124, 6125, 6126).

–   Modify a call type. Select an extension pattern, click Modify Type, select the different type from the drop-down list, and then click OK.

–   Modify a call direction. Select an extension pattern, click Modify Direction, select a different direction from the drop-down list, and then click OK.

–   Remove an extension pattern. Select the extension pattern in Patterns to be Recorded or Extensions to be Excluded, click Remove, and then click OK.

3.   Click Save.

Excluding Extension Patterns

If you have a limited number of extension patterns you want to exclude from being recorded, you can configure the Inclusion List to ignore only those extension patterns and record all others.

For example, if you want to record all extension patterns except for extensions 3411, 3412, and 3413, configure your inclusion list so that there is an asterisk in the Patterns To Be Recorded list, and extensions 3411, 3412, and 3413 listed in the Patterns To Be Excluded From Recording list.

Extension patterns listed in the Patterns To Be Excluded From Recording list always take precedence over extension patterns listed in the Patterns To Be Recorded section. You cannot use the same extension pattern (specifically or through the use of wildcards) in both lists. For example, 12* cannot appear in both lists.

Monitoring and Notification

Use the Monitoring and Notification window (Figure 18) to enable the Monitoring and Notification (MANA) service.

Figure 18.   Monitoring and Notification window

Only one notification trigger requires configuration: Problem ID QM3002 under QM Task Settings. This trigger compares data in the Unified CM's Call Detailed Records (CDR) Report (for Unified CM version 9.x) with the Quality Management database. Specifically, it compares the call records in the Unified CM with the call records in Quality Management. If there is a discrepancy, notification is sent.

> **NOTE:** The MANA CDR Report (QM3002 notification trigger) does not support devices that are recorded by Cisco MediaSense. If your site is a mixed-recording environment where Server Recording, Network Recording, or Desktop Recording and Cisco MediaSense Recording are used together, the CDR Report will not be accurate since Cisco MediaSense devices result in false positives.

By default, Problem ID QM3002 is disabled. The notification trigger does not have to be configured unless you enable that problem ID in the Notification Distribution dialog box.

You can create multiple distribution lists. For each distribution list, you can choose to specify the events that trigger notification. For example, you can set up a distribution list for global outages (all QM1000 level errors) and all "JTAPI not associated with a device" (specific QM2002 error).

You can also configure the following information.

- Distribution list of persons receiving notification, if you configure email as a means of notification

- Email address of the person(s) receiving notification, if you configure email as the means of notification

- Trap destinations receiving notification, if you configure SNMP as the means of notification

- If and how often a renotification of the problem should be sent out

- Types of problems that will trigger notification

  NOTE: You can only change the information in the Monitoring and Notification window from the System Configuration Setup (PostInstall.exe) or Quality Management Administrator on the Base server. The Monitoring and Notification window in Quality Management Administrator on a client desktop is read-only.

Connection information is saved locally to the Base server so the emergency user can still be notified using email if a major component (for example, the database) is down, and the other email addresses are not available. This allows the Quality Management administrator to edit the emails and allows Monitoring and Notification to notify one user when the configuration is not accessible.

Table 27.   Monitoring and Notification fields

Field	Description
Use Monitoring/ Notification Service	Select this check box to enable the MANA service. If enabled, at least one notification method (event viewer, SNMP, or email) must be enabled as well. This check box is selected by default.
Distribution List	The available distribution lists.
Polling Period	Sets the interval at which the MANA service checks for the selected notification triggers. Default = 10 minutes, Minimum = 0 minutes, Maximum = 1440 minutes (1 day). The timer starts when the last polling task is complete. NOTE: When you change the polling period, it takes one polling cycle before the new polling period goes into effect.
Never	Choose this option if you do not want to be renotified of a problem after the initial notification.

Table 27.   Monitoring and Notification fields (Continued)

Field	Description
Every *N* Polling Periods	Choose this option if you want to specify how frequently you want renotification to occur after the initial notification and specify the number of polling periods. For example, if you choose to be notified every 3 polling periods, you receive the initial notification on the first polling period the problem is detected, no notification the next two polling periods, and then another notification on the next polling period. This pattern will continue as long as the problem is detected.
Every Polling Period	Choose this option if you want renotification to occur every polling period after the initial notification.
QM3002 Task Settings	The fields listed in the QM Task Settings section are used to configure QM3002.
Miss Threshold	Percentage of missed CDRs required to trigger notification.
Minimum Misses	Lowest number of missed CDRs required to trigger notification.
Notify on users configured in QM	When you select this option, Quality Management only generates notifications about users who are configured in Quality Management Administrator.
Notify on users that are logged in	When you select this option, Quality Management only generates notifications about users who are currently logged in to Workforce Optimization. This only applies to the Desktop Recording service.
Display Type	Choose one of the following options. • Summary Only—displays 1 row per agent with missed CDR that meet the above criteria • Details (Tab Delimited)—displays each missed CDR in tab delimited format • Details (Plain Text)—displays each missed CDR in text format

Table 28.   Monitoring and Notification buttons

Field	Description
Add	Add a distribution list.
Remove	Remove a distribution list.
Edit	Edit the selected distribution list.

Configuration Settings Used By Services

If you change the settings on the Monitoring and Notification window, the following table shows when your changes take effect.

Table 29.   When services start using the changed configuration settings

Service	Configuration settings applied when…
MANA service	The next polling period applies the configuration settings.

Configuring the QM3002 Notification Trigger

This task describes how to configure the QM3002 notification trigger.

TASK

1. Click CDR Configuration in the Enterprise Settings window.

    STEP RESULT: The CDR Configuration dialog box appears.

2. Select the version of the Cisco Unified CM you are using from the drop-down list.

3. Choose Host Name or IP Address, and then enter the information for the Unified CM.

4. Type the Unified CM username and password.

    ADDITIONAL INFORMATION: Enter the name and password of the user with rights to access the CAR reports.

5. Add the extensions that you do not want to receive notifications.

6. Configure the properties for the notification.

7. Click OK.

Notification Distribution

The Notification Distribution dialog box (Figure 19) allows you to create a distribution list, specify the notification type for the distribution list, and assign the type of MANA messages that are sent to the distributions list.

Figure 19.   Notification Distribution dialog box

The MANA messages are classified as follows:

- QM1xxx—indicates a global outage that might affect recording for the entire system.

- QM2xxx—indicates individual outages that might affect recording for individual users.

- QM3xxx—indicates a possible configuration problem. The notifications might not point to an actual issue, so you might want to turn these notifications off to avoid unnecessary notifications.

- QM4xxx—indicates a problem with MANA that prevents it from reporting problems.

Table 30.   Notification Distribution fields

Field	Description
Distribution List Name	The name of the distribution list.
Notification Type	The type of notification you want to use to send notification messages. Your options are: • Event Viewer—use the Event Viewer for displaying notification messages • Email—use email for sending notification messages • SNMP—use SNMP for sending notification messages
Email Addresses	The list of email addresses to which notification is sent. Maximum = 5 email addresses. **NOTE:** This field is enabled when you select Email as your notification type.
Available Problems	The list of problems that will not trigger notification. Move any problem that does not require notification to the Available Problems list. By default only QM3002 appears in this list.
Enabled Problems	The list of problems that will trigger notification. By default, all problems except for QM3002 are enabled. You must configure QM3002 under QM Task Settings in the Monitoring and Notification window before enable this Call Detail Record (CDR) task. **NOTE:** QM3002 is not supported with MediaSense Recording.

Managing Notification Distribution Lists

Use this task to manage notification email addresses.

TASK

- To add a distribution list, perform the following steps.

    a. Click Add in the Notification Distribution section.

    b. Type the name of the distribution list in the Distribution List Name field.

    c. Type the email addresses that are included in the distribution list in the Email Addresses field.

    d. Move the type of problems you want sent to this distribution list to the Enabled Problems list.

    e. Click OK.

STEP RESULT: The new distribution list appears in the Distribution List.

- To remove a notification distribution list, select the distribution list from the Distribution List, click Remove, and then click OK.

STEP RESULT: The distribution list is removed from the Distribution List.

- To edit a notification distribution list, select the distribution list from the Distribution List, and click Edit. In the Notification Distribution dialog box, modify the distribution list that you want to change, and then click OK.

Enabling or Disabling a Notification Trigger

PREREQUISITE

When enabling the QM3002 notification trigger:

- CDR must be correctly configured in the Unified CM Administration web application. In these versions, there is no CDR database. Instead, the CAR reports (CDR export) are used. Set up CAR so that it updates its information as frequently as possible (less than 30-minute intervals). Create a CAR user and enter that user in the Quality Management CDR Configuration dialog.

- Archiving must be enabled in Quality Management.

This task describes how to enable and disable a notification trigger from the Notification Distribution dialog box.

TASK

- To enable a task notification trigger, choose a trigger from the Available Problems section and click >. The trigger moves to the Enabled Problems section.

- To enable all task notification triggers, click >>. All triggers move to the Enabled Problems section.

- To disable a task notification trigger, choose a trigger from the Enabled Problems section and click <. The trigger moves to the Available Problems section.

- To disable all task notification triggers, click <<. All triggers move to the Available problems section.

Examples of Notification Configuration Problems

The following setup examples illustrate what happens when you configure the Notification Trigger Configuration as described.

Setup 1   Miss Threshold: 50%

Minimum Misses: 5

Notify on users configured in QM: Enabled

Notify on users logged in: Enabled

Agent	Agent A has 8 matched calls and 2 missed calls. Agent A is properly configured and was logged in for the whole time.
	Agent B has 6 matched calls, but 2 were made before he was logged in. Agent B is configured properly.
	Agent C has 2 matched calls and 8 missed calls. Agent C is properly configured and was logged in the whole time.
Effect	Agent A: The missed percentage is 2/(8 + 2) = 20%. No notification would be made because neither the Miss Threshold nor the Minimum Misses criteria were met.
	Agent B: No notification would be made because the Minimum Misses criterion (5) was not met.
	Agent C: The missed percentage is 8/(2 + 8) = 80%. Notification is made because the Miss Threshold and the Minimum Misses criteria were met.

Setup 2   Miss Threshold: 100%

Minimum Misses: 1

Notify on users configured in QM: Enabled

Notify on users logged in: Disabled.

Agent	Agent A is configured in Quality Management but does not have the Desktop Recording service installed or the phone is not daisy-chained properly.
Effect	Notification will be made on Agent A's extension, with the agent listed as "Unknown" because there is no cross-reference between the agent and extension until the Desktop Recording service is configured.

NOTE: Matching the CDR or CAR Report with Quality Management is not 100% accurate. CDR data can be out of sync with Quality Management, or certain call scenarios might yield false positives. It should not be used for compliance.

NOTE: Agent team association and whether a team is configured for archiving are determined from the time the CDR task is run, not from the time of the call in question. This could result in either false positives or false negatives if a team's archiving status changes, or if an agent's team membership changes during the period the CDR task is examining.

When a notification is received, look at the DNs/Agents that show missed calls. A large number of agents with missed calls might indicate a Quality Management service failure. The possible services with issues are:

- Load-balancing subscription service
- Upload Controller
- DB Proxy service (on the Database server)

A 100% miss percentage for a single agent might indicate a failure in the Desktop Recording service. If notifications are occurring frequently with less than 100% missed for a small number of agents, the thresholds might need to be adjusted to minimize unnecessary notifications. Even a high threshold (100%) will notify on moderate and major outages.

Status

The Status window reports the version of the installed Quality Management components.

Configuration Settings Used By Services

If you change the product version, the following table shows when your changes take effect.

Table 31. When services start using the changed configuration settings

Service	Configuration settings applied when...
Upload Controller service	Periodically check for a version mismatch.

Record Server Configuration

Use the Record Server Configuration node to configure devices for MediaSense Recording, Server Recording, and Network Recording.

> **NOTE:** You do not need to configure devices if you are only using Desktop Recording (Endpoint).

Server Recording and Network Recording Considerations

You can enable Server Recording and Network Recording for a device from the Record Server Configuration node for the following types of agents:

- Agents who work different shifts and share a desk (Hot Desking)
- Agents who log into a phone (Extension Mobility)
- Agents using Citrix or Microsoft Terminal Services thin clients (audio and screen recording)
- Agents using just a phone, and no PC (audio recording only)

Note that Server Recording or Network Recording is not restricted to the time a user is logged in. As long as the agent's phone is configured for Server Recording or Network Recording, the agent can be recorded.

If an agent's phone is configured for Network Recording, supervisors and managers can monitor a live call.

> **NOTE:** You cannot monitor the default user, even if the default user is recorded using Network Recording.

Server Recording and Network Recording have the following limitation:

- A device cannot be registered for Server Recording and Network Recording at the same time. You can, however, change the configuration from Server Recording to Network Recording, or from Network Recording to Server Recording.

Cisco MediaSense Recording Considerations

The Cisco MediaSense Recording architecture (including Cisco MediaSense Recording method) has the following limitations:

- Cisco does not support Live Monitoring with Cisco MediaSense Recording.

- Cisco does not support Desktop Recording as a backup method for Cisco MediaSense Recording.

- Cisco does not support SRTP with Cisco MediaSense Recording.

- Cisco does not support MANA CDR (QM3002 notification trigger) with Cisco MediaSense Recording. The MANA CDR report does not support devices that are recorded by Cisco MediaSense Recording. If your site is a mixed-recording environment where Server Recording or Network Recording and Cisco MediaSense Recording are used together, the CDR report will not be accurate since Cisco MediaSense Recording devices result in false positives.

- Cisco does not support Direct Outbound Recordings (Blog recordings) with MediaSense Recording.

Recording Cluster Administration

Quality Management supports Recording Clusters. A Recording Cluster is a group of one or more Voice Record servers. A Voice Record server indicates which Recording Cluster it belongs to when it connects to a load-balancing subscription service.

From the Recording Cluster Administration window (Figure 20) you can view, add, modify, or delete Recording Clusters.

When configuring a Recording Cluster remember the following points:

- You can assign one or more Voice Record servers to a Recording Cluster. A Recording Cluster requires at least one Voice Record server.

- A Voice Record server can only belong to one Recording Cluster.

- A Recording Cluster must be associated with a telephony group.

- You can move Voice Record servers between Recording Clusters.

Figure 20. Recording Cluster Administration window

Table 32. Recording Cluster Administration window fields

Field	Description
Recording Cluster	The name of the Recording Cluster.
Assigned Servers	A list of Voice Record servers that are assigned to the selected Recording Cluster.
Current Associations	A list of Voice Record servers and their associations. • Server—the hostname or IP address of the Voice Record server associated with a Recording Cluster • Recording Cluster—the name of the Recording Cluster • Telephony Group—the name of telephony group associated with the Recording Cluster

Table 33.   Recording Cluster Administration window buttons

Button	Description
New	Add a Recording Cluster.
Delete	Remove a selected Recording Cluster.
Edit	Modify a selected Recording Cluster.
Add	Assign one or more Voice Record server to a selected Recording Cluster.

Managing Recording Clusters

PREREQUISITE

You must run System Configuration Setup (PostInstall.exe) on all Voice Record Servers before you can assign a Voice Record Server to a Recording Cluster. If you do not run System Configuration Setup on the Voice Record Servers the Select Servers dialog box will be empty.

TASK

- Add a Recording Cluster. Click New, complete the fields, click OK. and then click Save.

- Delete a Recording Cluster. Select a Recording Cluster from the Recording Cluster drop-down list, click Delete, click Yes, and then click Save.

- Modify a Recording Cluster. Select a Recording Cluster from the Recording Cluster drop-down list, click Edit, complete the fields, click OK, and then click Save.

- Add a Voice Record Server to a Recording Cluster. Select a Recording Cluster from the Recording Cluster drop-down list, click Add, select one or more Voice Record Servers in the Select Servers dialog box, click OK, and then click Save.

- Remove a Voice Record Server from a Recording Cluster. Select a Recording Cluster from the Recording Cluster drop-down list, select one or more Voice Record Servers from the Assigned Servers list, click Remove, and then click Save.

VoIP Devices

The VoIP Devices window supports VoIP devices in the telephony groups (Unified CM clusters) for Server Recording (SPAN) or Network Recording.

The first time you access the VoIP Devices window, it is empty. You must search the devices configured in Unified CM for the ones you want to enable. See "Enabling VoIP Devices for Recording" on page 86 for more information.

The VoIP Devices window (Figure 21) allows you to search for the devices configured in Unified CM and enable the devices for Server Recording or Network Recording. You can then associate an agent, a Monitor service server (Server Recording only), and a Recording Cluster with those devices.

Figure 21.   VoIP Devices window

Table 34.   VoIP Devices window fields

Field	Description
Users Assigned to Site	The site's IP address. You can filter agents by site. You can choose from the following: • All Sites • Default Site • <site's IP address or hostname>

Table 34.   VoIP Devices window fields (Continued)

Field	Description
Find Devices of Type	The type of device you want to locate. You can choose from the following: • All Types • Cisco Phone • Remote Agent Port • User Profiles
In Telephony Group	The IP address for the telephony group. Your options are as follows: • All Groups • <telephony group's IP address or hostname>
Where	The name of the device or extension for the device. You can choose from the following: • Device Name—search devices by the name of the device. • Extension—search devices by the extension associated with the device.
Matches	A string of text used to narrow the search for the device name or extension. You can use wildcards * and question marks ? in this field, in addition to a specific string. **NOTE:** This field is case sensitive.
Device Name	The name of the device. If the device is a Cisco IP Communicator, type the MAC address for the user's PC. This text field is case-insensitive. The Device Name must match the MAC address that packets travel through.
Device Type	The type of device. The device types are: • Phone • Remote Agent Port • User Profile
Telephony Group	The IP address for the telephony group (Unified CM).
Extension	The extension associated with the device. If a device has two extensions associated with it, two entries appear in the search results table. If you select the Enabled Check box for one extension, Quality Management also selects the other extension.

