MITEL

Contact Center Solutions

User Guide
Version 6.0.2
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MITEL
Simply Communicating®

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Contents

Chapter 1

Contact Center Solutions

Contact Center Solutions

Mitel Contact Center Solutions is designed for the 3300 IP Communications Platform (ICP), SX-200 ICP, 5000, and Axxess telephone systems. Contact Center Management is the core Contact Center Solutions product.

Contact Center Management

- Provides a browser-based user interface (UI) that works across all 32-bit Windows platforms.
- Operates in conjunction with familiar Microsoft Office productivity tools.
- Is installed on the server only.
- Instantly deploys configuration changes from the server to authorized intranet and Internet users.
- Enables you to log on to any computer and manage contact center operations and configure system features.

What's new in Version 6.0.2?

The following features and product enhancements have been introduced with Contact Center Solutions Version 6.0.2.

Improvements to server-based alarms:

Contact Center Solutions Version 6.0.2 expands upon the centralized alarming system and is entirely configured in YourSite Explorer. The Maintenance Alarm Dispatcher service performs server maintenance activities as well as controlling all alarming within the network. Alarm notifications can be set up to deliver by email, RSS, SNMP, or within the YourSite Explorer Start Page.

For more information about server-side alarms, see "Monitoring and alarming subsystem" on page 171.

Web callback support:

Web callbacks are now supported in a virtual environment.

Russian localization

Core Contact Center Solutions products are now available in Russian.

IVR Routing queue resiliency enhancements

Dynamic call flows in IVR Routing are dependent on real-time queue statistics for accurate call routing. If the Enterprise Server goes offline and real-time connectivity is lost cached data is used as the reference for call statistics. Any call flow components that depend on data derived from real-time queue statistics are affected, for example, prompts, queue condition activities, and Updated Position in Queue (UPiQ) messages. To mitigate this, IVR Routing now offers a new level of queue resiliency that, when configured, detects if the Enterprise Server is offline and routes calls to a static call flow that you have configured for that purpose.

For more information, see "Building resilient call flows" on page 455.

IVR Routing variable masking

IVR Routing variables can now be configured to hide their contents, enabling variables to be delivered either entirely or partially masked. This limits the risk of potentially exposing confidential information, such as credit card or social insurance numbers in logs, call notes, databases, and screen pops.

Auto-absence on no answer

Available as of MCD 5.0 SP2, if an agent does not answer an offered call after a preconfigured amount of time they are removed from their agent group(s) rather than being logged out of their agent group(s).

Technology changes

Contact Center Solutions and Call Accounting now support the following:

- Windows Server 2012
- Windows 8 Client
- Windows 8 Server (supported as a server for Contact Center Business Edition or Call Accounting only)
- MCD 6.0
- Salesforce.com Winter 2013
- Verint Impact 360 V.10 SP4 or greater and Verint Impact 360 V.11.0 or greater as Third-Party Workforce Management Connectors

NOTE: Contact Center Solutions Version 6.0.2 is not compatible with Verint Impact 360 releases before V.10 SP4. Customers requiring support for other Verint Impact 360 releases must contact prairieFyre for support.

Contact Center Enterprise Edition and Contact Center Business Edition

The Contact Center Solutions portfolio comprises Contact Center Enterprise Edition and Contact Center Business Edition. Contact Center Business Edition is for individual contact centers with 50 or fewer agents. When customers purchase Contact Center Business Edition, they can select from a number of applications including historical reporting, real-time monitoring, dynamic agent and queue control, screen pops, and intelligent messaging.

Contact Center Enterprise Edition (formerly Contact Center Solutions) is for sophisticated contact centers and supports all forms of communication including voice, email, web chat, fax, and walk-in customer distribution. This scalable, resilient solution combines robust IP communications platforms, Automatic Call Distribution (ACD), and a modular suite of feature-rich, web-based applications for streamlining contact center management and enabling agent productivity.

The Contact Center Solutions applications and contact center devices available to you depend on whether you have Contact Center Business Edition or Enterprise Edition.

Contact Center Solutions includes the following applications:

- Contact Center Management
- Interactive Contact Center
- Interactive Visual Queue
- Contact Center PhoneSet Manager
- Contact Center Softphone*
- Contact Center Screen Pop*
- Flexible Reporting
- Intelligent Queue*
- Salesforce.com Connector
- Workforce Scheduling
- Schedule Adherence
- Traffic Analysis*
- Multimedia Contact Center

- Enterprise Node
- Mitel Border Gateway Connector*
- CTI Developer Toolkit*

* Not currently supported for the Mitel 5000 and Axxess telephone systems. Support will be made available in a future release of Contact Center Solutions.

Licensing

An employee is a physical person you track in your contact center. In the YourSite database, you must create an employee ID for each employee who works in your contact center. Employees can have multiple agent IDs, but only one employee ID. You can run reports on licensed employees only. The number of employees you license in YourSite Configuration must be consistent with your software license.

To view details on your software license
- Click **Help=>About your Mitel applications**.

To view details on applications installed by Professional Services
- Click **Help=>About your Mitel applications=>Professional Services**

About this user guide

This user guide provides information on how to manage your contact center using the Contact Center Solutions applications. To make full use of Contact Center Solutions, you must have a working knowledge of the Microsoft Windows operating environment and Microsoft Excel 2003 or greater. The tutorials that accompany Microsoft Windows and Excel provide information on basic use.

To report an issue with this document, please email techpubs@prairiefyre.com.

Chapter 1 Contact Center Solutions

Chapter 1 describes
- The features and benefits of Contact Center Management
- Licensing
- The layout of the user guide
- Document conventions
- Information on how to install client applications from the Contact Center Management website

Chapter 2 Contact Center Concepts

Chapter 2 describes
- The inbound contact center environment
- How resources interact to process contacts

Chapter 3 Contact Center Planning and Management

Chapter 3 provides information on how to plan and manage your contact center, including how to
- Establish a corporate Service Level objective
- Collect data.
- Forecast the Call Load.
- Calculate the resources required.
- Schedule agents.
- Determine contact center costs.

Chapter 4 Getting Started

Chapter 4 describes how to

- Register your software
- View multiple Contact Center Management sessions
- Back up and restore the YourSite database and raw telephone system data files
- Set up client computers to use Contact Center Management
- Specify user preferences

Chapter 5 Services and Database Administration

Chapter 5 describes how to

- Start and stop the Contact Center Management services
- Perform database and maintenance functions

Management Console resides in the Contact Center Client real-time application. Using Management Console, you can

- Back up and restore YourSite database configuration data
- Update the server IP address
- Import configuration data used to configure the YourSite database
- Run the maintenance routine
- Summarize data for running reports
- Create a support package

Chapter 6 Configuration

Chapter 6 describes how to

- Configure contact center devices in the YourSite database so you can view real-time activity and generate reports on these devices
- Configure the YourSite database using Synchronization
- Create business hour schedules
- Configure media server alarms
- Implement security measures to restrict user access to specific Contact Center Solutions application areas and contact center devices
- Configure call recordings

Chapter 7 Real-time Monitors and device control

Chapter 7 describes how to

- View real-time agent and queue statistics on real-time monitors.
- Configure alarms for agent and queue performance
- Customize monitor display characteristics
- Build marquee monitors and broadcast statistics and messages
- Chat online with agents or supervisors
- Configure and display real-time statistics on one or more wall signs
- Set up support for teleworking
- Add and view call notes appended to calls

Chapter 8 Reports

Chapter 8 describes how to

- Generate on-demand reports
- Set up timetables for generating reports

Chapter 9 Forecasting

Chapter 9 describes how to

- Create forecasts
- Export forecasts to Excel

Chapter 10 Data-mining Tools

Chapter 10 describes how to

- Search for specific contact center events
- View the historical real-time events that occurred on a particular date, in the sequence they occurred

Chapter 11 Data Collection

Chapter 11 describes how to

- View data and system alarms
- Verify media servers are receiving telephone system data

Chapter 12 Interactive Contact Center

Chapter 12 describes how to

- Control the availability of agents and ACD queues

Chapter 13 Interactive Visual Queue

Chapter 13 describes how to

- View calls within queues and move calls from busy queues to less active queues
- Call back abandoned callers

Chapter 14 Contact Center PhoneSet Manager and Contact Center Softphone

Chapter 14 describes how to

- Enable agents to use their desktop computers as IP-based phones

Chapter 15 Contact Center Screen Pop

Chapter 15 describes how to

- Launch applications or Web pages when agents receive calls
- Provide agents with caller and account information via pop-ups on their computer monitors when they receive calls

Chapter 16 Flexible Reporting

Chapter 16 describes how to

- Design your own report templates and customize existing reports

Chapter 17 IVR Routing

Chapter 17 describes how to

- Install and configure IVR Routing

Chapter 18 Intelligent Queue

Chapter 18 describes how to

- Provide static messaging, intelligent messaging, voice and web callbacks, and call recording

Chapter 19 Workforce Scheduling

Chapter 19 describes how to

- Schedule agents
- Measure employee adherence to schedules

Chapter 20 Traffic Analysis

Chapter 20 describes how to

- Set up the telephone system and YourSite database so you can collect data and run reports on the traffic data stream

Chapter 21 Multimedia Contact Center

Chapter 21 describes how to

- Configure Contact Center Management so you can track and run reports on multimedia contacts
- Configure Multimedia Contact Center so you can control your availability to receive multimedia contacts and handle them

Chapter 22 Enterprise Node

Chapter 22 describes how to

- Configure data collection nodes in multi-site enterprises

Chapter 23 CTI Developer Toolkit

Chapter 23 describes

- Common uses of the CTI Developer Toolkit
- Examples of how to use the CTI Developer Toolkit to customize applications

Chapter 24 Salesforce.com Connector

Chapter 24 describes how to

- Integrate your Mitel phone directly into the Salesforce.com user interface

Locating the latest version of our guides

prairieFyre recommends you obtain the latest version of the *Mitel Contact Center Solutions User Guide*.

To obtain the *Contact Center Solutions User Guide*:

- Start Internet Explorer and type **http://www.prairiefyre.com/wp-content/rscs/documentation/ContactCenterSolutions_UserGuide.pdf**

To obtain the *Call Accounting User Guide*:

- Start Internet Explorer and type **http://www.prairiefyre.com/wp-content/rscs/documentation/CallAccounting_UserGuide.pdf**

Document conventions

This document uses the following conventions.

UI syntax

The following terms apply to actions you perform on the UI:

- *Click* precedes options you select with the mouse, such as buttons, menus, and items in list boxes.
- *Press* precedes keys you use on the keyboard.
- *Select* or *clear* precedes options you turn on or turn off, such as check boxes.
- *Select* precedes options you select in combo boxes (text boxes with attached list boxes).

For example,

1. Click **OK.**
2. Press **Enter.**
3. Select the **PFdatabase** check box.
4. Drag and drop the name to the **Available** list.

Italics

Italic typeface is used

- For emphasis (for example, *hot desking*)
- To set off words, letters, and numbers referred to as themselves in the text (for example, *overflow* is the routing of calls to more than one queue; the application saves text files as *MMDDYYYY.sql*)

Bold

Bold typeface designates paths you select in your root directory and items you click, press, type, or select.

For example,

1. Click **OK.**
2. Delete **50** and type **60**.
3. Select the **Check database integrity** check box.

UI Menu items

UI menu items you select are separated by an arrow [=>]. For example, **File=>Open** tells you to select the Open submenu on the File menu.

Note

The word **NOTE:** designates essential user information.

Searching for key words and definitions

The Help Documentation menu displays the user guides and installation guides available. The documents are in .pdf format and will open in your browser in Adobe Reader or Adobe Acrobat. The first time a key word or acronym is used in the guide it is defined.

To search for a key word or definition in the guide, such as ACD

1. Click **Help=>Documentation**.
2. Select the *Contact Center Solutions User Guide.*
3. On the Adobe toolbar, click the **Binocular icon to search for key words or definitions.**
4. After **What word or phrase would you like to search for?** type **ACD.**
5. Click **Search.**
6. Under **Results**, click the **ACD hypertext link to locate the next instance of ACD.**

Required and optional software components

Contact Center Solutions applications have a number of required and optional applications you install on client computers. You can download these applications from the prairieFyre FTP Server. For details, see *http://www.prairiefyre.com*, log in to the Dealer Portal, and click Download Center.

Required components

In order to use Contact Center Solutions and Call Accounting applications, the following components must be installed on client computers.

- Microsoft .NET Framework enables your computer to run applications created with .NET. All client computers must have the latest version of .NET Framework installed.
- Microsoft Internet Explorer updates your browser software to the latest version. All client computers require IE 6.0 or greater.
- Microsoft Report Viewer 2005 Redistributable Package includes Windows Forms and ASP.NET Web server controls for viewing reports designed using Microsoft reporting technology.
- Web Services Enhancements (WSE) 3.0 for Microsoft .NET is the Microsoft .NET Framework version 3.0 redistributable package that installs the common language runtime and associated files required to run applications developed to target the .NET Framework.
- Microsoft DirectX significantly enhances graphics, sound, music, and 3-D animation in Windows applications.

Optional components

You can install the following application on client computers.

- Adobe Reader enables you to view documents and reports in .pdf format. You require Acrobat Reader to view the online user guide, user tutorial, reporting guide, and reports. If you have Microsoft Excel or Microsoft Excel Viewer, you can also use it to view reports.
- Remote Server installs media servers (for voice, email, fax, or chat), and selected prairieFyre services on a computer other than the Enterprise Server. For more information on the services included with Remote Server installation, see the *Mitel Contact Center Solutions Installation Guide*.
- WebChat Server installs the Multimedia Contact Center WebChat Server. You install this software on the public Web server only.

  NOTE: If you are upgrading from a previous version of WebChat Server to version 5.4 or later, you must upgrade your WebChat Server software to the same version as your Contact Center Solutions software.

Client Component Pack

Client Component Pack contains all of the Contact Center Management, Flexible Reporting, Multimedia Contact Center, and Workforce Scheduling software components that contact center employees could need on their computers. You require administrator privileges to run this installation.

You can install Client Component Pack on individual client computers or servers running Citrix Terminal Services.

You can install the following software components.

- Contact Center Client enables you to monitor devices in real time, run Contact Center PhoneSet Manager or Contact Center Softphone, Management Console, and Network Monitor.
- Flexible Reporting enables you to run reports, create new report templates, redesign report templates based on existing Contact Center Management voice reports, and modify report templates available in Flexible Reporting.
- The Multimedia Contact Center Outlook Extensions download enables you to use the Multimedia Contact Center Outlook Extensions download to run Multimedia Contact Center on client computers.
- Salesforce.com Connector enables you to integrate Contact Center Solutions with Salesforce.com
- The Workforce Scheduling download enables you to run Workforce Scheduling on client computers.

Chapter 2

Contact Center Concepts

Automatic Call Distribution (ACD)

Inbound call environment

Contact Center Concepts

Contact centers process a high volume of contacts to meet marketing, sales, customer service, technical support, and other business objectives. A fine-tuned contact center distributes contacts efficiently and optimizes the use of agents and other resources. This section describes the inbound contact center environment and how resources interact to process voice contacts.

Automatic Call Distribution (ACD)

Automatic Call Distribution (ACD) is a specialized mechanism for distributing incoming calls. The primary goal of ACD is to ration calls to agents in a cost-effective manner that provides acceptable service to callers.

To optimize the use of agents, you cross-train them so they can handle a variety of inquiries. Rather than distributing calls to a number of small, specialized agent or extension groups, ACD distributes them efficiently among the entire pool of available agents. When you consolidate resources (use the Pooling Principle), the same number of contact center agents handle more calls while maintaining Service Levels.

Typically, you program ACD to ensure the first call to arrive reaches the first available agent or the agent who has been idle the longest. However, you can vary the order of calls and agents to provide superior service to preferred customers, and skills-based routing.

Understanding ACD call flow

The path of an incoming call is as follows. A caller telephones your contact center via the Public Switched Telephone Network (PSTN). (The PSTN is a global collection of Central Offices (COs) interconnected by long-distance telephone switching systems.) The local CO directs the call to one of your trunk groups. An available trunk picks up the call. Typically, calls from the PSTN arrive to the contact center over incoming trunks and calls from the contact center to the PSTN travel over outgoing trunks. If no trunks are available, the call does not get through to the system (it is blocked) and the caller receives a busy signal.

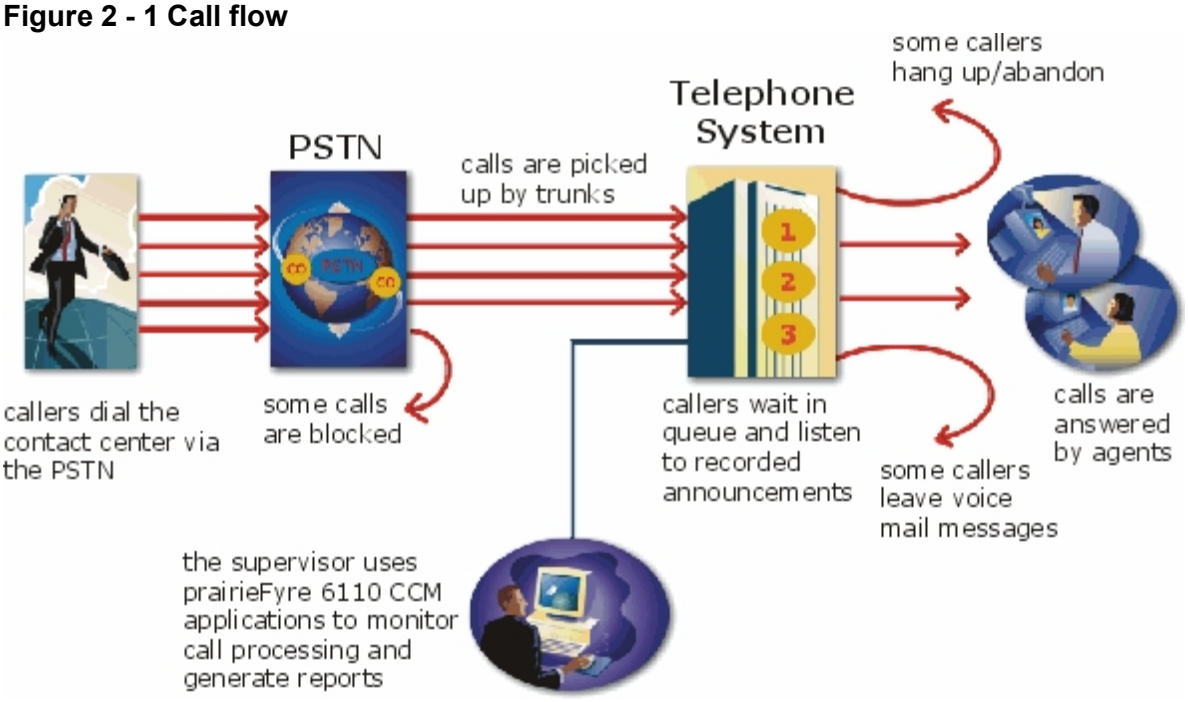
When a trunk picks up a call, it forwards it through to a group of agents handling calls, or to some other answering point. The call arrives at the ACD queue of an agent group. The queue delays the call rather than blocking the call from entering the system. The length of time the caller waits in queue is the queue time. While waiting in queue, the caller listens to product features, announcements, or other messages provided by a Recorded Announcement Device (RAD). The caller can wait patiently in queue for an available agent, leave a voice mail message, or hang up (abandon) the call. (See Figure 2 - 1.)

An agent handles the call. The time the caller spends talking to the agent is the ACD Handling Time (including the hold time). If the agent calls the supervisor in search of more information (while the caller is on hold) and/or transfers or conferences the call, these times are added to the ACD Handling Time value.

For example, an agent speaks to a caller for two minutes and then puts the caller on hold for three minutes and tries to solve the problem. This may include a call to the supervisor. The agent then initiates a conference call with the caller and a third party and they speak for three minutes and resolve the issue. Therefore, the ACD Handling Time for the agent is 2 + 3 + 3 = 8 minutes.

When the call is completed, the agent might need to perform additional work associated with the call. The time taken to perform this work is the Wrap Up Time.

Figure 2 - 1 Call flow



Monitoring the call flow process

Second-by-second (real-time) statistics presented on wall signs and desktop monitors enable you to monitor the service provided to callers. You can monitor the number of incoming calls, the time it takes to process them, the queue load, and the availability of agents using a Management Information System (MIS). The MIS refers processes data produced by the telephone system. The MIS uses telephone system records to provide forecasting, real-time monitoring, and reporting functions.

Ensuring traffic-carrying efficiency

To optimize traffic-carrying efficiency ensure

- Sufficient trunks are available to carry incoming calls.
- Callers experience a delay in queue.
- There is a random distribution of calls among available agents.

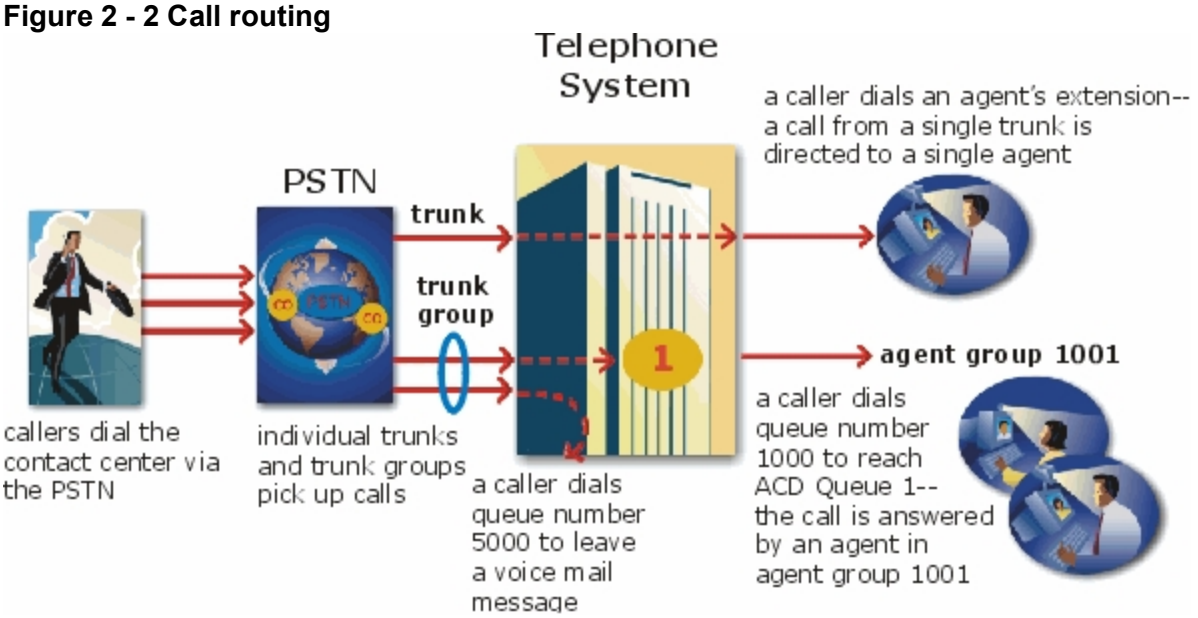
Scheduling to optimize call flow

You schedule agents so the number of incoming calls at any given time typically exceeds the number of agents currently available. The intent is that callers experience a slight delay before agents answer their calls. The expected number of incoming calls forecasted for the time of day, and day of the week influence scheduling decisions.

Routing calls

Call routing options you program in the telephone system provide a set of instructions that automate the movement of calls to their intended answering points. You can define options—for example, if the caller dials 1, the system forwards the caller to customer service. You can specify re-routing for calls not answered after a set period of time and parse incoming Automatic Number Identification (ANI) and Dialed Number Identification Service (DNIS) data to direct call routing. (See Figure 2 - 2.)

Figure 2 - 2 Call routing



Dialing an agent's extension

In the simplest call scenario, a single trunk picks up an incoming call to your contact center. The telephone system presents the caller with options to dial various answering points. The caller dials an individual agent at an extension through a queue number. A queue number is an address mechanism for a queue or other answering point. The programming associated with the queue number defines the routing and timing features of the call. The telephone system collects data on the agent and trunk involved in the call. The ACD management reporting application produces reports on agent and trunk activity.

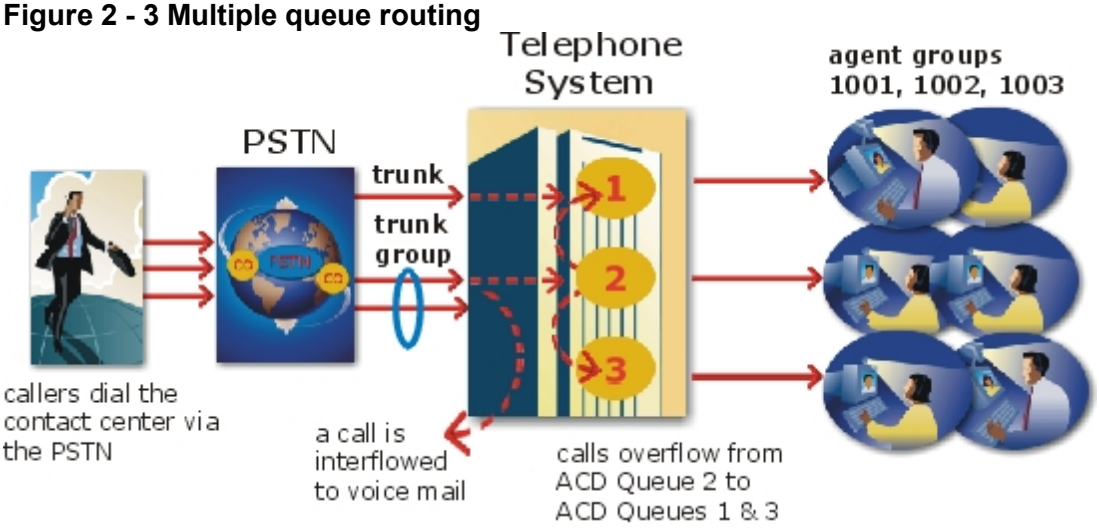
Dialing a queue

In the next call scenario a trunk group picks up an incoming call to your contact center. The system presents the caller with options to dial various answering points. The caller dials queue number 1 to reach queue 1 (Customer Service). The system forwards the call to the first available agent in the agent or extension group associated with queue 1. The call is an ACD call because one dialable number represents all of the agents in the group. The telephone system collects data records for the call. The ACD management software produces Queue Reports on queue 1.

Overflowing calls

An ACD call that is not answered immediately is placed in a queue. If an agent does not pick up the call after a set amount of time (the overflow time) the system places the call in the queue of another agent group, in addition to keeping it in the first queue. The first available agent in either group handles the call. The overflow feature limits the delay faced by callers by queuing calls against two or more agent groups. (See Figure 2 - 3.)

Figure 2 - 3 Multiple queue routing



Interflowing calls

You can program the telephone system to direct a queue delayed call to voice mail or to another answering point. The interflow timer runs independently of the overflow timer. If the interflow timer expires, the system removes the call from the queue and re-directs it to another answering point, such as a trunk or voice mail.

The inbound call environment

The inbound contact center environment has unique characteristics that must be considered in effective planning and management.

Predicting call arrivals

Calls arrive randomly to contact centers. You cannot predict the minute-to-minute arrival of calls. This results in unanticipated increases in workload, and impacts staffing calculations and the load carried by system and network resources.

You can predict the pattern of call arrivals for 15-minute or longer intervals. For example, you can predict that next Monday between 1:00 P.M. and 1:30 P.M. you will receive 60 phone calls. However, you cannot predict how many calls will arrive in the first five minutes, the second five minutes, and so on.

Understanding caller tolerance

Several factors influence a caller's tolerance to queue delays:

- The immediacy of the caller's requirement
- The availability of similar products or services
- The caller's expectations for service
- The time available to make the call
- Whether or not the caller is paying for the call

Chapter 3

Contact Center Planning and Management

Establish a corporate service objective

Collect data

Forecast the Call Load

Calculate the resources required

Schedule agents

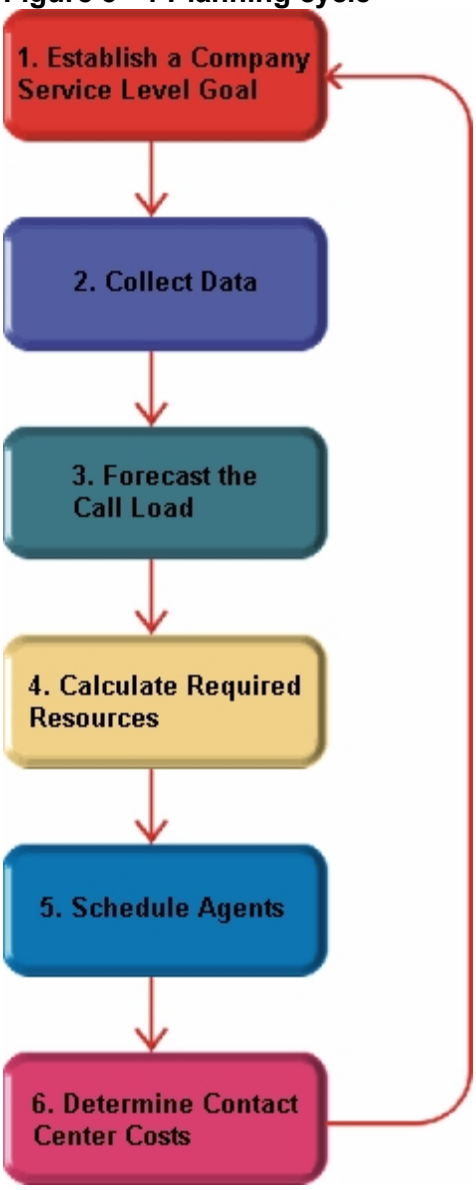
Determine contact center costs

Contact Center Planning and Management

Effective contact center management involves having the right resources in place at the right times to handle an accurately forecasted workload at the desired level of service. Commitment to a systematic planning and management strategy is essential. The strategy is based on corporate objectives that you continually assess and refine.

Whether you are managing a start-up contact center or refining the performance of an existing operation, the process illustrated in Figure 3 - 1 applies. It is the basic framework for achieving and maintaining your service objectives.

Figure 3 - 1 Planning cycle



The objective of contact center management is to find the right balance between the agents scheduled and the service provided to customers. This involves assessing and re-assessing trade-offs between the Service Level, agents scheduled, and average call duration for a known Call Load for each 15-minute or half-hour interval of the day. Collecting, properly interpreting, and applying ACD and other information allows you to accurately forecast the workload and schedule sufficient agents to meet your service objectives.

Step #1 Establish a corporate service objective

The Service Level % is a performance metric contact center managers use to determine what proportion of customers, that contact you by voice/email/chat/fax, receive “good” service. Using the Service Level %, you can gauge the level of service customer's experience, from a historical and a real-time perspective.

Defining and adequately funding a service objective should be closely tied to your corporate mission. The service objective identifies the average length of time a caller who has obtained a trunk waits for an available agent. It is the basis for planning and budgeting and links the resources you require to your service objectives. Choosing a service objective is the first step in a comprehensive planning and management solution. Once you set a service objective, you should routinely access it to see how consistently you are meeting it, on a 15-minute or half-hour basis.

Contact centers in different industries use different criteria for measuring service. Your service objective should reflect the type of service being provided and the expectations of callers seeking the service. For example, a company that sells magazine subscriptions has less to lose in the outcome of any one call than a car dealership does. A caller to a credit card “lost or stolen” line might expect different service than a caller to a customer service department at a bank. Contact center metrics across industries are designed to reflect this.

Performance targets must suit the primary function of a contact center. In revenue-based contact centers where agents sell products or services, the net revenue per call is considered when defining a service objective. Revenue-based contact centers strive to provide a high level of service with minimal blocking and delays.

Understanding the Service Level

The Service Level applies to all of the media types (voice/email/chat/fax) and is expressed as a percentage of a statistical goal: it specifies the Service Level Time and the Service Level % goals for the queue or agent group.

The *Service Level* is expressed as *X percent of calls handled in Y seconds or less*, such as 80 percent of calls handled in less than 20 seconds. Why is Service Level the standard measurement of service? Service Level provides the most accurate representation of the callers’ experience. It is ultimately the caller who decides what constitutes good service, and whether or not to end a call. It applies to inbound transactions that must be addressed as they arrive.

When a caller enters a queue, the call is processed in one of three ways:

- An agent answers the contact (handled contact).
- The client disconnects before an agent answers (abandoned contact) (for calls and chats only).
- The contact is removed from the queue, and sent to another handling point (for example, to voice mail, an automated attendant, or another queue), (Interflowed contact).

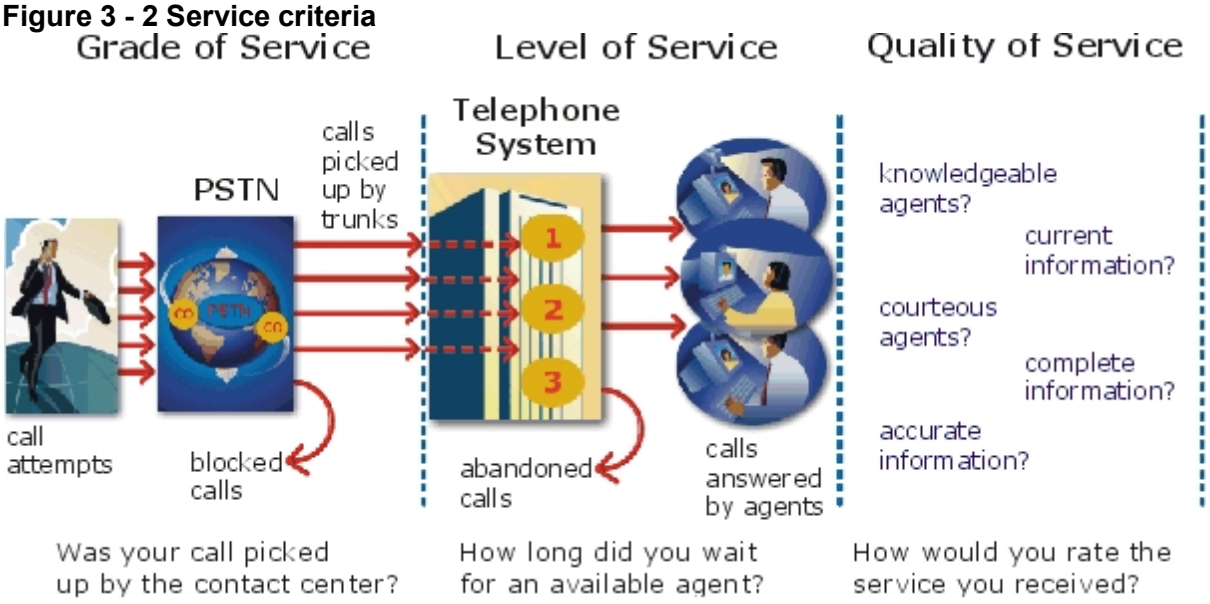
For detailed information on Calls Offered, Calls Handled, Calls Abandoned, Calls Interflowed, and other Service Level parameters see "Choosing a Service Level goal" on page 19.

Understanding why the Service Level is the most meaningful statistic

The Service Level is one of many ACD statistics used to measure performance. Each statistic has its purpose. For example, the *Grade of Service* (GOS) statistic relates the number of trunks to the level of traffic and indicates the likelihood an attempted call will receive a busy signal. It is expressed as a decimal fraction. For example, a GOS of P.02 means a caller will have a two percent chance of receiving a busy signal. Since trunk costs are insignificant compared to agent costs contact centers are well advised to schedule sufficient trunks, abandons should be minimal.

A *delayed call* is a call placed in the ACD queue because it cannot be answered immediately by an agent. The *probability of delay* statistic relates the number of agents or extensions to the level of traffic carried by the trunks and indicates the likelihood and amount of delay experienced. The GOS, probability of delay, and Quality of Service rendered by agents provide vital information about the callers' experience. (See Figure 3 - 2.)

Figure 3 - 2 Service criteria



The GOS and probability of delay contribute to our understanding of what happens to the calls not answered in Y seconds, and give meaning to Service Level. Service Level is the primary statistic used in planning and budgeting because it is the most stable measurement of queue activity.

The following statistics are also meaningful contact center indicators:

ASA

The *Average Speed of Answer* (ASA) is an ACD statistic that measures how long the average caller waits on hold before the call is picked up by an agent. ASA is a valuable measure of service quality, but is often misinterpreted. The average does not represent what is typically experienced by individual callers. Most calls are answered by agents more quickly than the average, but a small percentage of callers wait several minutes in queue. ASA is a useful parameter, but Service Level is a more reliable indicator of what callers experience.

Abandonment

ACDs collect statistics on how long callers wait before abandoning calls, and what percentage of calls are abandoned. Unfortunately, *abandonment* is difficult to forecast because it is impossible to predict caller behavior with any reliability. Sometimes when the Service Level is high more callers abandon than expected. There are no industry standards for abandonment. It is a somewhat unreliable measure of contact center performance. However, abandonment statistics assist in planning Service Levels, and provide valuable information used to create in-queue and message-on-hold announcements.

Choosing a Service Level goal

Contrary to popular belief, there is no industry standard Service Level. Some contact centers base their Service Level goal on the targets of same-industry companies. In doing so, they assume these companies are actually meeting their intended targets. Companies are setting increasingly rigorous Service Level targets in sectors where outstanding customer service is the norm. In a survey of over 100 UK contact centers Opta Consulting was surprised to find an average performance target of 90 percent of calls answered in 15 seconds. They found that companies setting extremely rigorous targets did not necessarily meet them, and the investment required to achieve “best in class” targets was difficult to justify.

Setting an appropriate Service Level goal for your contact center is not easy. The motivation and expectations of your customers, the availability of similar goods or services, the Service Level targets of same-industry companies, and the value of calls are things to consider. It may be useful to run some calculations to determine the trade-offs in Service Level associated with adding or removing an agent, and implement customer satisfaction surveys. When defining your corporate Service Level, consider several factors and rate their relative importance.

An appropriate Service Level is one that

- Satisfies callers’ expectations for service
- Keeps abandonment in check (at less than five percent)
- Minimizes expenses and maximizes revenue
- Meets with the approval and support of agents, supervisors, and senior management

Consider this modest objective. For a Service Level of 80 percent of calls answered in less than 20 seconds, callers receive the following service:

- Approximately 30 percent of callers experience a delay in queue.
- The longest wait time is approximately three minutes.
- The average speed of answer is approximately 12 seconds.

Is this acceptable service for you and for your callers?

Understanding Quality of Service

Agent statistics reflect the time agents spend in various states and are used to assess agent performance. The average time an agent spends handling contacts, and in the Make Busy, Do Not Disturb, Unavailable, and Wrap Up states directly affects the agent’s availability and the Service Level provided to callers.

Service Level alone does not ensure customer satisfaction. The quality of the interaction between the caller and agent leaves a lasting impression.The *Quality of Service* reflects an agent’s ability to provide excellent service to each customer. The knowledge of the agent, the accuracy and completeness of the information provided, and the courtesy extended to the caller contribute to the caller’s experience.

Monitoring call handling techniques

Silent monitoring systems complement ACD statistics by providing a snapshot of quality and productivity in your contact center. You can track call handling techniques and determine where improvements can be made in individual performance. Advanced systems capture the voice conversations between agents and callers and record agent data tables for a complete picture of call handling. They provide online evaluation forms so you can annotate recordings with feedback.

Silent monitoring takes the bias out of performance evaluation. Silent monitoring provides a systematic process for monitoring and grading agent calls. You can schedule sessions across different times of the day, days of the week, and evaluators promoting fairness and consistency. Showing agents where improvement is needed is more effective than just telling them. Silent monitoring can contribute to a reduction in call time, a reduction in monitoring time and personnel, and increased training efficiency.

You can use pre-recorded conversations between agents and customers to train agents and for ongoing evaluation.

You can use the information to

- Provide recorded examples of exceptional service and unacceptable service to agents in training.
- Record, review, annotate with feedback, and forward call records to agents who then review your comments within the context of the actual call.
- Calibrate and routinely access the scoring consistency of call monitors.
- Assess the effectiveness of current training programs.
- Assess the efficiency of the monitoring and assessment process.

Defining scoring parameters

The parameters used to evaluate how well agents handle calls are based on the purpose of the calls. Goals vary across calls for inbound and outbound services. For example, in an outbound sales environment quality may be based on whether or not the agent made the sale, took advantage of cross-sell opportunities, and adhered to a pre-defined script. In an inbound environment quality may be based on the completeness and accuracy of the information and whether or not the caller's questions were answered satisfactorily. Agents are also evaluated on "soft skills", such as voice quality, pausing at regular intervals, rate of speech, use of positive language, and other listening and communication skills.

Setting performance standards and goals

Once you determine appropriate scoring parameters, you define standards for exceptional and acceptable levels of performance. Assessment standards are based on consensus and must be clearly defined and communicated to monitors and agents. Collaborate with agents in setting performance goals and clearly define exceptional service and interim performance steps. Determine a baseline of current performance and set performance steps for an agent group. Provide agents in the group who meet or exceed the interim target with rewards and recognition commensurate with their performance. When systematically used in training and coaching recorded sessions positively impact productivity. Fair assessment is good for moral and motivation, and contributes to an environment in which agents can learn and grow.

Monitoring frequency

The frequency of monitoring sessions is determined by individual companies and ranges from once a month to 15 or 20 sessions a month. Implementing five to 10 monitoring sessions per month is common practice. Trainees and agents with consistently low scores are monitored more frequently than other agents. Resource limitations typically influence the frequency of monitoring.

Monitoring systems and tools

The following monitoring systems and tools help you evaluate the performance and manage the quality of service of your contact center.

Silent monitoring systems

Silent monitoring systems range from tape recorders to client/server based recording systems. Advanced systems schedule, record, and store voice files in a compressed digital format using a real-time link to your telephone system. They capture any data tables accessed by the agent in addition to voice data. Silences are eliminated to optimize monitoring efficiency. Recording sessions can be played back from any telephone, anywhere, at anytime. You can customize agent evaluation forms and define parameters for quality with advanced systems. They provide activity, status, and management reports for evaluating agents and observation practices.

IT support systems

Information Technology (IT) support systems are commonplace in contact centers. Contact center agents divide their time between listening to customer requests, entering and updating customer information and other entries, searching for required information, and providing feedback to customers. In order to provide prompt and complete information, agents must have immediate online access to information including customer records and case histories, products and services, and company policies and procedures.

The push to increase agent efficiency and customer service has placed new demands on computer information systems and information technology. Information products that enhance agent productivity are continually being developed. Contact center systems are designed to incorporate some, or all of the following specialized support functions.

CTI

Computer telephony integration (CTI) is the merging of computers and telephone systems. Today's computer-based telephone systems deliver synchronized voice and data, voice and data conferencing, automatic information retrieval for calls, caller-based messaging and routing, and desktop productivity tools. You can use customer databases in call handling to enhance customer service and agent productivity. When databases are shared between contact center departments each agent can access a caller's contact information, purchasing records, call history, and preferences by a caller ID number.

ANI

Automatic Number Identification (ANI) identifies the telephone numbers of callers to your contact center*, so* agents can receive screen pops with calls. You can connect a database to your telephone system to simultaneously send calls and caller information. The telephone system forwards the caller's telephone number to a software application that relays database records on the caller to the agent. Alternately, the caller enters an ID number that the database associates with a set of records for the caller and the agent is sent the information.

ANI saves agents time since they do not have to ask for and enter a name for a caller, and wait for the database to respond. This time savings significantly impacts staffing requirements and telephone service charges. ANI also identifies telephone numbers of callers who abandon calls so they can be contacted later for potential business.

Reports can identify the volume of usage and costs of internal line numbers, and help you track the long distance distribution per line number and maximize long distance efficiency.

DNIS

Dialed Number Identification Service (DNIS) is a feature of toll-free lines that identifies the telephone number the caller dials. This assists agents who handle calls for more than one business or product line. Each business or product line has its own toll-free number. When a caller dials a toll-free number, the telephone system forwards information to the agent so the agent can identify who the caller dialed. For example, a caller dials a toll-free number for a cruise line. The telephone system sends a script to the agent along with the call. The agent then knows to answer "Good morning. Thank you for calling Southern Cruises," instead of the name of another cruise line serviced by the center.

Automating help desk workflow

Agents at IT help desks require quick access to customer information and call history, and the ability to rapidly log all of the support calls and incidents. Advanced help desk packages offer automated desk help workflow systems. They assist agents in logging service requests (tickets), dispatching them to prioritized queues or agents, tracking them, and documenting activities.

External applications, help desk operators, or end users (in web-based applications) generate tickets. The system generates them manually, or in some cases automatically, in response to system events. It can correlate multiple incidents with single tickets, and multiple problems with a single call.

Automated help desk workflow systems track each step taken in answering a call, with automatic time stamping of all of the referrals, escalations, reminders, alerts, and email notifications. Calls are prioritized and referred to other departments without reassignment, reassigned (escalated) to other technicians or specialized staff, and placed in an alert condition when they are not resolved promptly. Activities are date and time stamped automatically. Most help desks offer outgoing email notification and paging. Some help desks offer automated logging of incoming emails, and automated call acknowledgment emails to clients.

Step #2 Collect data

Telephone systems generate an enormous amount of real-time and historical data used in planning and management of your contact center. You use real-time data to monitor the current Call Load and agent availability so minute-to-minute adjustments can be made. You use historical information in forecasting, staffing, and scheduling. Other critical management information comes from customer surveys, market studies, employees, external departments, telephone networks, workforce management systems, competitors, and the media. Data collection is a continuous process you implement as soon as your telephone system is up and running.

Telephone systems provide detailed report data on every aspect of call transactions. You can program computer-based telephone systems connected to a Local Area Network (LAN). Users on the LAN can view or print real-time and historical reports. Using web-enabled telephone systems, you can view and generate reports in a Web browser. You can monitor contact center activities remotely, and distribute reports to people on different networks.

Collecting data on call handling

Contact center reporting software displays real-time telephone system data on desktop monitors and wall signs. Using real-time data, you can manage current conditions and ensure agents respond to changing contact center events. The telephone system provides information on call activity, agent activity, and queue activity.

You can use historical data in forecasting and in assessing the performance of your resources. Historical reports provide vital information on load activity, resource activity, and queue activity. For example, resource activity reports on trunks can tell you the highest number of trunks used during peak traffic periods, and the total duration of calls handled by each trunk for the reporting period. You can determine how busy your trunks are, and whether or not you have the right number of trunks scheduled.

CTI provides in-depth information on call transactions. Detailed information on keystroke sequences, databases searched on, and on-screen assistance provides a clear picture of agent activities. Using ANI data, you can identify callers by area code and collate information on demographic trends in caller behavior.

Workforce management systems use telephone system data to forecast and schedule agents. Some packages monitor the real-time adherence of agents to scheduled activities, so you know the number of agents currently logged on and available to handle calls. Workforce management systems collect and store real-time adherence data. This data provides a historical account of adherence used in agent assessment.

Customer surveys provide valuable supporting information on callers' tolerance to delay, and expectations for service. They address some of the following questions: Was the agent accessible? Was the caller put on hold for too long? Was the agent courteous and responsive to my request? Was the agent well informed? Did the agent provide the correct information and keep commitments? Contact centers use this information to estimate the repercussions of poor service: escalated costs, duplication of work, lost customers.

As the economy moves towards individual, personalized services, new ways of handing calls continue to emerge. These new features add to the complexity of collecting and measuring information. It is vital you establish an integrated, reliable system for measuring the key indicators of performance: the efficiency of call handling, the service callers experience, and their perceptions of that service.

Step #3 Forecast the Call Load

Finding the right balance between resources and traffic volumes is a critical step in effective contact center management. Estimating resource requirements is particularly challenging as the number of calls and the total duration of calls expected for a given time interval is difficult to predict.

Forecasting impacts contact center operations and performance in the following ways:

- The number of blocked and abandoned calls
- The level of service provided to callers and callers' perception of service
- Agent workload, call behavior, and retention
- The accuracy and usefulness of schedules
- The success of periodic sales campaigns

Forecasting accurately

Forecasting is an imprecise science. The accuracy of your forecast increases markedly with the size of your data sample. You take a year (or preferably two or three years) of ACD queue traffic data, examine trends in Call Load patterns, break down the information, and determine the ACD Handling Times of the calls. You then modify the forecast based on current contact center activities and other considerations, such as absenteeism, agent breaks, holidays, and training.

The range of forecast dates you specify depends on the purpose of the forecast. Using long-term forecasts, you can estimate future budgets and expansion opportunities, and establish corporate objectives. Using short-term forecasts (of one to three months) you can determine seasonal staffing requirements, plan for short-term sales campaigns, and assess upcoming hiring needs. You can use weekly, daily, hourly and half-hour forecasts to tweak agent schedules and adjust for absenteeism.

Conducting forecasts

Conducting a forecast involves accurately estimating the three components of Call Load: the ACD Handling Time, Wrap Up Time, and Calls Offered. After you run a forecast, it is useful to examine the data and make adjustments based on present contact center conditions. You tweak the forecast by adding or reducing calls based on your intuition and on information gathered by yourself and others.

To forecast the agent requirement, you

1. Examine trends in Call Load patterns.
2. Break the information down in to monthly, weekly, daily, half-hour, and 15-minute intervals that reflect Call Load patterns.
3. Determine the handling times of calls.
4. Modify the forecast based on current contact center activities and other considerations, such as absenteeism, agent breaks, holidays, and training.

You may need to consider the following issues: hardware or software system changes, expected callers, advertising and media, changes to your products, services, or pricing, new products, product performance, competitors actions, and international, national, and corporate events. It is vital to have a systematic forecasting process in place that all of the departments support. For detailed information on Call Load, ACD Handling time, Wrap Up Time parameters, see "Forecasting terms" on page 292.

Step #4 Calculate the resources required

You calculate the agent requirement in conjunction with the trunking requirement. The number of available agents affects the likelihood and length of delay experienced by callers. The delay affects the load trunks must carry. Because the number of available agents impacts the number of trunks required, you calculate the agent requirement first.

The Erlang C formula uses your historical Call Load and Average Talk Time data to predict the agent requirement for the time interval and date range in the forecast. The resultant spreadsheet displays the Call Load and agents required across time intervals.

Predicting agent requirements

Agent costs account for over 60 percent of all of the contact center costs. Accurately predicting the agent requirement, making the most effective use of agents, and standardizing and monitoring agent activities are paramount to achieving your service objectives. Agents are your most valuable resource: make team building and team management a high priority.

You can predict the agent requirement for your Service Level Percentage and Service Level Time targets by applying the Erlang C equation to the estimated Call Load and Average Talk Time.

Understanding Erlang C

Staffing models consider important factors unique to the inbound contact center environment:

- Call arrival is random.
- Consolidating resources allows the same number of contact center agents to handle more calls while maintaining Service Levels.
- Maintaining high Service Level targets requires staffing a large number of agents that will be idle a significant portion of the day.

The industry standard Erlang C equation operates on these principals. Most contact center reporting packages use Erlang C. An Erlang measures telephone traffic, or the flow of calls and call attempts to your contact center during a given period. One Erlang equals one hour or 60 x 60 = 3,600 seconds of telephone conversation. This could be one call lasting one hour, six calls lasting 10 minutes, or any combination of calls and call durations that equal 60 minutes. The Erlang formulas provide a mathematical basis for making predictions about randomly arriving workloads.

A.K. Erlang, a Danish engineer who worked for the Copenhagen Telephone Company, developed Erlang C in 1917. Agent and delay calculations use the Erlang C equation. It predicts the resources required to keep delay times within your Service Level objective. Three variables influence the delay time: the number of agents, the number of waiting callers, and the average time it takes to handle each call.

Limitations of Erlang C

Erlang C has fundamental principles that do not reflect real-world circumstances. It assumes all of the calls reach the contact center and all of the callers wait indefinitely to reach agents. Because Erlang C assumes no blocking or abandons, it may overestimate the agents you need. Erlang C requires accurate information on call flow where voice messaging and call overflow are employed, assumes your Call Load prediction is extremely accurate, and assumes you have the same number of agents handling calls the entire half hour.

Although Erlang C has its limitations, it is the preferred planning tool as it provides reasonable traffic estimates for contact centers that maintain good service-minimal blocking and few abandons.

Considerations when predicting resource requirements

Erlang C provides theoretical numbers for staffing that you need to assess in light of the following contact center realities:

- The contact center blocks a certain proportion of calls and some callers abandon their calls.
- Talk time is unpredictable, and although most calls may last two to three minutes, a few calls can last upwards of an hour.
- Agents in training may require more time to process calls.
- Agents may use wrap up (after-call paperwork) time inconsistently during busy periods.
- Not all of the agents within an agent group are available at all times to handle calls offered to the agent group.

Erlang C predicts staffing needs fairly accurately. However, contact centers that use skills-based routing, overflow, interflow, and advanced routing options need to use intuition and experience in adjusting the final numbers.

The Erlang C formula uses your historical Call Load and Average Talk Time data to predict the agent requirement for the time interval and date range in the forecast. The resultant spreadsheet displays the Call Load and agents required across time intervals.

Performing “what-if” scenarios

After you run a forecast, you can perform “what-if” scenarios on the resultant data by changing the value of forecast parameters and recalculating the results. You can enter values for the ACD Calls Offered, average ACD Handling Time, Wrap Up Time, and Service Level Percent and Time and recalculate the number of agents required. For example, you can reduce the average handling time and recalculate the agents required and the calls handled across 15-minute time intervals for the shift.

Understanding the relationship between agents and trunks

You are already familiar with the terms GOS (probability of blockage) and Service Level (average wait time).

The following definitions are essential to understanding the relationship between agents and trunks.

Delay

Trunk calculations assume no queueing. For trunk calculations, the *delay* includes the time from when a trunk picks up a call until an agent answers it.

Agent Load

The *Agent Load* includes the ACD Handling Time and Wrap Up Time.

Trunk Load

The *Trunk Load* includes the time from when a trunk picks up a call until the agent finishes speaking to the caller and disconnects. The Trunk Load does not include Wrap Up Time.

Callers expect to have a 95 percent or better chance of obtaining a free trunk in to your contact center, and expect to connect to an agent within a reasonable amount of time. There must be sufficient trunks available to pick up calls, and sufficient agents available to handle the level of traffic carried by the trunks. The more agents handling a given Call Load, the less delay callers’ experience. Callers experience a delay if there are insufficient agents available. If the delay is considerable, calls back up and some calls do not reach the contact center.

Traffic engineering involves estimating the number of trunks and amount of communications equipment needed to service an anticipated number of callers. It revolves around basic questions concerning the relationships between service parameters and trunk and agent resources. How much traffic can a particular number of trunks handle for a particular GOS? What is the GOS for a particular number of trunks and traffic level? How many trunks are required to handle a particular traffic level and GOS? What is the probability of delay and length of delay experienced for a particular traffic level and number of agents? How many agents are required to handle a particular traffic level for a given set of delay characteristics?

Understanding Erlang B

Contact centers use the Erlang B equation to estimate the number of trunks required. Erlang B assumes calls are not queued and that callers who receive a busy signal do not attempt to call again. It can underestimate the trunks required. One Erlang equals one hour or 60 x 60 = 3,600 seconds of telephone conversation.

Predicting your trunk requirement involves

- Determining your Busy Hour Traffic (*BHT*)
- Deciding how many blocked calls you can tolerate, or Grade of Service (*GOS*)

BHT

The *Busy Hour Traffic* (BHT) statistic, measured in Erlangs, is the number of hours of call traffic (or trunk traffic) you experience during the busiest hour of operation. It is important that your busy hour figure represent the busiest Call Load your trunks will ever receive, and not just today's peak traffic. BHT is the *(average call duration + average delay) x calls per hour ÷ 3600*. This value represents the highest Trunk Load (occupancy) in hours.

The *call center traffic* is the average number of trunks busy during the hour in question. One Erlang equals one hour, or 60 x 60 = 3,600 seconds of telephone conversation. If a contact center experiences 6.12 erlangs (or 6.12 hours of telephone conversation) during an hour, an average of six trunks were busy.

GOS

The *Grade of Service* (GOS) value is a decimal fraction. A GOS of P.02 means a caller has a two percent chance of receiving a busy signal. Contact centers use GOS in calculating the number of trunks required. It is important to specify a GOS that is right for you in order for the trunk calculation to be realistic.

Predicting trunk requirements

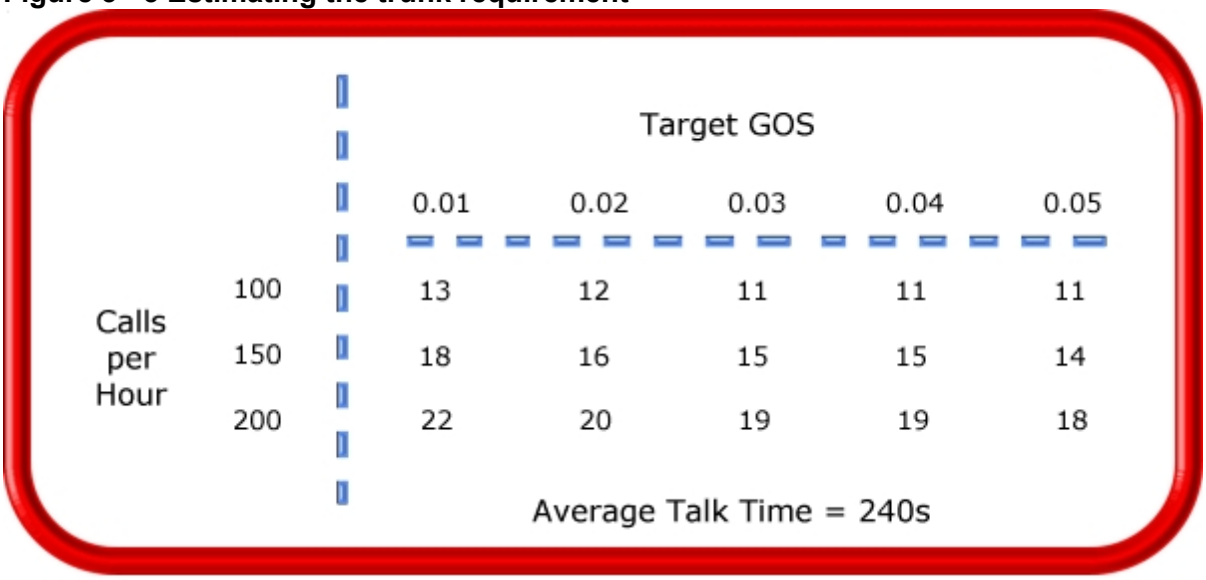
The number of trunks you require reflects the level of traffic expected during your busiest hour of operation. The busy hour is the hour during the workday in which a trunk group carries the most traffic. You calculate the Trunk Load after you forecast the Call Load for the busiest hour and determine the number of agents required to handle the Call Load for your Service Level objective.

Traffic calculators used to predict contact center resource requirements are available on the Web from companies such as erlang.com. You can obtain basic calculators at no cost. Calculators that display and print results or calculations made during the previous week are available at a modest cost.

To calculate the trunks required you simply input two of the figures and calculate the third. For example, if you know that your Busy Hour Traffic is 10 erlangs and you want to determine how many trunks are required when two calls are blocked in every 100 call attempts, you input the busy hour time (10) and your target rate of blocking (0.02). The calculator displays a value for the trunks required (17).

Figure 3 - 3 illustrates the trunks required across a spectrum of GOS values. Whether you chose a GOS of 0.01, 0.05, or somewhere in between these values reflects how may calls per 100 call attempts you can afford to lose. In revenue-based contact centers minimal blocking and delay is a priority.

Figure 3 - 3 Estimating the trunk requirement



Although some contact centers base the trunk requirement on a staff-to-trunk ratio, such as 1.5 trunks per agent, many use the Erlang B equation. Whatever ratio results will be the right one for you.

It is better to slightly overestimate than slightly underestimate the number of trunks required: trunks are inexpensive, compared to agent costs. You can always cancel a trunk if periodic Trunk Load calculations show low occupancy on the trunk.

No staffing approach is absolute. You need to acknowledge the assumptions implicit in your calculations and use common sense when estimating your resource requirements. When you schedule resources, they must be closely monitored to ensure you are making full use of them.

Step #5 Schedule agents

Scheduling involves accurately forecasting the workload and determining which agents should work which shifts. This has traditionally been a labor-intensive manual process for contact center supervisors. You can schedule agents for breaks, split shifts, ACD and non-ACD work periods, repeating work patterns, holidays, and on call work. You can categorize agents by pay level, overtime eligibility, skill level, employment status (part time or full time), and scheduling preferences. Matching these shift and agent variables to the anticipated workload, and re-allocating agents in response to employee absenteeism can be a daunting task.

Scheduling is becoming increasingly challenging, as contact centers support a wider range of products and services, and agents require more frequent and specialized training. Advances in technology have automated many agent tasks and have resulted in more varied and challenging calls and responsibilities.

Accurately forecasting and building schedules that reflect the workload as it changes across intervals for days of the week, weeks of the month, and seasons of the year is essential in meeting your service objectives. You need a schedule that accurately matches agents to the anticipated workload and agents who aspire to adhere to the activities scheduled.

You can track the availability and activities of agents throughout the day and verify agents are performing the duties for which they are scheduled. Not adhering to the schedule, such as forgetting to log out for a break, or performing non-ACD work when scheduled to perform ACD work adversely affects your Service Level and the moral of other agents who must compensate for the unavailable agent.

Understanding the Shrinkage Factor

Accurately forecasting the workload and scheduling agents to satisfy your Service Level objective is a good start, but does not account for the activities that prevent agents from sitting at their desks and handling telephones.

Agents scheduled for ACD work can be involved in some of the following activities:

- On a bathroom break
- Making or receiving personal calls
- Conferring with the supervisor or another agent
- On the phone with other departments
- Sending emails or faxes
- Involved in a lengthy, difficult call
- Prolonged in after-call work
- Absent due to illness or compassionate leave

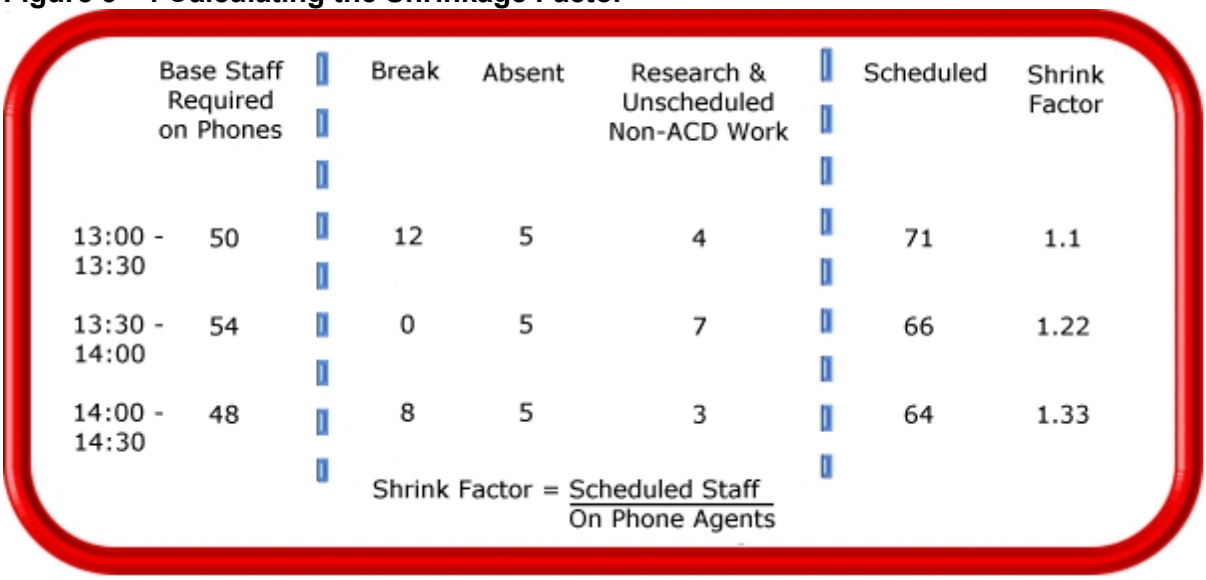
To account for short-term or daily unscheduled absences, you can calculate the rostered staff factor (Shrinkage Factor). The *Shrinkage Factor* is a numerical value that defines the percentage of time agents are scheduled to work but are unavailable to handle calls. It tells you the number of agents you must schedule in addition to the base number of agents required to meet your Service Level.

Calculating the Shrinkage Factor

You calculate the Shrinkage Factor for one or more agent groups as follows:

1. Determine the base staff forecasted by hour or half hour for the day.
2. Make a list of activities that prevent ACD agents from handling calls.
3. Add the base staff to the number of agents who are unavailable to handle calls because they are absent, on break, at a unanticipated meeting, etcetera.
4. Calculate the Shrinkage Factor for each time interval by dividing the scheduled staff by the base staff required to handle telephones.
   The result is a set of Shrinkage Factors that represent the expected shrinkage by half hour.
   See Figure 3 - 4.

Figure 3 - 4 Calculating the Shrinkage Factor



You multiply shrinkage values against the base staff required on telephones when setting future schedules. If your agent requirements vary considerably on certain days of the week, you can calculate a separate set of Shrinkage Factors for these days. You must use your good judgement in identifying absences that are relevant to include in your Shrinkage Factor calculations. Anticipating higher absenteeism on Fridays and Mondays is a safe bet while factoring in daily compassionate leave is not. As with all of the steps in contact center planning, routinely assess the accuracy of your shrinkage predictions and adjust them as required.

Optimizing schedules

Now that you have adjusted your agent requirement to account for unanticipated absences, the next step is to design a schedule that makes the most of your resources.

The following examples illustrate ways to adequately staff a contact center without having agents sit idle during slower periods.

Scheduling split shifts

Although not everyone likes to take a long break in the middle of a shift, for some agents split shifts fit well with priorities outside of work. For contact centers that experience heavy call traffic in the morning and evening, split shifts prevent overstaffing during these periods.

Staggering shifts

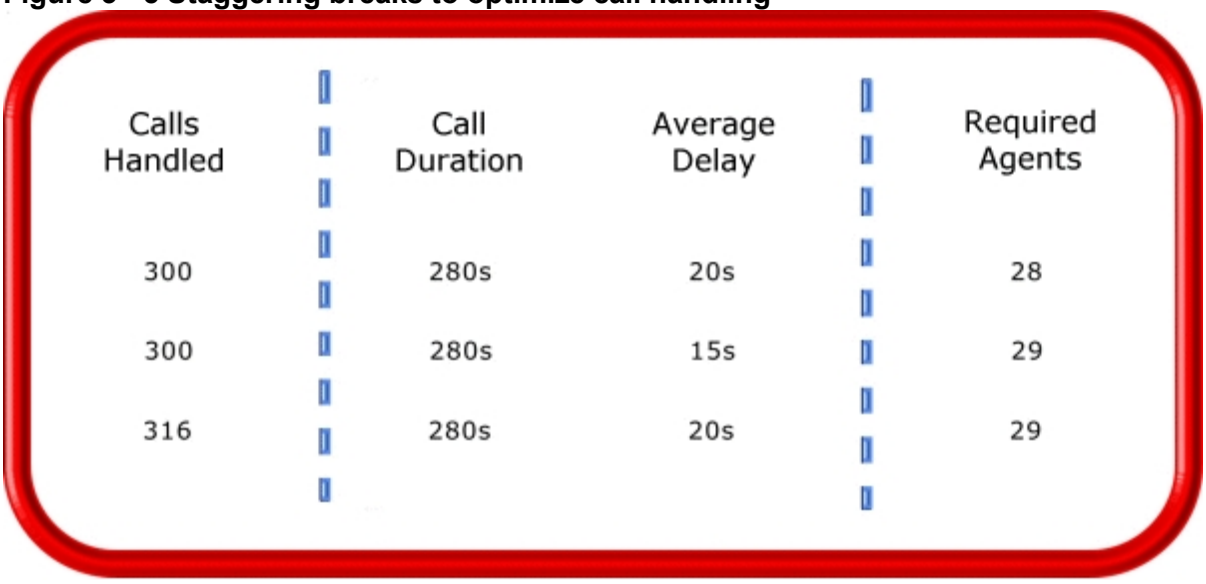
Staggering shifts allows you to maintain staffing levels over busy periods or periods when agents are on breaks. For example, one set of agents could start at 8:00 A.M., a second group at 9:00 A.M., and a third group at 10:00 A.M. so the contact center is fully staffed when it starts getting busy mid morning. Alternately, you could schedule morning and afternoon shifts that overlap from noon until 1:00 P.M. to enable the morning shift to break for lunch while the afternoon shift handles calls.

Staggering breaks

Making slight adjustments to the timing of morning, lunch, and afternoon breaks has a tremendous effect on call handling. The Erlang C equation predicts 28 agents can handle 300 calls, each lasting 280 seconds and delayed 20 seconds. (See Figure 3-5.)

Figure 3-5 illustrates that changing the availability by one agent decreases the average delay time by five seconds, and allows the contact center to handle 16 additional calls.

Figure 3 - 5 Staggering breaks to optimize call handling



Forecasting non-ACD work

Not all of the non-ACD work must be performed immediately. For example, call-backs to clients, emails, and discussions with staff and supervisors can sometimes wait until less busy periods. Forecast and schedule non-ACD work for slow times to ensure sufficient agents are available during peak periods. Set availability priorities and regularly communicate them to agents.

Scheduling part-time agents and agents on call

When practical, scheduling part-time agents and agents on call can be an effective strategy for topping up your pool of available agents. Scheduling agents on call is particularly useful for days of the week and seasons when absenteeism is noticeably higher.

Routing calls to optimize coverage

To optimize service, you can use the following routing strategies that involve resources outside of the target agent group.

Overflowing calls to less busy agent groups

You can overflow calls from busy agent groups to less busy agent groups during peak periods. You can route calls to agents who primarily perform non-ACD work but act as reinforcements during busy periods, and to supervisors.

Employing call-back messaging

You can program the ACD to forward calls to voice mail so callers can leave messages instead of waiting for live agents. Call-back messaging helps to balance agent workloads between peak call periods and slow periods.

Contracting calls to customer care bureaus

Contracting calls is a growing industry. During peak periods, you can route simple, routine calls externally to customer care bureaus. Service bureaus collaborate with contact centers to set up scheduling and monitoring practices, and train agents to handle calls that vary in complexity.

Employing ACD enterprise call routing

Contact centers that provide extended, or around-the-clock service, can interflow calls to other sites. For example, you can interflow mid-day calls received by a busy center in San Francisco to agents working the late-afternoon shift at a center in Philadelphia. This optimizes call handling without scheduling additional agents.

Scheduling considerations

Scheduling should be a collaborative effort. Agents have schedule preferences, and want to know when they are working well in advance. Agents are more likely to adhere to schedules if they are involved in defining the conditions of schedule adherence and non-adherence, and in other areas of the planning process.

Producing long-term schedules is less efficient than producing monthly schedules, as contact center conditions and agent availability are continually changing. Short-term scheduling is more accurate, but less popular with agents. It is important to find a good balance.

Measuring scheduling accuracy

You can measure the effectiveness of your scheduling process. Create a line graph of the Service Level for each half-hour interval for each day over the past week. Draw a horizontal line across the graph to indicate your service objective. Look for inconsistencies in the service provided for different time intervals across days, and how far you stray from your service objective.

If the Service Level is erratic, you may have enough resources in place, but they may not be consistently available to handle calls. If the Service Level is inconsistent at certain time intervals across the week, or you are not meeting your Service Level objective, investigate to see if you are adequately staffed at these times and are making the best use of resources. Try to assess how consistently the agents are responding to real-time information displays. Determine if they are restricting non-ACD activities to slow periods and adhering to the schedule.

Scheduling agents with workforce management tools

Workforce management tools assist you in scheduling agents for work and holiday periods. Many packages offer an integrated forecasting component that uses historical data to partially automate the scheduling process for established agents. Scheduling is not entirely automated: you must tweak agent schedules and enter shift and agent variables for agents manually.

Step #6 Determine contact center costs

An effective budget conveys what is currently happening in the contact center, projections for the upcoming year, and business objectives. It is important to highlight the trade-offs between the service provided to callers and costs to the organization by developing at least two budgets that reflect different scenarios.

You need to provide a clear indication of how the money is being spent, what you are doing to reduce or curb spending, and what equipment is required to meet service objectives and expected growth over the next year. Budgeting is on-going process that needs continuous refinement.

Breaking down expenses

The costs associated with contact center operations include

- **Loaded labor costs**
  Loaded labor costs include wages, fringe benefits, and facilities, and account for over 60 percent of contact center costs. This is a significant cost and underlines the importance of accurate forecasting and scheduling.
- **Equipment and automation costs**
  Equipment and automation costs include the cost of the telephone system, computer systems, and furniture, and account for about five percent of total expenses.
- **Transmission costs**
  Transmission costs include costs incurred for voice (telephone lines) and data (email, fax, and modem) transmission, and account for 25 to 30 percent of contact center costs. Transmission costs have decreased considerably in the past few years and are continuing to drop. In revenue-based contact centers, toll-free lines cost approximately 15 cents per minute, or nine dollars per hour, per line.

The following statistics help you breakdown and analyze your contact center costs:

- **Cost of Delay**
  When insufficient agents are available to handle a given Call Load, the delay increases as does the Trunk Load. Calls are queued. For toll-free services each call delayed in queue is a cost to the organization. You are charged for the toll-free service from the time a trunk picks up a call until an agent completes the call and hangs up. The expense of queuing callers is known as the *Cost of Delay*. Staffing affects toll-free service costs: if insufficient agents are available and the Service Level is continually low, network costs will be high. You need to consider the Cost of Delay when estimating the agent requirement, and closely monitor it.
- **Cost per Call**
  You use a cost-per-call analysis to measure contact center profitability and performance. The *cost per call* measures labor, communication, and equipment costs against the revenue generated. You calculate it by dividing the total cost by the total calls for a particular period of time.
- **Average Call Value**
  You use the *Average Call Value* in revenue-based contact centers. You calculate it by dividing the total revenue by the number of calls received for a given period. Sales and reservations environments use the Average Call Value. The value of each call is balanced against the service provided to customers.

Anticipating growth

Predicting company growth is a challenging and essential aspect of contact center costing. Growth predictions impact budgeting considerations and must be clearly communicated to senior management. It is useful to map out your projected costs and time frames for the upcoming year and substantiate them with statistics and graphs. Determine when and how many resources you require, and lead-time issues.

Chapter 4

Getting Started with Contact Center Management

Getting Started

After you install Contact Center Management on the Enterprise Server, you must set up the Enterprise Server and client computers to use Contact Center Management. This section provides basic information on post-installation procedures. For detailed information on installation and post-installation procedures, see the *Contact Center Management Installation Guide.*

Registering Contact Center Management

NOTE:

- If you have not registered your Contact Center Management software, seven days after you install it you will no longer be able to log on to Contact Center Management and will be required to contact prairieFyre software to register the software. After you register your contact center prairieFyre emails permanent license files to you. You implement these license files on the Enterprise Server to activate your software.
- Registration information is processed during regular business hours only (Monday to Friday from 8:00 A.M. to 8:00 P.M. ET).