Table 34.   VoIP Devices window fields (Continued)

Field	Description
Agent	The agent assigned to the devices. Possible options are as follows: • User Login Required—choose this option to configure the device for Hot Desking. If you choose this option, the device will not be recorded until an agent logs in using the Recording API. • \<Last name, first name, (user ID)\>—choose this option to assign a specific agent or the default hoteling agent to the device. See "Considerations when Assigning Devices to Agents" on page 84 for more information.
Monitor Server	The IP address of the Monitor server associated with this device. If a Monitor server is not applicable, the field displays No Configuration. For example, you cannot associate a Monitor server with a Remote Agent Port or User Profile.
Recording Cluster	The name of the Recording Cluster assigned to the device. If a Recording Cluster is not applicable, the field displays No Configuration. For example, you cannot associate a Recording Cluster with a User Profile.
Recording Type	The recording type associated with this device. You can choose from the following options: • Server Recording—choose this option to use Server Recording (SPAN) • Network Recording—choose this option to use Network Recording • MediaSense Recording—choose this option to use Cisco MediaSense Recording.

Table 35.   VoIP Devices Window buttons

Button	Description
Find	When clicked, locates every device that matches the search criteria. **NOTE:** The VoIP Devices window must be populated before the Find button can display search results. See "Enabling VoIP Devices for Recording" on page 86 for more information.
Configure Monitor Server	When clicked, Configure Monitor Server allows you to assign the IP address for the Monitor server to one or more devices. **NOTE:** You must select one or more devices before clicking the button. You cannot configure the Monitor server for a Remote Agent Port device or User Profile device.

Table 35.   VoIP Devices Window buttons (Continued)

Button	Description
Configure Recording Cluster	When clicked, Configure Recording Cluster allows you to assign the Recording Cluster to one or more devices. **NOTE:** You must select one or more devices before clicking the button. You cannot configure the Recording Cluster for a User Profile device.
Configure Recording Type	When clicked, Configure Recording Type allows you to assign a recording type to one or more devices. **NOTE:** You must select one or more devices before clicking the button. • Server Recording—choose this option to use Server Recording (SPAN). • Network Recording—choose this option to use Network Recording. • MediaSense Recording—choose this option to use Cisco MediaSense Recording. You cannot configure the recording type for a User Profile device.
Configure Agent	When clicked, Configure Agent allows you to assign one of the following options to one or more selected devices. • Default Hoteling Agent—an agent logs into the device using the login information for the default hoteling agent. • User Login Required—an agent logs into the device using their own login information. See "Considerations when Assigning Devices to Agents" on page 84 for more information.
Remove From Configuration	When clicked, Remove From Configuration allows you to remove one or more devices from the VoIP Devices table. **NOTE:** You must select one or more devices before clicking the button.
Enable Unified CM Devices for Recording	When clicked, Enable Devices for Recording allows you to search for devices in Unified CM and enable those devices for recording in Quality Management.
Synchronize Devices With Clusters	When clicked, Synchronize Devices With Clusters allows you to synchronize devices changes from Unified CM with the list of devices in the VoIP Devices window. It removes any devices that were deleted in Unified CM and updates extensions for modified devices.

Table 35.   VoIP Devices Window buttons (Continued)

Button	Description
Create/Edit Default Hoteling Agent	When clicked, Create/Edit Default Hoteling Agent allows you to create or modify the following information for the default hoteling agent: • First Name—the hoteling agent's first name • Last Name—the hoteling agent's last name • Windows Login—the login ID for the hoteling agent • Teams—the team assigned to the hoteling agent This is a generic user profile. The agent does not log into the phone using this user profile. It is assigned to a device in case an agent does not log in.

VoIP Devices for Server Recording

For Server Recording with Unified CM clusters, associate the following items with the VoIP device:

- An agent
- The IP address for the Monitor server
- The name of the Recording Cluster
- A recording type of "Server Recording"

VoIP Devices for Network Recording

For Network Recording with Unified CM clusters, associate the following items with the VoIP device:

- An agent
- The name of the Recording Cluster
- A recording type of "Network Recording"

Agent Considerations Cisco MediaSense Recording

When configuring VoIP devices using Cisco MediaSense Recording for agents, consider the following:

- Unified CM telephony group:
  - The Endpoint only Does Screen Recording check box must be selected in the Unified CM Configuration dialog box (see "Unified CM Configuration" on page 28).

> **NOTE:** If the Endpoint only Does Screen Recording check box is cleared, the phone device will default to Desktop Recording (Endpoint).

- ACD agent:

  – If the agent's phone is daisy-chained you do not need to configure the device in the VoIP Devices window.

  – If the agent's phone is not daisy-chained the device must be configured in the VoIP Devices window.

- Knowledge worker:

  – The agent's phone must be configured in the VoIP Devices window.

Licensing and VoIP Device Configuration Considerations

When configuring VoIP devices and assigning licenses to users, note the following:

1. The CTI service checks for valid licenses every sync.
2. If a license becomes invalid or a user's license is added, removed, or changed, the change will take effect the next time the CTI service syncs.
3. If the license server is unavailable, the CTI service will use the last licensing state that it successfully received.

Considerations when Assigning Devices to Agents

When using the Agent drop-down list or the Configure Agent button to assign devices to agents, consider the following:

- Call Recording and Quality Management is licensed by the number of named users. Named users are users who are configured and licensed.

  Example: agents, knowledge workers, supervisors, managers, evaluators, and archive workers

  The total number of devices that you can assign to Default Hoteling Agent is equal to the total number of licenses for your system.

- Assigning a device to Default Hoteling Agent does not use or consume a license, it just puts a limit to the number of devices that can be assigned to Default Hoteling Agent. This prevents a situation where Login commands are not processed when the Base server is not available or there is an error when a user tries to log into the system. It ensures the device is recorded no matter what the situation is.

- Do not assign the Default Hoteling Agent to Extension Mobility profiles.

- If you do not assign the device to Default Hoteling Agent and intend to use Hot Desking you must choose User Login Required from the Configure Agent drop-down list. This ensures that the device will be recorded when someone logs into the device using Extension Mobility or the Login API command.

Guidelines for Configuring VoIP Devices

Consider the following when you configure a VoIP device for Server Recording or Network Recording.

The VoIP Devices window only allows 64 characters in the fields. This affects the number of extensions you can configure for a VoIP device. For example, you can configure up to 12 extensions of 4 digits each for a VoIP devices and not exceed the 64 character limitation.

```
5555,5556,5557,5558,5559,5560,5561,5562,5563,5564,5565,5566
```

Hot Desking

Hot Desking is a situation where one desk is shared between several people who use the desk at different times. This work surface can be an actual desk or just a terminal link. Companies use Hot Desking when not all the employees are in the office at the same time, or employees are not regularly in the office for very long.

Hot Desking includes the following scenarios:

- Using Extension Mobility
- Sharing the same extension
- Logging into the Recording API—see the *API Programmers User Guide* for more information on the Recording API

Points to Remember

Remember the following points when you configure a device for Hot Desking:

- When configuring Hot Desking for an agent with a Quality Management license or Call Recording license, you must use the Login and Logout commands for the Recording Controls API.
- If an agent is already logged in to a different device, Quality Management logs the agent out of the old device when the agent logs into the new device.
- If you assign a device to an agent by selecting an option in the Agent column from the VoIP devices window:
  - The agent cannot use the Recording Controls API to log into the device (the login will be ignored).

- The agent can use the Recording Controls API to log into a different device.Quality Management records both devices for the agent.

- If an agent is on a call when another login request comes in, that call is ended. Quality Management logs the agent out, creates a new user for that extension, registers the device with the CTI, and records all subsequent calls for that extension.

- If an agent issues a logout command using the Recording Controls API and there is an active call for that extension, Quality Management ends the call, and logs out the user.

- If an agent issues a login command using the Recording Controls API, and the username and extension matches the username and extension for an agent who is currently logged in, Quality Management ignores the request.

- The Desktop Recording service supports Hot Desking, provided the agents use their own accounts to log in and log out of their client machine.

Synchronization Issues

The following list describes the synchronization issues with the devices listed in the VoIP Devices window.

- An agent configured for a device could be deactivated, lose the agent or knowledge worker role, or become unlicensed. In these cases, the agent can no longer be recorded, and Quality Management Administrator removes their association with their device. Every time the VoIP Devices window appears and loads the data, the agents are automatically synchronized. The VoIP Devices window displays a list of the invalid agents that will be removed from their associated devices.

- Someone modifies or removes a configured device in the Unified CM cluster. When you click the Synchronize Devices with Clusters button, it updates the modified devices and then displays a list of devices configured for Server Recording but no longer configured in a cluster. You can choose to remove the devices from the VoIP Devices list.

Enabling VoIP Devices for Recording

Use this task to enable VoIP devices for recording.

TASK

1. On the VoIP Devices window, click Enable Devices for Recording.

   ADDITIONAL INFORMATION: You must click this button before you do anything else on this window to populate the list of VoIP devices.

2. Choose one of the following options.

    – To find all the devices in the available cluster, click Find.

    NOTE: By default, the search criteria are set up to return every device in a selected cluster when you click Find.

    – If the cluster has many devices, you can search for devices that match a certain criteria. You can search by a combination of device type (Phone, Remote Agent Port, User Profile, or All Types), cluster IP address, device name, or extension.

    NOTE: You can type wildcard characters (* or ?) or specific numbers in the Matches field. This field is case sensitive.

    STEP RESULT: A list of all of the devices that are in the cluster appears.

    If a device has two extensions associated with it, two entries appear in the search results table. If you select the Enabled check box for one extension, Quality Management Administrator also selects the other extension.

3. To sort by a particular column, click the column heading.

4. Choose one of the following options:

    – To select a specific device, click its row.
    – To select additional devices, press and hold the Ctrl key while clicking the other rows.

5. When you are done selecting devices, click Check Selected, and then click OK.

    STEP RESULT: The devices you selected appear on the list of VoIP devices

Filtering VoIP Devices

TASK

1. On the VoIP Devices window, choose a site from the Users Assigned to Site drop-down list.

2. Choose the type of device you want to locate from the Find Devices of Type drop-down list in the Device Search pane.

3. Choose the IP address for the cluster from the In Cluster drop-down list.

4. Enter the name of the device or extension for the device in the Where drop-down list.

ADDITIONAL INFORMATION: You can use wildcards * and question marks ? in this field, in addition to a specific string.

5. Click Find.

STEP RESULT: The VoIP Devices window displays a list of devices that match the search criteria.

Configuring Devices for VoIP

The general procedure for configuring a device for VoIP monitoring is as follows:

> **NOTE:** To configure multiple devices, see "Managing VoIP Devices" on page 90.

TASK

1. Enable the devices for recording.

    ADDITIONAL INFORMATION: See "Enabling VoIP Devices for Recording" on page 86 for more information.

2. Find the devices to be configured.

    ADDITIONAL INFORMATION: See "Filtering VoIP Devices" on page 87 for more information.

3. Assign a device to a Recording Type.

4. Assign a device to an agent, the default hoteling agent, or User Login Required.

5. Assign a device to a Recording Cluster.

    ADDITIONAL INFORMATION: The Recording Cluster is not required for User Profiles.

6. Assign a device to a Monitor server.

7. Assign a device to a recording type.

8. Click Save.

Filtering Agents by Site

TASK

- To filter agents by site, choose a site from the Users Assigned to Site drop-down list.

STEP RESULT: The agents associated with the selected site appear in the VoIP Devices window.

Extension Mobility

When configuring agents for extension mobility, you need to ensure the following:

- A user profile is associated with each agent
- Every phone an agent can log in to is associated with a Recording Cluster

When an agent logs in to a phone, their calls are recorded by the Recording Cluster assigned to their phone.

When configuring agents for Extension Mobility, consider the following:

- If the user is on a phone call when they log out of a device, the recording will stop.
- If you change the user profile (for example, the extension) in Unified CM, you must click the Synchronize Devices with Clusters button in the VoIP Devices window for the change to take effect.
- If you change the user profile in Unified CM and synchronize the databases in Quality Management Administrator, current calls on that device might be stopped and restarted.

Configuring a User for Extension Mobility

PREREQUISITE

Follow the steps as described in to populate the list of VoIP Devices.

TASK

1. From the VoIP Devices window, select a device assigned to the Extension Mobility profile (Device Type is User Profile) created in Cisco Unified CM, and then click Configure Agent.

   STEP RESULT: The Configure Agent dialog box appears.

2. Choose either Default Hoteling agent or User Login Required from the Configure Agent drop-down list.

   ADDITIONAL INFORMATION: To ensure all calls are recorded on the phone, choose the default Hoteling agent from the Configure Agent drop-down list.

3. Assign the device to a Recording Cluster.

4. Assign the device to a Monitor server.

5. Assign the device to a recording type.

6. Click Save.

Managing VoIP Devices

PREREQUISITE

Follow the steps as described in "Enabling VoIP Devices for Recording" on page 86 to populate the list of VoIP Devices.

TASK

- To synchronize device changes from Unified CM with the list of devices in the VoIP Devices window, click Synchronize Devices With Clusters, and then click OK.

ADDITIONAL INFORMATION: Whenever you modify a VoIP device in Unified CCX, the modifications do not go into effect until the Unified CCX and Quality Management databases synchronize.

- To assign multiple devices to a Monitor Server, select the devices from the list, click Configure Monitor Server, select the IP address for the Monitor Server from the drop-down list, click OK, and then click Save.

  - Use Shift + Click to select contiguous rows in the list of devices.

  - Use Ctrl + Click to select non-contiguous rows in the list of devices.

- To assign multiple devices to a Recording Cluster, select the devices from the list, click Configure Recording Cluster, select the name of the Recording Cluster from the drop-down list, click OK, and then click Save.

- To assign multiple devices to a recording type, select the devices from the list, click Configure Recording Type, select the appropriate recording type from the drop-down list, click OK, and then click Save.

- To assign the agent association for multiple devices, select the devices from the list, click Configure Agent, choose the agent association from the drop-down list, click OK, and then click Save.

ADDITIONAL INFORMATION: You can only assign the following agents association to multiple devices.

  - Default Hoteling Agent—all recordings on the device will be associated with the Default Hoteling Agent until another agent logs into the device.

- User Login Required—an agent logs into the device using their own login information.

- To assign a device to an agent, double-click the device's Agent field, select the agent from the drop-down list, and then click Save.

ADDITIONAL INFORMATION: You can type text in the drop-down field to filter the list of agents to show only agents whose first name, last name, or Windows login begins with the entered text.

If that agent is already assigned to a device, you are asked if you want to switch the association to the current device.

- If you select Yes, the agent will be assigned to this device and removed from the other device.

- If you select No, no association is made and you can select another agent to assign to this device.

- To assign a device to a Monitor Server, double-click the device's Monitor Server field, choose the IP address for the Monitor Server from the drop-down list, and then click Save

ADDITIONAL INFORMATION: When configuring a Monitor Server, note the following:

- The Recording Type must be Server Recording (SPAN)

- You cannot associate a Monitor server with a Remote Agent Port (CTI port) device because the server for the Monitor service must be found at run-time.

- To assign a device to a Recording Cluster, double-click the device's Recording Cluster field, select the name of the Recording Cluster from the drop-down list, and then click Save.

- To assign a device to a recording type, double-click the device's Recording Type field, select the appropriate recording type from the drop-down list, and then click Save.

- To create or edit the default hoteling agent, click Create/Edit Default Hoteling Agent, complete the fields and then click OK.

- To remove one or more devices, select the devices from the list, click Remove From Configuration, click Yes, and then click Save.

Considerations when Assigning Devices to Agents

When using the Agent drop-down list or the Configure Agent button to assign devices to agents, consider the following:

- Call Recording and Quality Management is licensed by the number of named users. Named users are users who are configured and licensed.

Example: agents, knowledge workers, supervisors, managers, evaluators, and archive workers

The total number of devices that you can assign to Default Hoteling Agent is equal to the total number of licenses for your system.

- Assigning a device to Default Hoteling Agent does not use or consume a license, it just puts a limit to the number of devices that can be assigned to Default Hoteling Agent. This prevents a situation where Login commands are not processed when the Base server is not available or there is an error when a user tries to log into the system. It ensures the device is recorded no matter what the situation is.

- Do not assign the Default Hoteling Agent to Extension Mobility profiles.

- If you do not assign the device to Default Hoteling Agent and intend to use Hot Desking you must choose User Login Required from the Configure Agent drop-down list. This ensures that the device will be recorded when someone logs into the device using Extension Mobility or the Login API command.

Personnel

Use the Personnel node to:

- Create groups
- Create knowledge worker teams
- Assign teams to groups
- Assign groups to managers
- Link AD users to ACD users and non-ACD users (in Active Directory systems)
- Configure ACD users
- Create non-ACD users
- Assign manager, evaluator, and archive user roles to ACD users
- Assign knowledge worker, supervisor, manager, evaluator, and archive user roles to non-ACD users

User Roles and Privileges

Scope refers to the data (such as recordings and evaluations) that a user can view. For example, the scope of a supervisor who has one team of knowledge workers consists of the recordings and evaluations for those knowledge workers. The scope of a manager who has several groups of teams of agents and knowledge workers consists of the data for all of those agents and knowledge workers.

A role is a collection of privileges. A user can have one or many roles. When the user logs into Workforce Optimization, the user can access all roles and privileges assigned to that user. For example, if a user is assigned to both the evaluator and manager roles, the user has access to all privileges assigned to the evaluator and manager roles.

A privilege is the permission to perform a transaction. For example, managers have the ability to access archive recordings for their groups.

Quality Management defines a user's scope by roles and privileges.

Administrator

The administrator has the following privileges:

- Access Quality Management Administrator and configure the system and users for Quality Management

- Access Quality Management in Workforce Management and configure the Dashboard view by role (lock down the Dashboard)

Administrator Considerations

The administrator can log into Quality Management Administrator and Workforce Optimization.

The administrator does not require a license to log into Call Recording and Quality Management. If you want the administrator to manage the Dashboard application in Workforce Optimization, a Call Recording and Quality Management license is required.

In a non-Active Directory environment, the administrator role was created when you installed/upgraded Quality Management.

In an Active Directory environment, the administrator must have an AD Account user associated with the Admin Group security setting.

The administrator is a Quality Management user not an ACD user.

Agents and Knowledge Workers

Agents and knowledge workers have the following privileges.

- View their own quality scores and the aggregate quality scores for their team and group on a dashboard

- Export recordings within their scope, if enabled

- Review evaluation results on their own scored contacts

- Enter comments on their scored evaluations.

- View their own historical reports

- Access recordings of their own contacts, if enabled

    NOTE: Agents who are not assigned to a team can still log into Workforce Optimization and access their contact recordings.

- Access all recordings marked as Training

Supervisors

Supervisors have the following privileges:

- View dashboard with their team's and group's quality scores and details of individual agents within their team

- Enter comments on their team's scored evaluations

- Evaluate contacts for their team, when an evaluation form is enabled for supervisors

- Update their previously-scored evaluations

- Export recordings within their scope, if enabled

- Approve evaluations for agents in their teams, if required

- Designate recordings in their teams to be retained as Training or HR recordings

- View agent and team-level historical reports

- Access contact recordings for their team

Managers

Managers have the following privileges:

- View dashboard with their group's quality scores and details of individual teams within their group

- Review evaluation results on all of their group's scored contacts

- Enter comments on their group's scored evaluations

- Evaluate contacts for their group, when an evaluation form is enabled for managers

- Approve evaluations for agents in their groups, if required

- Update their previously-scored evaluations

- Export recordings within their scope, if enabled

- Designate contacts for retention as Training contacts

- View agent, team, group, and enterprise-level historical reports

- Access contact recordings for their group

Archive Users

Archive users have the following privileges:

- Search and review contact recordings for all of the agents and knowledge workers across the enterprise

- Export contact recordings, if enabled

- Access contact recordings for deleted users

Evaluators

Evaluators have the following privileges:

- Select, review, and evaluate contact recordings for all groups
- Review recordings and add comments to evaluations for agents and knowledge workers in all groups
- Approve evaluations, if required
- Export recordings within their scope, if enabled
- Update your previously-scored evaluations
- Designate contacts for retention as Training or HR contacts

User Administration

The User Administration window allows you to:

- Create and configure users.
- Assign the knowledge worker, supervisor, manager, evaluators, and archive user roles.
- Make group and team assignments.
- License the users using the license added from Site Configuration.

The User Administration window displays one of two versions, depending on whether or not you configure your system to interface with Microsoft Active Directory.

Active Directory Systems

In an Active Directory system, there are three types of users:

- **Active Directory Account.** A user set up in Microsoft Active Directory. All users in Quality Management must be in Active Directory. You can only configure a user in Quality Management if that user has a last name in Active Directory.
- **ACD User.** A user set up as an agent and/or supervisor and assigned to a team in Unified CCX. You can assign an ACD user to manager, evaluator, and archive user roles in Quality Management.
- **Non-ACD User.** A user created in Quality Management.

  NOTE: Whenever you modify a user in Unified CCX (for example, change a user's name), the modifications do not appear in Quality Management until synchronization occurs. The synchronization process runs automatically at 10-minute intervals. If necessary, you

can manually synchronize these databases (see "Synchronizing Databases" on page 14 for more information).

You must link an ACD user to an Active Directory account within Quality Management to assign roles to that user in Quality Management.

The User Administration window (Figure 22) has tabs that sort users into categories according to their roles and status within Quality Management.

Figure 22. User Administration window (Active Directory system)

The following table describes the buttons.

Table 36. User Administration buttons

Tab	Description
Link AD to ACD Users	Assign an ACD user to an Active Directory account. NOTE: Once you link an Active Directory to an ACD account, you can only unlink the Active Directory account by deleting the agent from the Unified CCX system.
Create Users	Add a non-ACD user. Non-ACD users are users that exist only in Quality Management and Active Directory. Non-ACD users do not exist in Unified CCX. Like ACD users, you must link non-ACD users to an Active Directory Account to be part of the Quality Management system.

Table 36.   User Administration buttons (Continued)

Tab	Description
License Users	Assign a user with a license. See "License/Unlicense Users" on page 112 for more licensing information.
Delete User	Remove a non-ACD user. See "Deleting a Unified CCX User" on page 113 for information on deleting an ACD user.
Add	Add an ACD team, QM team, or group to a list.
Remove	Delete an ACD team, QM team, or group from a list.
Save	Saves your changes.
Cancel	Cancels your current changes.

The following table describes the tabs.

Table 37.   User Administration tabs

Tab	Description
Linked Users	Active Directory users linked to an ACD or non-ACD users. This includes the administrator.
Managers	ACD and Non-ACD users assigned to the manager role.
Evaluators	ACD and Non-ACD users assigned to the evaluator role.
Archive Users	ACD and Non-ACD users assigned to the archive user role.
Supervisors	ACD users assigned to the supervisor role Unified CCX and Non-ACD users assigned to the supervisor role.
Agents	ACD users assigned to the agent role in Unified CCX.
Knowledge Worker	Non-ACD users assigned to the knowledge worker role.
Unlinked ACD Users	ACD users who are not linked to an Active Directory user.
Unassigned Users	Non-ACD users not assigned to the manager, evaluator, knowledge worker, supervisor, or archive user roles. This tab only lists non-ACD users, because ACD users always have at least one role.

The following table describes the information that appears about the users on each tab.

Table 38.   User Administration tab columns

Column	Description
License	The license assigned to the user. The possible licenses are: • CR • CRA • QM • QMA • AQM • AQMA A user must be licensed to be able to log into Workforce Optimization and be recorded.
Last Name	The user's last name, as set up in the ACD or Quality Management. The name appears as it is configured in Active Directory. For Active Directory authentication, the first and last names are displayed in their respective columns after you link a user. A report that normally displays a user's first and last name will display the Active Directory first and last name.
First Name	The user's name appears as it is configured in Active Directory.
User ID	The user ID assigned to the user. The format of an ACD user ID is <agent's PG>.<agent's ICM Peripheral Number>.
Assigned Team	The team assigned to the agent.
Assigned Group	The group assigned to the agent.
Windows Login	The user's Windows user name.
Domain	The domain assigned to the Active Directory user.

When you select a user listed in any of the tabs, that user's properties are displayed in the lower section of the window. User properties are described in the following table.

Table 39.   User Properties fields

Column	Description
License	The license assigned to the user.
First Name	The user's first name, as set up in the ACD or Quality Management.
Last Name	The user's last name, as set up in the ACD or Quality Management.
Assigned Team	The team assigned to the agent or knowledge worker.
User ID	The user ID assigned to the user. If the user is an ACD user, the format is <agent's PG>.<agent's ICM Peripheral Number>. If the user is a Quality Management user, the Quality Management system assigns a number.
Roles	The roles assigned to the user. The available check boxes are as follows: • Agent (available for ACD users only and disabled by default) • Knowledge Worker (available for non-ACD users only) • Supervisors (disabled by default for ACD users) • Evaluator • Manager • Archive User
Supervisor's ACD Team	Lists the ACD teams assigned to the supervisor.
Supervisor's QM Team	Lists the QM teams assigned to the supervisor.
Manager's Groups	Lists the groups assigned to the manager.

Using Bulk Linking

Use this task to link ACD users to Active Directory accounts when you initially set up Quality Management.

TASK

1. From the User Administration window, click Link AD to ACD Users.

    STEP RESULT: The Link AD to ACD Users dialog box appears.

2. Select the Active Directory domain that your users are in from the Domain drop-down list.

3. Select the path to your users from the UserPath list

ADDITIONAL INFORMATION: You can select one or more user paths from this list.

4. Click Find.

STEP RESULT: The users who exactly match the search query appear in the list. The first five columns display information from Active Directory. The last three columns display information from the ACD.

5. Select the Active Directory accounts that you want to link to your ACD users, and then click OK.

ADDITIONAL INFORMATION: To link all users in the list, click Select All.

> **NOTE:** If some ACD users have names that don't exactly match their Active Directory accounts, you have to link them individually.

Figure 23 displays selected users in the Link Active Directory to ACD Users dialog box.

Figure 23. Link Active Directory to ACD User dialog box

STEP RESULT: The ACD users that you linked to Active Directory accounts appear on the Linked Users tab.

Linking an ACD User to an Active Directory account

Use this task to link an ACD user to an Active Directory account.

TASK

1. From the User Administration window, click the Unlinked ACD Users tab.

2. Select the user you want to link, and then click Link User.

    STEP RESULT: The Link Selected User dialog box appears with the user's last name and first name already filled in with the first two letters (plus an asterisk, which is a wildcard).

3. Optional: Select the Active Directory domain that your users are in from the Domain drop-down list.

4. Optional: Select the path to your users from the UserPath list.

5. Enter your search criteria in one or more of the following fields:

    –   Last Name
    –   First Name
    –   Windows Login Name

    ADDITIONAL INFORMATION: You can use an asterisk as a wildcard character. The asterisk matches any number of characters.

6. Click Find.

    STEP RESULT: The users who match the search query appear in the list.

7. Select the Active Directory account you want to link your ACD user with from the search results, and then click OK.

    STEP RESULT: The user you just linked now appears under the Linked Users tab.

Assigning User Roles to an ACD User

Use this task to assign Quality Management user roles to an ACD User. You can assign an ACD user to the following roles: manager, evaluator, and archive user.

TASK

1. Select the ACD user from the Linked Users tab in the User Administration window.

STEP RESULT: The user's properties appear in the User Properties section of the window.

2. Select the desired role check box in the Roles section.

    – If you assigned the Manager role, you can now assign a group to the manager. Click Add under the Manager's Groups section and select the appropriate group.

ADDITIONAL INFORMATION: You cannot assign the agent and/or supervisor role to an ACD user from Quality Management Administrator. You can only assign agent and supervisor roles in Unified CCX.

3. Click Save.

Switching Active Directory–ACD Links

Once you link an ACD user to an Active Directory account, you cannot unlink the ACD user. You can switch a link from one Active Directory account to another Active Directory account by following the procedure for linking an ACD user to an Active Directory account and selecting a new Active Directory user to link to.

If that Active Directory account is already linked to an ACD user, the links will be switched. For example, if:

• ACD User 1 is linked to Active Directory Account 1

• ACD User 2 is linked to Active Directory Account 2

and you want to link ACD User 1 to Active Directory Account 2, you can do so. The end result is that the links will be switched:

• ACD User 1 is linked to Active Directory Account 2

• ACD User 2 is linked to Active Directory Account 1

There are other linking/unlinking situations that can exist. When you attempt to link or unlink various combinations of ACD, Active Directory, and Quality Management users, popup messages appear telling you what you must do to accomplish the task, or if it is allowed in Quality Management.

Creating a Non-ACD User

Use this task to create a non-ACD user.

TASK

1. From the User Administration window, click Create Users.

STEP RESULT: The Link New Users dialog box appears.

2. Optional: Select the Active Directory domain that your user is in from the Domain drop-down list.

3. Optional: Select the path to your user from the UserPath list.

4. Enter your search criteria in one or more of the following fields:

    – Last Name

    – First Name

    – Windows Login Name

    ADDITIONAL INFORMATION: You can use an asterisk as a wildcard character. The asterisk matches any number of characters.

5. Click Find.

    STEP RESULT: The users who match the search query appear in the list (Figure 24).

Figure 24.   Link New Users dialog box

6. Select the specific Active Directory account that you want to link, and then click OK.

STEP RESULT: The non-ACD user you created appears in the Linked Users tab.

Assigning Roles to a Non-ACD User

Use this task to assign roles to a non-ACD user. You can assign non-ACD users to the following roles: knowledge worker, supervisor, manager, evaluator, and archive user.

TASK

1. Select the non-ACD user from the Unassigned Users tab.

   STEP RESULT: The user's properties appear in the User Properties section of the window.

2. Select the desired role check box in the Roles section.

   – If you assigned the Knowledge Worker role, you can now assign the knowledge worker to a team using the enabled Assigned Team field. Select the appropriate team from the drop-down list. The team can consist only of knowledge workers.

   NOTE: Quality Management does not record the knowledge worker until you assign that user to a team.

   – If you assigned the Manager role, you can now assign a group to the manager. Click Add under the Manager's Groups section and select the appropriate group.

   – If you assigned the Supervisor role, you can now assign a team to the supervisor. Click Add under the Supervisor's ACD Teams and/or Supervisor's Quality Management Teams sections and select the appropriate team(s).

3. Click Save.

Non-Active Directory Systems

In a non-Active Directory system, there are two types of users:

- **ACD User.** A user set up as an agent and/or supervisor and assigned to a team in Unified CCX. You can assign an ACD user to manager, evaluator, and archive user roles in Quality Management.

- **Non-ACD User.** A non-agent user set up in Quality Management.

   NOTE: Whenever you modify a user in Unified CCX (for example, change a user's name), the modifications do not appear in Quality Management until synchronization occurs. The synchronization

process runs automatically at 10-minute intervals. If necessary, you can manually synchronize these databases (see "Synchronizing Databases" on page 14 for more information).

The User Administration (Figure 25) window has tabs that sort users into categories according to their roles and status within Quality Management.

Figure 25.   **User Administration window (non-Active Directory systems)**

The following table describes the buttons.

Table 40.   User Administration buttons

Tab	Description
Create Users	Add a non-ACD user. Non-ACD users are users that exist only in Quality Management and Active Directory. Non-ACD users do not exist in Unified CCX. You must link non-ACD users to an Active Directory Account to be part of the Quality Management system.
License Users	Assign a user with a license. See "License/Unlicense Users" on page 112 for more licensing information.
Delete User	Remove a non-ACD user. See "Deleting a Unified CCX User" on page 113 for information on deleting and ACD user.
Edit User	Configure the user properties.
Add	Add an ACD team, QM team, or group to a list.
Remove	Delete an ACD team, QM team, or group from a list.

Table 40.   User Administration buttons (Continued)

Tab	Description
Save	Saves your changes.
Cancel	Cancels your current changes.

The following table describes the tabs.

Table 41.   User Administration tabs

Tab	Description
Configured Users	All non-ACD users who have been set up in Quality Management. This includes the administrator.
Managers	Non-ACD users assigned to the manager role.
Evaluators	Non-ACD users assigned to the evaluator role.
Archive Users	Non-ACD users assigned to the archive user role.
Supervisors	Non-ACD users assigned to the supervisor role.
Agents	Non-ACD users assigned to the agent role in Unified CCX.
Knowledge Worker	Non-ACD users assigned to the knowledge worker role.
Not Configured Users	Non-ACD users who have not yet been set up in Quality Management.
Unassigned Users	Non-ACD users not assigned to the manager, evaluator, knowledge worker, supervisor, or archive user roles.

Each tab displays information about the users that fall into its category, as shown in the following table.

Table 42.   User Administration tab columns

Column	Description
License	The license assigned to the user. The possible licenses are: • CR • QM • AQM A user must be licensed to be able to log into Workforce Optimization and be recorded.
Last Name	The user's last name, as set up in the ACD or Quality Management. When syncing users from the ACD, this field displays the user's entire name (first and last name), and the First Name field remains empty. If you are using QM authentication, a report that normally displays a user's first and last name only syncs the information from the agent's name field and displays the entire name in the Last Name field.
First Name	The user's first name, as set up in the ACD or Quality Management.
User ID	The user ID assigned to the user. If the user is an ACD user, the format is <agent's PG>.<agent's ICM Peripheral Number>. If the user is a Quality Management user, the Quality Management system assigns a number.
Assigned Teams	The team assigned to the agent or knowledge worker.
Assigned Groups	The group assigned to the agent.
Windows Login	The user's Windows user name.

When you select a user listed in any of the tabs, that user's properties are displayed in the lower section of the window. User properties are described in the following table.

Table 43.   User Properties fields

Column	Description
License	The license assigned to the user.

Table 43.   User Properties fields (Continued)

Column	Description
First Name	The user's first name, as set up in the ACD or Quality Management.
Last Name	The user's last name, as set up in the ACD or Quality Management.
Assigned Team	The team assigned to the agent or knowledge worker. **NOTE:** The Assigned Team drop-down list only displays teams containing knowledge workers.
User ID	The user ID assigned to the user. Quality Management assigns a number to the user ID.
Roles	The roles assigned to the user. The available check boxes are as follows: • Agent (available for ACD users only and disabled by default) • Knowledge Worker (available for non-ACD users only) • Supervisors (disabled by default for ACD users) • Evaluator • Manager • Archive User
Supervisor's ACD Team	Lists the ACD teams assigned to the supervisor.
Supervisor's QM Team	Lists the QM teams assigned to the supervisor.
Manager's Groups	Lists the groups assigned to the manager.

Configuring an ACD User

Use this task to configure a Unified CCX user for Quality Management. An ACD user is not a part of Quality Management system until you configure the ACD user in Quality Management Administrator.

An ACD user can only be assigned the agent role or supervisor role in Unified CCX. You can only assign ACD teams to a supervisor in Unified CCX.

Enter the ACD user's Windows login name and Quality Management login password to configure an ACD user in Quality Management.

TASK

1. On the Not Configured Users tab, locate and select the user you want to configure.

2. In the User Properties section, click Edit User and enter the user's Windows Login and Quality Management Password.

   ADDITIONAL INFORMATION: The Windows login name must be unique, but users can have the same first and last names. It must be between 1 and 64 characters long, cannot consist entirely of spaces, and cannot include these characters: / \ [ ] : ; " | = , + * ? < > ( )

3. If necessary, assign the user the Evaluator, Archive User, and/or Manager role by selecting the check boxes next to those roles.

   – If you assigned the Manager role, you can now assign a group to the manager by clicking Add under the Manager's Groups section and selecting the appropriate group.

   – If you assigned the Supervisor role, you can now assign a team to the supervisor by clicking Add under the Supervisor's ACD Teams section and/or Supervisor's QM Team and selecting the appropriate team.

4. Click Save.

   ADDITIONAL INFORMATION: The ACD user is removed from the Not Configured User tab and appears under the tab for each role that you assigned to the ACD user. For instance, if you assigned the ACD user to the evaluator role, the ACD user appears under both the Agents tab and the Evaluators tab.

   NOTE: The ACD users initially appear under the Agents and/or Supervisors tabs and non-ACD users under the Unassigned Users tab.

Creating a Non-ACD User

This task describes how to create a non-ACD user. A non-ACD user exists only in Quality Management. The non-ACD user does not exist in Unified CCX. A non-ACD user can be an evaluator, manager, supervisor, knowledge worker, and/or archive user, but not an agent.

TASK

1. Click Create User.

   STEP RESULT: The Create User dialog box appears.

2. Complete the fields, and then click OK.

    ADDITIONAL INFORMATION: The Windows login name must be unique, but users can have the same first and last names.