When you initially register your software with prairieFyre, for one year you receive

- The latest Contact Center Management software updates.
- A quarterly newsletter.
- Free technical support.

To register with prairieFyre

- Call prairieFyre at (613)-599-0045 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).. The turn around is immediate. (Recommended)
- Visit the www.prairiefyre.com website, fill out a registration form, and submit the form. The turn around time is four hours.
- In Contact Center Management, click Help=>Register Now, fill out a registration form, and submit, email, or courier the form to prairieFyre.

Activating Contact Center Management

If you did not activate Contact Center Management during installation, you can activate it now. If you have access to the Internet, you can rerun the Installation Wizard at any time to register Contact Center Management online. If you do not have access to the Internet or if you cannot access our license server, you can register offline.

To activate the Contact Center Managementsoftware online

1. On the Enterprise Server, navigate to the **Mitel** program folder and open **Mitel Contact Center Management Licensing.**
2. Click **Register Online.**
   The Online Registration window opens.
3. Type your 26-digit site serial number and click **Register.**

To activate the Contact Center Management software

1. On the Enterprise Server, navigate to the **Mitel** program folder and open **Mitel Contact Center Management Licensing.**
2. Click **Register** Offline**.**
   The Offline Registration window opens.
3. Click the **here** link in the first step to open the directory that contains the license package.
4. Email the license package to support@prairiefyre.com.
   prairieFyre will sign the license files and send them back to you.
5. After you receive the signed license files, save them to a directory.
   NOTE: We recommend you place the license files in the original directory.
6. Repeat steps 1-2 to open the Offline registration window.
7. Type your 26-digit site serial number.
8. Click **Browse** and specify the directory that contains your .dlsc license file.
9. Click **Apply License.**
   The license registration is complete.

Updating license files on the Enterprise Server

You must update the license files on your Enterprise Server with the new license files prairieFyre sends you.

To implement new license files

1. On the Enterprise Server, start Windows Explorer.
2. Save the new license files in the following directory, **<drive>:\program files\prairiefyre software\CCM.**
3. Click **Yes** to overwrite the existing files.

Setting up Contact Center Management on the Enterprise Server

After you install the Contact Center Management software on the Enterprise Server, you need to set up the server and client computers to use Contact Center Management. To view detailed installation procedures, click Help=>Documentation and click the *Contact Center ManagementInstallation Guide* to open it.

Setting up Contact Center Management on client computers

NOTE:

- The date format for Contact Center Management is tied to the regional settings on your client computer. For example, if you configure your computer to display the date as mm/dd/yyyy, when you browse to the Contact Center Management Web UI, the Contact Center Management applications and any reports you generate display the date as mm/dd/yyyy.
- The system administrator must provide all of the Contact Center Management users with a user name and password.

To set up a client computer to use Contact Center Managementon the client computer

1. Start Contact Center Management.
   See "Starting Contact Center Management" on page 37.
2. Install Client Component Pack.
3. Use Client Role Selector to select your Contact Center Client role.

Starting Contact Center Management

To start Contact Center Management on the Enterprise Server or on a client computer

1. Start Internet Explorer type your Enterprise Server IP address **http://[your Enterprise Server IP address]/CCMWeb/**. Otherwise, click the Contact Center Management desktop icon.
2. If you do not see the Contact Center Management desktop icon, to create a shortcut to Contact Center Management, move the Contact Center Management Web address to your desktop using a drag-and-drop operation.

Viewing multiple Contact Center Management sessions

Sometimes you will need to view two or more instances of Contact Center Management simultaneously. For example, you need to open two or more Contact Center Management sessions to perform multiple searches for event records, and to compare report data to SMDR search results.

To view multiple Contact Center Management sessions using Favorites

1. Start Internet Explorer and type your Enterprise Server IP address **http://[your Enterprise Server IP address]/CCMWeb/**. Otherwise, click the **Contact Center Management** desktop icon.
2. Click **Favorites**=>**Add to Favorites** to add the Enterprise Server IP address to your list of favorite addresses.
3. Click **OK**.
4. Click **Favorites**, click Contact Center Management (at the bottom of the list), and move it to the top of the list using a drag-and-drop operation.
5. To start an additional Contact Center Management session, open **Internet Explorer** and select **Contact Center Management** from your list of favorites.
   You start the first instance of Contact Center Management by clicking the Contact Center Management desktop icon. You start the second (and subsequent) sessions of Contact Center Management by opening Internet Explorer, clicking Favorites, and clicking Contact Center Management.

NOTE: You can switch between Contact Center Management sessions and desktop applications by holding down the Alt key and pressing the Tab key until you locate the desired session.

Installing the latest version of Client Component Pack

Microsoft .NET Framework 4.0 must be installed on your system before you install Client Component Pack. If you attempt to install Client Component Pack, and .NET Framework is not installed, Client Component Pack will prompt you to install a list of required components, including .NET Framework.

You can install Client Component Pack on individual client computers or servers running Citrix Terminal Services.

NOTE: If the client is on an external network, you can either:

- VPN to the internal network and install the Contact Center Client, or
- Copy the Contact Center Client from the server to the client using a CD or USB key
- Use an administrative procedure to silently install Client Component Pack on remote desktops
  See "Installing Client Component Pack using an administrative procedure" on page 38.

To install Client Component Pack on the client computer

1. On the client computer, start Internet Explorer and type **http://[your Enterprise Server IP address]/CCMWeb.**
2. If prompted, type your user name and password and click **Submit.**
3. Click **Help=>Software downloads/Installations.**
4. Click **Client Component Pack.**
   The File Download - Security Warning window opens.
5. Click **Run.**
6. Close the Software downloads window.
   The Internet Explorer - Security Warning window opens.
7. Click **Run.**
   The Mitel Contact Center Solutions Client Component Pack Se... window opens.
8. To install Updater Service Clean Up, click **Install.**
   The Mitel Contact Center Solutions Client Component Pack - InstallShield Wizard opens.
9. Click **Next.**
10. After **Enterprise IP Address**, type the IP address of the Enterprise Server.
11. If your Enterprise uses SSL, select the **SSL** check box.
12. Click **Install.**
    The program features you selected are installed.
13. Click **Finish.**
    The Select role window opens.

Installing Client Component Pack using an administrative procedure

You can install Client Component Pack silently on remote desktops using an MSI (Microsoft Installer) administrative installation procedure. A silently installed program is a program that can be installed with no user interaction.

To install client software silently on remote desktops

1. Install the prerequisite software.
2. Locate the client_setup_x86_x64.exe and extract Client Component Pack.msi.
3. Perform the .msi procedure for the administrative installation.
4. Run the silent installations.

Installing the prerequisite software

Before you install client software, you must install the prerequisite software.

To install the prerequisite software

1. Go to the src folder located in your Contact Center Solutions Installation folder.
   NOTE: The default location of this folder is C:\CCM\src.
2. Open the **Windows Installer 3_1** folder.
3. Install **Windows Installer 3.1.**
4. Go back to the src folder.
5. Open the **vcredist_x86** folder.
6. Install **vcredist_x86.**
7. Log onto your Contact Center Management Enterprise Server.
8. Click **Help.**

9. Click on the Software downloads/Installations tab.
10. Click **Software Downloads.**
11. Install the following components:
    - Microsoft .NET Framework 4.0.
    - Web Services Enhancements (WSE) 3.0 for Microsoft .NET.
    - Microsoft Report View Redistributable 2005.

Locating the client_setup_x86_x63.exe and extracting Client Component Pack.msi

To locate the client_setup_x86_x64.exe and extract Client Component Pack.msi

1. Go to the src folder located in your Contact Center Solutions Installation folder.
   NOTE: The default location of this folder is C:\CCM\src.
2. Open **client_setup_x86_x64.exe.**
3. Open the folder that was modified the same day you extracted client_setup.exe. The folder naming format will be xxx_xxxx.
   Client Component Pack.msi will be in that folder.

Performing the MSI procedure for the administrative installation

NOTE: See "Installing the prerequisite software" on page 38 for a list of programs that must be installed on each computer before you install Client Component Pack.

You must create a command for the administrative installation that is similar to the following example:
msiexec /a"\\Mitel Installations\Setup\Client Component Pack.msi" SSLSTATUS=0 ENTERPRISEIPADDRESS=10.1.4.12

To perform the MSI procedure for the silent installation

1. Open the command prompt window.
2. Open the folder where the msi file is located.
3. Type **MsiExec.exe /a.**
4. Press the spacebar.
5. Drag the msi file from the folder where it is located to the command prompt window.
6. Press the spacebar.
7. Type **SSLSTATUS=.**
8. If the Enterprise Server uses a secure socket layer, type **1**. If it does not, type **0**.
9. Press the spacebar.
10. Type **ENTERPRISEIPADDRESS=.**
11. Type the Enterprise Server IP address or DNS name.
12. Press **Enter.**
    The InstallShield Wizard opens.
13. Follow the instructions of the Wizard.
14. Ensure the file is saved to a network drive.

Running the silent installation

NOTE: Subsequent updates are done via the prairieFyre Updater Service.

To silently install Client Component Pack

1. In Windows, open the **Run** command.
2. Type **"\\<path to administrative installation package>\Client Component Pack.msi" /qb**
   Contact Center Client and the prairieFyre Updater Service are installed.

Using the Client Role Selector to select your Contact Center Client role

The Contact Center Management client installation includes the Client Role Selector. It is a wizard that helps you select a Contact Center Client role based on the functions you perform. The roles are as follows:

- **Supervisor** is designed for supervisors and managers who monitor devices (for example agents and queues) and schedule agents.
- **Agent** is designed for agents who monitor themselves and/or other agents and queues.
- **Administrator** is designed for employees who manage the Enterprise Server.
- **Power user** is designed for employees who may perform the functions of a supervisor, agent, and administrator.

You can re-run the Client Role Selector on a client computer at any time to change the components and applications installed on the client computer.

NOTE:

- If you want to customize the client installation, select Power User. For example, if a supervisor also performs administrative functions, select the Power User role and choose the components and applications the supervisor will need.
- For Version 6.0.1 and greater of Contact Center Solutions support for the 5000 and Axxess telephone systems, client applications are limited to Real-time monitors, Management Console, Network Monitor, Multimedia Contact Center, and YourSite Explorer. All other client applications will be made available in a future release of Contact Center Solutions.

Table 4 - 1 lists the components and applications available for installation with each client role installation. Only those applications for which you have a license are listed here.

Table 4 - 1 Client role installation

Components/Applications	Supervisor	Agent	Administrator	Power User
Real-time monitors	x	x		x
Flexible Reporting*[1]	x			x
Contact Center Softphone*[1/2]	x	x		x
Mitel Border Gateway Connector*[1/2]	x	x	x	x
Management Console			x	x
Network Monitor			x	x
Salesforce.com Connector*[1/2]	x	x	x	x
Workforce Scheduling*[1]	x			x
Schedule Adherence[1]	x	x	x	x
Employee Portal*[1]	x	x	x	x
Multimedia Contact Center*[1] (requires Outlook)		x		x
YourSite Explorer			x	x

*[1]Flexible Reporting, Contact Center Softphone, Mitel Border Gateway Connector, Salesforce.com Connector, Workforce Scheduling, Employee Portal, and Multimedia Contact Center are optional applications to Contact Center Management that you purchase separately.
*[2]Contact Center Softphone, Mitel Border Gateway Connector, and Salesforce.com Connector are not currently supported with the Mitel 5000 and Axxess telephone systems.

Running Client Role Selector

To run Client Role Selector:

1. If you are installing software on the client computer for the first time, go to step 2. Otherwise, open the **Client Role Selector.**
2. Click a client role.
3. Click **Next.**
4. Select the check boxes of the features to be installed.
   - Real-time monitors
   - Flexible Reporting
   - Contact Center Softphone
   - Mitel Border Gateway Connector
   - Management Console
   - Network Monitor

- Salesforce Integration
- Workforce Scheduling
- Multimedia Contact Center (requires Outlook)
- YourSite Explorer

5. Click **Finish.**
   After the wizard installs the features you selected, the Contact Center Client log on window opens.
6. Close the Contact Center Client log on window.

Disabling the IE security warning

When you browse Contact Center Management, you may see an Internet Explorer (IE) security warning. You can disable the warning.

To disable the IE security warning

1. Start Internet Explorer in your browser.
2. Click **Tools=>Internet Options=>Security**.
3. Select the Web content zone used to access the site.
   The Web contact zone is typically Internet.
4. Click **Custom Level**.
5. Under **Settings** select **Miscellaneous**.
6. Under **Miscellaneous**, after **Display mixed content**, click **Enable**.
7. Click **OK**.

Configuring the SMTP server

The SMTP mail server settings for Reporting Service are typically configured during the installation process. However, if the server information is not entered during installation or the information is incorrect, the settings can be configured in YourSite Explorer, as follows.

To configure an SMTP mail server

1. In YourSite Explorer, click **SMTP Servers**.
2. Click **Add**.
3. Under **SMTP Server**, type the IP address or name of the mail server (for example, PFEXCHANGE).
4. Under **SMTP Port**, type the port number of the SMTP mail server.
   NOTE: The default value of this port is 25.
5. If the Mail server uses Secure Sockets Layer, select the **Use SSL** check box.
6. Under **Logon Information**, select the **Is SMTP Authentication Required** check box if the email server requires authentication and type the **Username**, **Password**, and **Domain**.
7. Under **User Information**, type the name and email address from which all Contact Center Management reports will be mailed.
   NOTE: The email address field is mandatory as some email servers will not relay mail messages without a valid sender.
8. To send a test email, click the **Test Email** button.
9. Click **Save**.

Providing Mitel Border Gateway functionality to remote employees

In Version 6.0, the Mitel Border Gateway Connector replaces what was formerly called Teleworker support for Contact Center Solutions and Call Accounting software. Using Mitel Border Gateway Version 7 or greater, remote employees can connect to the Enterprise Server using a VPN-like connection, and use all Contact Center Solutions and Call Accounting applications as if they were in the office. Customers who use Mitel Border Gateway Version 6 can still benefit from remote agent support, however, only Contact Center Client real time, soft phone, and Contact Center Management / Call Accounting website functionality is supported.

With the Mitel Border Gateway Connector, customers can now optionally configure connections to multiple instances of the Mitel Border Gateway. When employees connect to the system using the Mitel Border Gateway Connector, they can specify which Mitel Border Gateway they will connect to. After remote employees attempt to connect to the system for the first time, a Mitel Border Gateway system administrator must approve the Mitel Border Gateway certificate from the Mitel Border Gateway web application. Once approved, remote users are connected and have access to all of the Contact Center Solutions and Call Accounting applications for which they are licensed and have the required security permissions. While active, the Mitel Border Gateway Connector is visible in the Windows system tray and displays the name of the active connection. Only one connection can be made at a time. The name of the Mitel Border Gateway connection will become the address in all application login windows and users sign in with their normal username and password.

The Mitel Border Gateway Connector offers the same trusted characteristics as with a standard Mitel Border Gateway deployment: local streaming, secure RTP, jitter buffering and packet handling QoS, and G.729 and G.711 encoding. For more information on how to configure Contact Center and Call Accounting software to support Mitel Border Gateway, see the *Contact Center Management Installation Guide*.

NOTE:

- The Mitel Border Gateway Connector supports Mitel Border Gateway V6 and V7 or greater.
- The following corporate firewall ports must be open in order to take advantage of the full features and functionality provided by the Mitel Border Gateway Connector: 80, 443, 1433, 5024, 5025, 5026, 5030, 7001, 7003, 8083, 8084, 36000-36004, 35001-35007, and 42440.
- You must disable IIS and SQL Server Reporting Service services as they consume port 80, which is required for the Mitel Border Gateway Connector. Any other applications or services that consume port 80 should also be disabled or shut down.
- You cannot use the Windows Authentication sign-in model for Contact Center Solutions and Call Accounting
- Ensure the Start button is enabled at all times on the Mitel Border Gateway web application user interface or the Mitel Border Gateway Connector will fail.
- You must be logged in as an administrator on a client computer in order to configure a connection to a Mitel Border Gateway. Once the connection has been made, any user on the computer can connect using the Mitel Border Gateway Connector.

Setting up phones for remote agents and employees

If you are working at the office and select Remember my credentials when you log on to Contact Center Client, and then subsequently attempt to log on at home, your log on will fail. Contact Center Client does not recognize your office IP address when you log on remotely.

NOTE: Before you set up the soft phone on your client computer, ensure your network administrator has configured your soft phone as a 5020 IP phone on the telephone system.

To set up Contact Center Softphone and Contact Center PhoneSet Manager to support the Mitel Border Gateway Connector, you must

1. Register your phones for use with Mitel Border Gateway V6 or V7.
2. Approve the Mitel Border Gateway V6 or V7 certificate.
3. Log in to client computers using an administrative account and set up the connection to the Mitel Border Gateway from the Mitel Border Gateway Connector.

Registering phones for use with Mitel Border Gateway

The system administrator must register your phone before you can use the Mitel Border Gateway Connector. Contact Center PhoneSet Manager treats new extensions like new phones; each time you enter a new extension you must use the dial pad to type the password (provided by your system administrator) to register the phone.

To register your phone with Mitel Border Gateway

1. Ensure you have completed the steps listed under "Configuring Mitel Border Gateway on the Mitel Application Server" in the *Contact Center Management Installation Guide* and that you have added an ICP to the Mitel Border Gateway.
2. On the Mitel Border Gateway server, under **Applications**, click **Mitel Border Gateway**.
3. On the Status tab, ensure that the Mitel Border Gateway status is enabled. If it is not, after **Start or stop MBG**, click **Start**.
4. Click **Services=>MiNet Devices**.
5. Click **Add a MiNet device**.
6. For Contact Center Softphone phones, after **Device ID**, type **a1:21:00:00:xx:xx**, where xx:xx is the extension.
7. For Contact Center PhoneSet Manager phones, after **Device ID**, type the MAC address located under the agent's Mitel phone.
8. If required, specify other optional settings.
9. Click **Save**.

Approving the Mitel Border Gateway certificate

The Mitel Border Gateway system administrator must approve the Mitel Border Gateway V6 or 7 certificate before agents and employees can use the Mitel Border Gateway Connector.

To approve the Mitel Border Gateway certificate

1. Log on to the Mitel Border Gateway server.
2. In the left pane under **Security**, select **Certificate Management**.
   The Manage Certificates window opens.
3. Under **Queued CSRs**, select the certificate that needs approval.
4. Select **Approve** or **Revoke**.

Running the Mitel Border Gateway Connector

In order to use Contact Center Solutions and Call Accounting applications with Mitel Border Gateway, you must run the Mitel Border Gateway Connector and configure the connection to the Mitel Border Gateway.

NOTE: A user with administrative credentials must be logged in to client computers when configuring connections to the Mitel Border Gateway for the first time. After this is complete, any user can sign in to the computer, run the Mitel Border Gateway Connector, and connect to a Mitel Border Gateway.

To install and configure the Mitel Border Gateway Connector

1. If this is not the first time you have run the Mitel Border Gateway Connector, skip to step 9. Otherwise, consult your network administrator to confirm your soft phone extension number.
2. Ensure your headphone is connected.
3. Run Client Component Pack.
   See the *Contact Center Management Installation Guide*.
4. If you are installing software on the client computer for the first time, go to step 5. Otherwise, open the **Client Role Selector**.
5. Click a client role.
   - Supervisor—The Supervisor role is for supervisors and managers who monitor devices, such as agents and queues, and schedule agents.
   - Agent—The Agent role is for agents who monitor themselves and/or other agents and queues.
   - Power user—The Power user role is for employees who may perform the functions of a supervisor, agent, and administrator.
6. Click **Next**.
7. Select **Mitel Border Gateway Connector** and all other options you need, such as Contact Center Softphone.
8. Click **Finish**.
9. In Windows, open the **Mitel Border Gateway Connector**.
   Ensure you are logged in to the computer with administrative credentials.
10. Click **New**.
11. After **Name**, type a name for the connection to the Mitel Border Gateway.
12. After **IP address**, type the IP address of the Mitel Border Gateway.
13. After **MAC address**
    - If you have a desk phone, type the MAC address located on the sticker under your desk phone.
    - If you have a soft phone, click **Extension**, type your soft phone extension number, and click **OK**.
14. If you are connecting to a pre-Version 7 Mitel Border Gateway, enable the checkbox after **Connect to legacy MBG (pre v7)**.
15. Click **OK**.
    The connection to the Mitel Border Gateway you just created will display in the Mitel Border Gateway Connector list.

To run the Mitel Border Gateway Connector

1. Start the **Mitel Border Gateway Connector**.
2. Select a connection to a Mitel Border Gateway from the list.
3. Optionally, enable the **Connect automatically** checkbox.
   Enabling this checkbox will automatically connect you to the configured Mitel Border Gateway when you launch the Mitel Border Gateway Connector.
4. Click **Connect**.
   A message displays stating "Waiting for certificate approval." If the request is rejected, contact your system administrator to approve the certificate.
   Once your certificate has been approved, you can begin using all Contact Center Solutions and Call Accounting applications remotely as if you were in the office. Any user configured with administrative credentials on the computer can change the Mitel Border Gateway connection settings and delete connections from the Mitel Border Gateway Connector at any time.

Setting up user preferences

You can change your user preferences at any time. They can be found on the Contact Center Management website, on the My options link. With these preferences you can

- Specify your language preference
- Specify the number of records displayed on a page
- Change your password
- View your security role properties
- Configure email contacts

Specifying your language preference

To specify your language preference

1. On the **My options** tab, click **My preferences.**
2. After **Display this language,** select a language.
3. Click **Save.**

Specifying the number of records displayed on a page

Contact Center Management enables you to configure the number of items that will display in the YourSite=>Configuration.

To specify the number of records that display on a page

1. On the **My options** tab, click **My preferences.**
2. After **Display this number of records**, select a number.
3. Click **Save.**

Changing your password

To change the password for your login

1. On the **My options** tab, click **My password.**
2. After **Old password**, type your old password.
3. After **New password**, type your new password.
4. After **Confirm new password**, type your new password.
5. Click **Save.**

Viewing security role properties

You can view your security role properties. They describe the application areas to which you can gain access. Only employees with access to YourSite=>Configuration can change the security role properties of employees.

To view the security role properties of the credentials with which you logged in

- Click **My options=>My security role.**

Configuring email contacts

You can create a list of email contacts and contact groups to whom you email reports.

NOTE: You must configure SMTP settings in YourSite Explorer before you can configure email contacts. See "Configuring the SMTP server" on page 42.

To create a contact group

1. Add email contacts
2. Add contact groups
3. Add email contacts to the groups

Adding email contacts

To add an email contact

1. On the **My contacts** tab, click **My email contacts**.
2. Click **Add.**
3. After **First name**, type the first name of your contact.
4. After **Last name**, type the last name of your contact.
5. After **Email address**, type the email address of your contact.
6. Click **Save**.

Adding contact groups

To add a contact group

1. On the **My contacts** tab, click **My email contact groups**.
2. Click **Add**.
3. After **Name**, type the name of the contact group.
4. After **Description**, type the description of the contact group.
5. Click **Save**.

Adding email contacts to contact groups

To add an email contact to a contact group

1. On the **My contacts** tab, click **My email contact groups.**
2. Click **Members** for the contact group with which you want to associate agents.
3. Under **Available contacts,** select the check boxes of the members you want to add to the group and click **Add >>.**

Chapter 5

Services and Database Administration

Backing up data

Management Console

Services and Database Administration

This chapter includes a description of how to back up data and of the functions available in Management Console (updating server IP addresses, running the maintenance routine immediately, summarizing data, creating a support package, controlling services, and converting Toolbox and Contact Center Solutions data files to prairieFyre data files).

Backing up data

NOTE: We recommend you back up the SQL server data files, YourSite Database configuration data files, and raw phone data files to an off-board media type (DVD, CD, tape, alternate network drive) each day as a precaution in case of server failure.

In the event of server failure, you can restore your company history and configuration with

- A backup copy of .xml files.
- A backup copy of the SQL server data files.
- A backup copy of the YourSite database.
- The raw telephone system data files stored on the local hard drive.

Backing up .xml files

The maintenance routine automatically backs up an .xml file of the YourSite database every night. This backup file is stored in the directory: <drive>:\program files\prairiefyre software inc\CCM\Backup Files. The maintenance routine keeps an .xml file for each of the last 30 days maintenance ran.

To back up or restore the .xml files

1. Start Contact Center Client.
2. Click **View=>Administration**.
3. Click **Management**.
4. Click **Configuration**.
5. Click **Back up/Restore configuration data**.
6. Follow the steps in the Backup and Restore Wizard to back up or restore the .xml file.

Backing up SQL Server data files

You back up SQL Server data files to ensure you can replace corrupted or lost data as a result of media problems, user errors, hardware failures, and natural disasters. Please review Microsoft procedure for creating a recovery model that controls the backup and restores operations for a database. See http://www.exforsys.com/tutorials/sql-server-2005/sql-server-backing.html

Understanding SQL Server recovery models

The following section details SQL Server recovery models and how they relate to backups and disk space usage. There are three recovery models available for use with SQL Server:

1. Simple
2. Full
3. Bulk logged

For detailed information on backing up SQL Server through SQL Server Management Studio, see http://msdn.microsoft.com/en-us/library/ms187510.aspx.

For a complete overview of SQL Server recovery models, see http://msdn.microsoft.com/en-us/library/ms175987(SQL.90).aspx

By default, SQL Server Express uses the Simple recovery model. Retail versions of SQL Server use the Full recovery model. There are two things you must consider when deciding which recovery model to use:

1. The importance of the data being stored in the SQL Server database.
2. The amount of disk space used by the transaction log file.

The only way to recover a SQL Server database is to restore it from a SQL Server backup. The type of recovery model you use impacts the ability to restore the database.

The Simple recovery model is recommended for customers who do not have an IT department upon which to rely for regular backups and who believe the summarization process is sufficient to re-generate historical data. There are several things that should be considered when using the Simple recovery model:

- The log file does not continually grow and is truncated each time a successful transaction is completed.
- When the log file is 80% full, the log will automatically clear out old transactions and rewrite the log file with the newer transactions.
- Point-in-time recovery is not supported with this model and the database can be restored only from the last full or differential backup.
- This model is ideal when the data in the database is not considered mission critical, is being backed up periodically, or can be restored from another means, such as summarization.

The Full recovery model is recommended for customers who have an IT department that can manage scheduled backups. There are several things that should be considered when using the Full recovery model:

- The log file will grow until a transaction log backup is successfully completed against the SQL Server database. Transaction logs can be applied to full database backups to ensure point-in-time recovery, up to the time when the last transaction log backup was taken.
- Point-in-time recovery is supported with this model
- This model requires a regular backup schedule and sufficient disk space to house the log file as it grows between backups.

Frequency and scope of configuration changes may be a suitable indicator in determining which recovery model to use. If configuration changes are infrequent and point-in-time recovery is not critical, the Simple recovery model may be sufficient. However, when using the Simple recovery model, we highly recommend that SQL Server backups are performed after any significant configuration changes have been made to the database.

Regardless of the recovery model used, it is strongly recommended that the data files collected by the Contact Center Solutions applications are backed up on a regular basis, as these files are used in the summarization process to re-generate historical data.

Backing up Enterprise Server configuration data

CAUTION: Restoring the YourSite database deletes all of the current database table entries and replaces them with the entries defined at the time of your last database backup. Any changes made to the database in the interim are lost.

Backing up and restoring Enterprise Server configuration data offers protection in case you program the database incorrectly, or a careless user reconfigures it. prairieFyre recommends you perform this backup weekly, in addition to regular database maintenance. If required, you can later recover the YourSite database data exclusively, rather than restoring the entire SQL database.

To back up or restore the YourSite database

1. Start Contact Center Client.
2. Click **View=>Administration**.
3. Click **Management**.
4. Click **Configuration**.
5. Click **Back up**/**Restore configuration data**.
6. Follow the steps in the Backup and Restore Wizard to back up or restore the database.

For any additional information contact prairieFyre Software technical support at 613-599-0045 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).

Backing up raw telephone system data files

To back up raw telephone system data files

1. On the Enterprise Server, right-click **Start=>Explore**.
2. Copy the **<drive>:\program files\prairiefyre software inc\CCM\DataDirectory** folder to the desktop, a network share, or optionally store it on a CD.

Management Console

The Management Console application resides in Contact Center Client. Using Management Console, you can administer the database, perform maintenance functions, create support packages, and update your Contact Center Management software.

Management Console consists of the following menus:

- Configuration
- Maintenance
- Support
- System

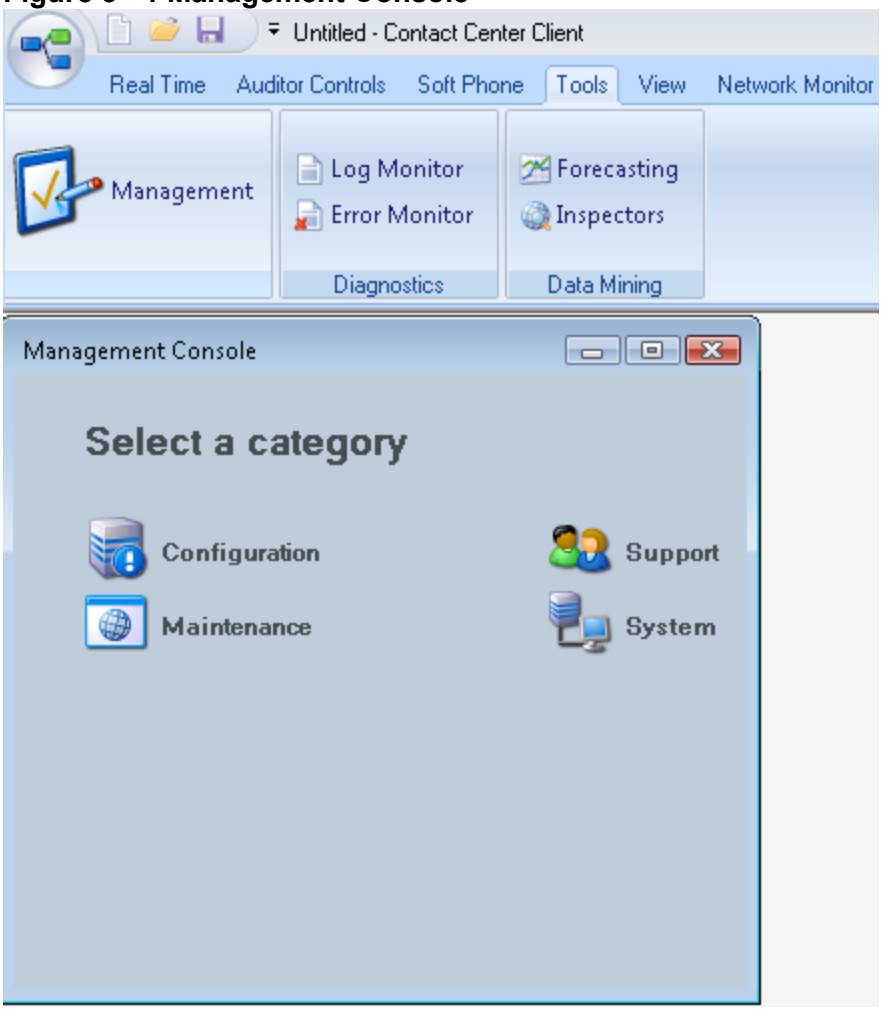
Opening Management Console

Management Console is available to users whose security permissions permit them to use Management Console.

To open Management Console

1. Open **Contact Center Client**.
2. If prompted, type your user name and password.
3. Verify the Enterprise Server IP address.
4. Click **Log on**.
   The Contact Center Client window opens.
5. Click **Tools** in the ribbon.
6. Click the Management Console icon.
   The Management Console window opens.
   See Figure 5 - 1.

Figure 5 - 1 Management Console



7. Access the Configuration, Maintenance, Support, and System options by clicking on the applicable icon in the window.

NOTE: Whether Management Console displays and is available depends on individual user's security settings.

Configuration

The Configuration menu enables you to update the server IP address.

Updating server IP addresses

If you want to apply Enterprise Server or SQL Database Server IP address changes to all Contact Center Solutions applications, you use the Update Server IP Address Wizard.

To apply the IP address change to all Contact Center Solutions applications

1. In Management Console, click **Configuration**.
2. Click **Update server IP address**.
3. Follow the steps in the wizard to apply the IP address change universally.

Maintenance

Using the Maintenance menu, you can

- Run the maintenance routine
- Summarize data

Running the maintenance routine immediately

Contact Center Management runs the prairieFyre Maintenance Service automatically at 2:00 A.M. However, you can manually invoke the prairieFyre Maintenance Service at any time with the Run maintenance command.

To run the maintenance routine

1. In Management Console, click **Maintenance**.
2. Click **Run maintenance**.
   A message notifies you that processing is complete.

Summarizing data

The Summarize Data Wizard uploads historical telephone system data to the SQL database for a specific date range.

If you run a report and notice that data for a particular device is missing from the report output, verify the device is programmed in the telephone system and in the YourSite database. If you determine the device is missing from the database, add it to the database and use the Summarize command to update Collector Service and the SQL database with the complete raw telephone system data (stored on the local hard drive). You can then produce reports on the device.

NOTE:

- When a summarize is performed the devices not programmed in the telephone system or YourSite database are identified and logged to an XML file located in the Logs directory. The files are named as in the following example, summarizeInspection[29-01-2007][29-01-2007][29-01-2007].xml, where the first date is the current date, the second is the start date of the summarize, and the third is the end date of the summarize.
- If you attempt to summarize data and there is no data for that date an error opens. Please select another date.

To summarize data

1. In Management Console, click **Maintenance**.
2. Click **Summarize data**.
3. Follow the steps in the Summarize Data Wizard to summarize the data.

Support

Using the Support menu, you can

- Create an Enterprise Server support package
- Create a client support package
- View contact information

Creating an Enterprise Server support package

You can package your Enterprise Server telephone system records and YourSite configuration data to send to prairieFyre for troubleshooting issues using the Support Package Wizard. The Support package formats your data in a way that helps to resolve any problems.

To create an Enterprise Server support package

1. In Management Console, click **Support**.
2. Click **Create support package**.
3. Follow the steps in the Support Package Wizard to package your telephone system records and YourSite configuration data.
4. Click **Finish**.

Creating a client support package

You can package your client configuration data to send to prairieFyre for troubleshooting issues using the Client Support Package Wizard. The Client Support Package Wizard formats your data in a way that helps to resolve any problems.

To create a client support package

1. Browse to **http://www.prairiefyre.com/wp-content/rscs/cspwizard**.
2. Click **Install**.
3. Click **Install**.
   The Client Support Package Wizard opens.
4. Follow the steps in the Client Support Package Wizard to package your client configuration data.
5. Click **Finish**.

Viewing contact information

Should you need to contact prairieFyre Software for support, contact information is provided in Management Console.

To view contact information

1. In Management Console, click **Support**.
2. Click **View contact information**.

System

Using the System menu, you can

- Control services
- Convert data files

Controlling services

Services Manager controls all Contact Center Management services and mandatory system services. These include the prairieFyre Collector Service (v5), DataService, prairieFyre .NET Enterprise Server, MTCEService, prairieFyre Report Writer (v5), prairieFyre Reporting Service, prairieFyre SQLWriter, AuditorServer, ForecastingServer, WallboardServer, CCSServer, MitaiProxy, MCCExchangeObjects, MCCExchangeSetup, and IIS Admin.

To control services

1. In Management Console, click **System**.
2. Click **Services Manager**.
3. Select the service you want to control.
4. Right-click the service.
   The right-click menu opens. This enables you to control the service the following ways:
   - Start
   - Stop
   - Pause
   - Resume
   - Restart
   - Refresh
   - Restart All Running Services
5. Select the action you want to perform.

Converting data files

The Data file conversion tool enables you to convert Toolbox data files to prairieFyre data files. This enables you to restore all historical data from competitor products when changing your contact center solution to Contact Center Solutions.

To convert data files

1. In Management Console, click **System**.
2. Click **Data file conversion tool**.
   The Data file conversion tool opens.
3. Select a media server from the list.
4. Click **Browse** and specify the location of the data files to be converted.
   NOTE: The path must be accessible from the server. We recommend you use a Universal Naming Convention (UNC) share.
5. Click **Next**.
   The data file conversion will then process.
6. Click **Finish** to complete the data file conversion.

Converting Callview and Contact Center Suite data

If you were previously using an Inter-Tel telephone system with Contact Center Suite/Callview and Toolbox software, you can convert historic data to Contact Center Solutions format and create a historical media server so you can retain data for reporting purposes.

Historical media servers enable

- Historical reporting for queues, agents, and extensions
- Forecasting
- ACD and SMDR Inspector functionality
- Auditor functionality

Inter-Tel summary-based options, such as service level and spectrum values, can be modified in YourSite Explorer. Summarize is performed on an on-demand basis from Management Console in Contact Center Client. Historical media servers have no real-time functionality. All devices associated with historical media servers are historical by default and can not be edited or used to collect any new data.

NOTE:

- In order to convert Callview or Contact Center Suite data to Contact Center Solutions and Call Accounting format, the Callview and Contact Center Suite database must be Version 3.x or 4.x.
- The conversion tool requires the following files: System.mdw, config.mdb, and one or any combination of the following: Ha<MMYYYY>.mdb, Hc<MMYYYY>.mdb, Haday.mdb, Hcday.mdb, Hamonth.mdb, Hcmonth.mdb. For version 4.11 or earlier, select cvgwcfg.mdb instead of config.mdb.