    STEP RESULT: The Roles section is enabled. You can assign a role to the new user at this time, or do it later.

    A user ID (Windows Login) is assigned to the new user and the user appears under the tab for each role that you assigned the user, or under the Unassigned Users tab if you did not assign any roles to the user.

Assigning Roles to a Non-ACD User

You can assign the Knowledge Worker, Supervisor, Evaluator, Manager, and Archive User roles to a non-ACD user from any tab on which that user is listed.

TASK

1. Select the non-ACD user from any tab on which the user is listed.

    STEP RESULT: The user's properties appear in the User Properties section of the window.

2. Select check box for the desired role in the Roles section.

    –   If you assigned the Knowledge Worker role to the user, you can now assign the knowledge worker to a non-ACD team using the enabled Assigned Team field. Select the appropriate non-ACD team from the Assigned Team drop-down list. The non-ACD team can consist only of knowledge workers.

    NOTE: Quality Management does not record the knowledge worker until you assign that user to a team.

    –   If you assigned the Supervisor role, you can now assign the supervisor to a team by clicking Add under the Supervisor's ACD Teams or Supervisor's QM Team and selecting the appropriate teams. The selected team can be either an ACD or non-ACD team.

    NOTE: You must first assign the non-ACD user to the knowledge worker role before you can assign that non-ACD user to the Supervisor role.

    –   If you assigned the Manager role, you can now assign a group to the manager by clicking Add under the Manager's Groups section and selecting the appropriate group.

3. Click Save.

License/Unlicense Users

The License/Unlicense Users dialog box (Figure 26) displays a list of users and available licenses. You can use this dialog box to:

- Assign a license to one or more users.

- Unlicense one or more users.

Figure 26.   License/Unlicense Users dialog box

Users must be licensed to log into Workforce Optimization and to be recorded. A user's license status is displayed in the User Administration window.

The total number of licensed users is displayed on the User Administration interface to the right of the Delete User button. The number displayed updates as soon as the users are licensed or unlicensed.

Users' license status can be changed only after they have been linked to an AD user (in AD systems) or configured (in non-AD systems).

The number of licenses you have is configured when your system is installed. More information about managing your licenses can be found in "License" on page 38.

Changing a User's License Status

Use this task to change a user's license status.

TASK

1. From the User Administration window, click License Users.

   STEP RESULT: The License/Unlicense Users dialog box appears. It displays a list of all linked users and the available licenses.

2. Select the users whose license status you want to change.

   – Use Shift + Click to select contiguous rows in the list of users.

   – Use Ctrl + Click to select non-contiguous rows in the list of users.

3. Select the license type you want to assign to the selected users and click OK. The possible recording types are:

   – AQM

   – AQMA

   – QM

   – CR

   – Unlicensed—removes a license from a user.

STEP RESULT: The license is assigned to the users. The users can log into Workforce Optimization and the users can be recorded.

   NOTE: Changes in license status go into effect the next time the user attempts to log in.

Deleting a Unified CCX User

You cannot delete a Unified CCX user from Quality Management. You can only delete a Unified CCX user from the Unified CCX system. However, you can change a Unified CCX user to unlicensed, which means that the user cannot log in to Workforce Optimization and the user will not be recorded.

Deleting a Non-ACD User

Use this task to delete a non-ACD user.

TASK

1. Select the non-ACD user you want to delete on one of the tabs in the User Administration window.

2. Disable all roles assigned to the non-ACD user, remove any team associations and group associations, and then click Save.

3. Click Delete User.

STEP RESULT: A dialog box asks you to confirm that you want to delete the selected non-ACD user.

4. Click Yes.

STEP RESULT: The non-ACD user is deleted.

Team Administration

The Team Administration window (Figure 27) enables you to:

- View the agents and supervisors belonging to a selected team.

- Assign non-ACD supervisors to a team of ACD agents.

- Create, rename, and remove non-ACD teams.

- Assign knowledge workers, ACD supervisors, and non-ACD supervisors to teams.

Figure 27. Team Administration window

Assign agents and ACD supervisors to teams in Unified CCX. You cannot change team assignments in Quality Management Administrator.

You cannot assign knowledge workers to the same team as agents. Knowledge workers must belong to a non-ACD team made up only of knowledge workers.

You can assign non-ACD supervisors to an ACD team and ACD supervisors to a non-ACD team.

You cannot create, rename, or remove an ACD team. Create and maintain ACD teams in Unified CCX.

Managing Teams

TASK

- To configure an ACD team, choose an ACD team from the Team drop-down list, add or remove QM supervisors, and then click Save.

ADDITIONAL INFORMATION: When a team is created in Unified CCX, you can only change the QM Supervisors assigned to the team.

- To add a non-ACD-team, click New, type the team's name in the field, and then click OK. Add knowledge workers, ACD supervisors, and QM supervisors to the new team by clicking Add underneath each section, selecting the desired names from the list, and then clicking OK. When the new team is complete, click Save.

ADDITIONAL INFORMATION: The team's name must conform to the following rules.

  - The team's name must be unique.

  - A team's name cannot be longer than 32 characters.

- To assign people to a non-ACD team, choose the team from the Team drop-down list. Add knowledge workers, ACD supervisors, and QM supervisors to the new team by clicking Add underneath each section, selecting the desired names from the list, and then clicking OK. When the update is complete, click Save.

ADDITIONAL INFORMATION: Use Shift + Click to select adjacent people and Ctrl + Click to select non-adjacent people.

- To remove people from a team, select the people you want to remove from a section (for example, Assigned Knowledge Workers, Assigned ACD Supervisors, or Assigned QM Supervisors), click Remove underneath the section, and then click OK.

- To rename a team, select the team you wish to rename from the Team drop-down list, click Rename, type the new name in the field, and then click OK.

- To delete a team, select the team you wish to delete from the Team drop-down list, click Delete, and then click Yes.

ADDITIONAL INFORMATION: Remove the team from the quality management workflow before you delete the team.

NOTE: You cannot delete a team if the team is assigned to a quality management workflow. You can delete a team if the team is assigned to an archive workflow.

Group Administration

Groups contain teams and managers assigned to the groups. From the Group Administration window (Figure 28), you can:

- Create, rename, and delete a group.
- Add and remove teams from a group.
- Add and remove managers from a group.

Figure 28.   Group Administration window

Managing Groups

TASK

- To add a group, click New, type the group's name in the field, and then click OK. Add teams and managers to the group by clicking Add

underneath each section, selecting the desired names from the list, and then clicking OK. When the new group is complete, click Save.

ADDITIONAL INFORMATION: The group's name must conform to the following rules.

- The group's name must be unique.

- A group's name cannot be longer than 32 characters.

- To add teams to a group, select the group from the Group drop-down list, click Add under the Assigned Teams section. Select the team or teams you want to assign to the group from the list of available teams, and then click OK. When the group is complete, click Save.

ADDITIONAL INFORMATION: Use Shift + Click to select adjacent teams and Ctrl + Click to select non-adjacent teams.

NOTE: A team can belong to only one group. If you assign a team to a group and it already belongs to another group, Quality Management will ask you to confirm moving the team from one group to another group.

- To remove teams from a group, select the group from the Group drop-down list, select the teams you want to remove from the group, and then click Remove. When the group is complete, click Save.

- To add managers to a group, select the group from the Group drop-down list, click Add under the Assigned Managers section. Select the manager or managers you want to assign to the group from the list of available managers, and then click OK. When the group is complete, click Save.

- To remove managers from a group, select the group from the Group drop-down list, select the managers you want to remove from the group, and then click Remove. When the group is complete, click Save.

- To rename a group, select the group you wish to rename from the Group drop-down list, click Rename, type the new name in the field, and then click OK.

- To delete a group, select the group you wish to delete from the Group drop-down list, click Delete, and then click Yes.

ADDITIONAL INFORMATION: Remove teams assigned to the group, from the quality management workflow before you delete the group.

NOTE: You cannot delete a group if any teams in that group are assigned to a quality management workflow. You can delete a group if the teams in that group are assigned to an archive workflow.

Recordings

The Recordings node enables you to:

- Configure recording retention periods for a workflow

- Create quality management workflows for a team

- Create and maintain evaluation forms

- Create archive workflows for a team

- Configure and manage user-defined metadata

- Allow specific roles to export recordings

- Configure thresholds for talkover and silence events

- Control the columns that appear in the <user name> - ID tab in the Media Player under the Recordings application in Workforce Optimization

About Recordings

There are two types of recordings: those made for quality management purposes, and those made for archiving purposes. Quality management recordings can include voice and screen recordings. Archive recordings are voice only.

Quality management recordings and archive recordings use workflows to determine which recordings of inbound and/or outbound calls ("calls of interest") to save for evaluation or archival purposes. You can assign teams to a workflow. Some examples of why you would record calls of interest are:

- Tracking the performance of specific agents

- Helping train new agents

- Monitoring calls during a sale period

- Monitoring calls during specific times of day

- Monitoring calls from specific customers or specific phone numbers

Quality Management saves recordings that are at least 5 seconds long. Quality Management does not consider a recording of less than 5 seconds a valid recording. For quality management purposes, you can change the minimum duration in the WHAT rule for the quality management workflow classifier. You cannot change the minimum duration for an archive workflow.

Quality Management does not support calls that are 24 hours long or longer.

Quality Management displays the time associated with a contact as the time the contact occurred at the agent's location, expressed in 24-hour HH:MM:SS format. For example, if the agent is located in Chicago, the time associated with any recorded contacts made by that agent is Chicago local time.

The contact also displays the abbreviation for the local time zone. If the time zone associated with the contact is unknown to Quality Management, then Quality Management displays the time in Greenwich Mean Time (GMT).

Cisco MediaSense Recording Considerations

A workflow is configured to save recordings based on certain rules as they apply to individual contacts (sessions). Using Cisco MediaSense Recording might result in more than one contact for a single call. For example, if an agent places a call on hold, two contacts are created that will be evaluated individually for a workflow. For example, a single call could produce a "shortest call" contact (before the hold) and a "longest call" contact (after the hold). Alternatively, a single call recorded by Cisco MediaSense Recording might result in one of multiple contacts (sessions) being uploaded. It is possible that some sessions in a single call might not be uploaded based on the rules configured for the quality management workflow. For this reason, Cisco recommends you choose the 100% QM Logging option when you configure quality management workflows to guarantee the entire call appears in the Recording application for Workforce Optimization.

Gateway Recording Considerations

All calls that pass through an SBC or Gateway in a Gateway Recording environment that are not filtered by an exclusion list in the Inclusion List window are recorded and uploaded. These recordings are called root contacts. A root contact contains the whole call and is not associated with any agent. That is, the columns (Agent, Team, and so on) remain blank in the search results. An archive user can play back root contacts. These root contacts are assigned to a default workflow that appears as an inactive workflow in the Workflow Administration and Archive Workflow Administration windows.

The root contact is then broken into separate segments for individual agents that were associated with the call and the recording is associated with each of these segments. The archive and quality workflows for those agents are evaluated and the proper archive and quality reasons are applied. The DB Cleaner service then uses these archive/quality reasons and workflow retention of each of these contacts to decide when to delete the recording. A segment may pass its retention time and no longer appear in search results, but the recording will continue to persist until all of the contacts have expired and that segment is still playable.

If you decide not to record the calls for some users, note that there is no way to identify a call going through an SBC or Gateway by its calling or called number in an exclusion list from the Inclusion List window. You need to place these users in a Don't Record archive workflow. In this instance, the calls are recorded but they will be deleted by the DB Cleaner service.

If a user in a Don't Record archive workflow wants to save a recording, they can use the Record Tag command in Calabrio Recording Controls. See *Calabrio Recording Controls* for more information.

DB Cleaner and Gateway Recording

If you are using Gateway Recording, DB Cleaner deletes recordings when:

- A root contact was broken into segments and none of the segments matched any workflows required to save the recording (the root contact's default workflow is ignored). For example, when you specify the Don't Record classifier for an archive workflow in a Gateway Recording environment, DB Cleaner will delete the recorded call. If a user in a team assigned to this archive workflow sends the Record Tag command, the recorded call will not be deleted.

- One or more segments were saved based on their workflow and they are deleted when all of the non-root contact retention times have expired.

- The root contact was not broken into any segments (no agents were involved in this recording) and the recording will be cleaned when the root retention time has expired.

About User-defined Metadata

Administrators can add up to 10 user-defined metadata fields. The metadata can be captured from Unified CCX, Cisco Agent Desktop (CAD), and other applications to pass the data to the Quality Management API.

The CAD IPC Action can also be used to pass data to Quality Management. See the *Cisco CAD Desktop Administrator User Guide* for more information.

Contact Recording Visibility and Retention

The administrator controls how long contacts recordings are visible in the Recordings application by role. When the time expires for a contact recording, that contact recording is no longer available to the user.

The administrator also controls the amount of time contact recordings are retained for quality management workflows and archive workflows.

See the *Administrator User Guide* for more information on contact recording visibility and retention periods by workflow.

Recording Retention Periods and Workflow

The retention period for recorded calls is specified at the workflow level. The age of a call is based on the day the call was recorded. This value is not updated by any actions performed on the recorded call. The expiration date is the last day of the retention period.

Teams assigned to a workflow will share the same retention period. For example, two teams associated with one workflow might handle calls that require call recordings to be kept for 7 years. A team associated with another workflow might handle calls that require call recordings to be kept for only a year.

The length of time that quality management recordings are retained and configured is under the Quality Management > Workflows node and the length of time archive recordings are retained and configured is under the Archive > Workflows node.

Recording Retention Rules

Quality Management observes the following rules when determining retention time.

- Every quality management workflow has individual retention periods for HR, Scored, Tagged, Training, and Unscored calls.

- Every archive workflow has individual retention periods for Archive and Tagged calls.

- Different calls might be retained for different retention periods, depending on the workflow retention period assigned to the call.

- If a call is marked as Tagged, the screen recording file will be deleted at the end of the quality management Tagged retention time. The audio file will be deleted at the end of the longer retention time for either the quality management Tagged or archived Tagged retention time. Quality Management deletes metadata associated with a call when the longest of the quality management Tagged, archived Tagged, or metadata retention times is reached. By default, call data is stored for 13 months.

  The following example shows how Quality Management handles Tagged retention when both archive and quality workflows exist:

  – A contact is recorded for both quality management and archiving. It is also marked as Tagged by the user.

- Quality management Scored retention time is two months

- Quality management Tagged retention time is 6 months

- Archive retention time is one year

- Metadata retention time is thirteen months

- Archive Tagged retention time is ten years

– After 6 months, the screen recording is deleted and is no longer available.

– After ten years, the audio recording and metadata are deleted and no longer available.

Time	Data	Applications in Workforce Optimization where you can access the data
For 6 months	Screen recording	Recordings
For 10 years	Audio recording	Recordings
For 13 months	Metadata	Recordings

• A quality management workflow retention period is assigned at the End of Day (EOD).

• Once the retention period is assigned to a call, the call's retention period can only be changed by changing the retention times in the workflow in which the retention periods were originally assigned.

   NOTE: Remember that reducing a retention period after it has been initially set can result in the deletion of recordings, and that increasing a retention period will result in a larger use of storage space. Changing these values should be considered carefully.

• Once the retention period is assigned to a call, the call's retention period will not be changed if a team is moved from one workflow to another workflow. Subsequent calls associated with the new workflow will use the retention period assigned to the new workflow.

• When you delete a workflow, any calls assigned to that workflow retains the last known retention times for the deleted workflow.

Quality Management Workflow Retention

Quality management contacts are retained according to the limits shown in the following table.

Table 44.   Recording retention periods for quality management workflows

Recording Type	Retention Period
Scored	1 day—unlimited (default = 30 days)
Unscored	1 day—unlimited (default = 30 days)
HR	1 month—unlimited (default = 6 months)
Training	1 month—unlimited (default = 6 months)
Tagged	1 month—unlimited (default = 120 months)
Metadata	13 months[a]

a. You cannot change the recording retention period for metadata.

Archive Workflow Retention

Archive workflow contacts are retained according to the limits shown in the following table.

Table 45.   Contact retention periods for archive workflows

Recording Type	Retention Period
Archive[a]	1 month—Unlimited (default = 84 months)
Tagged	1 month—Unlimited (default = 120 months)
Contact Information	13 months minimum in both the Dashboard and Reporting applications

a. Audio recordings only.

About Workflows

A workflow allows you to specify rules and classifiers to designate the types of contacts you want to record. There are two types of workflows:

- quality management workflow—specifies the types of calls you want to save for quality management recordings

- archive workflow—specifies the types of calls you want to save for archive recordings

Changes to a workflow take effect immediately.

The following list describes when workflow processing occurs:

- Beginning of Call (BOC)—this occurs when Voice Recording services get a message that recording has started.

  NOTE: This does not occur for screen recordings or Cisco MediaSense Recordings. They only insert contacts after the recording is complete (EOC).

- End of Call (EOC)—this occurs when the Recording Services are complete and the recording has been converted, and the duration and derived metadata has been discovered.

- Non-Call Evaluation—this occurs when a user creates a non-call evaluation from the Recordings application in Workforce Optimization.

- Metadata Reconciliation—this occurs when metadata is sent to the Server API to assign metadata to a contact.

- Quality Workflow Processing—This occurs after EOD for each configured quality workflow.

Workflow Prerequisites

Before you create a workflow, you need to:

- Set up users and groups

- Assign teams to a group (required for quality management workflow; not required for an archive workflow)

- Create an active evaluation form (quality management workflow only)

How Multiple Classifiers in a Workflow are Executed

You can set up multiple classifiers for a workflow. They are executed in the order they are listed (from top to bottom) in the workflow navigation tree. This enables you to create classifiers that are subsets of more general classifiers.

To change the order of classifiers in the navigation tree, select the classifier and use the Up and Down arrow buttons to move it up or down in the navigation tree.

Classifiers and Rules Example for a Quality Management Workflow

Classifier 1:

- Called number = 20??

- Inbound

- Rule 1: record new employee J. Smith

- Rule 2: record random calls for Team A

Classifier 2:

- Called number = * (all)

- Outbound

- Rule 1: record longest call of the day and shortest call of the day for Team B

In this example, a call must meet the called number condition and then the call direction condition of Classifier 1 to go on to evaluate the rules. If the call does not meet the called number condition, the workflow moves on to Classifier 2.

If the call meets the called number and call direction condition of Classifier 1, the workflow then goes on to evaluate the rules in top-down order. If none of the rules are met, the call will not be marked for quality management (although it might be uploaded for archiving if an archive workflow is configured).

Once a contact matches a classifier (and does or does not match any of those classifier's rules), the workflow will not move on to another classifier.

Figure 29. Classifier execution order in a quality management workflow

Qualifiers Example for an Archive Workflow

Classifier 1:

- Called number = 20??
- Inbound

Classifier 2:

- Called number = * (all)
- Outbound

In this example for an archive workflow, a call must meet the called number condition and then the call direction condition of Classifier 1. If the call does not meet the called number condition, the workflow moves on to Classifier 2.

Once a contact matches a classifier, the workflow will not move on to another classifier.

Figure 30.   Classifier execution order in an archive workflow

Configure a Classifier to Allow Agents to Selectively Tag Calls

When you configure archive or quality management workflows, calls are automatically recorded from the beginning. To allow agents to selectively tag calls for recording using the Tag command, choose the Don't Record option to disable uploading of recorded calls when configuring a classifier for the workflow.

Configure a Do Not Record Classifier

You can exclude specific phone numbers or area codes from recording by choosing the Don't Record option. For example, you can choose to exclude outbound calls to California.

Quality Management Workflows

This topic describes the Workflow Administration window and provides tasks to create and maintain quality management workflows.

Points to Remember

When a non-contact call is created or an Archive contact is marked for quality in Cisco Unified Workforce Optimization, the contact assumes the retention times for unscored and scored contacts configured in the quality management workflow for that agent's team. If you plan to use the Create Contact or Mark for Quality features, Cisco recommends placing all users under a quality management workflow in order to set the retention periods for these contacts. If no additional quality recordings are required the quality management workflow classifier can be set to exclude recording on all numbers so the quality management workflow will not cause any additional recording.

Workflow Administration

Use the Workflow Administration window (Figure 31) to create quality management workflows based on team. The quality management workflow includes specific rules and classifiers to designate the types of contacts you want to record. These calls will be recorded for evaluation and review.

Figure 31.   Workflow Administration window

Field	Description
Workflows	Lists the existing workflows. To modify the workflows that appear in this list, choose one of the following options. • New—add a new workflow to the list • Rename—change the name of an existing workflow • Delete—remove a workflow from the list Rename and Delete are enabled when you select an active archive workflow from the list.
Name	The name of the quality management workflow.
State	The status of the workflow. The Possible states are as follows: • Active—The entire workflow can be modified. • Inactive—The modifiable parts of the workflow are limited to the fields under Settings and Recording Retentions. An inactive workflow is a default workflow that is not associated with any agent. That is, the columns (Agent, Team, and so on) remain blank in the search results.
End of Day	The End of Day (EOD) is when the uploading process begins for the workflow. Recording still continues, but those recordings are uploaded after the next EOD. Enter the time for the end of the work day in 24-hour format. If the EOD is changed, the new EOD goes into effect immediately and the Data API service will process calls using the new EOD time. If the EOD changes after the Upload Controllers gets the original EOD, the Upload controller might wait to upload recordings until after the original EOD time has passed.
Extend Screen Recording (in seconds)	The number of seconds screen recording continues to record after-call work after a call is dropped. If another call starts before the configured time period is over, the recording for the current call stops automatically so that recording for the new call can start.
Allow Evaluators to Change Form	Choose this option if you want to allow evaluators to select the evaluation form they want to use.
Recording Retentions	Set the length of time you want the various types of recordings to be retained.
Teams Assigned to Groups	Teams assigned to groups appear in this list.

Field	Description
Assigned Teams	Teams assigned to this quality management workflow appear in this list. A team can belong to only one quality management workflow at a time.

Classifier Configuration

Use the Classifier Configuration: <workflow name> window (Figure 32) to create, rename, or delete classifiers for a quality management workflow.

Figure 32.   Workflow Classifier Configuration: <workflow name> window

Field/Option	Description
Evaluation Form	Select the form you want to use to evaluate the recorded calls.

Field/Option	Description
Record	Select this option to record calls, and then choose from the following options: • 100% Recording Logging • Inbound • Outbound
100% QM Logging	Select this option if you want to configure a classifier that does not use rules, but rather records all calls defined by the classifier. If you clear this check box, you must configure at least one rule for a Ringing Event. See "Setting up Rules for a Classifier's Ringing Event" on page 137 for more information.
Inbound and/or Outbound	Select which calls to be recorded—inbound, outbound, or both. You must select at least one call direction.
Don't Record	Use this option if you want agents to selectively tag calls for recording using the Tag command. This option allows you to exclude specific phone numbers or area codes from recording. For example, a workflow for a team has 2 classifiers in the following order: • Do not record a call for this workflow if the Calling Number begins with 612* because the area has rules against recording calls. • Record all calls with a Calling Number of *. The first classifier excludes all calls that originate from a number that starts with 612* from recording. The second classifier records all calls that are not excluded by the first classifier.
Numbers	Select the type of number you want to use to filter the calls, Called Number or Calling Number. If the call is inbound, the Called Number is either the route point number if the call was routed, or the agent extension if the call was direct dial. The Calling Number is the original number from which the caller is dialing. If the call is outbound, the Calling Number is the agent's extension, and the Called Number is the number of the customer/client. NOTE: If you add phone numbers to the Called Number section, then select Calling Number from the Numbers drop-down list, the phone numbers you added will be deleted. The reverse is also true. If you add phone numbers to the Calling Number section, then select Called Number from the Numbers drop-down list, the phone numbers you added will be deleted.

Field/Option	Description
Called/Calling Number	Click Add to specify the phone numbers you want to filter for in the Numbers field. You can enter: • Specific numbers (for example, 6125551212) • Number ranges using wildcards (for example, 612*, where the * wildcard stands for any number of digits, or 612555????, where the ? wildcard stands for 1 digit) • The * wildcard to record all calls The numbers you enter cannot contain dashes or parentheses, and must be between 1 and 16 characters long.

Creating a Quality Management Workflow

PREREQUISITE

You must assign a team to a group before you can assign that team to a quality management workflow. If you did not assign that team to a group, the team does not appear in the Teams Assigned to Groups section.

> **NOTE:** A team can belong to one archive workflow and one quality management workflow.

Use this task to create a new quality management workflow.

TASK

1. In the navigation tree, select Recordings > Quality Management > Workflows.

   STEP RESULT: The Workflow Administration window appears.

2. Next to the Workflows section, click New.

   STEP RESULT: The Workflow Name dialog box appears.

3. Enter a unique name for the new quality management workflow, and then click OK.

   STEP RESULT: The quality management workflow now appears in the Workflows section.

4. Select the quality management workflow from the Workflows list.

5. Enter the time for the end of the work day in 24-hour format.

ADDITIONAL INFORMATION: If the options are changed during the day, they do not go into effect until the quality management workflow is reloaded just before the End of Day.

6. Select the Allow Evaluators to Change Form check box if you want to allow evaluators to choose the evaluation form they want to use.

7. Set the length of time you want the various types of recordings to be retained.

    ADDITIONAL INFORMATION: If you want recordings to be retained indefinitely, select the Unlimited check box associated with the recording type. The minimum amount of time a recording can be retained is one day for Scored and Unscored recordings and 1 month for Tagged, HR, and Training recordings.

8. Assign teams to the quality management workflow.

    ADDITIONAL INFORMATION: A team can belong to only one quality management workflow at a time. If a team that you want to assign to this quality management workflow already belongs to another quality management workflow, it will automatically be reassigned to this quality management workflow. Quality Management Administrator displays a warning message telling you that it reassigned the team from another quality management workflow.

9. When you finish configuring the quality management workflow in this window, click Save.

Setting up Classifiers for a Quality Management Workflow

Use this task to set up classifiers for a quality management workflow.

TASK

1. Under the Quality Management > Workflows node, select the workflow you just created.

    STEP RESULT: The Classifier Configuration: <workflow name> window appears.

2. In the Classifiers section, click New to create a new classifier.

    STEP RESULT: The Classifier Name dialog box appears.

3. Enter a name for your new classifier, and then click OK.

    STEP RESULT: The new classifier is now listed in the workflow navigation tree.

4. Select the new classifier in the workflow navigation tree.

5. In the Classifier Settings section, select one of the following options.

 – Record—Select this option to upload recorded calls and then choose from the following options: 100% QM Logging, Inbound, or Outbound. Then choose the type of number (Called Number or Calling Number) you want to include from the Numbers drop-down list and then click Add and enter the included numbers.

NOTE: You must select at least one call direction (Inbound or Outbound).

 – Don't Record—Select this option to exclude specific phone numbers or area codes from recording. Choose the type of number (Called Number or Calling Number) you want to exclude from the Numbers drop-down list and then click Add and enter the excluded numbers.

6. Click Save to save the classifier settings.

AFTER COMPLETING THIS TASK:

If you did not select 100% QM Logging, you must now configure at least one rule for a Ringing Event. See "Setting up Rules for a Classifier's Ringing Event" on page 137 for more information.

NOTE: The following message appears if a rule is not configured or you do not choose 100% QM Logging:

```
Classifier <name> must have at least one rule or 100% QM
logging enabled.
```

Configuring Actions for the Ringing, Answered, and Dropped Events

Each event in the workflow navigation tree is associated with one or more optional actions as follows.

 • Ringing event: Screen Recording Upload

 • Answered event: Start Voice Recording

 • Dropped event: Stop Voice Recording

Quality Management Administrator enables action settings by default.

Use this task to configure actions for ringing, answered, and dropped events.

*T*ASK

1. Under Ringing Event, choose Actions and select the Screen Recording Upload check box if you want to upload screen recordings after the call ends.

    *A*DDITIONAL *I*NFORMATION: Screen Recording Upload is not available at the CR or QM license level.

2. Under Answered event, choose Actions, and select the Start Voice Recording check box if you want to start voice recording when the call is answered.

3. Under Dropped Event, choose Actions and select the Stop Voice Recording check box if you want to stop audio recording when a call is dropped:

4. Click Save to save the action settings.

Modifying a Quality Management Workflow

Use this task to modify a quality management workflow.

*T*ASK

1. Select Recordings > Quality Management > Workflows in the navigation tree.

    *S*TEP *R*ESULT: The Workflow Administration window appears.

2. Choose one or both of the following options.

    – Select the workflow from the Workflows section to modify the assigned teams or the workflow settings.
    – Select the workflow under the Workflow node in the navigation tree to modify the workflow's classifiers, rules, and actions.

3. When you finish your changes, click Save.

    *S*TEP *R*ESULT: Quality Management Administrator saves the changes to the modified workflow.

    NOTE: The modified workflow goes into effect after the agents assigned to the workflow log out and log back in to their Windows session, or after the configured End of Day. The quality management workflow information is updated before upload occurs so that any changes during the day will take effect.

Setting up Rules for a Classifier's Ringing Event

PREREQUISITE

You must set up at least one rule for a Ringing Event if you have configured the classifier without 100% QM Logging.

Rules do not apply to classifiers that are configured with 100% Recording Logging.

Use this task to set up rules for a classifier's ringing event.

TASK

1. In the workflow navigation tree, under the classifier, select Ringing Event.

    STEP RESULT: The Rule Configuration window appears.

2. Click New to add a new rule.

    STEP RESULT: The Rule Name dialog box appears.

3. Enter a name for the new rule, and then click OK.

    STEP RESULT: Quality Management Administrator adds the new rule to the workflow navigation tree underneath the Ringing event and the What, Who, and When tabs appear (Figure 33).

Figure 33.   Rule Configuration window—What tab

> **NOTE:** As with classifiers, multiple rules may be set up and ordered from least to most specific.

4. On the What tab, select the calls you want to record.

5. Click the Who tab.

    STEP RESULT: The Who tab on the Rule Configuration window appears.

6. Select either Agent or Team from the Select Who drop-down list.

7. In the Available Agents/Available Teams section, select the agent or team you want the workflow to apply to, and use the arrow buttons to move those agents or teams to the Assigned section.

8. Click the When tab.

    STEP RESULT: The When Tab on the Rule Configuration window appears.

9. Select when the workflow runs from the Select When drop-down list. Your choices are:

    – Set of Dates—select specific dates.

- Weekly—select the days of the week.

- Date Range—select a start and stop date.

10. When you are finished configuring the workflow rules, click Save.

Deleting a Quality Management Workflow

Before you delete a quality management workflow, please consider the following information:

- Once a workflow is deleted, you cannot adjust the retention times for calls associated with the workflow or reactivate the workflow.

- Quality management workflow settings are updated before upload. If you delete a quality management workflow, the calls associated with the quality management workflow are not uploaded.

TASK

1. Select the workflows node under Recordings > Quality Management > Workflows in the navigation tree.

   STEP RESULT: The Workflow Administration window appears.

2. Select the workflow from the Workflows pane and click Delete.

   STEP RESULT: The Confirm Deletion dialog box appears.

3. Click Yes to confirm the deletion.

   STEP RESULT: Quality Management Administrator deletes the quality management workflow and the status of the workflow changes to Inactive. The deleted workflow goes into effect after the agents assigned to the workflow log out and log back in to their Windows session, or after the configured End of Day.

Evaluation Forms

The Evaluation Forms node enables you to:

- Create and maintain evaluation forms

- Configure who can evaluate contacts that use a specific form

- Configure who can approve evaluations that use a specific form

New forms are created based on one of four read-only templates that come with Quality Management Administrator.

Best Practices for Agent Evaluations

This section describes best practices for agent evaluations using Quality Management.

Goal of Quality Management

The goal of quality management is to establish consistency throughout the contact center. So no matter what agent a customer calls on any given day, they get a consistently excellent user experience. This allows you to:

- Reduce labor costs through efficiencies
- Identify customer needs and expectations
- Improve customer satisfaction

Quality Management Training Process

The quality management training process is a continuous improvement cycle (Figure 34) where you:

- Collect call recordings—Quality Management selects and processes phone calls identified in the workflow.
- Evaluate the call recordings—Supervisors or evaluators review and score the selected recordings against Key Performance Indicators (KPIs).
- Create reports based on evaluations that:
  - Compare the performance of agents, teams, and the entire organization.
  - Identify initiatives for quality improvements and training.
- Refine agents' performance by:
  - Using quality calls for training.
  - Reevaluate agents to gauge training effectiveness and measure skills.
  - Repeat or select the next quality management initiative.

Figure 34.   Quality management training process

Determining Type of Calls to Record or Evaluate

Quality Management provides a two-level filter: you decide what calls you want to record, and from those recorded calls, you then decide what calls you want to evaluate.

Quality Management has a unique workflow-based recording decision process that allows you to create sophisticated criteria or triggers so that you can sort through all calls in the contact center and identify those calls determined most likely to provide value when evaluated.

The Quality Management workflow process provides the following benefits:

- Eliminates time sifting through irrelevant calls—using workflows allows you to eliminates the time required to choose which calls to evaluate from a long list of unsorted calls. An evaluator might spend an inordinate amount of time choosing calls to evaluate at random. The workflow process allows you to identify relevant calls for evaluation.

- Manage storage use—using workflows also allows you to manage your storage use. The Advanced license includes the screen recording feature, which takes up significant recording space at a rate of one megabyte per minute of recorded material. So you need to be judicious when choosing which calls you want to record to manage storage space on your Voice Record Server.

The following list provides examples of criteria you can build into your workflow criteria.

- First call of the day—you can base your criteria on time management. For example, you can choose to record the first call of the day, or the first two calls of the day. Or you can choose to record the first call after lunch.

- Longest or shortest call—you can choose to record the two or three longest calls or shortest calls of the day for each agent. This allows you to understand some of the components of long calls, or simply understand why the call

handle times exceed the norm. You can also set up a workflow to record three or four of the shortest calls of the day to determine why you get 15 or 20 second calls.

- Peak hour—you can choose to record several calls during peak hours. For example, you could choose to record 3 calls at random during your peak hour period between 1–2pm, so you can get a good assessment of how agents are handling callers. Are they providing the same quality while there are callers in queue?

- Specific (new) agents—if you are concerned about an agent's performance, or you have a new agent, you can record 100% of the agent's calls for a specified period (for example, two weeks). This allows you to understand their activities and get them up to speed with the rest of your agents.

- Specific customer or account ID—you can choose to add custom metadata fields at the time of the recording. The information can include a customer ID, account ID, or transaction code. The metadata field allows you to provide data like:

    – Did this call result in a sale? Yes/No.

    – What was the dollar value of the sale?

    The date can come from the IVR data or the Enterprise data managed through CAD.

Identifying KPIs

You need to identify the business goals for the contact center for the current year and incorporate those goals into the Key Performance Indicators (KPIs). For example, your contact center's business goals could be:

- Increase revenue

- Improve customer satisfaction

- Reduce overall cost

When you know what your business goals are you can incorporate those goals as the KPIs in the agent evaluation forms. This allows you to align your agents' goals with the business goals for the contact center. You can then use the evaluation forms to measure your agent's performance against your contact center's business goals.

When you break down the business goals, you need to identify the areas of challenges and the metrics you have for success in meeting those business goals. For example, you can break the business goals into:

- First Contact Resolution (FCR)

- Sales process and skills

- Product knowledge—you can use call evaluation to identify agents who do not have sufficient product knowledge, and then provide training to improve their product knowledge. For example, you might want to consider the following questions when evaluating an agent:

    – Does the agent have deep product knowledge?

    – Is this a critical indicator or a challenge area?

- Agent proficiency with tools—agents sometimes have to deal with a wide variety of tools when they deal with a customer. For example, order entry tools, agent productivity tools, database tools, or custom software tools designed for the organization. You can use the evaluation to monitor agent proficiency with your contact center's tools, and then provide training to improve their tool proficiency.

- Average call duration—some calls are longer than others. You can use the evaluation to understand what impact factors result in longer calls, and then provide solutions that result in fewer long calls, and improve the average call duration.

Guidelines for Evaluation Forms

Consider the following when you create an evaluation form.