To convert Callview and Contact Center Suite data

1. In Windows, open the **Inter-Tel Import Tool**.
2. After **Access Databases**, click **Browse**.
3. Browse to the location of the files to convert.
   The conversion tool requires the following files: System.mdw, config.mdb, and one or any combination of the following: Ha<MMYYYY>.mdb, Hc<MMYYYY>.mdb, Haday.mdb, Hcday.mdb, Hamonth.mdb, Hcmonth.mdb. For version 4.11 or earlier, select cvgwcfg.mdb instead of config.mdb.
4. Click **OK**.
5. After **Start Date**, select the start date of the data to import.
6. After **End Date**, select the end date of the data to import.
7. If you are upgrading from a 5000/Axxess telephone system to a 3300 ICP or SX-200 telephone system, but want to retain historic Inter-Tel data for reporting purposes, click **Create historic media server**. Otherwise, continue to step 9.
   The Inter-Tel Database Migration Tool will import the telephone system configuration information, such as agents, extensions, and trunks, and associate it to the 5000/Axxess media server. It will also convert all historic telephone system records to ACD and SMDR files.
8. If you are upgrading to Contact Center Solutions or Call Accounting and continuing to use your 5000/Axxess telephone system, after **Target to Import**, select the Inter-Tel 5000/Axxess media to associate the converted data with. Otherwise, continue to step 10.
   NOTE: If you are upgrading to Contact Center Solutions or Call Accounting and continuing to use your 5000/Axxess telephone system, you must run Synchronization before running the Inter-Tel Database Migration Tool. See "Configuring the YourSite database using synchronization" on page 101.
   The Inter-Tel Database Migration Tool will not import configuration data because synchronization provides a more accurate configuration. However, telephone system records will be converted telephone system records to ACD/SMDR.

9. If you have remote 5000/Axxess telephone systems and use a CT Gateway, select **Synchronized system uses CT Gateway**.
   NOTE: Before you run the Inter-Tel Database Migration Tool, you must have created an Inter-Tel media server for each of the telephone systems connected to the CT Gateway, selected **This media server belongs to a CT Gateway** and provided the Gateway ID in YourSite Explorer. See "Adding 5000/Axxess media servers" on page 87.
10. If you want to summarize the data immediately after the conversion, select **Summarize upon completion**.
11. Click **Import**.

Chapter 6

Configuration

YourSite database application areas
YourSite Explorer
Enterprise setup
Adding media servers
Network Monitor alarms
YourSite database configuration
Configuring employee scheduling preferences
Configuring scheduling options
Business hour schedules
Monitoring and alarming subsystem
Security roles
Configuring work timer
Validating YourSite Explorer configuration

Configuration

You configure Contact Center Management in the following order.

1. In YourSite Explorer, under YourSite, set up your Enterprise structure by specifying Enterprise settings, adding sites, and adding media servers to the sites.
   See "Configuring enterprise settings" on page 71, "Adding sites" on page 72, and "Adding media servers" on page 74.
2. In Contact Center Client, in Network Monitor, specify the days and times that media server data alarms will be activated.
   See "Configuring media server alarms" on page 95.
3. In YourSite Explorer, under YourSite, configure the YourSite database to mirror the information on your telephone system. Add devices in the following order:
   - Add employees
   - Add one or more agent login IDs for each employee
   - Add agent groups
   - Associate the agent login IDs with agent groups
   - Add queues
   - Associate the agent groups with the queues for which they answer calls

   If you intend to run reports on employee groups, queue groups, teams, extensions, extension groups, trunks, trunk groups, DNIS numbers, Account Codes, ANI, Make Busy and Do Not Disturb Reason Codes, phone numbers, or Intelligent Queue devices, you must add these devices and device groups as well.
   See Figure 6 - 1.
4. In YourSite Explorer, under YourSite=>Schedules, create schedules that specify the business hours of your operation that will be used for media servers, queues, Network Monitor alarms, WallBoarder sign plans, and Interactive Contact Center Queue control.
   See "Creating schedules" on page 169.
5. On the Contact Center Management website, under YourSite=>Security, restrict user access to specific areas of the Contact Center Management website.
   See "Security roles" on page 177.

Figure 6 - 1 Contact Center Management YourSite database configuration flowchart

For the most part, configuration is done using YourSite Explorer, however, there are a few exceptions where configuration is done in the Contact Center Management website. See Table 6 - 1 for a list of where components are configured.

YourSite Explorer simplifies data management by enabling you to configure and administer devices for Contact Center Solutions and Call Accounting in one application.

YourSite Explorer streamlines configuration. For example, you can

- Select multiple devices and change their attributes in one step.
- View group membership information on the same window as the devices are listed.
- View multiple windows of devices simultaneously and tab between them.
- Edit in line in an extended grid.

If you have a 3300 ICP, 5000, or Axxess, you configure media servers, Network Monitor alarms, devices, and business hour schedules and perform Synchronization in YourSite Explorer.

NOTE: If you make configuration changes for the 3300 ICP, 5000, and Axxess using the Contact Center Management website, your updates will not write back to the telephone system during Synchronization or nightly maintenance.

If you have an SX-200, you must configure media servers, Network Monitor alarms, devices, and business hour schedules in the Contact Center Management website.

You add Multimedia Contact Center Email, Webchat, and Fax media servers to your site in YourSite Explorer.

Intelligent Queue media servers are added to your site in the Contact Center Management website.

The following table outlines what is configured in YourSite Explorer, the Contact Center Management website, or both. (See Table 6 - 1.)

Table 6 - 1 Configuration outline

Item	Contact Center Management website	YourSite Explorer
Enterprise Settings	x	x
Sites	x	x
Security	x	
Adding 3300 ICP media servers		x
Adding SX-200 media servers	x	
Adding 5000 / Axxess media servers		x
Adding Multimedia Contact Center Email, WebChat, and Fax media servers		x
Adding Intelligent Queue media servers	x	
Call recording		x
Network Monitor alarms	x	x
Business hour schedules	x	x
Agents, agent groups, and queues that you will synchronize with/write back to the telephone system		x
Editing telephone system assignment forms (System Options, SMDR Options, Class of Service, and Class of Restriction)		x
Quick Setup device configuration (employees, agents, extensions, trunks, trunk groups, DNIS, account codes, make busy reason codes, teams, and device groups) **NOTE:**To achieve optimal results, use YourSite Explorer exclusively for Quick Setup of devices.	x	x
Quick Setup device configuration (extension divisions and account code groups)		x
Quick Setup device configuration (queues)	x	
.csv file import device configuration		x
Manual device configuration (ANI and Intelligent Queue devices)	x	

Item	Contact Center Management website	YourSite Explorer
Manual device configuration (account code groups, do not disturb reason codes, extension divisions, phone numbers, and phone number groups)		x
Manual device configuration (account codes, agents, agent groups, DNIS, DNIS groups, employees, employee groups, extensions, extension groups, make busy reason codes, queues, queue groups, teams, trunks, trunk groups, and employee divisions) **NOTE:** To achieve optimal results, in accordance with the Contact Center Solutions Version 6.0.1 Simplified Licensing model, use YourSite Explorer exclusively to configure devices.	x	x
Call Classification codes		x
Contact Center Work Timer		x
Queue Spectrum settings	x	x
Interactive Contact Center queue control	x	
Multimedia Contact Center queue configuration	x	
Workforce Scheduling employees and schedule attributes		x
Call Accounting extensions, trunks, and phone numbers		x
Call Accounting location information		x
Call Accounting Subscriber Services and Traffic Analysis components		x

YourSite database application areas

The YourSite database includes five application areas, You must set them up in the following order:

- **Enterprise**
  Enterprise settings and sites are configured in YourSite Explorer. You also configure 3300 ICP media servers, 5000 and Axxess media servers, and Multimedia Contact Center media servers in YourSite Explorer. You must browse to the Contact Center Management website to add SX-200 and Intelligent Queue media servers.
  See "Enterprise setup" on page 69.
- **Network Monitor**
  Depending on your telephone system, you browse to YourSite Explorer or the Contact Center Management website and specify the days and times during which media server alarms are active. For SX-200 and Intelligent Queue media servers you must configure media server alarms in YourSite=>Network Monitor. For 3300 ICP, 5000 and Axxess media servers, and Multimedia Contact Center media servers, you configure media server alarms in YourSite Explorer=>Node alarms.
  See "Network Monitor alarms" on page 94.
- **Configuration**
  You must browse to the Contact Center Management website and use YourSite=>Configuration to set up the YourSite database to mirror the information on the SX-200 telephone system. You set up the YourSite database to mirror the information on the 3300 ICP and the 5000 and Axxess telephone systems in YourSite Explorer.
  See "YourSite database configuration" on page 96.
- **Schedule**
  For the SX-200 you must browse to the Contact Center Management website under YourSite=>Schedule to create schedules that reflect the business hours of your operation. You create schedules for the 3300 ICP and the 5000 and Axxess in YourSite Explorer. You can apply the schedules to media servers, queues, Network Monitors, wall signs, and Interactive Contact Center queue control.
  See "Business hour schedules" on page 169.
- **Security**
  You must browse to the Contact Center Management website and use YourSite=>Security to restrict user access to specific areas of the Contact Center Management website.
  See "Security roles" on page 177.

YourSite Explorer

YourSite Explorer streamlines configuration.

NOTE:

- YourSite Explorer enables you to have multiple device tabs open simultaneously. As a best practice, we recommend you only have the device tabs open that you are currently using.
- We recommend you avoid modifying large data sets from within YourSite Explorer as performance levels will be negatively affected. As a best practice, all large dataset modifications should be made on the telephone switch directly and synchronized back to Contact Center Management. If you prefer to perform modifications inside YourSite Explorer, we recommend you partition the changes into smaller chunks of data.

For detailed information regarding which devices are configured in YourSite Explorer see "Configuration" on page 52.

Starting YourSite Explorer

To start YourSite Explorer

1. Open **YourSite Explorer**.
2. If prompted, type your username and password and verify the Enterprise Server IP address.
3. Click **Log on**.

YourSite Explorer Start Page

The YourSite Explorer Start Page is a startup resource that provides links to both information resources for getting started as well as system information for Contact Center Solutions. By default, if enabled, the Start Page opens automatically with each new session of YourSite Explorer.

The Start Page has two tabs: Getting Started and System Information.

- **Getting Started**—provides configuration overviews for Contact Center Solutions and includes the following tabs:
  - **Welcome**—details the contents of both the Getting Started tab and the System Information tab
  - **Contact Center Management**—overview of Contact Center Management YourSite Explorer configuration
  - **Call Accounting**—overview of Call Accounting YourSite Explorer configuration
  - **Workforce Scheduling**—overview of Workforce Scheduling YourSite Explorer configuration for employees and schedules
    NOTE: You must be licensed for Workforce Scheduling to view this tab.
  - **Visual Workflow Manager**—overview of IVR Routing configuration
    NOTE: You must be licensed for IVR Routing to view this tab.
- **System Information**—provides documentation as well as system and license information and includes the following tabs:
  - **Documentation**—provides links to Contact Center Solutions and Call Accounting documentation
  - **About**—provides system information, custom reports, and contact information for prairieFyre
  - **Alarms**—provides information on currently active Contact Center Management alarms, with links to corresponding prairieFyre Knowledge Base articles

Configuring the YourSite Explorer Start Page

You can configure whether or not the Start Page opens automatically when you start YourSite Explorer. You can also configure whether or not the Start Page automatically loads in View tab of YourSite Explorer.

To prevent the Start Page from opening automatically

1. Start YourSite Explorer.
2. On the Start Page, clear the **Show page on startup** checkbox.
   The Start Page will no longer automatically open on startup.

To configure whether the Start Page opens in the View tab

1. In YourSite Explorer, in the ribbon, click the **View** tab in the menu of YourSite Explorer.
2. If you want to prevent the Start Page from loading automatically on startup, clear the **Show start page** checkbox.
   If you want to enable the Start Page to load automatically on startup, select the **Show start page checkbox**.

Searching

When you perform searches in YourSite Explorer, you can filter on specific criteria to narrow the search. YourSite Explorer searches on criteria you type into the Search box. The search result will consist of all instances of the search item. For example, if you ran a search for *ext*, your search result could contain: extension, text, and next time.

After you perform an initial search, you can type additional criteria in the box to narrow the search. If no words or numbers match your search request, the resultant list will be blank.

YourSite Explorer searches on the following variables:

- Employees, employee groups—first and last name
- Extensions, extension groups—reporting number
- Trunks, trunk groups, DNIS, DNIS groups, Account Codes, divisions—name and reporting number
- Phone numbers, phone number groups—search on information found in all columns except Created by, Created date, Last modified by, or Last modified.

To search for a specific word or number

- In the **Search** box, type a word or number surrounded by quotation marks.
  For example, to search for an extension named Extension1, type "Extension1."
  A list of devices that match the search criteria displays.

Paging

Paging enables you to specify the number of items to be included per page. You can reduce the page size to increase the application speed. By default, the page size allows for 100 items. When changing the page size, you must close and re-open the device window.

To change the number of items viewed per page

1. In YourSite Explorer, click **YourSite.**
2. On the ribbon, click the **View** tab.
3. After **Page size**, select the number of items to be viewed per page.
4. Click **Save**.

Filtering

The filtering bar enables you to access records alphabetically.

YourSite Explorer filters records on the following variables:

- Employee—last name
- Phone number—country name
- Employee group, extension, extension group, trunk, trunk group, DNIS, DNIS group, Account Code, division, and phone number group—name.

To filter records alphabetically

- On the filter bar, click the letter with which the record begins.

To filter numerically

- On the filter bar, click # to view records that start with numbers 0 through 9.

To reset filtering

- On the filter bar, click All to view all records.

You can filter and then search within the filtered records. For example, click *F* to filter for all records that start with the letter *F*. Then type *th* to search within that list for any record with *th*.

Customizing the user interface

You can customize the user interface by minimizing aspects of it, changing the order of the columns, changing column options, and adjusting the page size. This customization is referred to as a profile. Your profile is associated with the username you use to access YourSite Explorer. Each time you close YourSite Explorer, your profile is automatically saved. When you reopen YourSite Explorer using the same username, the user interface displays your profile.

Minimizing aspects of the user interface

To add space to the user interface so you can view additional rows of data, you can minimize the

- **Filter bar**
  The filter bar is the bar on which the alphabet is displayed.
- **Page bar**
  The page bar is located above the filter bar. The page number is displayed on the left side of the page bar.
- **Ribbon**
  The ribbon is located at the top of the user interface. The ribbon includes Home, View, and Configuration tabs, and enables you to add devices and change the view (horizontal, vertical, or data grid). Ribbon attributes change depending on the area you are viewing.

To hide the filter bar

1. On the ribbon, click the **View** tab.
2. Click **Save.**
3. In YourSite Explorer, click **YourSite**.
4. Clear the **Show filter bar** check box.

To hide the page bar

1. On the ribbon, click the **View** tab.
2. Click **Log on.**
3. In YourSite Explorer, click **YourSite**.
4. Clear the **Show paging bar check box.**

To minimize the ribbon

1. In YourSite Explorer, under **Enterprise**, click **Media servers.**
2. Click **Minimize the Ribbon.**
   The ribbon at the top of YourSite Explorer is hidden.

Selecting the first record of each list

You can save time by configuring YourSite Explorer to automatically select the first record on a page.

To select the first record of each list

1. On the ribbon, click the **View** tab.
2. In YourSite Explorer, click **YourSite**.
3. Select the **Select the first record** check box.

Changing the order of the columns

You can reorder columns in either of two ways. You can drag a column heading to a different position on the table, or you can change column order using Column options. See "Changing column options" on page 68.

To drag column headings

1. With the device window open, select the column heading to be moved.
2. Drag it to a different position on the table.

Changing column options

You can adjust the width and order of columns, and hide or show columns in device windows.

To adjust column width

1. Drag the column to the left or right to adjust its width.
2. Click **OK**.

To hide a column

1. Right-click a column heading.
   The Column options window opens.
2. Select **Column options**.
3. Select the column heading to be hidden.
4. Click **<<**.
5. Click **OK**.

To change the order of columns

1. Right-click a column heading.
   The Column options window opens.
2. Select **Column options**.
3. Select the column heading to be moved.
4. Use the arrows to change the order of the column headings.
   The top column displays first in the device window.
5. Click **OK**.

Grouping device criteria by column headers

You can group devices by column heading in the grid view. For example, if you click the Site column heading on the Employees window, you can group employees by site. Grouping enables you to quickly select like devices and make changes to them simultaneously. For example, if you click the Media server column heading on the Extensions window (to group the extensions by media server), you can then readily select the extensions associated with a particular media server and change their attributes, such as licensing or failover media server. See "Making multiple changes" on page 69.

To group device criteria by column headers

1. Open the device with the criteria to be grouped.
2. Click **Group by**.
3. Select the method of grouping.

Making multiple changes

In one action, you can edit common information across multiple devices of the same type. If, for example, you recently set up your system to be resilient, you must configure your employees as resilient. You assign resiliency to multiple employees by selecting multiple employees and then selecting the This employee is resilient check box.

You can change information that is common across multiple devices only. For example, you cannot change Name and Reporting number across multiple employees because they are specific to each device item.

You can make multiple changes to

- Employees
- Trunk groups
- DNIS

Changing the YourSite Explorer view

You can select from three window orientations or views: horizontal, vertical, and data grid. The horizontal view displays information in a horizontal layout. The vertical view displays information in a vertical layout.

The data grid view contains a table in which you can readily edit device attributes. Pressing the Tab key enables you to move from column to column. When viewing a device group in grid view, you can associate members within the same window.

When you close YourSite Explorer and then restart it, YourSite displays the view and device windows that were open the last time you used YourSite Explorer.

To select a particular view

1. In YourSite Explorer, on the ribbon, click the **View** tab.
2. Click **YourSite**.
3. Select **Horizontal**, **Vertical**, or **Data grid**.

Enterprise setup

For all telephone system types, you set up your site structure in YourSite Explorer.

To set up your enterprise structure

1. Specify enterprise settings.
2. Add a site.
3. Add media servers to the site.
   See "Adding media servers" on page 74.

You must understand the following terms to set up your enterprise structure.

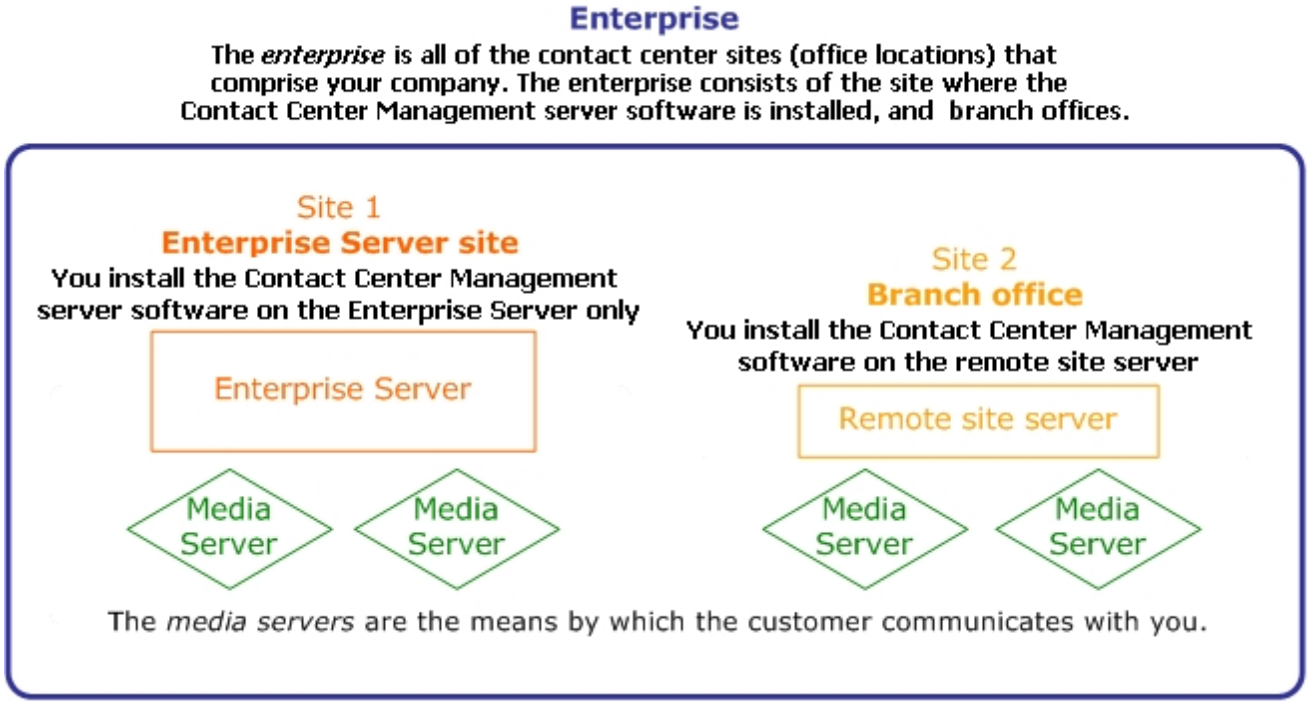
- **Enterprise**
  The *enterprise* is all of the sites that comprise your company.
  See Figure 6 - 2.
- **Site**
  A *site* is an office location with one or more media servers. It can be the office where the Enterprise Server is installed or a branch office.

- **Media server**
  The *media servers* are the means by which customers communicate with you. For example, if customers contact you by telephone only, and you have an Axxess telephone system, then you would configure an Axxess media server.

For example, you have a business called ABC Company. You have two offices. One office is in Salt Lake City and your head office is in Los Angeles. The Salt Lake City site has Contact Center Management software installed on the Enterprise Server. Both sites have the Axxess telephone system and the Exchange Server installed. Your customers contact you at either site by telephone or email.

When setting up your enterprise site structure, you install Contact Center Management on the Enterprise Server. You define the site with the Enterprise Server (Salt Lake City). You add the Los Angeles site to the enterprise. Finally, you program two media servers at each site: Axxess (for calls) and Exchange (for emails).

Figure 6 - 2 Enterprise structure



Starting Contact Center Management

To start Contact Center Management on the Enterprise Server or on a client computer

1. Start Internet Explorer in your browser and type your Enterprise Server IP address **http://[your Enterprise Server IP address]/CCMweb/**.
2. Click **Favorites=>Add to Favorites** to add the Enterprise Server IP address to your list of favorite addresses.
3. Click **OK**.
4. Click **Favorites**, locate the Contact Center Management entry (at the bottom of the list) and drag it to the top of the list.
5. Optionally click **Make Home Page** to set the Enterprise Server IP address as your home page.
6. If prompted, type your username and password and click **Submit**.

Configuring enterprise settings

When programming the enterprise, you configure Enterprise server general settings, some maintenance services, email alarms, and screen pop. The Enterprise Server is the computer on which Contact Center Management is installed.

Configuring the Enterprise Server settings

To configure the Enterprise Server settings

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Under **General settings**, after **IP address**, verify the IP address of the Enterprise Server.
3. If the IP address is incorrect, after **IP address**, type the IP address of the Enterprise Server.
   NOTE: If you want to change the Enterprise IP address, use the Contact Center Client Update Server IP Wizard. See "Updating server IP addresses" on page 52.
4. After **Real-time port**, type the real-time port number.
   The default real-time port is 5024.
   The real-time port is used to communicate real-time events.
5. After **Auditor port**, type the Auditor port number.
   The default Auditor port is 5025.
   The auditor port is used to run Auditor events.
6. After **MiTAI proxy server port**, type the MiTAI proxy server port number.
   The default MiTAI proxy server port is 5026.
7. If you want Lifecycle reports, select the **Enable LifeCycle reports** check box.
8. If you use Secure Socket Layer, select the **This server uses Secure Socket Layer (SSL)** check box.
9. Under **System Messages**, if you want to be notified when your warranty is about to expire, select the **Display warranty warning and expiration message** check box.
10. Under **Updater settings**, if you want client applications to be automatically updated, select the **Auto update client applications** check box.
11. Click **Save**.
12. Specify enterprise maintenance functions.
    See "Configuring enterprise maintenance functions" on page 71.

Configuring enterprise maintenance functions

To configure enterprise maintenance functions

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Click the **Maintenance** tab.
3. After **Zip files older than**, select the number of days after which you want to zip data files.
4. After **Purge reports older than**, select the age after which reports will be discarded.
5. After **Delete maintenance logs older than**, select the age after which maintenance logs will be discarded.
6. After **Delete configuration backup files older than**, select the age after which configuration backup files will be discarded.
7. After **Time Maintenance Service runs**, select the time the maintenance service summarizes data.
   The maintenance service is set to run at 2:15 A.M. by default. Select a time for the maintenance manager to run when your contact center is closed or is the least busy.
8. After **Purge Life cycle reports older than**, select the age after which Life cycle reports will be discarded.
9. Click **Save**.
10. Configure email alarms.
    See "Configuring email alarms" on page 72.

Configuring email alarms

You configure email alarms so you are notified by email about Enterprise server and real-time performance issues.

To configure email alarms

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Click the **Email alarms** tab.
3. After **SMTP Mail Server address**, select the IP address of the SMTP Mail Server.
4. After **Email notification interval minutes**, select the duration (in minutes) after which you will be notified when an alarm occurs.
5. If you want the system to send an email notification when an alarm occurs, select the **Enable email alarms** check box.
6. After **Send Enterprise Server alarms to the following address(es)**, type the email address of the employee(s) who will receive the email notification.
7. Click **Save**.

Adding sites

Your site structure determines how you view statistics and reports. When you set up your site structure, you specify site and media server information. When you add a site, you add the name of the site and the time zone. By making each site distinct, you can restrict user access to sites. See "Security roles" on page 177.

To add a site

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Click **Add**.
3. After **Site name**, type the name of the site.
   You can add a number to the name of the site to indicate the number of sites in this location.
4. After **Time zone**, select the time zone for the site.
5. After **Site language setting**, select your preferred language for your Contact Center Management website.
   NOTE: The language setting you specify here becomes the default language for all of the client computers. However, you can customize this setting for individual employees in the Contact Center Management website, under My Options=>My preferences.
6. After **Chat settings**, select the **Chat enabled** check box to enable Contact Center Chat.
   NOTE: Contact Center Chat is enabled by default.
7. If you want to use Lync Client as your default instant messaging client and view enhanced presence on real-time monitors, select the **Enable enterprise presence and chat integration** check box.
   NOTE: Employees who are associated to sites where the above option is not enabled will not be able to communicate using Contact Center Client.
8. Click **Save**.
9. If required, configure smart algorithms.
   See "Configuring smart algorithms for sites" on page 73.

Configuring the SMTP Server

To configure an SMTP server

1. In YourSite Explorer, click **SMTP servers**.
2. Click **Add**.
3. After **SMTP Server**, type the IP address or name of the mail server (for example, PFEXCHANGE).
4. After **SMTP Port**, type the port number of the SMTP mail server.
   NOTE: The default value of this port is 25.
5. If the Mail server uses Secure Sockets Layer, select the **Use SSL** check box.
6. Under **Logon Information**, select the **Is SMTP Authentication Required** check box if the email server requires authentication and type the **Username**, **Password**, and **Domain** .
7. Under **User Information**, type the name and email address from which all Contact Center Management reports will be mailed.
   NOTE: The email address field is mandatory as some email servers will not relay mail messages without a valid sender.
8. To send a test email, click the **Test Email** button.
9. Click **Save**.

Configuring smart algorithms for sites

NOTE: If your site uses smart algorithms, agents can handle only one contact at a time.

If your site handles email, SMS, fax, and chat requests in addition to voice requests, you can use smart algorithms to prioritize the incoming requests. When you select smart algorithms, Contact Center Management routes the different media requests to multi-media agents in the order you specify on the Smart algorithms tab.

To configure smart algorithms

1. In Contact Center Management, click **YourSite=>Enterprise**.
2. Select a site for which you will configure smart algorithms.
3. Click the **Smart algorithms** tab.
4. Select the **This site uses smart algorithms** check box.
5. Select media types in the order you want them offered to agents.
6. Click **Save**.
7. If you use a SMTP server, configure the SMTP server.
   See "Configuring the SMTP Server" on page 73.

Adding media servers

NOTE: Mixing Mitel 5000/Axxess (formerly Inter-Tel 5000/Axxess) and 3300/SX-200 media servers in the same enterprise is supported by Contact Center Solutions and Call Accounting applications.

You add 3300 ICP, 5000, and Axxess media servers to your site in YourSite Explorer.

You add Multimedia Contact Center Email, Webchat, and Fax media servers to your site in YourSite Explorer.

You must add SX-200 and Intelligent Queue media servers to your site in the Contact Center Management website.

To distinguish between the various types of media for management and reporting purposes, you must make each media server distinct when you set up your site.

NOTE:

- Although the Mitel SX-200 17 (Release 4 or greater) platform works with Contact Center Management and Call Accounting, the SX-200 ML/EL has been manufacture discontinued and is no longer supported by Mitel or prairieFyre Software. Any issues or limitations arising from the use of the SX-200 telephone system will not be supported with software fixes or customization. Instead, upgrading to the SX-200 ICP or another supported platform will be required. Contact your Mitel Channel Partner for information on the “SX-200 ML/EL trade up” program.
- Introduced in Contact Center Solutions Version 6.0 and continued into Version 6.0.2 the SX-2000 telephone system is no longer supported.

You can click Help=>About Your Mitel Applications to verify the types of media servers and the number of employees for which you are licensed.

Contact Center Management works with the following media server types:

3300 IP Communications Platform (ICP)

The 3300 ICP ACD system streams SMDR and ACD real-time data over TCP/IP.
See "Adding 3300 ICP media servers" on page 75.

SX-200 ACD (for 17 Release 4.0 and greater with real-time option enabled)

The SX-200 post 17 Release 4.0 (SX-200 ACD) system has both SMDR and ACD real-time data streams delivered over RS-232.
See "Adding SX-200 ACD media servers" on page 85.

Mitel 5000/Axxess

The Mitel 5000 and Axxess telephone systems stream ACD and OAI data over TCP/IP. In addition, the MiTAI remote telephone system software is installed locally on the Enterprise Server and communicates over TCP/IP with the telephone systems.
See "Adding 5000/Axxess media servers" on page 87.

SX-200 Call Accounting

The SX-200 system has SMDR records delivered over a single data connection, RS-232, or TCP/IP.
See the Mitel *Call Accounting User Guide*.

Multimedia Contact Center Email

The Multimedia Contact Center Email routing engine leverages Microsoft® Exchange Server 2003/2007 to dynamically allocate emails to agents on their Microsoft® Outlook 2003 desktops. The Exchange Server 2003/2007 dedicated to Multimedia Contact Center Server must talk to your corporate mail server.
See "Adding a Multimedia Contact Center Email media server" on page 89.

Multimedia Contact Center WebChat

The Multimedia Contact Center WebChat routing engine dynamically allocates live chat sessions from customers over the Web to agents on their Microsoft® Outlook 2003/2007 desktops. The WebChat routing engine uses Microsoft® Exchange Server 2003/2007, and a chat component that resides on your Web server.
See "Adding Multimedia Contact Center WebChat media servers" on page 91.

Multimedia Contact Center Fax

The corporate fax server converts customer faxes to electronic format. Then the Multimedia Contact Center Fax routing engine dynamically allocates faxes from customers to agents on their Microsoft® Outlook desktops.
See "Adding Multimedia Contact Center Fax media servers" on page 92.

Intelligent Queue

Intelligent Queue is an “all-in-one” announcement package for contact centers. Intelligent Queue uses the Enterprise Server for real-time statistics (required for the Intelligent Queue Talk option) and for historical reporting of Intelligent Queue caller activity (Call Detail reporting option).
See "Adding Intelligent Queue media servers" on page 93.

Adding 3300 ICP media servers

You add 3300 ICP media servers in YourSite Explorer.

You must first add the 3300 ICP media server and then configure its location settings, telephone system settings, data summary options, Network Monitor settings, data collection settings, MiTAI options and, optionally, write-back functionality and call recording.

NOTE:

- As a best practice, we recommend you perform Full Synchronization after adding and configuring a media server in YourSite Explorer and before configuring telephone system settings for the media server. For more information on synchronization, see "Configuring the YourSite database using synchronization" on page 101. For information on performing synchronization, see "Performing synchronization" on page 104.
- If you are adding media servers as part of a new installation, we recommend you perform synchronization after all media servers have been added. For more information, see the *Contact Center Management Installation Guide*.

To add a 3300 ICP media server

1. In YourSite Explorer, click **YourSite=>Media servers**.
2. Click **Add=>3300 ICP**.
3. After **Name**, type the name of the media server.
   NOTE:
   - To distinguish between the various types of media for management and reporting purposes, you must name each media server distinctly when setting up your site.
   - The Media server ID field will be populated with a unique number after the media server has been saved.

4. After **Site**, select the site where the media server resides.
5. After **Computer name**, select the computer where the server resides.
6. After **Media server type**, select the type of media server.
   NOTE: The typical media server type is 'Enterprise Node'. If you select 'Queueing gateway', no agent data will be filed to SQL. If you select 'Agent/extension gateway', no queue data will be filed to SQL. When a media server is configured as an 'Agent/extension gateway', no queues are loaded and, as a result, no call activity is displayed in the Interactive Visual Queue real-time monitor.
7. If you have hot desking agents, select the **Uses hot desking agents** check box.
   NOTE: If this is selected, all created agents will be hot desking agents. You cannot mix hot desking and standard agents.
8. To be informed of media server alarms, select the **Enabled for alarms** check box.
   NOTE: Selecting this check box will inform you of media server alarms via RSS and email. For more information, see "Monitoring and alarming subsystem" on page 171.
9. Select **Licensed for Call Accounting** if you are applying for a Call Accounting license.
   NOTE: This check box is selected by default when you add a 3300 ICP media server and have remaining Call Accounting media server licenses. If you are licensed for Contact Center Management and Call Accounting, you must select "Licensed for Call Accounting" to have access to Call Accounting. If you are not licensed for a product, you will not be able to select the check box for that product.
10. If you want to designate the media server for historical reporting use only, click **Make Historical**.
    Making a media server historical terminates all active licenses for devices associated with that media server. Historical data is retained on the media server but no new data is collected.
11. After **IP/DNS address**, specify the IP/DNS address of the media server.
12. After **Username**, type the username used to connect to the telephone system.
13. After **Password**, type the password used to connect to the telephone system.
14. After **Confirm password**, type the password used to connect to the telephone system.
15. Click the **Test Connection** button to test the connection between the media server and the Enterprise Server.
    This connection is required to ensure Synchronization functionality.
16. If this media server is part of a Mitel cluster, under **Cluster setting**, select the **This media server is part of a Mitel cluster** check box.
17. If this media server is part of a Mitel cluster, after **Cluster ID**, type the cluster ID.
    The cluster ID can be found on the telephone system.
18. If this media server is part of a Mitel cluster, after **Cluster ID Digits**, type the digits used to identify the cluster.
19. If this media server is part of a Mitel cluster, after **Cluster name**, select the cluster name.
    NOTE: After synchronization, Cluster settings will automatically align with the telephone system settings and these fields will auto-populate.
20. Click **Save**.
21. Configure the location settings.
    See "Configuring location settings for 3300 ICP media servers" on page 76.

Configuring location settings for 3300 ICP media servers

To configure location settings for a 3300 ICP media server

1. Click the **Location** tab.
2. After **Country**, click the **...** button and select the country where the media server is located.
3. After **Area**, click the **...** button and select the appropriate area code for the media server's location.

4. After **Minimum digits to dial locally**, specify the minimum number of digits dialed for a local call in the city in which the media server is located.
5. After **Maximum digits to dial locally**, specify the maximum number of digits dialed for a local call in the city in which the media server is located.
6. After **Outbound dialing prefix**, specify the number dialed to access an outside line.
7. Configure the data summary options for the 3300 ICP.
   See "Configuring data summary options for 3300 ICP media servers" on page 77.

Configuring data summary options for 3300 ICP media servers

To configure data summary options for a 3300 ICP media server

1. Click the **Data summary options** tab.
2. If you want to use Trace reporting, select the **Inbound/Outbound/Make Busy Trace reporting** check box.
3. If your business operates around the clock, select the **This enterprise operates 24 hours a day** check box.
   NOTE: If you do not select the "This enterprise operates 24 hours a day" check box, but have agents logged in to Contact Center Solutions applications overnight, you may experience difficulties with shift-related statistics, such as agent shift monitor and Make Busy Reason codes. For example, if logged in to Contact Center Client overnight with a Make Busy Reason code, when you change the Make Busy Reason code the following day, Contact Center Client will display “Unknown Make Busy code.” This can be remedied by logging out of the application and logging back in.
4. To track outbound calls that were not answered, select the **Credit unanswered outbound calls** check box.
5. If you want to display when calls ring at agents’ extensions, select the **Monitor Agent Ringing state** check box.
6. After **Digits dialed prefix**, type the digits that must precede a telephone number to make an outbound call.
7. After **Digits dialed postfix**, type the digits that must follow a telephone number to make an outbound call.
8. After **Maximum MiTAI monitors**, specify the maximum number of MiTAI monitors.
9. Under **Agent state timeout audit**, after **Clear line if agent Hold Time exceeds**, specify the number of minutes or hours you are in a hold state before the telephone system clears the line.
10. After **Clear line if agent primary Talk Time exceeds**, select the number of minutes or hours an agent can be in a single state on the primary line (ACD line) before the system clears that line.
11. After **Clear line if agent secondary Talk Time exceeds**, specify the number of minutes or hours an agent can be in a single state on the secondary line (non ACD) before the system clears that line.
12. If you do not want to report on the secondary line (non-ACD and outbound calls), select the **Ignore agent secondary line activity** check box.
13. After **Change the agent state from Ringing to Idle after**, specify the number of minutes or hours after which you want the agent state to change from Ringing to Idle.
14. Select the **Reset MKB/DND time in realtime after call ends** check box to enable the MKB/DND time to reset in real time when the call concludes.
15. Under **ACD Options**, to store ACD redundant events, select the **File all ACD stream redundant events** check box.
16. If you do not consider ACD real-time sequence errors as record errors, select the **Ignore ACD real-time sequence errors as record errors** check box.
17. Configure Network Monitor settings.
    See "Configuring Network Monitor settings for 3300 ICP media servers" on page 78.