- Identify the activity type (for example, call recording, live monitor of voice or screen, counter work, chat, or other social media) you want to evaluate, and create an evaluation form for that specific contact. This allows Quality Management to accurately report non-call activities in the Dashboard and Reporting applications.

- Clearly outline factors to rate performance. For example, how does the agent perform when:

    – Handling an application

    – Greeting the customer

    – Entering an order or using tools during the order entry

    – Empathizing with a caller—you might want to consider the following questions when evaluating the agent's empathy:

        - How does the agent handle the caller's emotional state?

        - How well does the agent empathize with the caller?

        - How does the agent ensure a positive outcome at the end of a call?

        - What does the agent do at the close of the call?

    – Closing a call

- Align the evaluations with the contact center's business goals and available training.

  – Do not create an evaluation form that covers every possible scenario.

  – Focus on a few critical areas, like how an agent resolves a customer issue or implements new initiatives. For example, if your call center's focus is on capitalizing up-sell opportunities, then make that the focus of your evaluation.

  An evaluation that is aligned with the contact center's business goals provides quantitative measurements of agents while related training and incentive programs are rolled out.

- Do not go overboard when creating an evaluation.

  – Try to limit your evaluation to three or four measurements.

  – Identify the top three or four KPIs you want to evaluate for this quarter or year.

  – Limit the total number of questions to 20 to 30 in the evaluation form so you can quickly complete the form.

    You can always add additional sections in the form, or better yet, replace existing questions when you resolve issues like greeting customers or handling an application.

  – Identify the key categories. Allow no more than 10 categories.

  – Identify questions associated with each category. Allow no more than 10 questions per section. Yes/No questions are preferred.

  – Organize your form for ease of evaluation. Match the questions to the call flow to enable evaluations on the fly.

  – Apply weighting and scoring where relevant.

  – Identify key points of "failure." If the question fails, the entire evaluation fails.

- Ensure the areas you are measuring have corresponding training materials or actions. Establish a training or mentoring program to improve agent performance and address inadequacies.

The goal is to improve the proficiency for the entire contact center and help agents struggling in specific areas to gain a level of proficiency.

Guidelines for Evaluation Form Questions

Consider the following tips when writing evaluation form questions.

- Try to avoid long or complex questions, and do not include questions within a question.

- Limit the scope of a question to a single measurable event. For example, "Did the agent greet the customer with their first and last name?"

- Make the question clear to both the evaluator and the agent on how the agent performed.

- Simple questions allow managers and supervisors to investigate the root cause of an agent's low score.

- Use questions that require a yes/no answer whenever possible.

  - Yes/No questions provide clear and concise answers.

  - Yes/No questions require less documentation and collaboration efforts to get consistent evaluation measurements.

  Numerical ranges require documentation criteria for each number in the range. This makes collaboration efforts between multiple evaluators difficult.

- Organize your questions by placing them into distinct categories or sections.

  - Categorizing questions allows you to produce detailed reports about agent and team performance in each category.

  - Match questions and sections to the flow of a typical call to make it easier for evaluators to score agent performance. For example, you could create three sections named Greeting, Order Entry, and Closing.

  - Indicate the relative importance of questions and sections by assigning them different weights.

  - Use no more than 10 sections in an evaluation form.

  - Use no more than 10 questions in a section.

- Decide whether there are any key points of "failure."

  - Mark questions that address critical behavior (such as courtesy) as KPIs. If such a question is scored negatively, the entire evaluation fails.

Maximizing Quality Management Value through Effective Evaluations

The evaluation is the net result you get out of a quality management recording solution. It starts with the recording but it is really the evaluation where you can separate the excellent agent behavior and identify the areas where agents need improvement.

- Prioritize your initiatives—start with the highest value/highest priority.

- Establish a level of success—this is the desired behavior.

- Create a log of measurements and compare scores over time—pick an evaluation form and stay with it for at least a quarter so you can measure improvement over time and verify if your training and coaching is improving performance over this time period.

- Review agent evaluations and play back calls to determine root cause—find out where you are having problems and improve training through root cause analysis.

- Make agent, team, and organizational comparisons—measure progress at all levels.

- Move on when you have established success—when you no longer have problems in one section of the evaluation, for example agent greetings, you can remove it from the evaluation. As your contact center's business goals change you can add new sections to the form to continually improve the performance of your agents.

Evaluation Form Templates

The Evaluation Form Templates window (Figure 35) lists the templates that you can use to create an evaluation form in the Evaluation Form Administration window.

Figure 35. Evaluation Form Templates window

The following table describes the default templates.

Table 46. Evaluation form templates

Template Name	Description
Blank Template	Configured for mixed question types that are either scored on a scale of 0 to 5 or answered with Yes or No. The template has no pre-existing sections or questions.
Template 0–5	Configured for questions that are scored on a scale of 0 to 5. The template comes with pre-existing sections and questions.
Template Mixed Questions	Configured for mixed question types that are either scored on a scale of 0 to 5 or answered with Yes or No. The template comes with pre-existing sections and questions.
Template Yes-No	Configured for questions that are answered with Yes or No. The template comes with pre-existing sections and questions.

Evaluation Form Administration

The Evaluation Form Administration window (Figure 36) lists available evaluation forms. From this window you can create, rename, delete, and copy evaluation forms. An evaluation can be based on an existing template or a blank form.

Figure 36. Evaluation Form Administration

Creating an Evaluation Form

Use this task to create a new evaluation form.

TASK

1. In the navigation tree, select Recordings > Quality Management > Evaluation Forms > Forms.

    STEP RESULT: The Evaluation Form Administration window appears.

2. Click New.

    STEP RESULT: The Evaluation Form Name dialog box appears.

3. Type a unique name for the evaluation form and then click OK.

   STEP RESULT: The Evaluation Form Templates dialog box appears.

4. Choose a template from the drop-down list, and then click OK.

   STEP RESULT: Quality Management adds the new evaluation form to the list of forms at the top of the Evaluation Form Administration window.

AFTER COMPLETING THIS TASK:

You can now configure the newly-created evaluation form by completing the information on each tab on the lower part of the window.

Details Tab

The Details tab displays a form's properties. It appears at the bottom of the Evaluation Form Templates window and the Evaluation Form Administration window.

Table 47.   Details tab fields

Field	Description
Description	A descriptive name of the form or template. The default description is the name of the template used to create the form.
Original Author	The name of the person who originally created the form or template. The default is Administrator.
Last Author	The name of the person who last modified the form or template. The default is Administrator.
Needs Improvement Percentage	The evaluation score range that indicates the agent's performance needs improvement. Default is 0–74%. If you change the value, all other score ranges change accordingly.
Meets Expected Percentage	The evaluation score range that indicates the agent's performance meets expectations. Default is 75–89%. If you change the value, all other score ranges change accordingly.
Exceeds Expected Percentage	The evaluation score range that indicates the agent's performance exceeds expectations. Default is 90–100%. This field is not editable. The value in it depends on the values set in the lower two score range fields.

Table 47.   Details tab fields (Continued)

Field	Description
Status	The default status is Editable. Do not change the status of an evaluation form to Active until you finished modifying the evaluation form. You can only change the status for an evaluation form listed in the Evaluation Form Administration window. You cannot change the status for an evaluation form template in the Evaluation Form Templates window. See "Form Status" on page 150 for more information about statuses.

Configuring an Evaluation Form's Details

Use this task to configure an evaluation form's details.

TASK

1. Select the form in the list of forms at the top of the Evaluation Form Administration window.

2. Select the Details tab, and complete the fields.

    STEP RESULT: The form's properties appear in the tabbed section at the bottom of the window.

3. When done, click Save.

Form Status

A form's status determines if it is available for use and if it can be modified. The following table describes the possible states.

Table 48.   Form Statuses

Status	Description
Editable	The form can be modified, renamed, and deleted. It is not yet available for evaluators to use.

Table 48.   Form Statuses (Continued)

Status	Description
Active	The form is available for use by evaluators, supervisors, or managers. Everything that does not effect the score in the evaluation can be modified, including: • Details tab (including ranges) • Settings tab • Section names (not weights or number of sections) • Question text or description (not number of questions, type, KPI, or weights) An active form cannot be deleted.
Inactive	The form is no longer available for use by evaluators, supervisors, or managers. It will be deleted automatically as soon as all evaluations based on it are removed from the database.

Figure 37 displays normal life cycle of an evaluation form.

Figure 37.   Form lifecycle

Once you have changed a status to the next in line, you cannot go back to the previous status. Also, you cannot skip a status (for example, go from Editable to Inactive).

Changing a Form's Status

Use this procedure to change the status of a form.

TASK

1. In the navigation tree, select Recordings > Evaluation Forms > Forms.

    STEP RESULT: The Evaluation Form Administration page appears.

2. Select the form whose status you wish to change from the list of forms at the top of the page.

3. On the Details tab, in the Status section, select the desired status (in accordance with the normal form lifecycle), and then click Save.

Settings Tab

The Settings tab displays the settings for evaluation, approval, and alerts. It appears at the bottom of the Evaluation Form Templates window and the Evaluation Form Administration window.

Table 49.   Settings tab fields

Field	Description
Comments are Editable	Select this check box to allow users to edit any existing comment created by a person within the user's scope. For example: • An agent can only edit their own comments • A supervisor can edit the comments made by agents within the supervisors scope and the supervisor's own comments
All Managers Evaluate	Select this check box to allow all managers to be able to evaluate contacts that use this evaluation form and that are made by agents in their group.
All Supervisors Evaluate	Select this check box to allow all supervisors to be able to evaluate contacts that use this evaluation form and that are made by agents in their team.

Table 49. Settings tab fields (Continued)

Field	Description
Evaluation Approval Needed	Select one or more of the following roles if you want to require evaluation approval for contacts that use this evaluation form. • Evaluator • Manager • Supervisor Managers and supervisors can approve evaluations for agents in their teams or groups. Evaluators can approve evaluations for agents from all groups. Note that the user who triggers the alert does not receive the alert. When you select one or more of these roles, Quality Management Administrator enables the Alerts when Evaluation Needs Approval check box. When you clear one or more of these check boxes, any evaluations in the Needs Approval state automatically changes to the Scored state for the selected roles.
Alert when Evaluation is Scored	Select this check box if you want to send an alert when an evaluation is scored. When you select this check box, Quality Management Administrator automatically selects the following options. • Agent's Manager(s)—Quality Management sends an alert to the agent's manager(s) when an evaluation is scored. • Agent's Supervisor(s)—Quality Management sends an alert to the agent's supervisor(s) when an evaluation is scored. • Agent/Knowledge Worker—Quality Management sends an alert to the agent or knowledge worker when their evaluation form is scored. If you only want Quality Management to send an alert to a specific role (for example, Agent's Supervisor(s)), clear the remaining check boxes (for example, Agent's Manager(s) and Agent/Knowledge Worker).
Alert when Evaluation Needs Approval	Select this check box if you want to send an alert when an evaluation needs approval. When you select this check box, Quality Management Administrator automatically selects the following options. • Evaluator(s)—Quality Management sends an alert to evaluator(s) when an evaluation needs approval. • Agent's Manager(s)—Quality Management sends an alert to an agent's manager(s) when an evaluation needs approval. • Agent's Supervisor(s)—Quality Management sends an alert to an agent's supervisor(s) when an evaluation needs approval. If you only want Quality Management to send an alert to a specific role (for example, Agent's Supervisor(s)), clear the remaining check boxes (for example, Evaluator(s) and Agent's Manager(s)).

Configuring an Evaluation Form's Settings

Use this task to configure an evaluation form's settings.

TASK

1. Select the form in the list of forms at the top of the Evaluation Form Administration window.

2. Select the Settings tab, and complete the fields as desired.

   STEP RESULT: The form's settings appear in the tabbed section at the bottom of the window.

3. When done, click Save.

Sections Tab

You can assign a weight to each section that can affect how an evaluation is scored.

There can be a maximum of 10 sections in a form. The score weight percentages assigned to the sections must add up to 100 percent. Sections are automatically numbered from 1 to 10.

You can assign zero (0) to a section weight if there is more than one section in the Evaluation form. All questions within the 0-weight section must add up to 100 percent. The questions scored in a 0-weight section are not included in the overall score. You might want to create a 0-weight section when you want to track questions that should not affect the overall score.

Understanding How Sections are Weighted

For this example, assume the completed form has two sections called Greet and Assess. The Quality Management administrator who set up the evaluation form determined that the score of the Greet section would contribute 40% towards the overall score and the score of the Assess section would contribute 60%. A section weight is indicated on each section tab. The sum of all of the section weights must be 100.

These weights are applied after all sections are scored to arrive at the overall score (as a percentage) for the evaluation.

The overall score is calculated as follows:

- Section score (as a percentage) × section weight = weighted section score
- Sum of all weighted section scores = total score (as a percentage)

In this example:

- Greet section = 60% x 0.4 = 24%

- Assess section = 80% x 0.6 =48%

- 24% + 48% =72% overall score

Managing Sections

TASK

- To add a new section, click New under the Sections tab, type a name for the new section, and then click OK. Enter a score weight for the section, and then click Save.

  STEP RESULT: The Question tab appears the first time you add a new section.

- To edit a score weight for a section, double-click the score weight percentage field, delete the number that is already in the field by pressing the Delete key, and then type the new weight.

- To rename a section, select the section, click Rename, type the new name in the Section Name dialog box, and then click OK.

- To delete a section, select the section and click Delete, click Yes to dismiss the Delete Section dialog box, and then click Save.

  ADDITIONAL INFORMATION: After you delete a section, you must change the score weights of the remaining sections so that they once again add up to 100%.

Questions Tab

The Questions tab allows you to:

- Enter up to 100 questions per form with a limit of ten sections per form.

- Enter a combined maximum of 500 characters in the Question and Description fields.

- Use a combination of answer of Yes/No or 0-5 scale questions. For example, your evaluation can include not only Yes/No questions about an agent's mandatory skills but also 0-5 questions about the agent's soft skills.

- Adjust the weight of each question. You can specify a weight up to two decimal places (for example, 12.55%) or you can assign the same weight to each question by clicking the Weigh Questions Evenly button. The weights of all the questions in a section must add up to 100%. See "Understanding How Sections are Weighted" on page 154.

If you used the Blank Template, you must create your own questions.

The Questions tab appears at the bottom of the Evaluation Form Templates window and the Evaluation Form Administration window when you add a section.

The Questions tab displays up to ten subordinate tabs. The names of these tabs are defined in the Sections tab. See "Sections Tab" on page 154.

Table 50. Settings tab fields

Field	Description
Weigh Questions Evenly	When selected, each question has the same weight. When cleared, you must enter the weight for each question.
Number	The number assigned to the question.
Question	This field contains a question in the evaluation form.
Description	This field allows comments for a question in the evaluation form. The text in this field should explain the scoring criteria so that evaluations are scored consistently. When a user moves the cursor over the question in the evaluation form in Workforce Optimization, a popup dialog displays the text in this field to the user.
Type	The type of questions. Possible types are: • Yes-No • 0-5
Score Weight	Adjust the weight of each question. The weights of all the questions in a section must add up to 100%. The weight for each question will show a percentage value that includes up to 2 decimal places.

Understanding How Questions are Weighted

The maximum score for a section is 100%, no matter how many questions it contains.

For example, in a section with 3 questions:

- Question 1 has a weight of 50%
- Questions 2 and 3 each have a weight of 25%

This means question 1 is worth a maximum of 50 points and questions 2 and 3 are each worth a maximum of 25 points.

If a 0-5 question has a weight of 50%, then points are given for each possible score as follows:

- 1=10 points
- 2=20 points
- 3=30 points
- 4=40 points
- 5=50 points

If a 0-5 question has a weight of 25%, then points are given for each possible score as follows:

- 1=5 points
- 2=10 points
- 3=15 points
- 4=20 points
- 5=25 points

If a Yes/No question has a weight of 50%, then points are given for each possible score as follows:

- No=0
- Yes=50

If a Yes/No question has a weight of 25%, then points are given for each possible sore as follows:

- No=0
- Yes=25

The following tables show the results for several sections in a sample evaluation form.

Table 51.   Scored example for a 3 question section

Question	Weight	Type	Score	Weighted Score
1	50	0-5	4	40
2	25	0-5	3	15
3	25	Yes/No	Yes	25
			Section Score	80%

Table 52.   Scored example for a 4 question section

Question	Weight	Type	Score	Weighted Score
1	60	0-5	3	36
2	15	0-5	4	12
3	20	Yes/No	No	0
4	5	Yes/No	Yes	5
			Section Score	53%

Table 53.   Scored example with N/A as an answer to one of the questions

Question	Weight	Type	Score	Weighted Score
1	60	0-5	N/A	-
2	15	0-5	4	12
3	20	Yes/No	No	0
4	5	Yes/No	Yes	5
			Section Score	42.5%

NOTE: An answer of N/A removes that question from the total possible. So for this example, Quality Management bases the score of 43% on a score of 17 out of a total of 40.

The formula used for weighting questions considers the underlying scoring system used today. The following example shows this scoring system.

Label	No	Yes	N/A
Score	0	1	-

Label	0	1	2	3	4	5	N/A
Score	0	1	2	3	4	5	-

In the current scoring system, the maximum score per question for a Yes/No question is 1 point. For a 0-5 question the maximum score per question is 5. N/A is ignored.

So the formula used to calculate the weighted score for a single question is:

(Actual score/ Maximum score) * Weight = Weighted score

Here are some example calculations for weighted question scores:

Question type	Maximum score	Actual score	Weight	Formula	Weighted score
0-5	5	3	40%	(3/5) * 0.40	24%
0-5	5	2	17%	(2/5) * 0.17	6.8%
Yes/No	1	No	30%	(0/1) * 0.30	0%
Yes/No	1	Yes	45%	(1/1) * 0.45	45%

Managing Questions

TASK

- To add a question, Select a section tab under the Questions tab, click New, type the question in the New Question dialog box, and click OK, and then click Save.

- To add a description to a question, select a section tab under the Questions tab, double-click the Description field and type an explanation of the question, and then click Save.

- To change the type of question, select a section tab under the Questions tab, double-click the Type field and choose Yes-No or 0-5, and then click Save.

- To change the KPI associated with a question, select a section tab under the Questions tab, select or clear the KPI check box, and then click Save.

- To change the weight assigned to a question, select a section tab under the Questions tab, either click the Weight Questions Evenly button to assign the same weight to each question in the section, or double-click the Score Weight field assigned to a question and type the percentage value into the field.

ADDITIONAL INFORMATION: The weights of all the questions in a section must add up to 100%.

- To delete a question, select a section tab under the Question tab, select the question you want to delete, and then click Delete. Click OK to dismiss the Delete Question dialog box, and then click Save.

STEP RESULT: Quality Management Administrator removes the question from the list.

Archive Workflows

This topic describes the Archive Workflow Administration window and provides tasks to create and maintain archive workflows.

Allowing Access to Archived Recordings

Use this task to allow agents and knowledge workers access to their archived recordings.

TASK

1. In the navigation tree, select the Recordings > Archive node.

   STEP RESULT: The Archive Recordings Administration window appears.

2. To allow agents or knowledge workers access to their own archived recordings, select the Allow Agents To Access Archive check box.

3. Click Save.

STEP RESULT: The Recordings application appears in the Workforce Optimization when agents and knowledge workers log on.

Archive Workflow Administration

Use the Workflow Administration window (Figure 39) to create archive workflows based on team. The archive workflow includes specific rules and classifiers to designate the types of contacts you want to record. These calls will be recorded for archive purposes, unless later tagged as quality management calls.

Figure 39.   Archive Workflow Administration window

Field	Description
Archive Workflows	Lists the existing archive workflows. To modify the workflows that appear in this list, choose one of the following options. • New—add a new workflow to the list. • Rename—change the name of an workflow. • Delete—remove an workflow from the list. Rename and Delete are enabled when you select an active archive workflow from the list.
Name	The name of the archive workflow.
State	The status of the workflow. The Possible states are as follows: • Active—The entire workflow can be modified. • Inactive—The modifiable parts of the workflow are limited to the fields under Archive Uploads and Recording Retentions.
End of Day	The End of Day is when the uploading process begins. Recording still continues, but those recordings are uploaded after the next End of Day. Enter the time for the end of the work day in 24-hour format. If the options are changed during the day, they do not go into effect until the archive workflow is reloaded just before the End of Day.
Immediate Upload	When this check box is selected, recordings associated with this workflow are immediately uploaded after the recording completes. When the check box is clear, the normal upload setting rules are in effect. This option applies to all recording types. If you change the Immediate Upload option during the day, the change does not go into effect until the archive workflow is reloaded after the End of Day. For Desktop Recording, it is possible that recordings waiting for upload can be lost if an agent's PC crashes. Enabling immediate uploading prevents this problem.
Recording Retentions	Set the length of time you want the various types of recordings to be retained.
Available Teams	Available teams appear in this list.
Assigned Teams	Teams assigned to this archive workflow appear in this list. A team can belong to only one archive workflow at a time. **NOTE:** A team can belong to one archive workflow and one quality management workflow.

Creating an Archive Workflow

Use this task to create a new archive workflow.

TASK

1. In the navigation tree, select Recordings > Archive > Workflows.

    STEP RESULT: The Archive Workflow Administration window appears.

2. Next to the Archive Workflows section, click New.

    STEP RESULT: The Archive Workflow Name dialog box appears.

3. Enter a name for the new archive workflow, and then click OK.

    STEP RESULT: The workflow now appears in the Archive Workflows section.

4. Select the archive workflow in the Archive Workflows section.

5. In the Archive Upload section, enter the time for the end of the work day in 24-hour format.

6. To upload recordings as soon as a call is completed, select the Immediate Recording Upload check box in the Archive Upload section.

7. Set the length of time you want to retain recordings marked by agents.

    –   Tagged—recordings that have been marked by an agent for retention.
    –   Archive—all other recordings.

8. Assign teams to the archive workflow.

    ADDITIONAL INFORMATION: A team can belong to only one archive workflow at a time. If a team you want to assign to this archive workflow is already assigned to another archive workflow, it is automatically reassigned to this archive workflow. A warning message is displayed telling you that the team is being reassigned from another archive workflow.

9. When you are done configuring the archive workflow in this window, click Save.

Setting Up Classifiers for an Archive Workflow

Classifiers are filters that determine which calls are recorded. Use this task to set up classifiers for an archive workflow.

TASK

1. Under the Archive > Workflows node, select the workflow you just created.

    STEP RESULT: The Archive Workflow Classifier Configuration window appears.

2. In the Classifiers section, click New to create a new classifier.

    STEP RESULT: The Classifier Name dialog box appears.

3. Enter a name for your new classifier, and then click OK.

    STEP RESULT: The new classifier now appears in the classifier navigation tree.

4. In the Classifier Settings section, select one of the following options.

    –   Record—select this option to upload recorded calls.

        If you select Record, you must select the call direction you want to record (Inbound, Outbound, or both). You must select at least one call direction.

    –   Don't Record—select this option to exclude specific phone numbers or area codes from recording.

5. Select the type of number you want to use to filter the calls.

    –   Called Number—if the call is inbound, the Called Number is either the route point number if the call was routed, or the agent extension if the call was direct call. If the call is outbound, the Called Number is the number of the customer/client.

    –   Calling Number—if the call is inbound, the Calling Number is the original number from which the caller is dialing. If the call is outbound, the Calling Number is the agent's extension.

    NOTE: If you add phone numbers to the Called Number section, then select Calling Number from the Numbers drop-down list, Quality Management Administrator deletes the phone numbers you added. The reverse is also true. If you add phone numbers to the Calling Number section, then select Called Number from the Numbers drop-down list, Quality Management Administrator deletes the phone numbers you added.

6. Click Add to specify the phone numbers you want to filter.

   STEP RESULT: The Number dialog box appears.

7. Enter the numbers you want to filter. You can enter:

   – Specific numbers (for example, 6125551212)

   – Number ranges using wildcards (for example, 612*, where the * wildcard represents any number of digits, or 612555????, where the ? wildcard represents a single digit)

   – The * wildcard to record all calls

   ADDITIONAL INFORMATION: The numbers cannot contain dashes or parentheses, and must be between 1 and 16 characters long.

8. Click Save to save the classifier settings.

Managing Archive Workflows

TASK

- To edit an existing archive workflow, select the workflow you want to modify under Archive > Workflows, complete your changes, and then click Save.

STEP RESULT: Quality Management Administrator saves the changes to the modified workflow.

The modified workflow goes into effect after the agents assigned to the workflow log out and log back in to their Windows session, or after the configured End of Day.

- To delete an archive workflow, select the workflow you want to delete under Archive > Workflows, click Delete, and then click Yes to dismiss the Confirm Deletion dialog box.

STEP RESULT: Quality Management Administrator deletes the archive workflow and the status of the workflow changes to Inactive. The deleted workflow goes into effect after the agents assigned to the workflow log out and log back in to their Windows session, or after the configured End of Day.

   NOTE: Once a workflow is deleted, you cannot adjust the retention times for calls associated with the workflow or reactivate the workflow.

User-Defined Metadata

Use the User-Defined Metadata window (Figure 40) to create and maintain metadata fields.

Figure 40.   User-Defined Metadata window

Field	Description
Display Name	The metadata field name appears in the search results and the contact information.
Key Name	A unique identifier for the metadata field. APIs use the unique identifier for the metadata field. The unique identifier allows a maximum of 39 characters. The Key Name field does not allow the following characters. • space • & (ampersand) • = (equal sign)

Field	Description
Type	Identifies the type of information contained in the metadata field. The available types are: • Text • Date • Number
Encrypted	When selected, this check box indicates Quality Management encrypts the metadata when stored. **NOTE:** You cannot search for encrypted metadata.
Exportable	When selected, this check box indicates you can export the metadata via an API or Workforce Optimization. This check box is selected by default.

Managing Metadata Fields

TASK

- To add a metadata field, select the Recordings > Metadata node, click Add, complete the fields, and then click OK to dismiss the Add/Edit Metadata Information dialog box.

- To edit a metadata field, select the Metadata field you want to edit from the User-Defined Metadata window, click Edit, complete your changes, and then click OK to dismiss the Add/Edit Metadata Information dialog box.

STEP RESULT: Your changes appear in the list of metadata fields on the User-Defined Metadata window.

- To delete a metadata field, select the Metadata field you want to remove from the User-Defined Metadata window, click Remove, and then click Yes to dismiss the Confirm Deletion dialog box.

STEP RESULT: Quality Management Administrator deletes the metadata.

Export Recordings Administration

Contact recordings are stored in a format that can be played only by Quality Management. However, recordings can be exported from the Recordings application in Workforce Optimization. You can export a recording to the following formats, which are playable in other playback software (such as Windows Media Player):

- WAV format (uncompressed audio)
- WMA (compressed audio)

- WMV (compressed audio/video)

Quality Management Administrator disables the export feature by default. From the Export Recordings Administration window, you can enable the export of recordings by role.

Enabling the Export of Recordings

Use this task to enable the export of Quality Management recordings.

TASK

1. In the navigation tree, select the Recordings > Export node.

   STEP RESULT: The Export Recordings Administration window appears.

2. Select the check boxes next to the roles you want to be able to export recordings.

   STEP RESULT: If you select the Enable Export of Recordings check box, Quality Management Administrator automatically selects all roles. If you clear the Enable Export of Recordings check box, Quality Management Administrator automatically clears all roles.

3. Click Save.

Call Events Administration

The Call Events Administration window allows you choose the type of recording events you want Quality Management to mark in a recording.

When enabled, a Workforce Optimization user can search for recordings that have the specified silence or talkover events from the Recordings application.

Field	Description
Save TalkOver Events	When selected, Quality Management saves information about talkover events. The Save TalkOver Events check box is clear by default.
	A talkover event is a time when both parties on the call are talking simultaneously.
	Changes to this event configuration take effect after the next End of Day.

Field	Description
TalkOver Event Minimum Duration	The minimum amount of time in seconds for a talkover event. Quality Management only saves information about talkover events with a duration that is equal to or greater than the number of seconds specified in this field. You can specify from 1 to 3600 seconds (1 hour). The default is 10 seconds.
	This threshold setting is used during after-call processing and applies to all calls. If you change this setting, all previously processed calls use the older threshold settings.
	Using a low threshold (for example, 3 seconds) stores more information about events than a high threshold (for example, 30 seconds). If you specify a 30 second threshold, a user cannot search for recordings with talkover events that are under 30 seconds. Quality Management does not save information about talkover events below the specified minimum duration.
Save Silence Events	When selected, Quality Management saves information about silence events. The Save Silence Events check box is clear by default.
	A silence event is a time when neither party on the call are talking.
	Changes to this event configuration take effect after the next End of Day.
Silence Event Minimum Duration	The minimum amount of time in seconds for a silence event. Quality Management only saves information about silence events with a duration that is equal to or greater than the number of seconds specified in this field. You can specify from 1 to 3600 seconds (1 hour). The default is 10 seconds.
	This threshold setting is used during after-call processing and applies to all calls. If you change this setting, all previously processed calls use the older threshold settings.
	Using a low threshold (for example, 3 seconds) stores more information about events than a high threshold (for example, 30 seconds). If you specify a 30 second threshold, a user cannot search for recordings with silence events that are under 30 seconds. Quality Management does not save information about silence events below the specified minimum duration.

Improving Detection of Silence and Talkover Events

The adaptive Voice Activity Detector (VAD) algorithm uses is very robust and accurate under normal phone call situations. In this case, normal means:

- Minimal to no background noise for both parties on a call

- Good audio quality

- One party for each side of a call

- Each party speaks at normal volume

The adaptive VAD algorithm has been proven to be 90% accurate through testing under moderately noisy conditions. It can handle background noise (for example, white noise) quite well. Rapid changes in volume and frequency of any background noise can cause inaccuracies as the algorithm adapts to the noise. A constantly changing background noise (for example, a radio playing loudly) will prevent the adaptive VAD algorithm from working, and the results will be inaccurate.

Set minimum threshold values for silence and talkover events that are meaningful to your call center. The threshold values define the granularity of the searches you can run on recorded calls. For example, if you set the minimum duration for a Save Talkover Event to 10 seconds, the user cannot search for recordings with any talkover events of 5 seconds or less because Quality Management only saves talkover events that are 10 seconds or greater. If your users requires greater granularity when searching for a silence or talkover event, then lower the value for the minimum duration of the event.

If your call center does not fit the definition of normal given above (for example, there is a lot of background noise), it might be better to use shorter minimum durations for silence events to account for the noise interfering with correctly identifying silence events. In a noisy environment, it might not be possible to have a 20-second silence event since a background noise will usually break a contiguous period of silence during a call. For a noisy call center, consider setting the minimum duration of a silence event to 3 seconds for better results. A noisy call center usually results in less overall accuracy for the identification of silence events.

Another tactic you can use to identify silence events in a noisy call center is to modify your search. For example, instead of searching for recordings with a single occurrence of a silence event that is 25 seconds or greater, consider searching for recordings with five or more occurrences of silence events that are 6 seconds or greater. This type of filtering takes into account the shorter, but more frequent silence events that can be found in a noisy environment.

Handling Pause and Hold when Searching for Silence or Talkover events

When a user searches for a silence or talkover event, Quality Management does not include pause and hold events in the search. If a silence event occurs just prior to a pause or hold event, Quality Management saves information about the silence event if the event meets or exceeds the minimum threshold for the event. Quality Management does not look for silence or talkover events when a call is paused or on hold.

Configuring Recording Events

Use this task to configure silence and talkover events.

TASK

1. In the navigation tree, select the Recordings > Call Events node.

   STEP RESULT: The Call Events Administration window appears.

2. To save information about talkover events, select the Save TalkOver Events check box, and enter the duration of the event in seconds in the TalkOver Events Minimum Duration box.

3. To save information about silence events, select the Save Silence Events check box, and enter the duration of the event in seconds in the Silence Events Minimum Duration box.

4. Click Save.

   STEP RESULT: The Recordings application in Workforce Optimization allows users to search for recordings with silence and talkover events in a contact recording.

Desktop Configuration Administration

Desktop Configuration Administration controls the fields that appear in the Recordings application for Workforce Optimization for all roles.

The available fields appear under the following categories:

- Organization Fields
- Evaluation Fields
- Date Fields
- Contact Fields
- Analysis Fields
- User Defined Metadata Fields

When you add a new metadata field, it appears in the Show Columns list by default, unless modified by the Quality Management Administrator. On upgrade, the existing metadata files appear in the Available Columns list, unless modified by the Quality Management Administrator.

Field	Description
Available Columns	Lists the fields that will not appear in the Recordings table in Workforce Optimization. Fields in the Available Columns list always appear in alphabetical order.
Show Columns	Lists the fields that will appear in the Recordings table in Workforce Optimization. You can configure the order in which fields appear in this list using the arrow keys.

Organization Fields

The Organization Fields tab lists the available fields. All fields appear in the Show Columns list by default.

Field	Definition
Agent ID	The agent's ID.
First Name	The agent's first name.
Group Name	The name of the group.
Last Name	The agent's last name.
Team Name	The name of the team.

Evaluation Fields

The Evaluation Fields tab lists the available fields. All fields appear in the Show Columns list by default.

Field	Definition
% Score	The evaluation score given to the contact.
Approved By	The name of the manager or supervisor who approved the evaluation.
Date Evaluated	The date when the contact recording was evaluated.

Field	Definition
Evaluation Calibration	The contact evaluation is marked for calibration.
Evaluation Form	The name of the evaluation form used to score the contact recording.
Evaluator Name	The name of the evaluator.

Date Fields

The Date Fields tab lists the available fields. All fields appear in the Show Columns list by default.

Field	Definition
Date	The contact date.
Time	The time of the contact.
Time Zone	The time zone where the contact was recorded.

Contact Fields

The Contact Fields tab lists the available fields. All fields appear in the Show Columns list by default.

Field	Definition
Call Duration	The duration of the contact (length of time between call answered and call dropped) in HH:MM:SS.
Called Number	The number of the phone that received the call. Displays "unknown" if the called number is unlisted or blocked.
Calling Number	The number of the phone that made the call. Displays "unknown" if the calling number is unlisted or blocked.
Contact Type	The type of contact. The valid values in this field are: • Call—a contact with a call recording • Non-Call—a contact without call recording

Field	Definition
HR	The contact has been marked as an HR contact. The valid values in the HR field are: • Yes • No
ID	The contact's ID.
Line	The extension the agent used to answer the call.
Reason	The reason the contact was recorded as set in the recording rule (Archive, First, Last, Longest, Shortest, Random, Logging, Tagged, Performance, and New Employee).
Recording Type	The recording type associated with this device. The valid value in the Recording Type field are: • Server Recording—contact was recorded using Server Recording (SPAN). • Network Recording—contact was recorded using Network Recording. • Multiple Registration—contact was recorded using Multiple Registration method. This method allows you to programmatically add participants to an existing call. • Single Step Conference—contact was recorded using Single Step Conferencing method. This method allows you to choose up to three devices at a single, softphone-enabled extension. • Unknown—contact was recorded prior to 8.7 or the recording type could not be determined. • Endpoint—contact was recorded using Endpoint recording. • MediaSense Recording—contact was recorded using MediaSense Recording.
State	The current evaluation state of the recording. The valid values in the State field are: • Scored—contacts that are claimed by an evaluator, fully scored, and, if approval is required, are approved. • Unscored—contacts that are as yet unclaimed by an evaluator and unscored. • In Progress—contacts that are claimed by an evaluator but which are not yet completely scored • Needs Approval—contacts that are claimed by an evaluator, are fully scored, and are awaiting approval.

Field	Definition
Training	The contact has been marked as a training contact. The valid values in the Training field are: • Yes • No

Analysis Fields

The Analysis Fields tab lists the available fields. Only Silence Events and Talk Over Events appear in the Show Columns list by default.

Field	Definition
AVG Silence	The average silence time in HH:MM:SS.
AVG Talk Over	The average talkover time in HH:MM:SS.
MAX Silence	The duration of the longest silence event that was detected in HH:MM:SS.
MAX Talk Over	The duration of the longest talkover event that was detected in HH:MM:SS.
MIN Silence	The duration of the shortest silence event that was detected in HH:MM:SS.
MIN Talk Over	The duration of the shortest talkover time that was detected in HH:MM:SS.
PCT Silence	The percentage of detected silence time.
PCT Talk Over	The percentage of detected talkover time.
Silence Events	The number of detected silence events.
Talk Over Events	The number of detected talkover events.
TOT DUR Silence	The total duration of silence time in HH:MM:SS.
TOT DUR Talk Over	The total duration of talkover time in HH:MM:SS.