Configuring Network Monitor settings for 3300 ICP media servers

You can configure Network Monitor settings for 3300 ICP media servers by modifying the default alarm and the default media server schedule, or by creating new alarms and new media server schedules.

To configure Network Monitor settings for a 3300 ICP media server

1. Click the **Network Monitor** tab.
2. After **Alarm name**, click the **...** button.
   The Select a media server alarm window opens.
3. Select an alarm from the list and click **OK**.
4. To modify an existing alarm, click **Manage alarms** and make any changes to the alarm's configuration.
   For more information on alarm configuration options, or to create a new alarm, see "Configuring media server alarms" on page 95.
5. To modify a schedule for the media server, on the Network Monitor tab, click **Manage schedule** and make any changes to the schedule.
   For more information on schedule configuration options, or to create a new schedule, see "Creating schedules" on page 169.
6. On the ribbon, click **Save**.
7. Configure data collection settings for the media server.
   See "Configuring data collection settings for 3300 ICP media servers" on page 78.

Configuring data collection settings for 3300 ICP media servers

CAUTION: Selecting the TCP, Enterprise Manager (OPS Manager), or Simulation tabs will change the media server's data collection mode. Ensure that you select the tab for the appropriate data collection mode. Be aware that Simulation mode halts data collection and is used for demonstration purposes only. We do not recommend you run media servers in simulation mode. However, if you want to simulate media server real-time data collection and reporting, see the following prairieFyre Knowledge Base article: http://www.prairiefyre.com/kb/KnowledgebaseArticle51207.aspx

To configure data collection settings for a 3300 ICP media server

1. Click the **Data collection** tab.
2. If you do not use Enterprise Manager (OPS Manager), click **TCP**. Otherwise, skip to step 8.
3. After **SMDR**, type the SMDR port number of the media server.
4. If you will be entering ACD information, select the **ACD** check box.
5. After **ACD**, type the ACD port number of the media server.
6. If you use Traffic Analysis, select the **Traffic Analysis** check box.
7. After **Traffic Analysis**, type the Traffic Analysis port number of the media server.
8. If you use Enterprise Manager (OPS Manager), click **Enterprise Manager (OPS Manager)**.
9. After **IP address/DNS name**, type either the IP address or the DNIS name of the Enterprise Manager (OPS Manager) computer.
10. After **FTP port**, type the FTP port number.
11. After **FTP user name**, type the FTP user name to gain access to Enterprise Manager (OPS Manager).
12. After **FTP password**, type the FTP password to gain access to Enterprise Manager (OPS Manager).
13. After **Remote directory to data files**, type the directory path where the data from the telephone system is stored by Enterprise Manager (OPS Manager).
14. Configure the media server's MiTAI options.
    See "Configuring MiTAI options for 3300 ICP media servers" on page 79.

Configuring MiTAI options for 3300 ICP media servers

To configure MiTAI options for a 3300 ICP media server

1. Click the **MiTAI Options** tab.
2. After **Maximum messages per second**, select the number of messages per second from the drop-down list.
   The default number of messages is 10 per second. The higher the version of MiTAI, the greater the number of messages per second.
3. After **MiTAI auto-synchronization will occur at**, select the time from the list that you want Automatic Synchronization to run.
4. After **Specify the port used for the MiTAI data stream**, type the port number used for the MiTAI data stream.
5. To enable write-back functionality, see "Enabling write-back functionality" on page 79.

Enabling write-back functionality

For changes that you make to the configuration settings in YourSite Explorer to be written back to the telephone switch, you must enable the read/write option in YourSite Explorer.

NOTE: The user account must an Enterprise Administrator in Contact Center Management to have read/write access.

To enable write-back functionality

1. In YourSite Explorer, click **YourSite=>Media servers**.
2. Select the media server for which you want to enable read/write functionality.
3. On the ribbon, click the **Telephone System** tab.
4. In the **Settings** section, select **Read/Write**.
5. Configure the telephone system settings for the media server.
   See "Configuring telephone system settings for 3300 ICP media servers" on page 79.

Configuring telephone system settings for 3300 ICP media servers

To configure telephone system settings for a 3300 ICP media server

1. Click the **Telephone system settings** tab.
2. Click **System options**.
3. After **Feature access code for silent monitoring**, type the feature access code used for silent monitoring, as programmed on the 3300 ICP telephone system.
   NOTE: The feature access code for silent monitoring must be unique and up to four digits in length. Do not use * and # alone to define feature access codes.
4. If applicable, after **Replacement Access Code**, enter the replacement access code programmed on the telephone system.
5. If applicable, after **Registration Access Code**, enter the registration access code programmed on the telephone system.
6. After **ACD 2000 - Automatically log out last agent on no answer**, select Yes by default.
7. After **ACD Real-Time Events Feature Level**, set the value to 1.
8. After **ACD Make Busy Walk Away Codes**, select Yes by default.
9. Click **SMDR options**.
10. If applicable, correct the SMDR Options settings.
    For the SMDR Options settings list, see Table 6 - 2.
11. Click **Class of Service** and select a Class of Service number.
    The properties for the selected Class of Service are shown in the right-hand pane.

12. After **Default type**, enter the Class of Service type.
13. After **Comment**, enter a description for the Class of Service.
14. Select **Yes** for the following Class of Service options:
    - **HCI/CTI/TAPI call control allowed**
      Selecting Yes enables the softphone extensions and IVR Routing ports to be controlled by the host computer.
    - **HCI/CTI/TAPI monitor allowed**
      Selecting Yes enables an HCI monitor to be initiated against softphone extensions and IVR Routing ports.
    - **SMDR external**
      Selecting Yes enables trunking SMDR.
    - **SMDR internal**
      Selecting Yes enables SMDR internal records to be generated.
15. After **Call forward delay**, enter the amount of time to wait before forwarding a call.
16. After **Call forward no answer timer**, enter the amount of time to wait for a forwarded call to be answered.
17. Select **Yes** or **No** for the following additional Class of Service options:
    NOTE: You will receive a warning in YSE if you choose a Class of Service option that is not recommended.
    - **Message waiting**
      This option permits a phone to enable and disable message waiting notification on another phone.
    - **Message waiting audible tone notification**
      This option enables message waiting notifications to take the form of a tone every time the phone goes off-hook.
    - **Do not Disturb**
      This option enables users to change their Do not Disturb status and prevents the phone from ringing on incoming calls.
    - **Do not Disturb permanent**
      This option sets the phone permanently in Do not Disturb.
    - **Public network access via DPNSS**
      This option enables devices to originate calls to directory numbers on the PSTN. Selecting “No” disables network access.
    - **Suppress simulated CCM after ISDN progress**
      This option prevents the PBX from sending an answer message to a party calling on an ISDN trunk, preventing systems using MiTAI or HCI to play ringback or call processing tones when the call is answered.
      NOTE: Enable this option on end nodes only. Do not enable this option on transit nodes.
    - **Recorded announcement device**
      This option enables RAD ports to play recorded messages for one-way, outgoing audio.
    - **Accept hot desk login**
      This option enables a hot desk login on a device.
    - **Voice mail port**
      This option enables the voice mail system to uniquely identify the party that is receiving a message.
    - **External hotdesk user – answer confirmation**
      This option forces an external hotdesk user to press a DTMF key to answer incoming calls.
18. After **Answer Plus Message Length Timer**, specify an amount of time to apply to MCD RAD messages. The time specified should equal the time it takes for the RAD message to play.
19. After **Answer Plus Expected Off-hook Timer**, specify the amount of time the RAD can be off-hook and not playing messages before it requires servicing and is removed.
20. After **Work Timer**, specify the amount of time agents can be in a Work Timer state. For information on work timer, see "Configuring work timer" on page 184.
    NOTE: This timer applies to ACD extensions only.

21. Click **Class of Restriction**.
22. Select a Class of Restriction.
    The properties for the selected Class of Restriction are shown in the right-hand pane.
23. After **Do you want this Class of Restriction to be the default setting?**, select **Yes** or **No**.
24. After **Classes of Restriction for the group**, enter the Class of Restriction numbers to include in the group.
    You may specify a range of numbers. Separate numbers using dashes or commas. For example, 1 though 9 may be entered as 1-9, or a combination of individual numbers and ranges may be entered as 1,2,3,7-10,13.
    NOTE: Class of Restriction numbers must be entered in ascending order within each group.
25. On the ribbon, click **Save**.
26. If you want to enable call recording, see "Call recording" on page 83.

Table 6 - 2 SMDR Option Settings

SMDR Option	Value
Extended digit length	Yes
MCD - Report transfers	All
Network format	Yes
Report Account Codes	Yes
Report incoming calls	Yes
Report internal calls	Yes
Report meter pulses	No
Report outgoing calls	Yes
SMDR record transfer	Yes
System identification	Yes
Time change report	Yes
24-hour time reporting	Yes
ANI/DNIS/ISDN/CLASS number delivery reporting	Yes
OLI node ID format for incoming trunk calls	
Extended time to answer	Yes
Standardized network OLI	Yes
Standardized call ID format	Yes
Suite services reporting	No
Report internal unanswered calls	No
SMDR extended reporting level 1	Yes
SMDR extended reporting level 2	Yes
Report attendant name	Yes
Account Code number for internal calls	Yes
Path reporting number for internal ACD2 calls	Yes
SMDR Meter Unit Per Station	No

Call recording

Contact Center Solutions offers 24/7 call recording by integrating with OAISYS Tracer (Version 6.2 or greater) or dvsAnalytics Encore (Version 2.3 or greater) call recording software. For enhanced call security, Contact Center Solutions also integrates with the Mitel Secure Recording Connector service to facilitate the recording of Mitel encrypted voice streams by third party software. OAISYS Tracer can optionally be used in conjunction with the Mitel Secure Recording Connector service. dvsAnalytics Encore must be used in conjunction with the Mitel Secure Recording Connector service.

Configuring call recording integration

Using the OAISYS Tracer, Contact Center Solutions can optionally record calls based on pre-defined schedules. With OAISYS Tracer, call recording can be temporarily started or stopped in Contact Center Client to ensure customer confidentiality or to create a record of volatile or sensitive calls. See "Recording calls" on page 406.

When a call recording is complete, a hyperlink to the recording is appended to call-specific Lifecycle reports. See the *Mitel Contact Center Solutions Reports Guide* for more information about Lifecycle reporting.

NOTE:

- OAISYS Tracer or dvsAnalytics Encore call recording integration is supported for use with the Mitel 3300 ICP only.
- Before you can configure call recording in YourSite Explorer, you must configure your OAISYS Tracer or dvsAnalytics Encore by following the recommended installation and configuration guidelines included with these products.
  Contact your OAISYS or dvsAnalytics approved vendor for all set up and troubleshooting issues.
- The Contact Center 3rd Party Call Recording Connector dvsAnalytics Encore does not support External hot desking Agents.
- Contact OAISYS or dvsAnalytics for information on integrating call recording with the Mitel Secure Recording Connector.
- Ensure call recordings are working properly for all configured extensions before activating the call recording integration in YourSite Explorer.
- If you use the Mitel Secure Recording Connector and Contact Center Softphone, you must enter the IP addresses of the Mitel Secure Recording Connector in YourSite Explorer.

To configure OAISYS call recording integration

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a media server from the list.
3. Click the **Call recording options** tab.
4. Under **Call recording provider options**
   - After **Recorder type**, select **OAISYS**from the drop-down list.
   - After **OAISYS server address**, type the IP address of the call recorder.
   - After **OAISYS server port**, specify the port of the call recorder.
   - After **Username**, type the username to log into the call recorder.
   - After **Password**, type the password to log into the call recorder.
5. Click **Save**.
   Call recordings are enabled and can be accessed from hyperlinks in call-specific Lifecycle reports.

To configure dvsAnalytics Encore

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a media server from the list.
3. Click the **Call recording options** tab.
4. Under **Call recording provider options**
   - After **Recorder type**, select dvsAnalytics Encore from the drop-down list.
   - After **Encore Web API address**, type http://<Encore Server IP address>/WebAPI/ECAPI.svc
5. Click **Save**.
   Call recordings are enabled and can be accessed from hyperlinks in call-specific Lifecycle reports.

Configuring the Mitel Secure Recording Connector service

Contact Center Solutions integrates with Mitel Border Gateway's Secure Recording Connector service, which facilitates the recording of Mitel encrypted voice streams by third-party call recording equipment. In order to use Contact Center Softphone in conjunction with the Mitel Secure Recording Connector service, you must complete the configuration process described below.

NOTE:

- Before you can configure call recording in YourSite Explorer, you must configure the Secure Recording Connector service in Mitel Border Gateway. For Mitel Border Gateway configuration information, see the Mitel Border Gateway Installation and Maintenance Guide.
- If multiple Mitel Border Gateways are used in a clustered environment to take advantage of load balancing and the soft phone is connected to the primary Secure Recording Connector when that connector goes offline, the soft phone will re-connect as determined by the cluster. New soft phones will attempt to connect to the first Mitel Border Gateway configured in YourSite Explorer, then try the second Mitel Border Gateway configured in YourSite Explorer and as a final attempt, try registering with the media server itself. If it registers with the media server, call recording will not be possible.

  For soft phone balancing in a Secure Recording Connector service environment to function properly, you must alter a configuration file on the Mitel Border Gateway server. If you do not, you will have to restart Contact Center Client and the soft phone in the event of a failover. For instructions on how to make alterations, contact prairieFyre Software Inc. Technical Support at 613-599-0045 or support@prairiefyre.com (North American customers). For customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific, contact your approved Mitel vendor.

To configure the Secure Recording Connector service

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a 3300 ICP media server from the list.
3. Click the **Call recording options** tab.
4. Under **Mitel Secure Call Recording**, after **IP address 1**, type the primary IP address of the Secure Recording Connector.
5. If you use multiple Secure Recording Connectors, type the IP address of the secondary Secure Recording Connectors after **IP address 2**.
   If the soft phone fails to connect to the primary Secure Recording Connector, it will attempt to connect to the secondary. If that fails, then soft phone will use the IP address of the media server programmed in the data collection field. If it uses the IP address of the media server, call recording will not be possible.
6. Click **Save**.

Adding SX-200 ACD media servers

You add an SX-200 ACD media server in the Contact Center Management website.

You must first add the SX-200, and then configure its data collection settings, data summary options, and Network Monitor settings.

To add an SX-200 ACD media server

1. In Contact Center Management, click **YourSite=>Enterprise**.
2. Click **Add media server=>SX-200 ACD with Real-time.**
   NOTE: To distinguish between the various types of media for management and reporting purposes, you must give each media server a unique name when setting up your site.
3. After **Name**, type the name of the media server.
4. After **Site**, select the site where the media server resides.
5. After **This media server is installed on the computer you named**, select the computer on which the media server is installed.
   NOTE: The Change the media server type for this media server list displays only after you have saved the media server. It allows you to edit the media server type after the media server has been added to the site.
6. After **Country**, select the country where the media server is located.
   If you are setting up a node, select the country in which the node is located.
7. After **Area**, select the area where the media server is located.
   If you are setting up a node, select the area in which the node is located.
8. After **Minimum digits dialed**, type the minimum number of digits dialed for a local call in your city.
9. After **Maximum digits dialed**, type the maximum number of digits dialed for a local call in your city.
10. After **Apply license for**, select the product to which you are applying a license.
    For example, select Call Accounting if you are applying a Call Accounting license. If you are not licensed for a product the check box for that product does not show. If you have no remaining licenses, although the check box still shows, an error message indicates that all available licenses have been used.
11. Specify the data collection settings.
    See "Configuring data collection settings for SX-200 ACD media servers" on page 85.

Configuring data collection settings for SX-200 ACD media servers

To configure data collection settings for an SX-200 ACD media server

1. Click the **Data collection** tab.
2. If the media server streams ACD and SMDR data over RS-232, under **Specify data collection settings**, click **Com port**. Otherwise, skip to step 4.
3. Accept the default ACD and SMDR settings for Com port, baud rate, data bits, parity bit, and stop bits.
   Skip to step 7.
4. Click **TCP**.
5. Click **IP address**, or **DNS**, and type the IP address, or name, of the collection point.
6. After **Specify ports**, type the ACD and SMDR port numbers of the telephone system.
7. If you want to store ACD redundant events, select the **File all ACD stream redundant events** check box.
   This displays on the SX-200 with Real-time user interface only.
8. If you do not consider ACD real-time sequence errors as record errors, select the **Ignore ACD real-time sequence errors as record errors** check box.
   This displays on the SX-200 with Real-time user interface only.
9. If you have clustering, select the **This media server is part of a Mitel cluster** check box.

10. After **Cluster ID**, type the cluster ID.
11. After **Cluster name**, type the cluster name.
12. Specify the data summary options.
    See "Configuring data summary options for SX-200 ACD media servers" on page 86.

Configuring data summary options for SX-200 ACD media servers

To configure data summary options for an SX-200 ACD media server

1. Click the **Data summary options** tab.
2. If you want trace reporting, select the **Inbound/Outbound/Make Busy Trace reporting** check box.
3. If your business operates around the clock, select the **This enterprise operates 24 hours a day** check box.
   NOTE: If you do not select the This enterprise operates 24 hours a day check box, but have agents logged in to Contact Center Solutions applications overnight, you may experience problems with shift-related statistics, such as agent shift monitor and Make Busy Reason codes. For example, if logged in to Contact Center Client overnight with a Make Busy Reason code, when you change the Make Busy Reason code the following day, Contact Center Client will display “Unknown Make Busy code.” This can be remedied by logging out of the application and logging back in.
4. If you want to track outbound calls that were not answered, select the **Credit unanswered outbound calls** check box.
5. If you want reports and media servers to have a 24-hour clock format (for example, if you want 1:00 P.M. to show as 13:00), select the **24-hour clock format** check box.
6. Under **Agent state timeout audit**, after **Clear line if agent Hold Time exceeds**, select the number of minutes or hours you are in a hold state before the telephone system clears the line.
7. After **Clear line if agent primary Talk Time exceeds**, select the number of minutes or hours you are in a single state on the primary line (ACD line) before the system clears that line.
8. After **Clear line if agent secondary Talk Time exceeds**, select the number of minutes or hours you are in a single state on the secondary line (non ACD) before the system clears that line.
9. If you do not want to report on the secondary line (non-ACD and outbound calls), select the **Ignore agent secondary line activity** check box.
10. If your telephone system outputs leading digits in SMDR, after **Prefix digits**, type the digits.
11. If your telephone system outputs trailing digits in SMDR, after **Postfix digits**, type the digits.
12. Specify Network Monitor settings.
    See "Configuring Network Monitor settings for SX-200 ACD media servers" on page 86.

Configuring Network Monitor settings for SX-200 ACD media servers

To configure Network Monitor settings for an SX-200 ACD media server

1. Click the **Network Monitor** tab.
2. After **Alarm name**, select an alarm.
3. If you must create or modify an alarm that will warn you if data is not being collected for this media server, click **Manage alarms** and configure an alarm.
   See "Configuring media server alarms" on page 95.
4. Under **Notify me during these business hours**, after **Schedule name**, select a schedule that reflects the hours of operation for the media server.
5. If you must create or modify a schedule for the media server, click **Manage schedule** and configure a schedule.
   See "Creating schedules" on page 169.
6. Click **Save**.

Adding 5000/Axxess media servers

You add 5000/Axxess media servers in YourSite Explorer.

You must first add the 5000/Axxess media server and then configure its location settings, data summary options, data collection settings, and Network Monitor settings.

NOTE: To ensure optimal functionality, we recommend you perform Full Synchronization as part of adding and configuring a media server in YourSite Explorer. For more information on synchronization, see "Configuring the YourSite database using synchronization" on page 101. For information on performing synchronization, see "Performing synchronization" on page 104.

To add a 5000/Axxess media server

1. In **YourSite Explorer**, click **Media servers**.
2. Click **Add=>Mitel 5000/Axxess.**
   NOTE: To distinguish between the various types of media for management and reporting purposes, you must give each media server a unique name when setting up your site.
3. After **Name**, type the name of the media server.
   NOTE: The typical media server type is 'Enterprise Node'. If you select 'Queueing gateway', no agent data will be filed to SQL. If you select 'Agent/extension gateway', no queue data will be filed to SQL. When a media server is configured as an 'Agent/extension gateway', no queues are loaded and, as a result, no call activity is displayed in the Interactive Visual Queue real-time monitor.
4. After **Site**, select the site where the media server resides.
5. After **Computer name**, select the computer where the server resides.
6. After **Media server type**, select the type of media server.
7. Specify the licenses to use for the media server.
   For example, select Call Accounting if you are applying a Call Accounting license. If you are not licensed for a product the check box for that product does not show. If you have no remaining licenses, although the check box still shows, an error message indicates that all available licenses have been used.
8. After **IP/DNS address**, specify the IP address of the media server.
   If you use a CT Gateway, the IP address entered in this field must be the IP address of the CT Gateway and not that of the media server.
9. After **Password**, type the password used to connect to the telephone system.
10. After **Confirm password**, type the password used to connect to the telephone system.
11. If the 5000/Axxess is connected to a CT Gateway, under **Gateway settings**, select **This media server belongs to a gateway** and specify the Gateway ID.
12. Click **Save**.
13. Configure the location settings.
    See "Configuring location settings for 5000/Axxess media servers" on page 87 .

Configuring location settings for 5000/Axxess media servers

To configure location settings for a 5000/Axxess media server

1. Click the **Location** tab.
2. After **Country**, select the country where the media server is located.
   If you are setting up a node, select the country in which the node is located.
3. After **Area**, select the area code where the media server is located.
   If you are setting up a node, select the area in which the node is located.
4. After **Minimum digits to dial locally**, type the minimum number of digits dialed for a local call in your city.

5. After **Maximum digits to dial locally**, type the maximum number of digits dialed for a local call in your city.
6. After **Outbound dialing prefix**, type the number you dial to access an outside line.
   This information is required if you use a general business model and want to view when phone extensions are active or inactive.
7. Configure the data summary options.
   See "Configuring data summary options for 5000/Axxess media servers" on page 88

Configuring data summary options for 5000/Axxess media servers

To configure data summary options for a 5000/Axxess media server

1. Click the **Data summary options** tab.
2. If you want to use Trace reporting, select the **Inbound/Outbound/Make Busy Trace reporting**.
3. If your business operates around the clock, select the **This enterprise operates 24 hours a day** check box.
   NOTE: If you do not select the **This enterprise operates 24 hours a day** check box, but have agents logged in to Contact Center Solutions applications overnight, you may experience problems with shift-related statistics, such as agent shift monitor and Make Busy Reason codes. For example, if logged in to Contact Center Client overnight with a Make Busy Reason code, when you change the Make Busy Reason code the following day, Contact Center Client will display “Unknown Make Busy code.” This can be remedied by logging out of the application and logging back in.
4. If you want to track outbound calls that were not answered, select the **Credit unanswered outbound calls** check box.
5. After **Digits dialed prefix**, type the digits that must precede a telephone number to make an outbound call.
6. After **Digits dialed postfix**, type the digits that must follow a telephone number to make an outbound call.
7. After **Maximum monitors**, specify the maximum number of MiTAI monitors.
8. Under **Agent state timeout audit**, after **Clear line if agent Hold Time exceeds**, select the number of minutes or hours you are in a hold state before the telephone system clears the line.
9. After **Clear line if agent primary Talk Time exceeds**, select the number of minutes or hours you are in a single state on the primary line (ACD line) before the system clears that line.
10. After **Clear line if agent secondary Talk Time exceeds**, select the number of minutes or hours you are in a single state on the secondary line (non ACD) before the system clears that line.
11. If you do not want to report on the secondary line (non-ACD and outbound calls), select the **Ignore agent secondary line activity** check box.
12. Enable **Reset MKB/DND time in realtime after call ends** check box, if you want the MKB/DND time to reset in real time when the call concludes.
13. Under **ACD options**, if you want to file all ACD stream redundant events, select the **File all ACD stream redundant events** check box.
14. If you want to ignore data stream sequence number errors, select the **Ignore stream sequence number errors**.
15. Configure the data collection settings.
    See "Configuring data collection settings for 5000/Axxess media servers" on page 89.

Configuring data collection settings for 5000/Axxess media servers

To configure data collection settings for a 5000/Axxess media server

1. Click the **Data collection** tab.
2. After **OAI Listening Port**, specify the port number.
   The default Listening Port is 4000.
3. Specify the Network Monitor settings.
   See "Configuring Network Monitor settings for 5000/Axxess media servers" on page 89.

Configuring Network Monitor settings for 5000/Axxess media servers

To configure Network Monitor settings for a 5000/Axxess media server

1. Click the **Network Monitor** tab.
2. After **Alarm name**, select an alarm.
3. If you must create or modify an alarm that will warn you if data is not being collected for this media server, click **Manage alarms** and configure an alarm.
   See "Configuring media server alarms" on page 95.
4. Under **Notify me during these business hours**, after **Schedule name**, select a schedule that reflects the hours of operation for the media server.
5. If you must create or modify a schedule for the media server, click **Manage schedule** and configure a schedule.
   See "Creating schedules" on page 169.
6. Click **Save**.

Adding a Multimedia Contact Center Email media server

You add Multimedia Contact Center Email media servers in YourSite Explorer.

You must first add the Multimedia Contact Center Email media server and then configure its options and Network Monitor settings.

Adding Multimedia Contact Center Email media servers

To add a Multimedia Contact Center Email media server

1. In **YourSite Explorer**, click **Media servers**.
2. Click **Add=>MCC Email**.
3. After **Name**, type the name of the media server.
   NOTE: To distinguish between the various types of media for management and reporting purposes, you must give each media server a unique name when setting up your site.
4. After **Site**, select the site where the media server resides.
5. After **Computer name**, select the computer where the server resides.
6. Specify the options.
   See "Configuring options for Multimedia Contact Center Email media servers" on page 90.

Configuring options for Multimedia Contact Center Email media servers

To specify options for a Multimedia Contact Center Email media server

1. Click the **Options** tab.
2. Under **General**
   - Select the **Delete messages from the Agents sent items folder that are older than** x **days** check box.
     If you do not select this check box, the messages will remain until an administrator removes them.
   - After **Delete messages from the Agents sent items folder that are older than**, select the number of days after which past messages will be deleted.
3. Under **Data summary options**
   - If you want trace reporting, select the **Inbound/Outbound/Make Busy Trace Reporting** check box.
   - If your business operates around the clock, select the **This enterprise operates 24 hours a day** check box.
     NOTE: If you do not select the **This enterprise operates 24 hours a day** check box, but have agents logged in to Contact Center Solutions applications overnight, you may experience problems with shift-related statistics, such as agent shift monitor and Make Busy Reason codes. For example, if logged in to Contact Center Client overnight with a Make Busy Reason code, when you change the Make Busy Reason code the following day, Contact Center Client will display “Unknown Make Busy code.” This can be remedied by logging out of the application and logging back in.
   - Enable **Reset MKB/DND time in realtime after call ends** check box, if you want the MKB/DND time to reset in real time when the call concludes.
4. Specify Network Monitor settings.
   See "Configuring Network Monitor settings for Multimedia Contact Center Email media servers" on page 90.

Configuring Network Monitor settings for Multimedia Contact Center Email media servers

To configure Network Monitor settings for a Multimedia Contact Center Email media server

1. Click the **Network Monitor** tab.
2. After **Alarm name**, click **...**.
3. Select an alarm from the list and click **OK**.
4. If you must create or modify an alarm that will warn you if data is not being collected for this media server, click **Manage alarms** and configure an alarm.
   See "Configuring media server alarms" on page 95.
5. If you want to modify a schedule for the media server, click **Manage schedule**.
   See "Creating schedules" on page 169.
6. Click **Save**.

Adding Multimedia Contact Center WebChat media servers

You add Multimedia Contact Center WebChat media servers in YourSite Explorer.

You must first add the Multimedia Contact Center WebChat media server and then configure its options and Network Monitor settings.

Adding Multimedia Contact Center WebChat media servers

To add a Multimedia Contact Center WebChat media server

1. In **YourSite Explorer**, click **Media servers**.
2. Click **Add=>MCC WebChat**.
3. After **Name**, type the name of the media server.
   NOTE: To distinguish between the various types of media for management and reporting purposes, you must give each media server a unique name when setting up your site.
4. After **Site**, select the site where the media server resides.
5. After **Computer name**, select the name of the Exchange Server computer.
6. Specify the options.
   See "Configuring options for Multimedia Contact Center WebChat media servers" on page 91.

Configuring options for Multimedia Contact Center WebChat media servers

To configure options for a Multimedia Contact Center Webchat media server

1. Click the **Options** tab.
2. Under **General**
   - Select the **Delete messages from the Agents sent items folder that are older than** x **days** check box.
     If you do not select this check box, the messages will remain until an administrator removes them.
   - After **Delete messages from the Agents sent items folder that are older than**, select the number of days after which past messages will be deleted.
3. Under **Data summary options**
   - If you want trace reporting, select the **Inbound/Outbound/Make Busy Trace Reporting** check box.
   - If your business operates around the clock, select the **This enterprise operates 24 hours a day** check box.
     NOTE: If you do not select the **This enterprise operates 24 hours a day** check box, but have agents logged in to Contact Center Solutions applications overnight, you may experience problems with shift-related statistics, such as agent shift monitor and Make Busy Reason codes. For example, if logged in to Contact Center Client overnight with a Make Busy Reason code, when you change the Make Busy Reason code the following day, Contact Center Client will display “Unknown Make Busy code.” This can be remedied by logging out of the application and logging back in.
   - Enable **Reset MKB/DND time in realtime after call ends** check box, if you want the MKB/DND time to reset in real time when the call concludes.
4. Specify Network Monitor settings.
   See "Configuring Network Monitor settings for Multimedia Contact Center WebChat media servers" on page 91.

Configuring Network Monitor settings for Multimedia Contact Center WebChat media servers

To configure Network Monitor settings for a Multimedia Contact Center WebChat media server

1. Click the **Network Monitor** tab.
2. After **Alarm name**, click **...**.
3. Select an alarm from the list and click **OK**.

4. If you must create or modify an alarm that will warn you if data is not being collected for this media server, click **Manage alarms** and configure an alarm.
   See "Configuring media server alarms" on page 95.
5. If you want to modify a schedule for the media server, click **Manage schedule.**
   See "Creating schedules" on page 169.
6. Click **Save**.

Adding Multimedia Contact Center Fax media servers

You add Multimedia Contact Center Fax media servers in YourSite Explorer.

You must first add the Multimedia Contact Center Fax media server and then configure its options and Network Monitor settings.

Adding Multimedia Contact Center Fax media servers

To add a Multimedia Contact Center Fax media server

1. In **YourSite Explorer**, click **Media servers**.
2. Click **Add=>MCC Fax**.
3. After **Name**, type the name of the media server.
   NOTE: To distinguish between the various types of media for management and reporting purposes, you must give each media server a unique name when setting up your site.
4. After **Site**, select the site where the media server resides.
5. After **Computer name**, select the computer where the server resides.
6. Specify the options.
   See "Configuring options for Multimedia Contact Center Fax media servers" on page 92.

Configuring options for Multimedia Contact Center Fax media servers

To configure options for a Multimedia Contact Center Fax media server

1. Click the **Options** tab.
2. Under **General**
   - Select the **Delete messages from the Agents sent items folder that are older than** x **days** check box.
     If you do not select this check box, the messages will remain until an administrator removes them.
   - After **Delete messages from the Agents sent items folder that are older than**, select the number of days after which past messages will be deleted.
3. Under **Data summary options**
   - If you want trace reporting, select the **Inbound/Outbound/Make Busy Trace Reporting** check box.
   - If your business operates around the clock, select the **This enterprise operates 24 hours a day** check box.
     NOTE: If you do not select the **This enterprise operates 24 hours a day** check box, but have agents logged in to Contact Center Solutions applications overnight, you may experience problems with shift-related statistics, such as agent shift monitor and Make Busy Reason codes. For example, if logged in to Contact Center Client overnight with a Make Busy Reason code, when you change the Make Busy Reason code the following day, Contact Center Client will display “Unknown Make Busy code.” This can be remedied by logging out of the application and logging back in.
   - Enable **Reset MKB/DND time in realtime after call ends** check box, if you want the MKB/DND time to reset in real time when the call concludes.

4. Specify Network Monitor settings.
   See "Configuring Network Monitor settings for Multimedia Contact Center Fax media servers" on page 93.

Configuring Network Monitor settings for Multimedia Contact Center Fax media servers

To configure Network Monitor settings for a Multimedia Contact Center Fax media server

1. Click the **Network Monitor** tab.
2. After **Alarm name**, click **...**.
3. Select an alarm from the list and click **OK**.
4. If you must create or modify an alarm that will warn you if data is not being collected for this media server, click **Manage alarms** and configure an alarm.
   See "Configuring media server alarms" on page 95.
5. If you want to modify a schedule for the media server, click **Manage schedule**.
   See "Creating schedules" on page 169.
6. Click **Save**.

Adding Intelligent Queue media servers

To add an Intelligent Queue media server

1. In Contact Center Management, click **YourSite=>Enterprise**.
2. Click **Add a media server=>Intelligent Queue**.
3. After **Name**, type the name of the media server.
4. After **Site**, select the site where this media server resides.
5. After **This media server is installed on the computer you named**, select the computer on which the media server is installed.
6. Click **Save**.

Configuring data collection settings for Intelligent Queue media servers

To configure data collection settings for an Intelligent Queue media server

1. Select an Intelligent Queue media server from the tree view.
2. Click the **Intelligent Queue Reporting data collection** tab.
3. Under **Specify data collection settings**, click **TCP**.
4. Click **IP Address**, or **DNS**, and type the IP address, or name, of the Intelligent Queue server.
5. After **SMDR**, type the SMDR port number of the media server.
6. If you will be entering ACD information, select **ACD**.
7. After **ACD**, type the ACD port number of the media server.
8. Click **Save**.

Deleting media servers

CAUTION: If you delete a media server, you will delete all of the devices associated to the media server.

To delete a media server in YourSite Explorer

1. In **YourSite Explorer**, click **Media servers**.
2. Select the media server you want to delete.
3. Click **Delete**.
   A window opens with the message “All of the data associated with this media server will be permanently deleted. Are you sure you want to delete this media server?”
4. Click **OK**.

To delete a media server in the Contact Center Management website

1. In Contact Center Management, click **YourSite=>Enterprise**.
2. Expand the Enterprise tree and select the media server to be deleted.
3. Click **Delete**.
   A window opens with the message “All of the data associated with this media server will be permanently deleted. Are you sure you want to delete this media server?”
4. Click **OK**.

Network Monitor alarms

You can configure one or more data alarm schedules for your media servers. You specify the days and times during which data alarms will be activated. For those days and times, the system will notify you if the Enterprise Server Collector Service is not receiving data from your media servers, or if the server disk space is low. The Low Disk Threshold setting detects if the disk space is low on the disk housing the text files and SQL database. If the disk space is less than the threshold you specify, the system sets off an alarm.

In Network Monitor, you can verify if alarms are enabled for your media servers and if the media servers are reporting any alarms. The Network Monitor icon in your system tray is marked with a red line and blinks when the system is reporting alarms. See "Viewing alarms" on page 345.

The list of alarms is as follows:

- Invalid configuration
- Node offline
- No alarms configured
- PBX PC time drift
- SMDR Record error
- ACD Sequence number error
- Exchange link down
- WebChat Server link down
- Alarm outside of business hours
- SMDR Link down
- SMDR Data timeout
- ACD Link down
- ACD Data timeout
- MiTAI link down
- Intelligent Queue SQL Server is down
- Intelligent Queue Messaging Service is down
- Intelligent Queue Callback Service is down
- Intelligent Queue Recording Service is down

- Intelligent Queue Music Service is down
- Intelligent Queue Watchdog Service is down
- Intelligent Queue Mitel IP Emulation Service is down
- Intelligent Queue is missing an audio file
- Intelligent Queue has detected an incompatible audio file
- Intelligent Queue has no audio functions
- Intelligent Queue has detected a MiTAI error
- Intelligent Queue is low on disk space
- The agent callback destination is invalid. Please enter a valid agent callback destination.
- Due to a lack of available ports, all Updated position in queue messages could not be sent. Please add additional ports to the Updated position in queue port group or reduce the number of Updated position in queue messages to be sent.

You must configure Network Monitor alarms for SX-200 media servers in the Contact Center Management website. You configure Network Monitor alarms for 3300 ICP, 5000, and Axxess media servers in YourSite Explorer.

Configuring media server alarms

In YourSite Explorer or in the Contact Center Management website, you set the days and times during which data alarms will be activated and a threshold for low disk space. The Collector Service adheres to the settings you specify.

To configure a media server alarm in YourSite Explorer

1. In **YourSite Explorer**, click **Media server alarms**.
2. Click **Add**.
3. After **Name**, type the name of the media server alarm.
4. After **Schedule**, click **...** and select the schedule that reflects the company's hours of operation.
   The schedule must accurately reflect the hours and days of the week the business is open and data is being received so media server alarms are not activated after hours.
5. After **Low disk threshold**, select the value in MB for the threshold below which you want the media server alarm to be activated. (For example, select 50. An alarm will be activated when the disk space is less than 50 MB).
6. If you want to automatically restart the data ports in the event Collector Service detects a problem with the Com ports, enable the **Auto restart data ports** check box.
7. After **Data alarm timeout minutes**, select the duration of the time lapse in minutes from when the data stops streaming to when you want the alarm to display.
   This setting relates to the SMDR Data timeout and ACD Data timeout Network Monitor alarms.
   NOTE: In a resilient environment, SMDR and ACD Data timeout alarms may trigger unnecessarily. To prevent this, set Data alarm timeout minutes to zero.
8. Click **Save**.

To configure a media server alarm in the Contact Center Management website

1. In Contact Center Management, click **YourSite=>Network Monitor=>Configure alarms**.
   The Configure alarms window displays.
2. Click **Add**.
3. After **Name**, type the name of the media server alarm.
4. After **Schedule**, select the schedule that reflects the company's hours of operation.
   The schedule must accurately reflect the hours and days of the week the business is open and data is being received so media server alarms are not activated after hours.

5. After **Low disk threshold**, select the value in MB for the threshold below which you want the media server alarm to be activated. (For example, select 50. An alarm will be activated when the disk space is less than 50 MB).
6. If you want to automatically restart the data ports in the event Collector Service detects a problem with the Com ports, select the **Auto restart data ports** check box.
7. After **Data alarm timeout minutes**, select the duration of the time lapse in minutes from when the data stops streaming to when you want the alarm to display.
   This setting relates to the SMDR Data timeout and ACD Data timeout Network Monitor alarms.
   NOTE: In a resilient environment, SMDR and ACD Data timeout alarms may trigger unnecessarily. To prevent this, set Data alarm timeout minutes to zero.
8. Click **Save**.

YourSite database configuration

NOTE:

- The 5000/Axxess telephone system concept of hunt group will be referred to as queue or agent group when used in conjunction with Contact Center Solutions. Hunt groups will be referred to as queues when discussing routing and call treatment options. Hunt groups will be referred to as agent groups when discussing membership roles. Since the 5000/Axxess hunt group acts as both queue and agent group, the telephone systems will not queue on multiple hunt groups at the same time. However, agents can be logged in to multiple hunt groups simultaneously.
- YourSite Explorer enables you to have multiple device tabs open simultaneously. As a best practice, we recommend you only have the device tabs open that you are currently using.

In an ACD contact center using Contact Center Management there are two main databases: the telephone system database and the prairieFyre YourSite database. Your dealer is responsible for assessing your contact center requirements and configuring the telephone system database accordingly. You are responsible for configuring the YourSite database to mirror the trunk, extension, agent, agent group, queue, Account Code numbers, and routing and timing options in use on the telephone system. This can be achieved quickly using synchronization for the 3300 ICP, 5000, and Axxess. See "Performing synchronization" on page 104.

YourSite database permissions are based on teams and groups. In the YourSite database, you create associations between devices and device groups in order to view real-time data and run reports.

You must

1. Add employees.
2. Add one or more agent login IDs for each employee.
3. Associate the agent login IDs with the employees.
4. Add agent groups.
5. Associate the agent login IDs with agent groups.
6. Add queues.
7. Associate the agent groups with the queues for which they answer calls.

If you intend to run reports on extensions, queue groups, employee groups, trunks, trunk groups, DNIS numbers, or Account Codes, you must add these devices and device groups to the YourSite database also.

Determining your contact center configuration needs

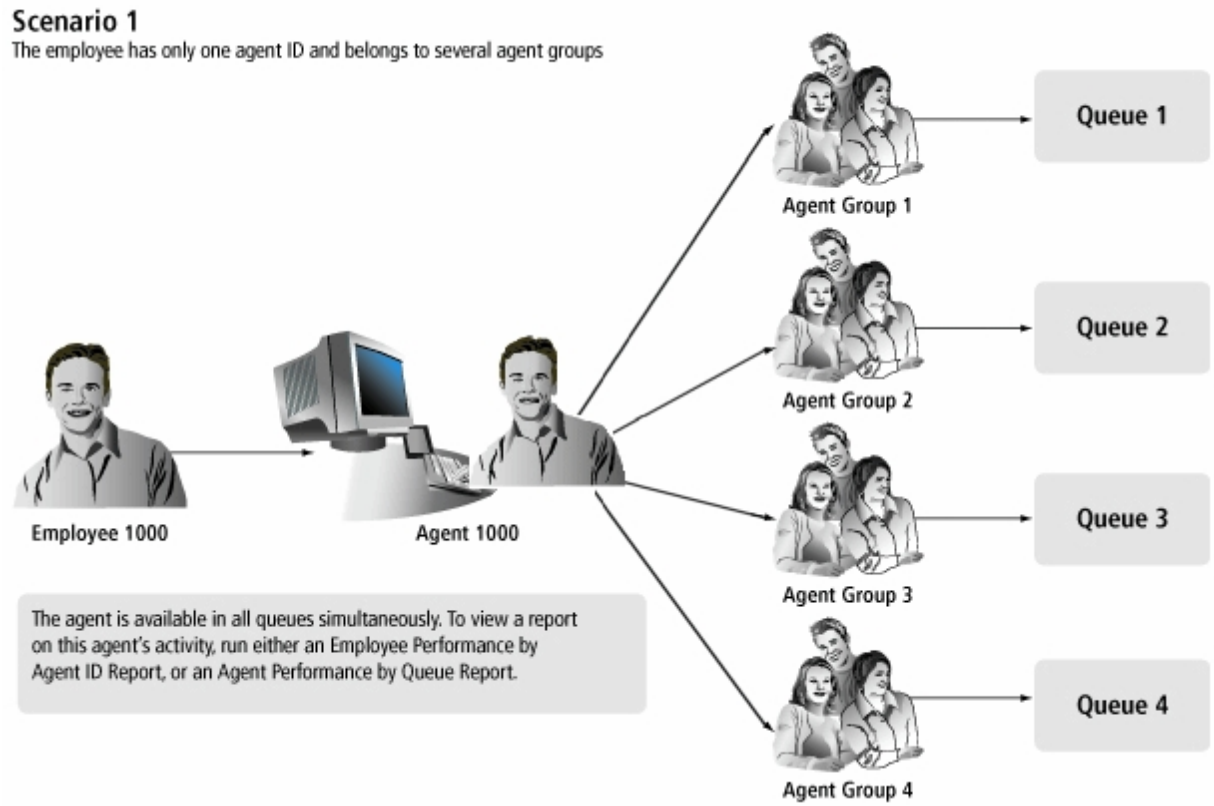
NOTE: If you are running Contact Center Management concurrently with Call Accounting, see the *Call Accounting User Guide* for information on how to configure your system for Call Accounting.

If you want each of your employees to have one agent login ID only, then you must set up your contact center as described in configuration scenario 1. If you want your employees to have an agent login ID for each agent group to which they belong, then you must set up your contact center as described in configuration scenario 2.

Configuration scenario 1

In configuration scenario 1, an employee has one agent login ID. The employee belongs to four agent groups that handle calls for four queues. The employee is simultaneously available to handle calls to all four queues without having to log out of one queue and into another queue. (See Figure 6 - 3.)

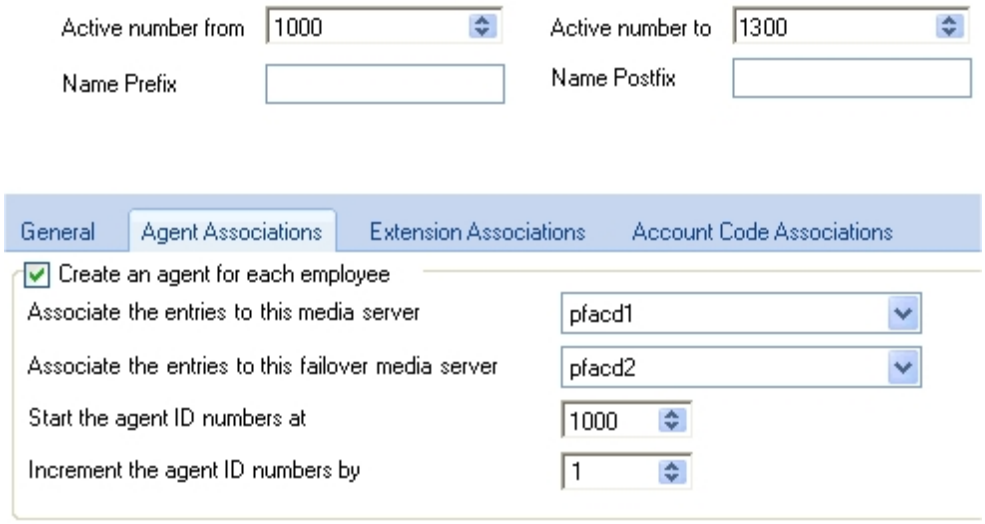
Figure 6 - 3 Configuration scenario 1



NOTE: If you have the optional Multimedia Contact Center application, you can use the same agent login ID across voice, email, chat, and/or fax media types. For example, in YourSite=>Configuration, you could add Agent 1000, and associate Agent 1000 with voice, email, chat and/or fax media types.

In configuration scenario 1, you can use the employee Quick Setup tool to create agent login IDs from employee IDs. You add a range of employee IDs, and then select the Create an agent login ID for each employee ID check box. Employee 1000 becomes Agent login ID 1000. On the Edit agent group members tab, you add Agent login ID 1000 to Agent groups 1 to 4. Using Agent login ID 1000, the employee is now simultaneously available to handle calls for Agent groups 1, 2, 3, and 4. (See Figure 6 - 4.)

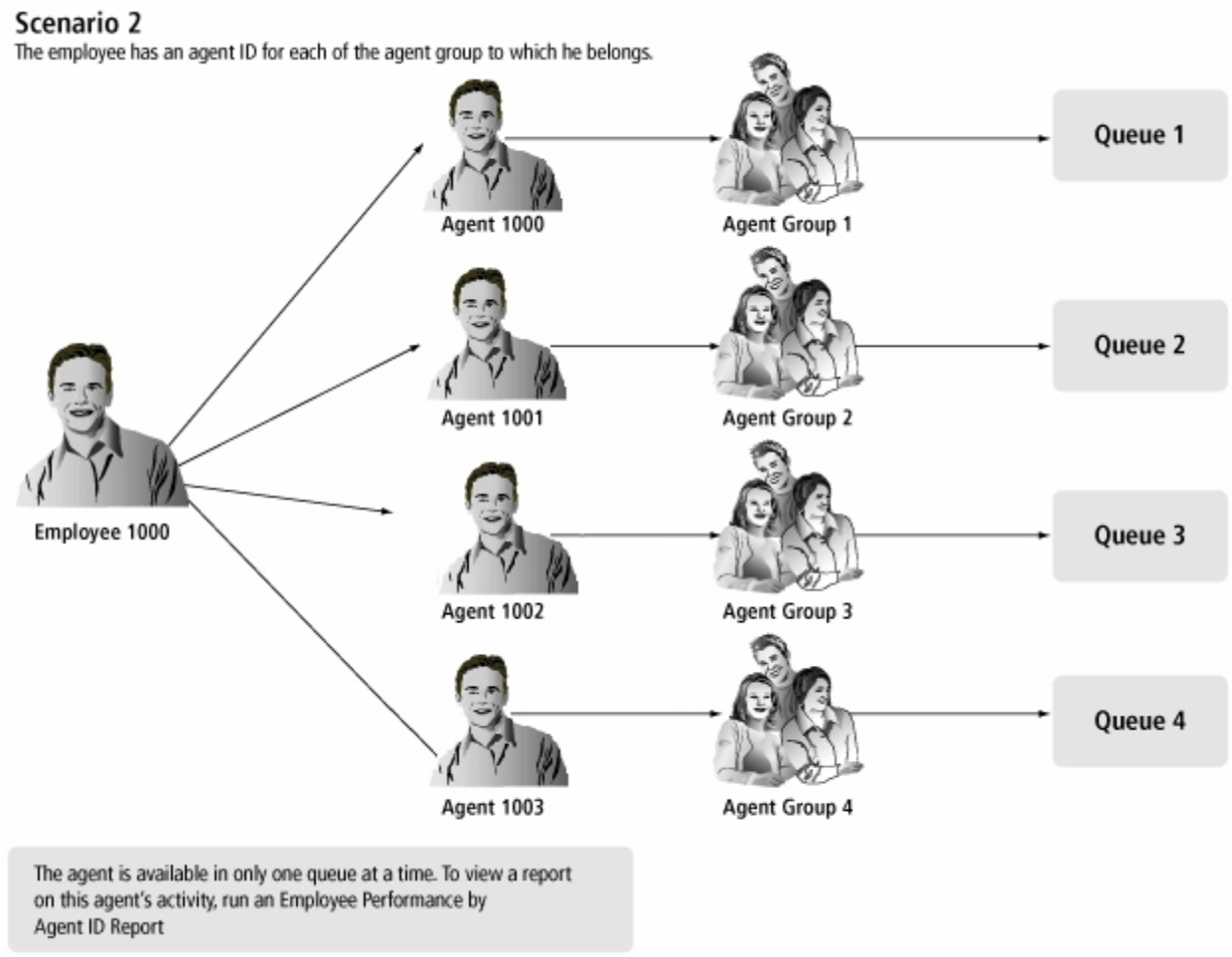
Figure 6 - 4 Make the agent login IDs the same as the employee IDs



Configuration scenario 2

In configuration scenario 2, employees are cross-trained and answer calls for various products and services. The employees monitor call volumes in all of the queues for which they have been cross-trained. If an employee notices a queue is particularly busy, the employee logs off of the telephone system and logs on with an agent login ID associated with the busy queue. (See Figure 6 - 5.)

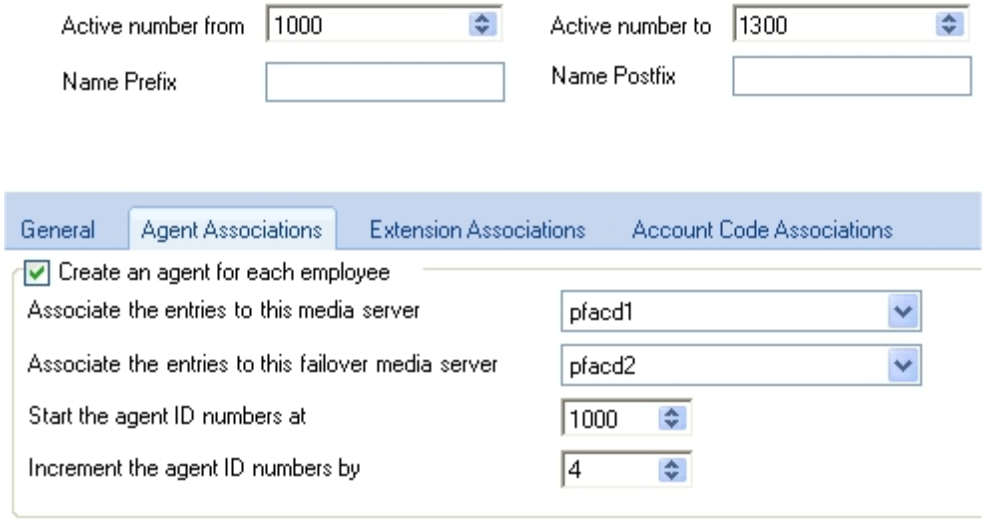
Figure 6 - 5 Configuration scenario 2



In configuration scenario 2, you can use the employee Quick Setup tool to create agent login IDs from employee IDs. You add a range of employee IDs and increment them according to the number of agent login IDs you require for each employee. Then you select the Create an agent login ID for each employee ID check box. Employee 1000 becomes Agent login ID 1000. On the Agent login window, you manually add additional agent login IDs for employees who are cross trained (Employee 1000 also becomes Agent login ID 1001, Agent 1002, and Agent 1003). (See Figure 6 - 6.)

On the Edit agent group members tab, you add each agent login ID to the appropriate agent group. Employees are available to handle calls for one agent group at a time. If an employee is handling calls for Agent group 2 and notices the call volume is particularly busy for Agent group 4, the employee must log off of the telephone system and log on with an agent login ID associated with Agent group 4.

Figure 6 - 6 Creating employee IDs for agents with multiple agent IDs



Configuring YourSite database devices

You can configure the YourSite database in the following ways:

- **Synchronization**
  If you have a 3300 ICP, you can synchronize the YourSite database with the queues, agents (including their skill level within each agent group), agent groups, agent skill groups, trunks, and extensions programmed on the telephone system using Synchronization. You can perform Synchronization on individual 3300 ICPs or all 3300 ICPs in your enterprise.
  If you have a 5000, or Axxess, you can synchronize the YourSite database with the queues, agents, agent groups, agent skill groups, trunks, and extensions programmed on the telephone system using Synchronization. You can perform Synchronization on individual telephone systems or all telephone systems in your enterprise.
  See "Configuring the YourSite database using synchronization" on page 101.
- **Active Directory synchronization**
  If you specified the Windows Authentication model during the Contact Center Management / Call Accounting Configuration Wizard, you can synchronize your system with Active Directory at any time from within YourSite Explorer. When you run Active Directory synchronization, employees in YourSite Explorer are synchronized with users in Active Directory groups. If you use Windows Authentication and Active Directory synchronization, users will not be prompted to authenticate themselves with a username and password when they start Contact Center Solutions and Call Accounting applications.
- **Quick Setup**
  If you want to add a range of devices (employees, employee groups, employee divisions, agent logins, agent groups, queues, queue groups, extensions, extension groups, extension divisions, trunks, trunk groups, DNIS, DNIS groups, Account Codes, Account Code groups, Make Busy Reason Codes, Do Not Disturb Reason Codes, and teams) you can use Quick Setup.
  See "Configuring devices and device groups using Quick Setup" on page 112.
- **Comma-separated value (.csv) import**
  If you have a 3300 ICP, 5000, or Axxess. you can also add a range of devices (employee, employee groups, employee divisions, agents, agent groups, queues, queue groups, extensions, extension groups, extension divisions, trunks, trunk groups, DNIS, DNIS groups, Account Codes, Account Code groups, Make Busy Reason Codes, Do Not Disturb Reason Codes, and teams) using .csv files.
  See "Configuring devices using .csv files" on page 119.

- **Manual configuration**
  If you want to configure devices manually, see "Configuring devices manually" on page 123.

Configuring devices and device groups

The following devices and device groups are configured in YourSite Explorer and/or the Contact Center Management website (under YourSite=>Configuration)

- Employees, employee groups
- Employee divisions
- Agents, agent groups
- Queues, queue groups, virtual queue groups
- Extensions, extension groups
- Extension divisions (YourSite Explorer only)
- Trunks, trunk groups
- DNIS (Dialed Number Identification Service), DNIS groups
- Account Codes
- Account Code groups (YourSite Explorer only)
- Make Busy Reason Codes
- Do Not Disturb Reason Codes (YourSite Explorer only)
- Phone numbers, phone number groups (YourSite Explorer only)
- Teams
- ANI (Automatic Number Identification) (Contact Center Management website only)
- Intelligent Queue Smart Choice layer, Intelligent Queue Smart Choice layer group, Intelligent Queue extension, Intelligent Queue extension group, Intelligent Queue voice callback queue, Intelligent Queue voice callback queue group, Intelligent Queue Web callback queue, Intelligent Queue Web callback queue group and Intelligent Queue voice exit codes (Contact Center Management website only)

Configuring the YourSite database using synchronization

Synchronization functionality differs depending on the telephone system in use.

Synchronization for the 3300 ICP

YourSite Explorer enables you to configure and write 3300 ICP queues, agent skill groups, and agents (including skill level), and validate/edit contact center related Class of Service, Class of Restriction, System Options, and SMDR Options settings using synchronization.

During synchronization, the queues, agent skill groups, and agents configured in YourSite Explorer are written to the telephone system. This enhanced functionality enables you to configure Contact Center Solutions applications from your desktop. Validation of device and assignment form settings ensures quality data collection and accurate reporting. After running synchronization, Class of Service and Class of Restriction settings programmed in the telephone system can be edited in YourSite Explorer.

During synchronization, administrators can preview device changes, identify devices that should be excluded from synchronization, and manage the business rules related to synchronization of device names and associated device creation.

While synchronizing data, the telephone system continues to operate without experiencing downtime. After synchronization is complete, the Contact Center Client applications open on agent desktops will be refreshed with a device update. After synchronization is complete, all critical programming, such as SMDR Options, System Option, Class of Service, and Class of Restriction settings will be validated. A report is then generated to summarize the results of synchronization. We highly recommend that you correct invalid programming, as detailed on the Telephone system settings tab of media servers in YourSite Explorer, immediately.

In Mitel 3300 release MCD 4.0 SP2, configuring your network using SDS Directory synchronization mode is optional. Customers can continue to operate in the Classic mode, with OPS Manager if operating in a clustered environment. In Mitel 3300 release MCD 4.1, configuring your network using SDS Directory synchronization mode is mandatory for all sites operating with 20 nodes or less.

Classic mode synchronization

Using YourSite Explorer and the 3300 ICP in Classic mode, you can add, edit, and delete standard agents, agent groups, and queues, as well as ACD related Class of Service (COS), Class of Restriction (COR), SMDR Options, and System Options. When not in a clustered environment, you can also continue to add hot desk agents and all synchronization device names. Adding hot desk agents in a clustered environment requires the use of Mitel OPS Manager.

SDS Directory synchronization mode

Using YourSite Explorer and the 3300 ICP in SDS Directory synchronization mode, you can now add, edit and delete standard and hot desk agents, agent groups, queues, trunks, trunk groups, and extensions, synchronize device names, as well as ACD related Class of Service (COS), Class of Restriction (COR) SMDR options and System Options in both a single site and in a clustered environment. When operating in SDS Directory synchronization mode, you can configure Network ACD queue set up on the 3300 ICP without any manual configuration previously required using Mitel OPS Manager.

NOTE:

- You can only use synchronization to synchronize the YourSite database with resilient, Network ACD, and clustered telephone systems if you are using 3300 ICP Release MCD 4.0 SP2 or greater, with the SDS Directory synchronization option enabled on all of the telephone systems in your enterprise.
- If you edit the feature access code used for silent monitoring on the media server, you must also manually edit the feature access code on the telephone system. The feature access code entered in YourSite Explorer must be identical to that on the telephone system and be valid for use with silent monitoring. See "Editing System options" on page 109.
- Intelligent Queue port settings are not programmed during synchronization.

Synchronization for the 5000 and Axxess

If you have a 5000 or Axxess, you can synchronize the YourSite database with the queues, agents, agent groups, extensions, Do Not Disturb Reason codes, and trunks programmed on the telephone system using synchronization.

NOTE: The device write-back functionality available in YourSite Explorer for the 3300 ICP is not currently available for the 5000 and Axxess telephone systems.

During synchronization, queues, agents, extensions, Do Not Disturb Reason codes, and trunks programmed on the 5000 or Axxess will be synchronized with the YourSite database. Reporting numbers for queues and agent groups will be automatically generated during synchronization.

NOTE: If agents, queues, and extensions on the telephone system have the same reporting or dialable number as the devices programmed in the YourSite database, but they do not have the same name, synchronization will change the name of the device in the YourSite database to match the name of the device on the telephone system.

For Network ACD environments, synchronization looks for agents configured in the cluster. If not found, agents are added to the media server being synchronized. Once agents are created, or matches are found, agent group associations are synchronized for those agents. Agent name changes are only synchronized for the agent's primary media server. Name changes found on other telephone systems are ignored.

While synchronizing data, the telephone system continues to operate without experiencing downtime. After synchronization is complete, the Contact Center Client applications open on agent desktops will be refreshed with a device update. After synchronization is complete, all critical programming will be validated. A report is then generated to summarize the results of synchronization. We highly recommend that you correct invalid programming, as detailed in the report, immediately.

Preparing for synchronization

NOTE:

- Superset phones are not currently supported for synchronization. See the *Mitel Contact Center Solutions and Call Accounting System Engineering Guide* for a list of devices that are supported for synchronization.
- Only Mitel telephones that are programmed on the IP Multiline set assignment form will synchronize with the YourSite database. For details on the phones that are supported, please refer to your Mitel 3300 ICP documentation.

Before you perform synchronization for the 3300 ICP

- Ensure the 3300 ICP is V8.x or greater. You can only use synchronization to synchronize the YourSite database with resilient, Network ACD, and clustered telephone systems if you are using 3300 ICP Release MCD 4.0 SP2 or greater, with the SDS Directory synchronization option enabled on all of the telephone systems in your enterprise.
- Ensure that you have completed programming the 3300 ICP and created a username and password for synchronization (on the 3300 ICP User Authorization Profile form). The 3300 ICP User Authorization Profile must include Application Access and System Admin Access. Desktop Admin and Group Admin options can be disabled. These steps must be completed for all 3300 ICPs in your Enterprise.
- Ensure your MiXML service is started by navigating to the Control Panel in Windows and selecting "MiXML". Verify that port 18000 is entered on the Settings tab and click Start.
- Ensure that your Windows or Corporate firewall is not blocking the following ports
    - SOAP: 18000 (HTTPS)
    - UDP: 53
    - TCP: 7011
    - TCP: 22
    - TCP: 443 (SSH)
- Configure the user name and password for each of the 3300 ICP media servers in YourSite Explorer. See the *Contact Center Management Installation Guide*.
- If you have multiple NICs on your Enterprise Server, you must specify the NIC to use for synchronizing data to the telephone system. To do this, navigate to the Control Panel in Windows and select "MiXML". After NIC IP Address specify the primary NIC to be used to send back data to the telephone system.
- If you are running 3300 ICP Release 9.x or earlier, resilient Network ACD, and clustered telephone systems must be programmed using OPS Manager, RDNs, and cluster element IDs. 3300 ICPs programmed with Remote Agent Subgroups and ARS are not supported. Contact Center Management clusters and cluster element IDs must match what is programmed on the telephone system.

Before you perform synchronization for the 5000 and Axxess

- If you have a 5000, ensure it is Version 2.20 or greater. If you have an Axxess, ensure it is Version 10.00 or greater.
- Ensure that you have programmed an OAI IP address and port number on the 5000/Axxess.
- If there is a firewall between your Enterprise Server and the 5000/Axxess, ensure that your Windows or corporate firewall is not blocking port 4000 (TCP).

Specifying synchronization settings

YourSite Explorer enables you to specify the synchronization settings, read options, and write options used by synchronization. When you select a media server in YourSite Explorer, the following synchronization options are available from the ribbon, on the Telephone system tab:

- **Settings**
  - **Disabled**
    This option will fully disable synchronization.
  - **Read**
    This option will read devices programmed on your telephone systems and synchronize them with the YourSite database.
  - **Read/Write**
    This option will read the devices programmed on your telephone systems and synchronize them with the YourSite database and enable devices programmed in YourSite Explorer to be written to the telephone systems.
- **Read Options**
  - **Create employees with new agent**
    For every new agent added to the YourSite database, a new employee will be created and associated with the agent.
  - **Create employees with new extensions**
    For every new extension added to the YourSite database, a new employee will be created and associated with the agent.
  - **Use telephone system device names**
    Override device names programmed in YourSite Explorer with the device names configured on the telephone system.
  - **Default employee license**
    Select the default employee license that you want to be applied when synchronizing new agents. Contact Center Enterprise Edition default employee licenses include None, Basic, Standard, Advanced, and Premium employees. Contact Center Business Edition default employee licenses include None, Reporting, and Desktop employees.
- **Write Options**
  - **Update telephone directory names**
    Override telephone directory names with agent, agent group, queue, and extension names configured in YourSite Explorer.

Performing synchronization

There are two ways to perform synchronization:

- **Full synchronization**
  Running full synchronization will synchronize the devices programmed on the telephone system and enable you to review all devices, and optionally exclude any devices, before committing changes to YourSite Explorer.
- **Telephone system settings synchronization**
  Running telephone system settings synchronization will read the current telephone system settings and enable you to view any errors or warnings related to the telephone system configuration.

NOTE:

- You can only use synchronization to synchronize the YourSite database with resilient, Network ACD, and clustered telephone systems if you are using 3300 ICP Release 10.0 (MCD 4.0 SP2) or greater, with the SDS Directory synchronization option enabled on all of the telephone systems in your enterprise.
- As a best practice, we recommend all new installations run Full synchronization to ensure the telephone systems in your enterprise are synchronized with the YourSite database and that there are no critical telephone system programming errors.
- You must program your 3300 ICPs and perform synchronization before you can configure telephone system assignment form options in YourSite Explorer.
- We recommend you do not exchange the reporting number of one device with that of another device.
- Synchronization will not synchronize a device being added to the YourSite database with the telephone system if the device has the same reporting number as an existing device with a different dialable number.
- If you run synchronization for a 3300 ICP media server containing a queue that has not been configured in YourSite Explorer a default 24/7 business hour schedule will be applied to that queue.
- If you are synchronizing a single telephone system, agents and queues must be programmed on the same telephone system. Single node synchronization can disassociate agents and queues if agents and queues reside on separate telephone systems.
- If you are running 3300 ICP Release 9.x or earlier and you synchronized your network ACD assignments and/or resilient agents using OPS Manager, you must synchronize all of the 3300 ICPs in your enterprise. Otherwise, agent group and queue group associations will be lost.

To perform full synchronization

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a 3300 ICP or a 5000/Axxess media server from the list.
3. Click the **Telephone system** tab.
4. In the ribbon, specify the settings to use with synchronization.
   See "Specifying synchronization settings" on page 104.
5. In the ribbon, click **Run**.
   The Synchronization window opens.
6. Select the media servers to synchronize.
7. Ensure **Full synchronization** is selected.
8. If this is the first time you have run synchronization, click **Synchronize** and continue to step 11. If you have already run full synchronization, click **Next**.
9. Optionally, select the telephone system media servers and devices to include with synchronization.
   All media servers and devices are selected by default.
10. Specify how you would like to proceed with synchronization:
    - **Synchronize**—selecting this option will synchronize the devices programmed on the telephone system and enable you to review all entries and optionally exclude any devices before committing them to YourSite Explorer. If you select this option, continue to step 11.
    - **Save settings**—selecting this option will save the device settings you specified to be used for the next scheduled or on-demand synchronization. If you select this option, the synchronization window will close.
    - **Cancel**—selecting this option will cancel the synchronization. No changes will be made to YourSite database or the telephone systems. If you select this option, the synchronization window will close.
    - **Auto commit**—selecting this option and clicking Synchronize will synchronize the devices programmed on the telephone systems and automatically commit them to YourSite Explorer. There will be no opportunity for you to review the entries and optionally exclude any devices before committing them to YourSite Explorer.

11. When the synchronization report displays, you have the following three options:
    - **Commit**—selecting this option will commit the specified changes and synchronize telephone system devices with YourSite Explorer.
    - **Cancel**—selecting this option will cancel the specified changes. No devices will be synchronized and the synchronization window will close.
    - **Edit**—selecting this option will rerun synchronization and enable you to modify the devices to be included in synchronization. If you select this option, return to step 9.

    If this is the first time you have run synchronization, any telephone system errors and warnings will display in the synchronization report. You can correct any errors or warnings found in this report by clicking Edit, clicking the Telephone system settings tab and changing the telephone systems settings to the recommended settings. If this is not the first time you have run synchronization, the synchronization window will close once it is complete and you can review any telephone system setting errors and warnings on by selecting a media server in YourSite Explorer and clicking the Telephone system settings tab.

To perform telephone system synchronization

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a 3300 ICP or a 5000/Axxess media server from the list.
3. Click the **Telephone system** tab.
4. In the ribbon, specify the settings to use with synchronization.
   See "Specifying synchronization settings" on page 104.
5. In the ribbon, click **Run**.
   The Synchronization window opens.
6. Select the media servers to synchronize.
7. Ensure **Telephone system settings** is selected.
8. Click **Synchronize**.
   The Synchronization report window will open and display the progress and status of the synchronization. Once synchronization is complete, any telephone system errors and warnings will display in the synchronization report. You can correct any errors or warnings found in this report by clicking Edit, clicking the Telephone system settings tab and changing the telephone systems settings to the recommended settings.

Viewing Synchronization reports

NOTE: The Synchronization report is currently available in English only.

To view a Synchronization report

1. In Contact Center Management, click **Tools=>Administrative tools=>Administrative reports**.
2. After **Status**, click **View**.

Understanding Synchronization reports

After you perform Synchronization, a report summarizing the results of the synchronization is generated. The Synchronization report contains a synchronization summary, synchronization details, validation results, and any warnings and errors. Table 6 - 3 describes the information provided in the Synchronization report.

Table 6 - 3 Synchronization report overview

Contents	Description
Synchronization Summary	For each media server in your enterprise, the number of devices added and updated are listed. A license summary is also included in the Synchronization Summary section of the Synchronization report. The License Summary lists the number of employee licenses added and the number of licenses that remain. If you have exceeded the number of employee licenses you currently own, a warning will be displayed and you will be instructed to resolve the problem.
Synchronization Details	The Synchronization Details section of the Synchronization report lists specific details that pertain to the devices added and updated, or associations made or deleted during the synchronization.
Validation Results	The Validation Results section of the Synchronization report lists any system and device level warnings and any critical programming errors.
Warnings	The Warnings section of the Synchronization report lists any non-critical warnings that may have affected the results of the synchronization process. We highly recommend that you immediately correct any invalid programming that may have caused warnings to display.
Errors	The Errors section of the Synchronization report lists any critical errors that would have prevented synchronization from occurring. If critical errors are detected, the Synchronization report will display the Warnings and Errors sections of the report only. We highly recommend you immediately correct any invalid programming that may have caused the error, to ensure your contact center functions properly.

Subscribing to the Synchronization report RSS feed

You can subscribe to a Really Simple Syndication (RSS) feed using a RSS aggregator of your choice (for example, Microsoft Outlook or Internet Explorer), so you are informed every time a Synchronization report is generated. RSS enhances management productivity because you can automatically receive reports without having to browse to the Administrative Reports inbox in Contact Center Management.

To subscribe to the Synchronization report RSS feed

1. In Contact Center Management, click **Tools=>Administrative tools=>Administrative reports**.
2. Click **Access RSS feed**.
3. Click **Subscribe to this feed**.
4. Follow the steps required by your RSS aggregator to subscribe to the Synchronization report feed.

NOTE: When you browse to a webpage that contains RSS information, the orange RSS button displays next to the Home icon.

To add a RSS feed through Microsoft Internet Explorer 7+

1. Click the RSS feed button.
   A list of all available RSS feeds on the Web page is displayed.
2. Click the RSS feed you want to subscribe to.
   You can optionally click the **RSS** or **XML** buttons in the Web page to subscribe to a RSS feed.

To add a RSS feed through Microsoft Office Outlook 2007

1. On the **Tools** menu, click **Account Settings**.
2. On the **RSS Feeds** tab, click **New**.
3. In the **New RSS Feed** dialog box, type or copy and paste the URL of the RSS feed, for example, http://www.example.com/feed/main.xml.
4. Click **Add**.
5. Click **OK**.

Active Directory synchronization

You can synchronize your system with Active Directory at any time from within YourSite Explorer.

Active Directory is a directory service created by Microsoft that is used for managing a domain. Active Directory Synchronization will align Active Directory security groups and users with Contact Center Management / Call Accounting employees and employee groups within selected organizational units.

At any time, you can optionally re-synchronize or reset all client computers running Contact Center Solutions and Call Accounting applications and refresh them with the latest configuration changes. Re-synchronizing will send a delta of the latest configuration changes to client computers, while resetting will completely drop client computer configurations and send the latest configurations from YourSite Explorer.

When you run Active Directory synchronization, employees and employee groups in YourSite Explorer are synchronized with users in Active Directory groups.

To run Active Directory synchronization

1. In YourSite Explorer, under **YourSite**, click **Enterprise** or **Employees**.
2. On the ribbon, click **Active Directory**.
3. Under **Sync frequency**, select how often you want automatic synchronization to occur.
   The default frequency is every hour.
4. Click **Sync paths**.
   The Select paths to sync window opens.
5. Click **>** or **<** to add or remove Active Directory entities from the Active Directory tree on the left to the selected items list on the right and click OK.
   The list of selected items on the right includes the Active Directory entities that will be synched.
6. Under **Security Role**, click ...and select a default security role to apply to newly created employees.
7. Click **OK**.
8. Under **Sites**, click ... and select a default site to apply to newly created employees.
9. Click **OK**.
10. Click **Run**.
    Active Directory synchronization is initiated and pertinent information is updated in YourSite Explorer.

To send recent configuration changes to client computers

1. In YourSite Explorer, under **YourSite**, click **Enterprise** or **Employees**.
2. On the ribbon, click **Tools**.
3. Click **Re-synchronize clients**.

To completely reset client computers with the latest YourSite database configuration information

1. In YourSite Explorer, under **YourSite**, click **Enterprise** or **Employees**.
2. On the ribbon, click **Tools**.
3. Click **Reset clients**.

Editing telephone system assignment forms

After you run Synchronization for the 3300 ICP in YourSite Explorer, you can edit a subset of contact center related 3300 ICP System Options, SMDR Options, Class of Service, and Class of Restriction assignment forms. Any changes made to the telephone system assignment forms in YourSite Explorer are written to the telephone system when a user clicks Save.

After running Active Directory Synchronization, if the 3300 ICP System options, SMDR options, Class of Service options, or Class of Restriction assignment forms are incorrectly configured, alerts will display describing what modifications need to be made to achieve accurate telephone system settings.

NOTE: You must have read/write capabilities enabled in YourSite Explorer before running Active Directory synchronization if you want to receive these alerts. See "Specifying synchronization settings" on page 104.

Editing System options

Using YourSite Explorer, you can configure access codes and select options for the ACD 2000, ACD Real-time Events Feature Level, and ACD Make Busy Walk Away Codes. Recommended values for these system options are displayed in YourSite Explorer

To edit System Options

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Enterprise**, click **Media servers**.
3. Under **Media servers**, select a 3300 ICP media server.
4. Click the **Telephone system settings** tab.
5. In the left pane, click **System options**.
6. After **Feature access code for silent monitoring**, type the feature access code used for silent monitoring, as programmed on the telephone system.
   NOTE: If you edit the feature access code on the media server, you must also manually edit the feature access code on the telephone system. The feature access code entered in YourSite Explorer must be identical to that on the telephone system and be valid for use with silent monitoring.
7. Specify remaining system options as required.
8. Click **Save**.