User Defined Metadata Fields

The user-defined metadata fields appear in the Available Columns list by default. Text is the only metadata field that appears in the Available Columns list by default until you configure your own metadata fields. See "User-Defined Metadata" on page 166 for information on adding your own metadata fields.

Assigning Columns

TASK

1. In the navigation tree, select the Recordings > Desktop Configuration node.

    STEP RESULT: The Recordings Contact Information tab on the Desktop Configuration Administration window appears.

2. Choose one of the following tabs:

    -   Organization Fields
    -   Evaluation Fields
    -   Date Fields
    -   Contact Fields
    -   Analysis Fields
    -   User Defined Metadata Fields

3. Choose one of the following options to configure the fields that will appear in Workforce Optimization.

    -   To move all columns to the Available Columns list, click <<.
    -   To move all columns to the Show Columns list, click >>.
    -   To move multiple contiguous columns to the Available Columns list, click the first column and shift-click the last column you want from the Show Column list and then click <.
    -   To move multiple contiguous columns to the Show Columns list, click the first column and shift-click the last column you want from the Available Column list and then click >.
    -   To move multiple non-contiguous columns in the Available Columns list to the Show Columns list, use the Ctrl key to select each column, and then click >.
    -   To move multiple non-contiguous columns in the Show Columns list to the Available Columns list, use the Ctrl key to select each column, and then click <.

ADDITIONAL INFORMATION: Columns in the Available Columns list always appear in alphabetical order.

4. Click Save.

Recording Visibility Administration

Recording Visibility Administration controls how long contact recordings are visible in the Recordings application by role. When the time expires for a contact recording, that recording is no longer available to the user.

> **NOTE:** Specifying how long contact recordings are visible does not effect retention time. The contact recording is not deleted when the visibility setting expires. The contact recording will still be available based on its retention time, but it will not be visible to the user for playback in the Recordings application.

When configuring visibility of contact recordings by role, note the following:

- The state of a recording has no impact on the visibility

  Example: Scored, Unscored, In Progress, or Needs Approval

- Tagging a contact for HR or Training does not override the visibility setting

- If a user is assigned multiple roles, the longest visibility setting is used

- All references to the contact remains in reports, dashboard widgets, and analytics

Field	Description
Days	The number of days the contact recording is visible in the Recordings application by role. The time is defined by the date and time when the call was recorded and the date and time when user logged into Workforce Optimization to view and play back the contact recording. This field is enabled when the Unlimited check box is cleared.
Unlimited	When selected, the contact recordings are always visible. If you clear the check box, you must specify the number of days the contact recordings will be visible in the Recordings application.

Glossary

ACD

Automatic Call Distributor. A specialized phone system used for handling many incoming calls. The ACD recognizes and answers incoming calls and looks in its database for call routing instructions. It sends the call to a recording, to a voice response unit (VRU), or to an available agent according to the instructions for that call. An ACD normally produces information that tracks both calls and agent performance.

ACD User

A user set up as an agent and/or supervisor and assigned to a team in Unified CCX. Manager, evaluator, and archive user roles can be assigned to ACD users in Quality Management.

Active Call

The currently connected call. An Active Call occurs when the Quality Management user is on a call with one or more parties. A call on hold is still an Active Call. The Active Call starts when the Quality Management user receives the call (phone is ringing) or makes a new call. The Active Call ends when the Quality Management user hangs up the phone.

administrator

A user role that can access Quality Management Administrator and Quality Management in. The administrator has the following privileges:

- Access Quality Management Administrator and configure the system and users for Quality Management

- Access Quality Management in Workforce Management and configure the Dashboard view by role (lock down the Dashboard)

agent

1. The person who handles calls and email in a contact center. Also called a customer service representative or telephone sales representative.

2. A user role in Quality Management with restricted access to Workforce Optimization. Agents have the following Quality Management privileges:

- View their own quality scores and the aggregate quality scores for their team and group on a dashboard

- Export recordings within their scope, if enabled

- Review evaluation results on their own scored contacts

- Enter comments on their scored evaluations.

- View their own historical reports

- Access recordings of their own contacts, if enabled

  NOTE: Agents who are not assigned to a team can still log into Workforce Optimization and access their contact recordings.

- Access all recordings marked as Training

API

application programming interface. A set of routes, data structures, object classes, and/or protocols provided by libraries and/or operating system services in order to support the building of applications. For Quality Management, the API controls the behavior of objects within the Quality Management interface.

AQM license

Advanced Quality Management license. A Quality Management user license that supports both audio and screen recordings, as follows:

- Audio-only recording for archival purposes.

- Screen and audio recordings for quality management purposes.

archive user

A user role in Quality Management that can access the Recordings application in the Workforce Optimization. Archive users have the following privileges:

- Search and review contact recordings for all of the agents and knowledge workers across the enterprise

- Export contact recordings, if enabled

- Access contact recordings for deleted users

Automated Update

A Quality Management feature used for automatic web or LAN updating to software applications, such as Quality Management. The Automated Update feature quickly determines required updates and then retrieves and applies the necessary patches or installation files using secure protocols.

Calabrio ONE

A comprehensive suite of customer interaction and contact center management software.

call recording

An application feature found in Quality Management that captures calls between an agent and another party and stores as files on disk. You can review these files at a later time.

Call Recording license

A Quality Management user license that limits contact recordings to audio recording, archive search, and archive playback. Status and archive reports are available to supervisors and managers only.

Cisco Unified Communications Manager
An enterprise-class IP telephony call-processing system that provides traditional telephony features as well as advanced capabilities, such as mobility, presence, and rich conferencing services.

Cisco Unified Contact Center Enterprise
A Cisco contact center product that delivers intelligent contact routing, call treatment, network-to-desktop computer telephony integration (CTI), and multichannel contact management over an IP infrastructure. Cisco Unified Contact Center Enterprise combines multichannel ACD functionality with IP telephony in a unified solution. This solution allows rapid deployment of a distributed contact center infrastructure.

Cisco Unified Contact Center Express
A Cisco contact center product designed for midmarket enterprise branch, or corporate departments that require a sophisticated customer interaction management solution for up to 300 agents. Cisco Unified Contact Center Express delivers improved operational efficiency, reduces business costs, and improves customer response.

configured user
Any scheduled or recorded agent plus all other users with active login rights to Workforce Optimization applications (for example, supervisors, managers, or quality evaluators). The maximum capacity for configured users is the total number of users who can be configured in Quality Management. See also named user.

contact
A connection via voice or email from a customer to an agent in the customer contact center.

contact center
A business center with two or more persons that provides customer services by phone, email, and fax. Examples of contact centers are help desks, customer service centers, catalog sales centers, reservation centers, and telemarketing/collection operations.

Container
The server side of Workforce Optimization that maintains user sessions and forwards Data API requests to the appropriate product's Data API service.

CTI Manager
A service that runs on the Unified CM and handles JTAPI events for every Unified CM in the cluster. A primary and backup CTI Manager can be specified.

customer service representative
A service representative who handles customer contacts, including account inquiries, complaints, and support calls.

Database API Service

This Quality Management service constantly checks the database to ensure that it is running. If the database stops, the Quality Management Database API Service restarts it. In a Cisco environment, this service also handles product-specific authentication and requests.

database

A collection of related data or information organized in such a way that it can be easily retrieved or manipulated.

DB Cleaner Service

This Quality Management service purges records from the Quality Management database, and media files from the Site Upload Server, on a daily basis. The administrator configures the retention period for these files in Quality Management Administrator.

debugging file

A log file (with the *.dbg file extension) that contains diagnostic information that can help resolve issues. Quality Management creates debugging logs by default. To turn off debugging, you must edit the appropriate configuration file.

Desktop Recording service

A Desktop Recording service, located on the agent's PC, that is responsible for recording contacts and collecting metadata associated with recorded calls. The Desktop Recording service uploads these recordings to the Site Upload Server and the metadata to the Quality Management database.

email

Electronic Mail. The transmission, electronically, of letters, memos, and messages from one computer to another.

error code

A brief description of a system event.

evaluator

A user role in Quality Management that can access the Recordings application in the Workforce Optimization. Evaluators have the following privileges:

- Select, review, and evaluate contact recordings for all groups

- Review recordings and add comments to evaluations for agents and knowledge workers in all groups

- Approve evaluations, if required

- Export recordings within their scope, if enabled

- Update your previously-scored evaluations

- Designate contacts for retention as Training or HR contacts

Extension Mobility

A Cisco Unified Communications Manager feature that requires a user to log in to a phone so that the user's extension appears on the phone.

FTS

File Transfer Servlet.

hard IP phone

A physical IP phone connected to the network.

hot desking (or hoteling)

One desk shared between several people who use the desk at different times. This work surface can be an actual desk or just a terminal link. Companies that regularly use hot desking do not have all employees in the office at the same time, or the employees are not in the office for a long time.

hoteling

The practice of providing office space to employees on an as-needed rather than on the traditional, constantly reserved basis. This reduces the amount of physical space that an enterprise needs, lowering overhead cost while (ideally) ensuring that every worker can access office resources when necessary. Employees can retain their own telephone number extension and voice mailbox.

Jetty Service

The Quality Management Jetty Service webserver hosts the Quality Management Reports engine, File Transfer Servlet (FTS), Server API engine, and Licensing engine.

knowledge worker

1. A subject matter expert in the company with whom agents consult. A knowledge worker can participate in agent phone calls to help solve problems for customers. 2. A user role in Quality Management that can access the following applications in Workforce Optimization: Dashboard, Recording, Reporting. Knowledge workers have the following privileges:

- View their own quality scores and the aggregate quality scores for their team and group on a dashboard

- Export recordings within their scope, if enabled

- Review evaluation results on their own scored contacts

- Enter comments on their scored evaluations.

- View their own historical reports

- Access recordings of their own contacts, if enabled

- Access all recordings marked as Training

KPI

Key Performance Indicator. The most critical measures of performance in any organization, are typically productivity measures.

In Quality Management, a KPI question is so important that, if an evaluator chooses zero for the score (for questions scored on a scale of 0–5) or No (for questions scored as Yes/No), the score for the entire evaluation is zero. An example of a KPI question is "Did the agent refrain from using foul language?"

Last Call

The previously recorded call. Any valid recording commands, sent after the call ends and before the Quality Management user receives or makes another call, apply to the Last Call. Quality Management does not count the last call before the configured End of Day, user logout, service shutdown, or CTI service disconnect as the last call.

log file

A log file (with the *.log file extension) contains event messages and, if problems occur, warning and other error messages. All messages in log files are identified by an error code.

maintenance release (MR)

The base release for the product. Install an MR on all servers and clients. The Quality Management server uses the Automated Update feature, when you enable this feature, to update the clients when you install an MR on the Quality Management server. All previous ESes and SRs are removed when you install the latest MR.

manager

A user role in Quality Management that can access the following applications in Workforce Optimization: Quality Dashboard, Recording, Live Monitoring, and Reporting. Managers have the following privileges:

- View dashboard with their group's quality scores and details of individual teams within their group

- Review evaluation results on all of their group's scored contacts

- Enter comments on their group's scored evaluations

- Evaluate contacts for their group, when the an evaluation form is enabled for managers

- Approve evaluations for agents in their groups, if required

- Update their previously-scored evaluations

- Export recordings within their scope, if enabled

- Designate contacts for retention as Training contacts

- View agent, team, group, and enterprise-level historical reports

- Access contact recordings for their group

metadata

A description of data in a source, distinct from the actual data used to catalog archived information; for example, customer ID, account, ID, or a transaction code.

MIB

Management Information Base. A defined hierarchy of data values managed by a single SNMP Agent application.

Monitoring and Notification (Mana) service

This Quality Management service monitors the system in real time and notifies administrators via event viewer or email when problems occur. The problems that trigger notification are selected in Recording Administrator.

Monitoring and Recording administrator

A user that can log into Monitoring and Recording Administrator. The Monitoring and Recording administrator is responsible for:

- Managing the site configuration.

- Configuring the recording server.

- Managing the users, teams, and groups.

- Configuring the quality management workflows and the archive workflows for recordings.

Monitoring and Recording Administrator

A Monitoring and Recording client application used to assign user roles, set up groups, create and manage evaluation forms, set up workflows for recording customer contacts, set up recording archiving, and maintain the system.

Monitoring and Recording Services user

A non-agent user set up in Monitoring and Recording Services.

Monitor service

This Quality Management service works in conjunction with the Network Recording. The Monitor captures the packets that the Network Recording records.

Network Recording

A recording method that uses the Cisco Unified CM Recording functionality to capture voice for recording and the built-in bridge (BIB) functionality of capable IP phones to send voice streams from the device being recorded to the Network Recording service. The advantage of the Network Recording method is that it does not require you to configure SPAN ports for capturing voice traffic.

Network Recording service

This Quality Management service enables recording for agents who are configured for Network Recording and Server Recording (SPAN).

OID

Object Identifier. A unique string of digits representing a value defined in an MIB.

Payment Card Industry Data Security Standard (PCI DSS)

A set of requirements designed to ensure that all companies that process, store, or transmit credit card information maintain a secure environment.

PCI DSS

Payment Card Industry Data Security Standard. The PCI DSS is a set of requirements designed to ensure that consumer credit card information is transmitted and stored securely.

PG

peripheral gateway. In Quality Management, a computer and process that communicates directly with Quality Management. Quality Management recognizes a peripheral gateway for the Unified CCX, and Quality Management products. The PG reads status information from the peripheral and sends it to Quality Management. In a private network configuration, the PG sends routing requests to the Quality Management and receives routing information in return.

PN

peripheral number. In Quality Management, a number that identifies an individual agent. Quality Management associates a PN with a specific PG.

privilege

The permission to perform a transaction. For example, the ability to accept schedule trades or delete skills.

QM license

Quality Management license. A Quality Management user license that supports audio contact recordings only for archival and quality management purposes.

Quality Management administrator

A user that can log into Quality Management Administrator. The Quality Management administrator is responsible for:

- Managing the site configuration

- Configuring the recording server

- Managing the users, teams, and groups

- Configuring the quality management workflows and the archive workflows for recordings

Quality Management Administrator

A Quality Management client application used to assign user roles, set up groups, create and manage evaluation forms, set up workflows for recording customer contacts, set up recording archiving, and maintain the system.

Quality Management user

A non-agent user set up in Quality Management.

raw

An audio file format.

Recording Cluster

A group of one or more Voice Record Servers.

role

A collection of privileges. A user can have one or many roles. Users have the collective privileges across all roles assigned to them. When the user logs into Workforce Optimization, the user can access all roles and privileges assigned to that user. For example, if a user is assigned to both the evaluator and manager roles, the user has access to all privileges assigned to the evaluator and manager roles.

scope

A set of boundaries in which privileges apply.

Screen Recording DB Service

This Quality Management service is the single point of connection between users and the Quality Management database.

service release (SR)

Contains all patches for all bugs found and fixed since the base release of the product. An SR is cumulative. So, if two SRs are issued against a base release, the second SR contains all the fixes provided in the first SR and new fixes for the current SR.

An SR contains fixes for the Quality Management server and/or client desktop. Always install the SR on the Quality Management server. The Quality Management server uses the Automated Update feature, when you enable this feature, to update the clients when you install an SR on the Quality Management Base Services server. If the SR contains no fixes for the client side, the Automated Update feature does not update the clients.

You install each SR separately and each SR appears in the Add/Remove Programs window. Separate installation of SRs allows rollback to a previous state. If an SR is server side only, the Add/Remove Program title includes "(Server only)."

Silence

A time when neither the agent or the caller are talking.

SNMP

Simple Network Management Protocol. A common network protocol that describes messages passed between SNMP-enabled applications.

SNMP Agent

An SNMP-enabled application that acts as a client to an SNMP management application by providing data values for registered OIDs.

SNMP GET

An SNMP message used to get a value for a particular OID.

SNMP Management Application

An SNMP-enabled application that can get or set information from a local or remote SNMP Agent application.

SNMP SET

An SNMP message used to set a value for a particular OID.

soft IP phone

A computer application that emulates a hard IP phone and runs on an agent's PC.

SPAN

Switched Port Analyzer. A feature, also known as port monitoring, of some Cisco switches that allow all the network traffic entering or leaving a switch port to be copied and sent to a destination port. When server monitoring is used, the destination port on the switch is the connection point for the server that is running the packet capturing software.

spx

An audio file format especially designed for speech.

SRTP

Secure Real-time Transport Protocol. An RTP (Real-time Transport Protocol) profile intended to provide encryption, message authentication and integrity, and replay protection to RTP data in both unicast and multicast applications.

supervisor

1. A supervisor is the person who has first-line responsibility for the management of a group of agents, and often is able to monitor agents and system performance.

2. A user role in Quality Management that can access the following applications in Workforce Optimization: Dashboard, Recording, Reporting. Supervisors have the following privileges:

- View dashboard with their team's and group's quality scores and details of individual agents within their team

- Enter comments on their team's scored evaluations

- Evaluate contacts for their team, when the an evaluation form is enabled for supervisors

- Update their previously-scored evaluations

- Export recordings within their scope, if enabled

- Approve evaluations for agents in their teams, if required

- Designate recordings in their teams to be retained as Training or HR recordings

- View agent and team-level historical reports

- Access contact recordings for their team

Sync Service

This Quality Management service reads data every 10 minutes from the ACD and synchronizes that information with Quality Management.

talk over

A time when the agent and the caller are simultaneously talking.

team

    A group of agents. An agent can belong to one team.

Trap

    An unsolicited SNMP message sent from an SNMP agent to an SNMP management application.

Upload Controller service

    This Quality Management service manages the uploading of recordings and recording metadata to the Site Upload Server.

user

    A person who can log into Workforce Optimization or Quality Management Administrator. A user can be linked to an agent identity to take calls.

VoIP

    Voice over Internet Protocol. A way to carry phones calls over an IP data network, whether on the internet or an internal network.

Workforce Optimization

    A comprehensive suite of customer interaction and contact center management software.

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