Editing SMDR options

Using YourSite Explorer, you can edit a subset of contact center related SMDR options. YourSite Explorer displays the recommended value for these SMDR options.

To edit SMDR Options

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Enterprise**, click **Media servers**.
3. Under **Media servers**, select a 3300 ICP media server.
4. Click the **Telephone system settings** tab.

5. In the left pane, click **SMDR options**.
6. Specify the SMDR options.
7. Click **Save**.

Editing Class of Service options

Using YourSite Explorer, you can edit a subset of contact center related Class of Service options. YourSite Explorer displays the recommended value for these Class of Service options.

NOTE: When first provisioning or changing work timer values, you must synchronize with your telephone system. See "Performing synchronization" on page 104.

To edit Class of Service options

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Enterprise**, click **Media servers**.
3. Under **Media servers**, select a 3300 ICP media server.
4. Click the **Telephone system settings** tab.
5. In the left pane, click **Class of Service**.
6. Under **Name**, select the Class of Service to edit.
7. In the right pane, after **Default type**, select a default class of service. Alternatively, select **None** and, after **Comment**, type a description for the Class of Service.
8. Specify the remainder of system options for each Class of Service.
   NOTE: Work timer durations are dependent upon your telephone system.
   - MCD 5.0 and greater – 4 hours maximum
   - MCD 4.x or earlier – 10 minutes maximum
9. Click **Save**.

Editing Class of Restriction options

Using YourSite Explorer, you can edit a subset of contact center related Class of Restriction options.

To edit Class of Restriction options

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Enterprise**, click **Media servers**.
3. Under **Media servers**, select a 3300 ICP media server.
4. Click the **Telephone system settings** tab.
5. In the left pane, click **Class of Restriction**.
6. Under **Number**, select the Class of Restriction to edit.
7. After **Do you want this Class of Restriction to be the default setting**, click **Yes** or **No**
8. After **Classes of restriction for the group**, enter the Class of Restriction numbers to include in the group.
   A range of numbers may be specified. Separate numbers using commas or dashes. For example, 1 though 9 may be entered as 1-9 or a combination of individual numbers and ranges may be entered as 1,2,3,7-10,13.
   NOTE: Class of Restriction numbers must be entered in ascending order within each group.
9. Click **Save**.

Adding resilient and/or Network ACD hot desking agents

Resiliency and network ACD functionality is configured in your Mitel telephone system. For information on configuring your telephone system for resilient and/or network ACD hot desking agents, consult your Mitel telephone system documentation.

When your telephone systems are set up correctly for resiliency and network ACD hot desking, you can configure your media servers in YourSite Explorer to use hot desking agents. See "Adding 3300 ICP media servers" on page 75.

Invalid ACD cluster programming

Combining traditional ACD agents and ACD hot desking agents on the same telephone system is not supported. All media servers within a cluster must be configured with the same type of agents. If the telephone systems within a cluster are configured with both ACD hot desking agents and traditional ACD agents, agent states will not display correctly in Contact Center Client real-time monitors and you will receive an "Invalid ACD cluster programming" error in YourSite Explorer.

The "Invalid ACD cluster programming" error is displayed when the following conditions are met

- One or more media servers in a cluster are programmed with both traditional and ACD hot desking agents and/or
- The media servers in a cluster are not programmed with the same type of ACD agents

NOTE: As a best practice, we recommend you perform Synchronization before attempting to resolve any invalid ACD cluster programming errors on the telephone system. This will ensure that your configuration is accurate and any errors being reported are valid.

The following scenarios provide examples of different invalid ACD cluster programming, with the problem areas identified in red text.

Scenario 1

In the scenario shown in Table 6 - 4, media servers with mixed agent types are programmed in YourSite Explorer.

Table 6 - 4 Invalid ACD agent programming scenario 1

Cluster name: Primary			
Media Server	**YourSite Explorer agent type**	**3300 ICP agent type**	**Invalid agent type programming**
Kanata 3300 5th floor	Hot desking	Hot desking	No
Kanata 3300 7th floor	Traditional	Traditional	No

Scenario 2

In the scenario shown in Table 6 - 5, media servers have the correct agent type settings programmed in YourSite Explorer, but have mixed agent types programmed against a single 3300 ICP.

Table 6 - 5 Invalid ACD agent programming scenario 2

Cluster name: Master			
Media Server	**YourSite Explorer agent type**	**3300 ICP agent type**	**Invalid agent type programming**
Kanata 3300 5th floor	Traditional	Hot desking / Traditional	Yes
Kanata 3300 7th floor	Traditional	Traditional	No

For more information on ACD agent programming, see the Mitel 3300 System Administration Tool Help, which can be found at http://edocs.mitel.com/default.htm.

Configuring devices and device groups using Quick Setup

If you have a 3300 ICP or 5000/Axxess telephone system, you add a range of contact center devices in YourSite Explorer using Quick Setup.If you have an SX-200 ACD, you must configure your system manually. See "Configuring devices manually" on page 123.

NOTE: Quick Setup is not offered in the Data grid view.

In the Contact Center Management website under YourSite=>Configuration, if you move your mouse over the Configuration menu on the left side of the Configuration window, the menu displays devices you can configure. Moving your mouse over the arrows to the right of these devices exposes additional devices. Alternatively, you can click the Configuration menu to view the complete list of devices to configure.

You can add a range of employee and agent login IDs in one action with Quick Setup, or you can add employee and agent login IDs manually on their respective windows. Using Quick Setup is faster and less tedious than adding individual employee and agent login IDs. However, if you want to use existing numbers for employee IDs (for example, the first three numbers of each employee's social security number), then you must add the employee and agent login IDs manually.

You can use Quick Setup to add ranges of the following devices:

- Employees and employee groups
- Employee divisions
- Agents and agent groups
- Queues (Contact Center Management website only)
- Queue groups and virtual queue groups
- Extensions and extension groups
- Extension divisions (YourSite Explorer only)
- DNIS and DNIS groups
- Account Codes
- Account Code groups (YourSite Explorer only)
- Make Busy Reason Codes
- Teams

Employee Quick Setup

NOTE:

- When you create employee IDs and agent login IDs, group all of the employees together from each site, and then group all of the employees together who have similar contact characteristics. For example, if half of the employees at a site will be voice agents (similar characteristic) and half of the employees will be email agents (similar characteristic), then group the voice agents together and group the email agents together. Using Quick Setup, you create the employee IDs and agent login IDs for the voice agents group, and then create the employee IDs and agent login IDs for the email agents group.
- If you are upgrading a Contact Center Management (voice) employee to a Multimedia Contact Center (voice, email, and/or chat) employee, before you use Quick Setup, you must assign a folder to the employee prior to assigning the employee an agent login ID. To do so, click Configuration=>Employee=>Employee=>Edit, and update the Multimedia Contact Center properties for the employee.

If you have an SX-200, you add a series of employees in the Contact Center Management website under YourSite=>Configuration, Employee=>Employee.

If you have a 3300 ICP, 5000, or Axxess, to add a series of employees

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employees**.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. On the **Licensing** tab, for Contact Center Enterprise Edition users,
    - Under **Employee license**, depending on licensing, select from **None**, **Basic**, **Standard**, **Advanced**, or **Premium** employee.
      See "Configuring general information and licensing information (in YourSite Explorer)" on page 124 for a description of each employee type.
    - Under **Supervisor license**, depending on licensing, select from **None**, **Advanced**, or **System Administrator**.
      See "Configuring general information and licensing information (in YourSite Explorer)" on page 124 for a description of each supervisor type.
    - Under **Phone type license**, depending on licensing, select whether the employee will use a **Mitel desk phone** or **Contact Center Softphone**.
      NOTE: If the employee requires the use of Contact Center Softphone in addition to or in combination with a Mitel desk phone, select the Softphone endpoint. Contact Center Softphone licensing is available to Advanced or Premium employees.If the employee is a non-ACD employee (designated as employee type 'None'), you must select 'Licensed for integrated client' to have access to Contact Center Softphone functionality.
    - Under **Workforce Scheduling license**, select the **Licensed for Workforce Scheduling** check box if you want the employee to be scheduled using Workforce Scheduling.
      NOTE: Workforce Scheduling licensing is only available to Basic, Standard, Advanced, or Premium employees.
    - Under **Integrated client license**, select **Licensed for integrated clients** if this is a non-ACD employee who needs access to Contact Center PhoneSet Manager, CTI Toolkit Client, or Salesforce.com Client.
      See the *Contact Center Solutions and Call Accounting System Engineering Guide* for in-depth licensing information.

- Under **Screen Pop license**, select **Licensed for Screen Pop** if this is a non-ACD employee (designated as employee type 'None') who needs access to Contact Center Screen Pop. Integrated Client is required for non-ACD users to use screen pop.

7. On the **Licensing** tab, for Contact Center Business Edition users,
   - Under **Employee license**, depending on licensing, select from **None**, **Reporting**, or **Desktop** employee.
     See "Configuring general information and licensing information (in YourSite Explorer)" on page 124 for a description of each employee type.
   - Under **Supervisor license**, depending on licensing, select from **None** or **Desktop** supervisor.
     See "Configuring general information and licensing information (in YourSite Explorer)" on page 124 for a description of each supervisor type.
   - Under **Phone type license**, depending on licensing, select whether the employee will use a **Mitel desk phone** or **Contact Center Softphone**.
     NOTE: If the employee requires the use of Contact Center Softphone in addition to or in combination with a Mitel desk phone, select the Softphone endpoint. If the employee is a non-ACD employee (designated as employee type 'None'), you must select 'Licensed for integrated client' to have access to Contact Center PhoneSet Manager, CTI Toolkit Client, or Salesforce.com Client functionality.
   - Select whether the employee will be licensed for **Screen Pop**, **Integrated Client**, and **Multimedia Contact Center** by selecting the applicable check boxes.
     See the *Contact Center Solutions and Call Accounting System Engineering Guide* for in-depth licensing information.
8. If you want to create an agent login ID for each employee, on the **Agent Associations** tab, select the **Create an agent login ID for each employee** check box.
   NOTE: It is recommended you create agent login IDs from employee IDs.
9. Select the media server and failover media server the agent will use.
   NOTE: If the employees are resilient, they can be associated with only one voice media server per cluster and you can select the failover media server for the employees.
10. After **Start the agent login IDs at**, type the first agent login ID number to associate to the employee ID range.
11. After **Increment the agent login IDs by**, type the increment by which the agent login ID numbers will increase.
12. If you want to create an extension for each employee, on the **Extension associations** tab, select the **Create an extension number for each employee** check box.
13. Select the media server and failover media server the extension will use.
14. If the extension will be costed with Call Accounting, select the **Cost this extension** check box.
15. After **Start the extension numbers at**, type the first extension number to associate with the employee ID range.
16. After **Increment the extension numbers by**, type the increment by which the extension numbers will increase.
17. If you want to create Account Code associations, on the **Account Code associations** tab, select the Create an **Account Code for each employee** check box.
18. After **Start the Account Code numbers at**, type the first Account Code number to associate to the employee ID range.
19. After **Increment the Account Code numbers by**, type the increment by which the Account Code numbers will increase.
20. Click **Run**.

Agent Quick Setup

NOTE: You cannot use Quick Setup to create agent login IDs for a Multimedia Contact Center Email media server.

If you have an SX-200, you add a series of agents in the Contact Center Management website under YourSite=>Configuration, Agent login=>Agent login.

If you have a 3300 ICP, 5000, or Axxess, to add a series of agents.

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Agents**.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. On the **General** tab, after **Associate the devices to this media server**, click **...** and select a media server.
7. If you want to create an employee ID for each agent, on the **Agent Associations** tab, select the **Create an employee ID for each agent** check box.
   NOTE: Select this check box only if you have not already added employee IDs to the database.
8. After **Start the employee IDs at**, type the first employee ID number to associate with the agent reporting number range.
9. After **Increment the employee IDs by**, type the increment by which the employee ID numbers will increase.
10. If you want to append a prefix to the agent reporting number, on the **Reporting numbers** tab, select the **Append a prefix and/or postfix to the reporting number** check box and type a prefix and/or postfix.
11. Click **Run**.

Queue Quick Setup

If you have an SX-200, 3300 ICP, or 5000/Axxess, to add a series of queues

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Queue=>Queue**.
3. Click **Quick Setup**.
4. Select a site and the media server the queues will use.
5. In the **Active number from** and **Active number to** boxes, type a range of queue numbers.
6. On the **General** tab, if you want to add a prefix or postfix to this range of queue numbers, select the **Append a prefix and/or a postfix to the device name** check box and type the prefix and/or postfix.
7. If you want to add a prefix or postfix to the range of dialable numbers, select the **Append a prefix and/or a postfix to the dialable number** check box and type the prefix and/or postfix.
8. On the **Metrics** tab, after **Short Abandon**, type the Short Abandon threshold (in seconds) for the queues.
9. After **Short Talk**, type the Short Handle threshold (in seconds) for the queues.
10. After **The goal for this queue is to handle**, type the Service Level Percent objective for the queues.
11. After **% of calls in less than**, type the Service Level Time objective for the queues.
12. If you selected a 3300 ICP media server, click the **MiTAI** tab and complete steps 14 to 16.
13. After **Business hours**, select the business hours of the media server.
14. If the queues are unavailable outside of business hours, select the **Set the queue to unavailable outside of these business hours** check box.
15. Select the **Auto-synchronize the YourSite database with the telephone system** check box.
16. Click **Run**.

Extension Quick Setup

If you have an SX-200, you add a series of extensions in the Contact Center Management website under YourSite=>Configuration, Extension=>Extension.

If you have a 3300 ICP, 5000, or Axxess, to add a series of extensions

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Extensions**.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name Postfix** type the prefix and/or postfix.
6. On the **General** tab, select a media server and a failover media server for the extension.
7. If the extension will be costed with Call Accounting, select the Cost this extension check box.
8. Select the **Disable real-time monitoring and data collection on this device** check box if you do not want to enable the extension to be set with a MiTAI monitor, viewed in Contact Center Client, and use Contact Center Softphone or Salesforce.com Connector.
   By default, this check box is not selected.
9. Under **Advanced options**, select the **Extension type**.
10. If you want to create an employee for each extension, on the **Employee associations** tab, select the **Create an employee ID for each extension** check box.
    NOTE: Select this check box only if you have not already added employee IDs to the database.
11. After **Start the employee IDs at**, type the first employee ID to associate to the extension number range.
12. After **Increment the employee IDs by**, type the increment by which the employee IDs will increase.
13. Click **Run**.

Trunk Quick Setup

If you have an SX-200, you add a series of trunks in the Contact Center Management website under YourSite=>Configuration, Trunk=>Trunk.

If you have a 3300 ICP, 5000, or Axxess, to add a series of trunks

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Trunks**.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. On the **General** tab, click **...** and select a media server for the trunk.
7. Click **Run**.

Trunk group Quick Setup

If you have an SX-200, you add a series of trunk groups in the Contact Center Management website under YourSite=>Configuration, Trunk=>Trunk group.

If you have a 3300 ICP, 5000, or Axxess, to add a series of trunk groups

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Trunk groups**.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, enter a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. On the **General** tab, click **...** and select the voice media server associated with the trunk (for example, 3300 ICP Voice).
7. If this trunk group uses an intra switch, select the **Intra switch** check box.
8. To cost calls using this trunk, clear the **Do not cost calls** check box.
9. Click **Run**.

DNIS Quick Setup

If you have an SX-200, you add a series of DNIS in the Contact Center Management website under YourSite=>Configuration, DNIS=>DNIS.

If you have a 3300 ICP, 5000, or Axxess, to add a series of DNIS

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **DNIS**.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. On the **General** tab, after **Associate the devices to this media server**, click **...** and select a media server.
7. After **Short Abandon**, type the Short Abandon threshold for the DNIS.
8. After **Service Level**, type the Service Level time for the DNIS.
9. Click **Run**.

Account Code Quick Setup

If you have an SX-200, you add a series of Account Codes in the Contact Center Management website under YourSite=>Configuration, Account Codes=>Account Codes.

If you have a 3300 ICP, 5000, or Axxess, to add a series of Account Codes

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Codes**.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. To you want to create an employee for each Account Code, on the **Employee Associations** tab, select the **Create an employee ID for each Account Code** check box.
   NOTE: Select this check box only if you have not already added employee IDs to the database.

7. After **Start the employee IDs at**, type the first employee ID number to associate to the Account Code range.
8. After **Increment the employee IDs by**, type the increment by which the employee ID numbers will increase.
9. Click **Run.**

Make Busy Reason Codes Quick Setup

If you have an SX-200, you add a series of Make Busy Reason Codes in the Contact Center Management website under YourSite=>Configuration=>Make Busy Reason Code.

If you have a 3300 ICP, 5000, or Axxess, to add a series of Make Busy Reason Codes

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Make Busy Reasons.**
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. Click **Run**.

Team Quick Setup

If you have an SX-200, you add a series of Teams in the Contact Center Management website under YourSite=>Configuration=>Team.

If you have a 3300 ICP, 5000, or Axxess, to add a series of Teams

1. In YourSite Explorer, in the left pane, click **YourSite.**
2. Under **Devices**, click **Teams** .
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. Click **Run**.

Device group Quick Setup

If you have an SX-200, you add a series of employee groups, agent groups, queue groups, extension groups, and DNIS groups in the Contact Center Management website under YourSite=>Configuration.

If you have a 3300 ICP, 5000, or Axxess, to add a series of Account Code groups, agent groups, DNIS groups, employee groups and divisions, extension groups and divisions, and queue groups

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click the device group name.
3. Click **Quick Setup**.
4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. To add a prefix or postfix to the range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. If you are adding an agent group, click **...** and select a media server and failover media server to associate with the agent group.
7. Click **Run**.

Configuring devices using .csv files

If you have a 3300 ICP, 5000, or Axxess telephone system, you can import devices to YourSite Explorer using comma-separated value (.csv) files. The following device types are currently supported for use with the YourSite Explorer .csv import tool: employees, employee groups, employee divisions, agents, agent groups, queues, queue groups, extensions, extension groups, extension divisions, trunks, trunk groups, DNIS, DNIS groups,Account Codes, Make Busy Reason Codes, Do Not Disturb Reason Codes, and teams.

A .csv file is used for the digital storage of data structured in a table of lists form, where each associated item (member) in a group is in association with others also separated by the commas or tabs of its set.

There are two ways to create .csv files: Notepad or Microsoft Excel. We recommend making .csv files in Excel, as adding and editing a large number of entries at once using auto-fill functions is much simpler and more convenient than using Notepad.

Alternatively, you can also import tabbed delimited text files created in Excel. Tabbed delimited text files are almost identical to .csv files, but use tabs to differentiate data fields instead of commas.

NOTE: When creating .csv files, you must save the file as either a .csv or .txt file. Simply renaming an Excel file or changing a file type extension to .csv will not work and you will be unable to import device data into YourSite Explorer.

Figure 6 - 7 and Figure 6 - 8 provide two examples of how .csv files can be formatted. The following figures display Microsoft Excel .csv formatting and Notepad .csv formatting. Both .csv examples contain the following data: first name, last name, agentlogin ID, and media server.

NOTE: To import configuration options that display in the YourSite Explorer grid view as a check box, you must enter True or False as the field data.

Figure 6 - 7 Microsoft Excel .csv formatting example

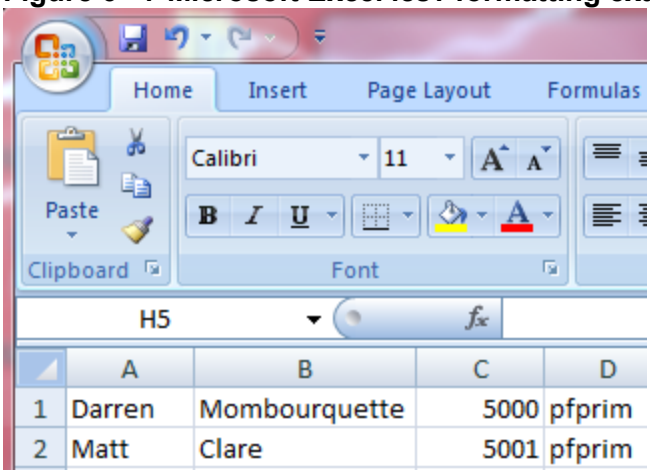
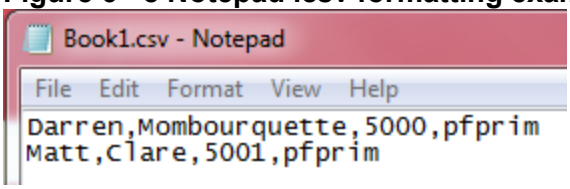


Figure 6 - 8 Notepad .csv formatting example



Fields required for successful .csv imports

Table 6 - 6 details the fields that are required in order to successfully import devices into YourSite Explorer using a .csv file.

NOTE: Data must be entered in .csv files using the exact order detailed in Table 6 - 6 below. Failure to import data in the order specified will result in import errors.

Table 6 - 6 Mandatory device fields for .csv imports

Device	Mandatory fields	Optional fields
Employees	First name, last name, employee ID (reporting number)	Full time, middle name, email address, suffix, real-time license, nickname, resiliency license activated, scheduling license, site, password, is a supervisor, username, supervisor, is active, security role, preferred printer, print locally, use employee email for report distribution, fax number, hire date, birth date, business phone number, emergency contact phone number, emergency contact relationship, emergency contact name, country, ZIP or postal code, street address, city, state, or province, pager number, phone number
Employee groups	Name, employee group ID (reporting number)	N/A
Employee divisions	Name, reporting number	Failover media server, employee, is active
Agents	First name, last name, agent login ID, media server	Failover media server, employee, is active
Agent groups	Name, reporting number, media server	Failover media server, is active
Queue groups	Name, reporting number	N/A
Extensions	Name, reporting number, media server	Extension type, failover media server, real-time license, is active, cost this extension, notes, is general business hot desking
Extension groups	Name, reporting number	N/A

Device	Mandatory fields	Optional fields
Extension divisions	Name, reporting number	N/A
Trunks	Name, reporting number, media server	N/A
Trunk groups	Name, reporting number	Media server, do not cost calls, carrier plan, intra switch
DNIS	Name, reporting number, media server	Short abandon, service level, carrier plan, call type, call rate
DNIS groups	Name, reporting number	N/A
Account Codes	Name, reporting number	Use as classification code
Make Busy Reason Codes	Name, reporting number	N/A
Do Not Disturb Reason Codes	Name, reporting number	N/A
Teams	Name, reporting number	N/A

Importing a range of devices using a .csv file

NOTE: Before you attempt to import a device using a .csv file, ensure

- The .csv file contains data for all of the fields required to save a device in YourSite Explorer as detailed in the following table.
- If a device requires a dependency to be specified, for example specifying a media server is required in order to save an agent, the dependency must already exist in YourSite Explorer. The Import Wizard cannot create new dependencies and will fail if the dependency does not already exist in the database.

To import a range of devices using a .csv file

1. In YourSite Explorer, under **Devices**, click the name of the device you will add using a .csv file.
2. Click **Import**.
3. After **Select file type**, specify whether the .csv file uses **Comma separated values** or **Tab separated values**.
4. After **Select file**, click **Browse** and specify the location of the .csv file.
5. Under **Options**, specify how the Import Wizard will handle duplicate items.
   If duplicates are found:
   - Overwrite entries if duplicates are found will use the .csv file as the master and overwrite duplicate entries in the YourSite database with data in the .csv file.
   - Skip duplicate entries during import will retain data configured in YourSite Explorer as the master and import any new data entries from the .csv file into the YourSite database.
   - Do not import if duplicates are found will scan the .csv and YourSite database for duplicates. If duplicates are found in either the .csv or the YourSite database, the import is cancelled and no data is imported to the YourSite database.
6. Click **Next**.

7. On the **Field Mappings** window, map the fields in the **Available columns** list to the **Selected columns** list using the arrow buttons, so they display in the same order as they do in your .csv file.
8. Click **Next**.
9. When the import has completed, click **Finish**.
   NOTE: If the import fails, the Import Wizard will notify you of whether the YourSite database or .csv file contained the duplicate(s) and which row(s) of the .csv file contained the error(s) that resulted in the failure. Fixing these errors will allow devices to be successfully imported.

Configuring devices manually

CAUTION: For reporting purposes, the trunk, extension, agent, agent group, queue, DNIS, dialable numbers, and Account Code numbers you configure in the YourSite database must be identical to those of the telephone system.

CAUTION: Print a copy of your telephone system assignment forms to use as a guide for programming YourSite Explorer. The numbers you enter in YourSite for extensions, trunks, and Account Codes must be identical to those of the telephone system.

If you have an SX-200 telephone system, you must add contact center devices in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess telephone system, you add contact center devices in YourSite Explorer.

Throughout the manual device configuration section of this chapter instructions for YourSite Explorer configuration are given first, followed by instructions for configuring devices in the Contact Center Management website.

NOTE:

- When you configure numbers for groups in YourSite, use numerical characters only, such as *1* (for Extension group 1). Do not insert symbols, such as a star [*] or pound sign [#], in the number.
- If you attempt to add a device or device group to YourSite that is already in the database, the system notifies you that the device or device group is already present. When you add a series of devices or device groups to YourSite, such as Extensions 5001 to 5005, if the system detects you have already added Extension 5002, then it will not add Extension 5002 or any subsequent extensions in the series (that is, Extensions 5003 to 5005) to the database.
- If you are upgrading a Contact Center Management (voice) employee to a Multimedia Contact Center (voice, email, chat and/or fax) employee, before you assign the employee to an agent login ID, you must assign a public folder to the employee. To do so, click Configuration=> Employee=>Employee=>Edit and update the Multimedia Contact Center properties for the employee.
- If you have the optional Intelligent Queue application, after you set up your contact center site (in YourSite Enterprise) and add an Intelligent Queue media server to the site, the information in the YourSite database automatically synchronizes to that of the telephone system.

Adding employees

You must add all contact center employees (agents, supervisors, and managers) to the YourSite database so you can run reports on employee activities and view employee performance in real time, and so the employees can use Contact Center Management.

You must add agent login IDs to the YourSite database for employees you want to track in real time and reporting. When you add an employee, you can simultaneously create an agent login ID for the employee, provided you want the agent login ID to be the same as the employee ID.

NOTE: You must assign each employee a unique ID number.

If you have an SX-200 telephone system, you must add employees in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess telephone system, you add employees in YourSite Explorer.

NOTE: In order to enable an employee with none, basic, standard, advanced, or premium licensing, you must configure the employee in YourSite Explorer. If you configure the employee in the Contact Center Management website the default setting of "none" will be applied to the employee license.

Configuring general information and licensing information (in YourSite Explorer)

To configure general and licensing information for an employee.

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employees**.
3. Click **Add**.
4. Under **General**, specify employee identification information.
   You must provide the date the employee became an active part of the enterprise if you want to generate administrative employee reports, or if you have Workforce Scheduling and will schedule employees based on seniority, or will manage time off entitlements and business rules based on time off allocation. You must enter a unique employee ID number for each employee.
   NOTE: If the employee will use Enterprise Presence and Chat integration and the employee's email address differs from the employee's Lync (SIP) email address, you must enter the Lync (SIP) email address in the email field.
5. Under **Licensing**, select the applicable licensing options for employees, supervisors, phone types, Workforce Scheduling, Contact Center Screen Pop, Integrated Client, and Multimedia Contact Center.

   For Contact Center Enterprise Edition users, depending on licensing, select from **None**, **Basic**. **Standard**, **Advanced**, or **Premium** employee.
   - **None:** this option enables you to run reports on the employee, if data exists for that employee, however, you cannot monitor the employee in real time and no new data will be collected for the employee. When you select this option historical data for the employee continues to be stored and the employee's name is removed from all Contact Center Client device selection lists. If this is a non-ACD user, when configured with an Integrated Client license, the user will have access to Contact Center Management / Call Accounting website and Contact Center Client for Contact Center PhoneSet Manager. Associated extensions can be viewed in real time, either for general business purposes or Call Accounting (if associated extensions are configured to be call costed).
     CAUTION: If data exists for an employee who was previously licensed but is currently unlicensed, that data can be accessed in reports. However, if a summarization is done after the employee is no longer licensed, there is a risk that the collected data could be lost.
   - **Basic employee:** is reported on historically, viewed in real time, and has access to real-time monitors. Users also have access to the Contact Center Management / Call Accounting website My Options page to configure user options, such as language preference.
   - **Standard employee:**includes all Basic employee features and functionality and has access to Interactive Contact Center and Enterprise Presence and Chat.
   - **Advanced employee:** includes all Standard employee features and functionality as well as Contact Center Management and Interactive Contact Center resiliency (requires a Network license), choice of Contact Center PhoneSet Manager, CTI Toolkit Client, or Salesforce Client (requires a Salesforce.com Connector), and Contact Center Screen Pop.

- **Premium employee:** includes all Advanced employee features and functionality plus multimedia routing for all media types, including fax, email, web chat, and SMS.
  NOTE: Only one employee type can be selected for each employee. You cannot license an employee if no licenses remain.

For Contact Center Enterprise Edition users, depending on licensing, select from **None**, **Advanced**, or **System Administrator** supervisor.

- **None:** use this option for employees who are agents or general business extensions.
- **Advanced supervisor:** has access to the following: the Contact Center Management website (reporting , forecasting, and My Options), Flexible Reporting (if a Standard Starter Pack or greater is owned), Contact Center Client for real-time monitoring, and YourSite Explorer (read access only).
- **System Administrator:** a System Administrator has full access to all Contact Center, Call Accounting, and Intelligent Queue software (if licensed) for the purposes of configuration and network and system administration.
  NOTE: Only one supervisor type can be selected for each employee.

For Contact Center Enterprise Edition users, depending on licensing, select a phone type license.

- **Mitel desk phone:** select this option if the employee will use a Mitel desk phone. This is the default option.
- **Softphone and/or Mitel desk phone:** select this option if the employee will use and is licensed for Contact Center Softphone.
  NOTE: If the employee requires the use of Contact Center Softphone in addition to or in combination with a Mitel desk phone, select the Softphone phone type. Contact Center Softphone licensing is available to Advanced or Premium employees. If the employee is a non-ACD employee (designated as employee type 'None'), you must select 'Licensed for integrated client' to have access to Contact Center Softphone functionality.

For Contact Center Enterprise Edition users, select additional licensing options as required.

- Under **Workforce Scheduling license**, select **Licensed for Workforce Scheduling** if you want to be able to schedule the employee using Workforce Scheduling. Users must be configured as Basic, Standard, Advanced, or Premium to be scheduled in Workforce Scheduling.
- Under **Integrated client license**, select **Licensed for integrated clients** if this is a non-ACD employee who needs access to Contact Center PhoneSet Manager, CTI Developer Toolkit Client, or Salesforce.com Client.
  Integrated client license is a prerequisite for Contact Center Softphone. Salesforce.com Connector is required to activate Salesforce.com Client.
  See the *Contact Center Solutions and Call Accounting System Engineering Guide* for in-depth licensing information.
- Under **Screen Pop license**, select **Licensed for Screen Pop** if this is a non-ACD employee (designated as employee type 'None') or a Contact Center Business Edition agent who needs access to Contact Center Screen Pop.
  Integrated Client is a prerequisite for Screen Pop.

For Contact Center Business Edition users, depending on licensing, select from **None**, **Reporting**, or **Desktop** employee.

- **None:** this option enables you to run reports on the employee, if data exists for that employee, however, you cannot monitor the employee in real time and no new data will be collected for the employee. When you select this option historical data for the employee continues to be stored and the employee's name is removed from all Contact Center Client device selection lists.
  CAUTION: If data exists for an employee who was previously licensed but is currently unlicensed, that data can be accessed in reports. However, if a summarization is done after the employee is no longer licensed, there is a risk that the collected data could be lost.
- **Reporting employee:** is reported on historically, viewed in real time, and has access to Enterprise Presence and Chat.
- **Desktop employee:** is reported on historically, viewed in real time, has access to Enterprise Presence and Chat, and the ability to view real-time monitors via Contact Center Client.
  NOTE: Only one employee type can be selected for each employee. You cannot license an employee if no licenses remain.

For Contact Center Business Edition users, depending on licensing, select from **None** or **Desktop supervisor**.

- **None:** use this option for employees who are agents or general business extensions.
- **Desktop supervisor:** has access to the following: Contact Center Management website (reporting, contacts, forecasting, and security), Contact Center Client for real-time monitoring, and YourSite Explorer for enterprise and device configuration.

For Contact Center Business Edition users, depending on licensing, select a phone type license.

- **Mitel desk phone:** select this option if the employee will use a Mitel desk phone. This is the default option.
- **Softphone and/or Mitel desk phone:** select this option if the employee will use and is licensed for Contact Center Softphone.
  NOTE: If the employee requires the use of Contact Center Softphone in addition to or in combination with a Mitel desk phone, select the Softphone phone type license. If the employee is a non-ACD employee (designated as employee type 'None'), you must select 'Licensed for integrated client' to have access to Contact Center PhoneSet Manager, CTI Toolkit Client, or Salesforce.com Client functionality.

For Contact Center Business Edition users, select additional licensing options as required.

- Under **Integrated Client license**, select **Licensed for integrated clients** if you want the employee to have access to Contact Center PhoneSet Manager, CTI Toolkit Client, or Salesforce.com Client.
  Integrated client license is a prerequisite for Contact Center Softphone. Salesforce.com Connector is required for Salesforce.com Client.
  See the *Contact Center Solutions and Call Accounting System Engineering Guide* for in-depth licensing information.
- Under **Screen Pop license**, select **Licensed for Screen Pop** if you want the employee to have access to Contact Center Screen Pop.
  Integrated Client is a prerequisite for Screen Pop.
- Under **Multimedia Contact Center license**, select **Licensed for Multimedia Contact Center** if you want the employee to be able to access voice and a choice of two additional media types, including email, SMS, WebChat, and fax.
  Email and fax are enabled by default.

6. Configure employee user account information.
   See "Configuring user account information (in YourSite Explorer)" on page 127.

Configuring user account information (in YourSite Explorer)

To configure user account information for an employee

1. On the **User account** tab, under **User account**, specify login credentials for the employee and select the site to which the employee is associated.
2. Under **Security**, select a security role for the employee.
   The default security role permits users full access to all applications and devices.
3. Under **Report distribution**, specify the path of the network printer and select print and email options.
   You must configure the network printer as the default printer on the Enterprise Server. The printer path name is case sensitive.
4. Create an agent login ID, extension, and Account Code for the employee.
   See "Creating agent login IDs, extensions, and Account Codes for employees (in YourSite Explorer)" on page 127.

Creating agent login IDs, extensions, and Account Codes for employees (in YourSite Explorer)

To create an agent login ID, extension, and Account Code for an employee

1. Click the **Create Associated devices** tab.
2. Click **Agent login ID** and select the check boxes for the media servers to which the employee will log in.
   This creates an agent login ID based on the employee ID for each media server you select, which is recommended.
3. Click **Extension** and select the **Create an extension number for the employee** check box, select a media server and failover media server for the extension, and, if the extension will be costed with Call Accounting, select the **Cost this extension** check box.
4. Click **Account Code** and select the **Create an Account Code for the employee** check box.
5. If applicable, configure Multimedia Contact Center user settings. Otherwise, skip to .
   See "Configuring multimedia user settings (in YourSite Explorer)" on page 127.

Configuring multimedia user settings (in YourSite Explorer)

If you are a Contact Center Enterprise Edition user, are licensed as a Premium employee, have a Multimedia media server configured, and are associated with a multimedia agent ID, you must configure multimedia user settings.

To configure Multimedia Contact Center user settings

1. Click the **Multimedia Contact Center** tab.
2. Type the Employee's Exchange public folder name.
3. Configure employee personal information.
   See "Configuring employee personal information (in YourSite Explorer)" on page 127.

Configuring employee personal information (in YourSite Explorer)

To configure employee personal information

1. Click the **Details** tab.
2. Complete the employee's personal information.
3. On the ribbon, click **Save**.

Associating employees with agent login IDs, extensions, and Account Codes (in YourSite Explorer)

To associate employees with agent login IDs, extensions, and Account Codes

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employees**.
3. Select the employee for which you want to update associations.
4. Click **Agent logins**.
5. Under **Available members**, select the agent login ID(s) you want to associate to the employee.
6. Click **>** to move the selected Agent login ID(s) to the **Selected members** list.
7. Click **Add**.
8. Click **Extensions**.
9. Under **Available members**, select the extension(s) you want to associate to the employee.
10. Click **>** to move the selected extension to the **Selected members** list.
11. Click **Add**.
12. Click **Account Codes**.
13. Under **Available members**, select the Account Code(s) you want to associate to the employee.
14. Click **>** to move the selected Account Code(s) to the **Selected members** list.
15. Click **Add**.
16. Click **Save**.

Configuring general information and licensing information (in the Contact Center Management website)

To configure general information and licensing information for an employee

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Employee=>Employee**.
3. Click **Add**.
4. On the **Add an employee** tab, specify identification information for the employee.
   NOTE: You must enter a unique employee ID number for the employee.
5. After **Employee ID**, type an identification number for the employee (for example, 100).
6. If you will track and run reports on the employee, select the **The employee will be tracked in real-time and reporting** check box.
7. If the employee is a supervisor, select the **The employee is a supervisor check box.**
8. If the employee is resilient, select the **This employee is resilient and will be tracked in real time and reporting** check box.
   NOTE: If the number of employees in the YourSite database exceeds the number for which you are licensed, you will not be able to select this check box.
9. After **Email address**, type the employee's email address.
   Reporting Service uses this email address to send and receive reports.
10. After **Active from**, select the date the employee ID was created.
11. After **Nickname**, type the employee's nickname.
12. Click **Save**.

Configuring user account information (in the Contact Center Management website)

To configure user account information for an employee

1. In Contact Center Management, click **YourSite=>Configuration.**
2. On the Configuration menu, click **Employee=>Employee**.
3. Select an employee from the list.
4. On the **User account** tab, select the **This employee will use these credentials to log on to applications** check box, and specify security and report distribution information.
5. Click **Save**.

NOTE: If you are upgrading a Contact Center Management (voice) employee to a Multimedia Contact Center (voice, email, chat and/or fax) employee, you must assign a public folder to the employee prior to assigning him an agent login ID. To do so, click Configuration=> Employee=>Employee=>Edit and update the Multimedia Contact Center properties for the employee.

Associating employees with agent IDs, extensions, and Account Codes (in the Contact Center Management website)

To associate the employee with an agent login ID, extension, and Account Code

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Employee=>Employee**.
3. Select an employee from the list.
4. On the **Create associated devices** tab, under **Agent login**, select the check boxes of the media servers to which the employee will log in.
   This creates an agent login ID based on the employee ID for each media server you select, which is recommended.
5. On the **Extension** tab, select the **Create an extension reporting number for each employee ID** check box and select a media server and failover media server for the extension.
6. If the extension will be costed with Call Accounting, select the **Cost this extension** check box.
7. On the **Account Code** tab, select the **Create Account Code for employee check box.**
8. On the ribbon, click **Save**.

Configuring multimedia user settings (in the Contact Center Management website)

To configure Multimedia Contact Center user settings

1. On the Configuration menu, click **Employee=>Employee.**
2. Select an employee from the list.
3. On the **Multimedia Contact Center user** tab, select the **The employee will be a Multimedia Contact Center agent** check box and specify the employee's Exchange public folder name.
4. Click **Save**.

Adding employee groups

After adding employees, you add employee groups and associate employees to these groups.

If you have an SX-200 telephone system, you must add employee groups in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess telephone system, you add employee groups in YourSite Explorer.

You add employee groups to the YourSite database so you can generate reports on employee group activities.

Adding employee groups (in YourSite Explorer)

To add an employee group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employee groups**.
3. Click **Add**.
4. Configure employee group identification information.
5. On the ribbon, click **Save**.

Associating employees with employee groups (in YourSite Explorer)

To associate an employee with an employee group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employee groups**.
3. Select an employee group from the list.
4. On the **Membership** tab, under **Available members**, select an employee and click **>** to move the employee to the **Selected members** list.
5. On the ribbon, click **Save**.

Adding employee groups (in the Contact Center Management website)

To add an employee group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Employee=>Employee group.**
3. Click **Add**.
4. Specify employee group identification information.
5. If you want all employees to be added to this employee group, select the **Automatically add all employees to this employee group** check box.
6. Click **Save**.

Associating employees with employee groups (in the Contact Center Management website)

To associate an employee with an employee group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Employee=>Employee group**.
3. Across from the employee group to which you want to associate employees, click **Members**.
4. Under **Available employees**, select the check boxes of the members to be added to the group and click **Add selected>>**.
5. Click **Save**.

Adding employee divisions

A division is composed of several employee groups. The Division tab shows the employee groups that belong to the division currently selected. When you create employee divisions in YourSite, you can run reports for several employee groups simultaneously.

If you have a 3300 ICP, 5000, or Axxess, you add employee divisions and associate employee groups to these divisions in YourSite Explorer.

To add an employee division

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employee Divisions**.
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the employee division.
5. On the ribbon, click **Save.**

To associate an employee group with an employee division

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employee Divisions**.
3. Select an employee division from the list.
4. On the **Membership** tab, under **Available members**, select an employee group and click **>** to move the employee group to the **Selected members** list.
5. On the ribbon, click **Save.**

Adding agents

You must add agent login IDs to the YourSite database for employees you want to track in real time and reporting. An employee can have more than one agent login ID but only one employee ID. You assign multiple agent login IDs to employees who are cross-trained to handle calls for different departments (different queues). For example, Carol Jones handles calls for English, French, and Spanish queues. In the YourSite database, you assign Carol three agent login IDs, one for each queue that she handles.

We recommend you browse to the employee window and create agent login IDs based on employee IDs. See "Adding employees" on page 123.

NOTE: Agents are programmed in YourSite Explorer. If agents are in a clustered environment but not hot desking and not resilient, the agent names will not display on the telephone switch. You must enter these agent names outside of Contact Center Management.

In order to provide Contact Center Work Timer functionality in Contact Center Client, every traditional agent's extension or every hot desking Agent ID must be enabled with a MiTAI monitor.

If your agents handle calls for multiple voice queues, you can add additional agent login IDs. For the SX-200, you do so in YourSite=>Configuration=>Employee=>Employee=>View agent logins. For the 3300 ICP, 5000, and Axxess, you do so in YourSite Explorer.

To add an agent

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Agents**.
3. Click **Add**.
4. After **Employee**, if you want to associate the agent to an employee, click **...** and select an employee.

5. After **First name** and **Last name**, type the agent's name.
6. After **Agent login ID**, type the agent login ID.
7. After **Media Server**, click **...** and select the media server the agent will use.
8. Select the **Disable real-time monitoring and data collection on this device** check box if you do not want to enable the agent to be set with a MiTAI monitor, viewed in Contact Center Client, and use Contact Center Softphone or Salesforce.com Connector.
   By default, this check box is not selected.
9. If you want to enable this agent for external hot desking, select the **External hot desk user enabled** check box.
   Agents that are enabled as external hot desk agents can handle non-ACD or ACD calls while logged in externally.
10. After **External dialing prefix**, type the dialing prefix for the external device to which calls will be routed.
11. After **External dialing number**, type the dialing number for the external device to which calls will be routed.
12. On the ribbon, click **Save**.

Specifying 3300 ICP options for agents

You can specify Class of Service, Class of Restriction, and failover media server options for agents in YourSite Explorer.

To specify 3300 ICP options for an agent

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Agents**.
3. Select an agent from the list.
4. Under **3300 ICP Options**, after **COS**, select a Class of Service from the list.
5. After **COR**, select a Class of Restriction from the list.
6. After **Failover media server**, click **...** and select a failover media server from the list.
7. On the ribbon, click **Save**.

Adding additional agent login IDs

To add additional agent login IDs

1. In YourSite Explorer, in the left pane, click **YourSite.**
2. Under **Devices**, click **Employees**.
3. Select an employee from the list.
4. Click the **Agent logins** tab.
5. Select an employee from the **Available members** list and click **>** to move the employee to the **Selected Members** list.
6. On the ribbon, click **Save**.

Adding agent groups

You must add agent groups to the YourSite database and associate agent login IDs to the agent groups so you can run reports on agent group activities and view agent group activities in real time.

You can associate an agent login ID to more than one agent group. See "Determining your contact center configuration needs" on page 97.

NOTE:

- If you attempt to add a group to YourSite that is already in the database the system notifies you that the group is already present. When you add a series of groups to YourSite, such as Extension Groups 1 to 5, if the system detects you have already added Extension Group 3, then it will not add Extension Group 3 or any subsequent extensions in the series (that is, Extension Group 4 or 5) to the database.
- An agent group must be composed of agents who handle contacts for the same media server type. A group of agents of mixed media types would produce a report that compares voice agents to email agents to chat agents. The comparison would not be valid. You want to compare apples to apples (emails to emails) not apples to oranges (emails to chats).

If you have an SX-200 telephone system, you must add agent groups in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess telephone system, you add agent groups in YourSite Explorer.

Adding agent groups (in YourSite Explorer)

To add an agent group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Agent groups**.
3. Click **Add**.
4. Configure agent group identification information, and select the media server for the agent group.
5. Select the **Disable real-time monitoring and data collection on this device** check box if you do not want to enable the agent group to be set with a MiTAI monitor, viewed in Contact Center Client, and use Contact Center Softphone or Salesforce.com Connector.
   By default, this check box is not selected.
6. On the ribbon, click **Save**.

Specifying 3300 ICP options for agent groups (in YourSite Explorer)

To specify 3300 ICP options for an agent group

1. Under **Devices**, click **Agent groups**.
2. Select an agent group from the list.
3. On the **3300 ICP options** tab, click **...** and select a failover media server.
4. Specify if the agent group uses skills and if calls are to be queued to the agent group when no agents are logged in.
5. On the ribbon, click **Save**.

Associating agents with agent groups (in YourSite Explorer)

To associate an agent with an agent group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Agent groups**.
3. Select an agent group from the list.
4. On the **Membership** tab, under **Available members**, select an agent and click **>** to move the agent to the **Selected members** list.
5. On the ribbon, click **Save**.

Adding agent groups (in the Contact Center Management website)

To add an agent group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Agent login=>Agent group**.
3. Click **Add**.
4. Specify agent group identification information and select the media server and failover media server for the agent group.
5. If you want all agents associated with the media server for the agent group to belong to the agent group, select the **Automatically add all agents associated with this media server to this agent group** check box.
6. Click **Save**.

Associating agents with agent groups (in the Contact Center Management website)

To associate an agent with an agent group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Agent login=>Agent group**.
3. Across from the agent group to which you want to associate agents, click **Members**. The Edit agent group members window opens.
4. Under **Available agent login IDs**, select the check boxes of the members to be added to the group and click **Add selected>>**.
5. Click **Save**.

Adding teams

After adding agent groups, you can add teams and associate agent groups to these teams.

If you have an SX-200 telephone system, you must add teams in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess telephone system, you add teams in YourSite Explorer.

Adding teams (in YourSite Explorer)

To add teams in YourSite Explorer

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Teams**.
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the team.
5. On the ribbon, click **Save**.

Associating agent groups to teams (in YourSite Explorer)

To associate agent groups to teams in YourSite Explorer

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Teams**.
3. Select a team from the list.
4. On the **Membership** tab, under **Available members**, select an agent group and click **>** to move the agent group to the **Selected members** list.
5. On the ribbon, click **Save.**

Adding teams (in the Contact Center Management website)

To add teams in the Contact Center Management

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Team**.
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the team.
5. If you want to add all agent groups to the team, select **Automatically add all agent groups to this team**.
6. Click **Save**.

Associating agent groups to teams (in the Contact Center Management website)

To associate agent groups to teams

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Team.**
3. Across from the team to which you want to associate agent groups, click **Members**.
4. The Edit team members window opens.
5. Under **Available agent groups**, select the check boxes of the members you want to add to the team and click **Add selected >>**.
6. Click **Save**.

Adding queues

You must add queues to the YourSite database so you can run reports on queue activities and view queue performance in real time. When you add a queue to the YourSite database, the configuration options available depend upon the media server you select. Media servers fall under five general categories: voice (a telephone system with or without MiTAI enabled), Intelligent Queue, email, SMS, chat, and fax.

When you add a queue to the YourSite database, you associate the queue with the agent groups that handle calls for the queue. You do this so you know which agent groups handle which queues. You must associate at least one agent group with a queue in order to produce reports on the queue. When configuring queues, you can optionally configure work timer options, such as extending the telephone system work timer beyond the ten minute maximum, or forcing agents to enter call classification codes before they handle other requests. If you select the Force entry of a classification code check box, agents will receive a pop-up in their Contact Center Client forcing them to enter a call classification code before they can answer more calls.

NOTE: When a queue is added in Contact Center Management and synchronized with the telephone system, real-time events are turned on by default.

If you have an SX-200 telephone system, you must add queues in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess telephone system, you add queues in YourSite Explorer.

Configuring general information for queues (in Your Site Explorer)

To configure general information for a queue

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queues**.
3. Click **Add**.
4. Specify queue identification information.
   The queue reporting number for a phone queue must be the same as the path reporting number on the telephone system assignment forms (for example, if the reporting number is 20, then you type P0020 for the SX-200 Real-time).
   NOTE: To ensure accurate reporting, queue reporting numbers must be unique across both active and inactive queues.
5. Click **...** and select the media server for the queue.
6. Select the **Disable real-time monitoring and data collection on this device** check box if you do not want to enable the queue to be set with a MiTAI monitor, viewed in Contact Center Client, and use Contact Center Softphone or Salesforce.com Connector.
   By default, this check box is not selected.
7. Under **Queue service objective**, specify the **Service Level goal** and the **Service Level time**.
8. If the queue is a voice or chat queue, after **Short Handle less than**, type the duration that will define a call as a short handle call.
   For example, type 3 to define a short handle call as one that lasts less than 3 seconds. Short talk calls are included in call statistics.
9. After **Short Abandon less than**, type the duration that will define an abandoned call as "Call Abandoned (Short)".
   For example, type 5 to define a short abandon call as one that is abandoned in less than 5 seconds.
10. If the queue is a voice queue, after **Dialable number**, type the path directory number listed on the telephone system assignment forms.
11. If you want to configure the queue's work timer, under **Work timer options**, select the **Use work timer** check box and specify the duration. The default duration is 00:00:00.
    NOTE:
    - Queue work timer maximum duration is dependent upon your telephone system.
      - MCD 5.0 and greater – 4 hours maximum
      - MCD 4.x or earlier – 10 minutes maximum
    - A queue's work timer must not exceed the Class of Service associated with any agents in agent groups who are associated with this queue. See "Editing Class of Service options" on page 110.
12. To force agents to enter call classification Account Codes, select the **Force entry of a classification code** check box.
    This feature is hidden unless you are licensed for Integrated Client and use either Contact Center PhoneSet Manager or Contact Center Softphone.
13. To automatically cancel contact center work timer, select the **Cancel work timer once code is entered** check box.
14. If you want to add contact center work timer time to handling time, select the **Include work timer as part of handling time** check box.
    NOTE: When "Include work timer as part of handling time" is enabled, the ACD handling time durations for reporting purposes span from ACD pick up to the end of the work timer time. When this option is disabled, the ACD handling time duration spans from ACD pick up to hang up.
15. On the ribbon, click **Save**.

Associating agent groups with queues (in YourSite Explorer)

To associate an agent group with a queue

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queues**.
3. Select a queue from the list.
4. On the **Membership** tab, under **Available members**, select an agent group and click **>** to move the agent group to the **Selected members** list.
5. On the ribbon, click **Save**.

Configuring business hours for queues (in YourSite Explorer)

You configure business hours for queues to determine when queues are available.

To configure business hours for queues

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queues**.
3. Click the **Business Hours** tab.
4. After **Business-hour schedule**, click **...** and select a schedule for the queue.
5. Click **OK**.
6. If you want to restrict the production of real-time statistics and reports to only during business hours, select the **Generate real-time statistics and reports only within the business hours selected** check box.
7. To apply the selected business-hour schedule to all queues associated with the media server, click **Submit**.
8. Click **Save**.

Configuring queue spectrum settings for queues (in YourSite Explorer)

Queue spectrum reports provide valuable information on how calls are dispersed in your contact center. You configure answer, abandon, interflow, handle, and ringing thresholds for queues in YourSite Explorer.

The answer, abandon, interflow, and talk statistics will be distributed across the queue spectrum reports in the time intervals you specify.

NOTE: The data in the queue spectrum ringing reports is derived from the ACD data stream. Queue performance report data is derived from the SMDR data stream so cannot be compared to queue spectrum ringing report data.

To configure queue spectrum settings for a queue

1. Select the spectrum value(s) you want to include in reports and specify thresholds for each. All threshold values are in seconds.
2. To apply spectrums to all queues associated with the media server, click **Submit**.
3. Click **Save**.

Specifying 3300 ICP options for queues (in YourSite Explorer)

On the 3300 ICP options tab, you can specify queue priority and the method a queue uses for handling interflowed calls in Interactive Visual Queue.

To specify 3300 ICP options for a queue

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queues**.
3. Select a queue from the list.
4. On the **3300 ICP options** tab, under **General**, specify the priority level of the queue and the queue unavailable answer point directory number.
   The highest priority level is 1. The lowest priority level is 64.
5. Under **Interflow options**, specify interflow options for the queue.
   You select Interflow to this queue uses this queue's priority if you want interflowed calls to use the queue's priority. Otherwise, interflowed calls will retain the priority levels of their originating queues.
6. On the ribbon, click **Save**.

Configuring general information for queues (in the Contact Center Management website)

To configure general information for a queue

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Click **Add**.
4. On the **Queue** tab, specify queue identification information and select the media server for the queue.
   The queue reporting number for a phone queue must be the same as the path reporting number on the telephone system assignment forms (for example, if the reporting number is 20, then you type P0020 for the SX-200 Real-time).
5. If the queue is a voice queue, after **Dialable number**, type the path directory number listed on the telephone system assignment forms.
6. After **Queue service objective**, type your queue service level goal.
7. If the queue is a voice or chat queue, after **Short Abandon**, type the duration for the call abandon parameter.
   If the abandon time is less than the call abandon parameter, then the call is a short abandon call and is not included in the call statistics (for example, type 5 to define a short abandon call as a call that lasts less than 5 seconds).
8. After **Short Handle**, type the duration for the call talk parameter.
   If the talk time is less than the call talk parameter, then the call is a short talk call (for example, type 3 to define a short talk call as a call the agent makes that lasts less than 3 seconds).Short talk calls are included in call statistics.
9. On the **Queue spectrum** tab, configure queue spectrum settings.
10. Click **Save**.

Associating agent groups with queues (in the Contact Center Management website)

To associate an agent group with a queue

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. For the queue to which you want to associate agent groups, click **Members**.
   The Edit queue members window opens.
4. Under **Available agent groups**, select the check boxes of the members you want to add to the queue and click the **Add >>** button.
5. Click **Save**.

Configuring business hours for queues (in the Contact Center Management website)

If you want to apply business hours to queues, you do so in the Contact Center Management website.

To configure business hours for a queue

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue**=>**Queue**.
3. Across from the queue for which you want to configure business hours, click **Edit**.
4. On the **Business hours** tab of the queue, select a business-hour schedule.
5. If you must create or modify a schedule for the queue, click **Manage schedule** and configure a schedule.
   See "Applying schedules" on page 170.
   For voice queues, the schedule specifies when real-time data should not be filed to the SQL database.
   For chat and email queues, the business-hours schedule specifies the time of day customers receive the business-hours auto-acknowledgment message.
6. If you want to apply this schedule to all of the queues with the same media server, select the **Apply this business-hour schedule to all queues associated with this media server** check box.
7. If the queue is a voice queue and you want to exclude statistics generated for calls received or dialed outside of business hours, select the **Generate real-time statistics and reports only within the business hours selected** check box.
   Enabling this option prevents data from being filed to the SQL database outside of business hours.
8. If you are configuring a voice queue using Interactive Visual Queue, click the **Interactive Visual Queue** tab and specify the queue priority settings.
9. If the queue is a voice queue using a media server with MiTAI, click the **Interactive Contact Center queue control** tab and specify the queue control plan.
   See "Configuring Interactive Contact Center Queue control" on page 140.
10. If the queue is a voice queue, click **Save**. Otherwise continue with step 11.
11. If the queue is an email queue, specify Multimedia Contact Center Email options.
    See "Configuring Multimedia Contact Center Email routing options" on page 144.
12. If the queue is a chat queue, specify Multimedia Contact Center Chat routing options.
    See "Configuring Multimedia Contact Center WebChat routing options" on page 145.
13. If the queue is a fax queue, specify Multimedia Contact Center Fax options.
    See "Configuring Multimedia Contact Center Fax routing options" on page 146.
14. Click **Save**.

Configuring Interactive Contact Center Queue control

NOTE:

- You must install Interactive Contact Center before you can use Interactive Contact Center Queue control. It is available to queues associated with 3300 ICP and 5000/Axxess media servers only.
- Before you can use Interactive Contact Center Queue control, you must save the queue.

Using queue control plans, you can place queues in and remove queues from Do Not Disturb automatically based on predefined criteria. Each queue control plan monitors one queue, and based on the activity of the queue, either places a queue in, or removes a queue from Do Not Disturb.

NOTE: 5000/Axxess queues cannot be placed in Do Not Disturb and can only redirect calls to an alternate answering point.

Queue control plans open and close queues based on plan parameters only during business hours. Each queue is controlled by only one queue control plan at a time. You can apply the same queue control plan to several queues.

Interactive Contact Center Queue control is configured in the Contact Center Management website.

To configure Interactive Contact Center Queue control

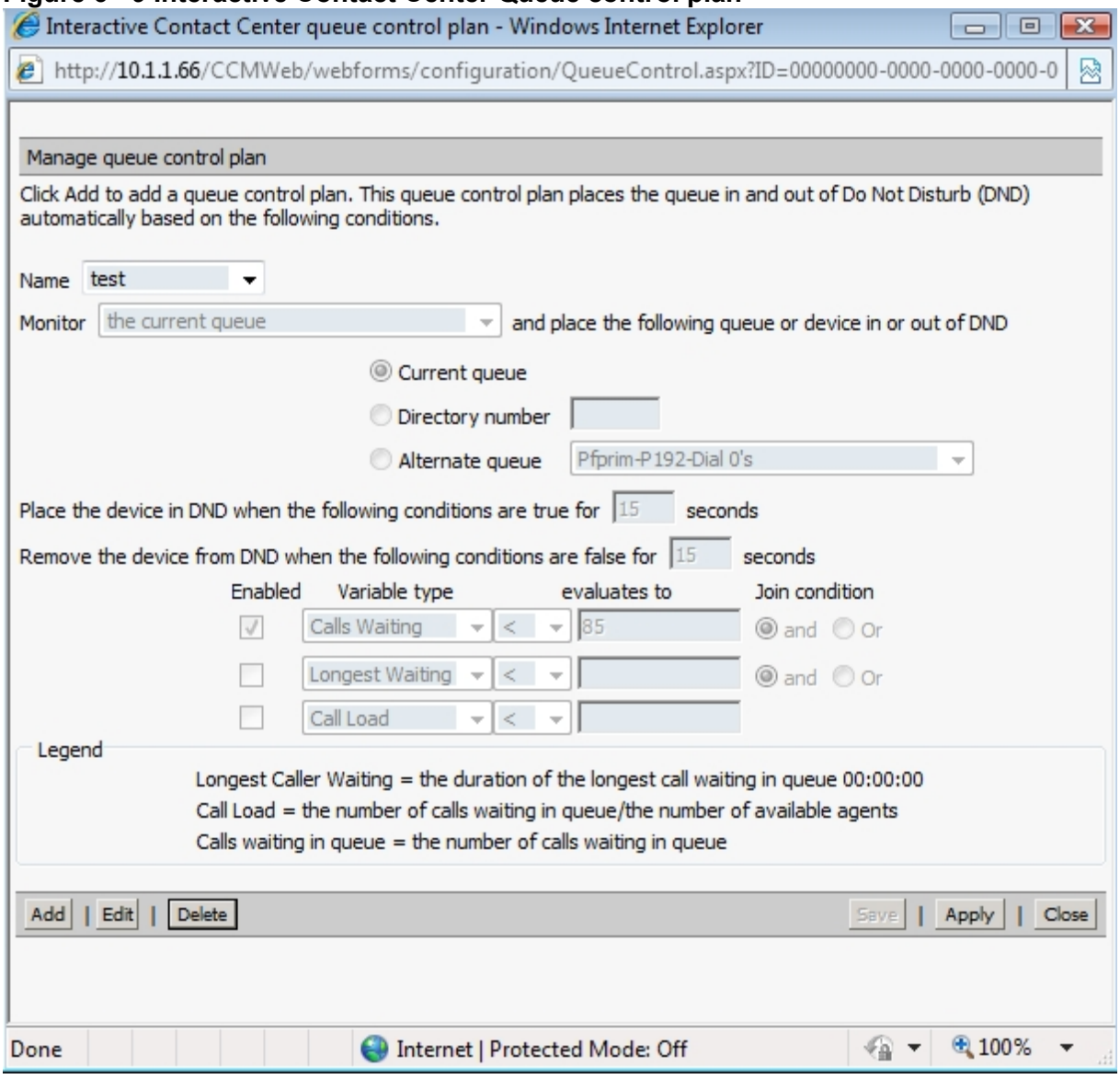
1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Across from the queue for which you want to configure Interactive Contact Center Queue control, click **Edit**.
4. On the **Interactive Contact Center queue control** tab of the queue, select the **This queue uses Interactive Contact Center queue control** check box.
5. After **Interactive Contact Center queue control schedule**, select the business hours schedule for the queue.
6. If you must create or modify a schedule for the queue, click **Manage schedule** and configure a schedule.
   See "Applying schedules" on page 170.
7. After **Interactive Contact Center queue control plan**, select the queue control plan for the queue.
8. If you must create or modify a control plan for the queue, click **Manage queue control plan** and configure a plan.
   See "Managing a queue control plan (3300 ICP)" on page 140.
9. Click **Save**.

Managing a queue control plan (3300 ICP)

To manage a queue control plan

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Across from the queue for which you want to manage a queue control plan, click **Edit**.
4. On the **Interactive Contact Center queue control** tab of the queue, click **Manage queue control plan**.
   See Figure 6 - 9.

Figure 6 - 9 Interactive Contact Center Queue control plan



5. After **Name**, type the name of the plan.
6. After **Monitor**, select **the current queue** or an alternate queue.
   An alternate queue is available only when you have more than one queue programmed in YourSite Explorer. The queues are displayed in the following format: site - media server - queue reporting number - queue name.
7. Select the queue or device that you want to place in, or remove from Do Not Disturb.
   You can control the current queue, an alternate queue (on the same media server), or a directory number. The current queue is always the queue to which the plan is applied. If you do not monitor the current queue, then the current queue must be affected. The directory number is the dialable number of a queue or extension. The directory number can be between 1 and 7 digits, inclusive. If you monitor the current queue you can affect an alternate queue. For example, you can affect another voice queue in your contact center.
8. After **Place the device in DND when the following conditions are true for**, type the duration, in seconds, that you want a condition to be true before the queue or device enters Do Not Disturb.

9. After **Remove the device from DND when the following conditions are false for**, type the duration, in seconds, that you want a condition to be false before the queue or device is removed from Do Not Disturb.
10. After **Enabled**, select the check boxes of the variables to be included in the plan.
11. After **Variable type**, if you select **Calls Waiting**, select a symbol or combination of symbols (>=, <, =, >, <=) and type the relevant number of calls after which you want the queue plan to take action.
    For example, if you select = *5*, then the queue control plan will take action only when there are 5 calls waiting in queue.
12. After **Variable type**, if you select **Longest Waiting**, select a symbol or combination of symbols (>=, <, =, >, <=) and type the duration (hh:mm:ss) after which you want the queue plan to take action.
    For example, if you select > *00:05:00*, then the queue control plan will take action only after the longest call waiting in queue has been waiting for more than five minutes.
13. After **Variable type**, if you select **Call Load**, select a symbol or combination of symbols (>=, <, =, >, <=) and type the duration (hh:mm:ss) after which you want the queue plan to take action.
    For example, if you select >= *10*, then the queue control plan will take action only when the call load is at 10 calls, or more, per agent.
14. Click **Save**.

Managing a queue control plan (5000/Axxess)

To manage a queue control plan

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue**=>**Queue**.
3. Across from the queue for which you want to manage a queue control plan, click **Edit**.
4. On the **Interactive Contact Center queue control** tab of the queue, click **Manage queue control plan**.
5. After **Name**, type the name of the plan.
6. After **Monitor**, select **the current queue** or an alternate queue.
   An alternate queue is available only when you have more than one queue programmed in YourSite Explorer. The queues are displayed in the following format: site - media server - queue reporting number - queue name.
7. Select the queue or device that you want to redirect calls to.
   You can control the current queue, an alternate queue (on the same media server), or a directory number. The current queue is always the queue to which the plan is applied. If you do not monitor the current queue, then the current queue must be affected. The directory number is the dialable number of a queue or extension. The directory number can be between 1 and 7 digits, inclusive. If you monitor the current queue you can affect an alternate queue. For example, you can affect another voice queue in your contact center.
8. After **Redirect the device when the following conditions are true for**, type the duration, in seconds, that you want a condition to be true before the queue or device is redirected.
9. After **Remove the device from redirection when the following conditions are false for**, type the duration, in seconds, that you want a condition to be false before the queue or device is redirected.
10. After **Enabled**, select the check boxes of the variables to be included in the plan.
11. After **Variable type**, if you select **Calls Waiting**, select a symbol or combination of symbols (>=, <, =, >, <=) and type the relevant number of calls after which you want the queue plan to take action.
    For example, if you select = *5*, then the queue control plan will take action only when there are 5 calls waiting in queue.

12. After **Variable type**, if you select **Longest Waiting**, select a symbol or combination of symbols (>=, <, =, >, <=) and type the duration (hh:mm:ss) after which you want the queue plan to take action.
    For example, if you select > *00:05:00*, then the queue control plan will take action only after the longest call waiting in queue has been waiting for more than five minutes.
13. After **Variable type**, if you select **Call Load**, select a symbol or combination of symbols (>=, <, =, >, <=) and type the duration (hh:mm:ss) after which you want the queue plan to take action.
    For example, if you select >= *10*, then the queue control plan will take action only when the call load is at 10 calls, or more, per agent.
14. Click **Save**.

Configuring reporting intervals (SX-200)

Configuring reporting intervals is done in the Contact Center Management website.

To configure the reporting intervals for the abandon, answer, interflow, and handle statistics for the queue

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue**=>**Queue**.
3. Across from the queue for which you want to configure reporting intervals, click **Edit**.
4. On the **Queue spectrum** tab, edit the spectrum time intervals.
   When you run spectrum reports the statistics will be spread across the time intervals selected.
5. Optionally select the **Apply spectrums to all queues associated with this media server** check box.
6. On the **Business hours** tab, specify the business hours for the queue.
7. Click **Save**.

Configuring Multimedia Contact Center Email options

You can optionally configure email queues to handle SMS media. Configuring Multimedia Contact Center Email options is done in the Contact Center Management website.

To configure email options

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue**=>**Queue**.
3. Across from an email queue, click **Edit**.
4. Click the **Multimedia Contact Center Email options** tab.
5. After **Public email address**, type the email or Web address customers use to contact your company.
   NOTE:
   - The Queue public folder name is permanent.
   - Exchange will attempt to assign an email address (<QueueName>@yourdomain.com) to the queue public folder. However, if that email address already exists, it might assign an email address named <QueueName>2@yourdomain.com. To correct this, you must use Active Directory Users and Computers and/or Exchange System Manager to swap the email address of the conflicting mail-enabled items. To do this, you modify the properties on the email address tab for the appropriate User, Distribution List, or Public Folder.
6. After **Queue public folder name**, type the name associated with the public email address.
   The queue public folder name is the name used to describe the alias email for the queue. For example, if the alias is Support@yourcompany.com, then the public folder name could be Support.
   The Queue Public Folder Name displays in the Outlook public folder list as CyberAED/Queues/<QueueName>.
7. Click **Save**.

Configuring Multimedia Contact Center Email routing options

You can configure Multimedia Contact Center queues to handle email or short messaging service (SMS) messages. As a best practice, we recommend you configure each multimedia queue to handle one contact type only.

In order to handle SMS contacts, you must configure a Multi-Tech SMSFinder modem or a Multi-Tech SMSFinder multi-port modem on the Multimedia Contact Center server. Each SMS queue requires a modem port and you can install as many modems as you have queues.

Configuring Multimedia Contact Center Email routing options is done in the Contact Center Management website.

To configure email routing options

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Across from an email queue, click **Edit**.
4. Click the **Multimedia Contact Center Email/SMS routing options** tab.
5. After **Priority of this queue in relation to all other queues associated with this media server**, type a priority value between 1 and 10 inclusive.
   The priority value is assigned to the queue. The value 1 has the highest priority.
6. After **Agent requeue time**, type the time in minutes that an email will ring in the assigned agent's inbox before it is put back into the same queue and offered to the next available agent.
7. After **Duration an email is on hold before the agent requeue timer begins**, type the time in minutes that an email can be on hold in the assigned agent's inbox before a warning flashes to indicate that the requeue timer will start.
   You specify the length of time the requeue timer runs in the Agent requeue time field.
8. After **Interflow Time**, type the time in minutes an email can wait in the original queue before it is sent to another queue (the interflow queue).
9. If you want to direct queue-delayed emails to an alternate queue, click **Internally interflow contacts to this email queue** and select the queue to which you will interflow the emails.
   The email will be interflowed to this queue after it has waited in the original queue for a set period of time (the interflow time).
10. If you want to direct queue-delayed emails to a specific email address, click **Externally interflow contacts to this email address** and type the address to which you will interflow the emails.
11. If this queue handles SMS messages, under **SMS Options**
    - After **Phone Number**, type the phone number of the SMS modem's SIM card.
    - After **SMSFinder Server,** type the IP address of the SMS modem.
    - After **User name**, type the SMS modem user name.
    - After **Password**, type the SMS modem password.
    - After **Remote Port**, type the connection port number of the modem.
      NOTE: Entering the connection port number of the modem is not required but is strongly encouraged to avoid cycling through all occupied ports.
12. If you are using a Multi-Tech SMSFinder multi-port modem, select **Load last SMS Options settings** to use the SMS Options settings from step 11 for each port on the modem.
    NOTE: The Phone Number field must be changed to match the SMS modem's SIM card number for each port.
13. Click **Save**.

Configuring Multimedia Contact Center WebChat routing options

Configuring Multimedia Contact Center Webchat routing options is done in the Contact Center Management website.

To configure chat routing options

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Across from a chat queue, click **Edit**.
4. Click the **Multimedia Contact Center WebChat Routing options** tab.
5. After **Priority of this queue in relation to all other queues associated with this media server**, type a priority value between 1 and 10 inclusive.
   The priority value 1 has the highest priority.
6. After **Number of chat sessions that can be simultaneously routed to each agent for this queue**, enter a number between 1 and 10 inclusive.
7. After **Requeue time**, type the time (in seconds) that a chat message will ring in the assigned agent's inbox before it is put back into the same queue and offered to the next available agent.
8. After **Interflow time**, type the time in minutes a chat message can wait in the original queue before it is sent to another queue (the interflow queue).
9. If you want to direct queue-delayed chat messages to an alternate queue, after **Internally interflow contacts to this chat queue** select the queue.
   The chat message will be interflowed to this queue after it has waited in the original queue for a set period of time (the interflow time you specified above).
10. After **Queue public folder name**, type the name associated with the public email address.
    The queue public folder name is the name used to describe the alias email for the queue. For example, if the alias is Support@yourcompany.com, then the public folder name could be Support.
    The Queue Public Folder Name displays in the Outlook public folder list as CyberAED/Queues/<QueueName>.
11. After **Internal email address**, type the email address the Multimedia Contact Center server uses to send chat requests to the chat public folder corresponding with the queue.
12. Click **Save**.

Configuring Multimedia Contact Center WebChat transcript options

Configuring Multimedia Contact Center Webchat transcript options is done in the Contact Center Management website.

To configure transcript options

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Across from a chat queue, click **Edit**.
4. Click the **Multimedia Contact Center WebChat Transcript options** tab.
5. If you want your customers to receive chat transcripts, select the **Email a chat transcript to the customer after the chat session is complete** check box.
6. After **Transcript email address**, type your company's public email address.
7. Click the **Multimedia Contact Center auto acknowledgement** tab.
8. If you want to activate auto acknowledgement messages for this queue, select the **Enable auto-acknowledgement messages for this queue** check box.
9. Select auto acknowledgement messages to be used during business hours and outside business hours.

10. If you want to create or modify an auto acknowledgement message, click **Manage**, type a title and body text for the auto acknowledgement message, click **Apply** or **Add** (depending on whether you are creating a new message or modifying a previous message), and click **Save**.
11. Click **Save**.

Configuring Multimedia Contact Center Fax options

Configuring Multimedia Contact Center Fax options is done in the Contact Center Management website.

To configure fax options

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Across from a fax queue, click **Edit**.
4. Click the **Multimedia Contact Center Fax options** tab.
5. After **Public email address**, type the address of the public fax address.
   NOTE:
   - The queue public folder name is permanent.
   - Exchange will attempt to assign an email address (<QueueName>@yourdomain.com) to the queue public folder. However, if that email address already exists, it might assign an email address named <QueueName>2@yourdomain.com. To correct this, you must use Active Directory Users and Computers and/or Exchange System Manager to swap the email address of the conflicting mail-enabled items. To do this, you modify the properties on the email address tab for the appropriate User, Distribution List, or Public Folder.
6. After **Queue public folder name**, type the name associated with the public email address.
   The queue public folder name is the name used to describe the alias email for the queue. For example, if the alias is Support@yourcompany.com, then the public folder name could be Support.
   The Queue Public Folder Name displays in the Outlook public folder list as CyberAED/Queues/<QueueName>.
7. After **Email address for email replies**, type the email address where you want email replies sent.
8. After **Email address for fax replies**, type the email address where you want fax replies sent.
9. After **GFI reply commands**, optionally type fax code for additional fax directives.
   For example, you might want to add a cover sheet to each fax sent out.
10. Click **Save**.

Configuring Multimedia Contact Center Fax routing options

Configuring Multimedia Contact Center Fax routing options is done in the Contact Center Management website.

To configure fax routing options

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the Configuration menu, click **Queue=>Queue**.
3. Across from a fax queue, click **Edit**.
4. Click the **Multimedia Contact Center Fax Routing options** tab.
5. After **Priority of this queue in relation to all other queues associated with this media server**, type a priority value between 1 and 10 inclusive.
   The priority value 1 has the highest priority.
6. Under **Requeue Options**, after **Agent requeue time**, type the minutes after which the fax contact re-queues.
7. After **Duration a fax is on hold before the agent requeue timer starts**, type the minutes after which the fax contact enters the requeuing sequence.
8. Under **Interflow options**, after **Interflow Time**, type the minutes after which the fax contact is interflowed.

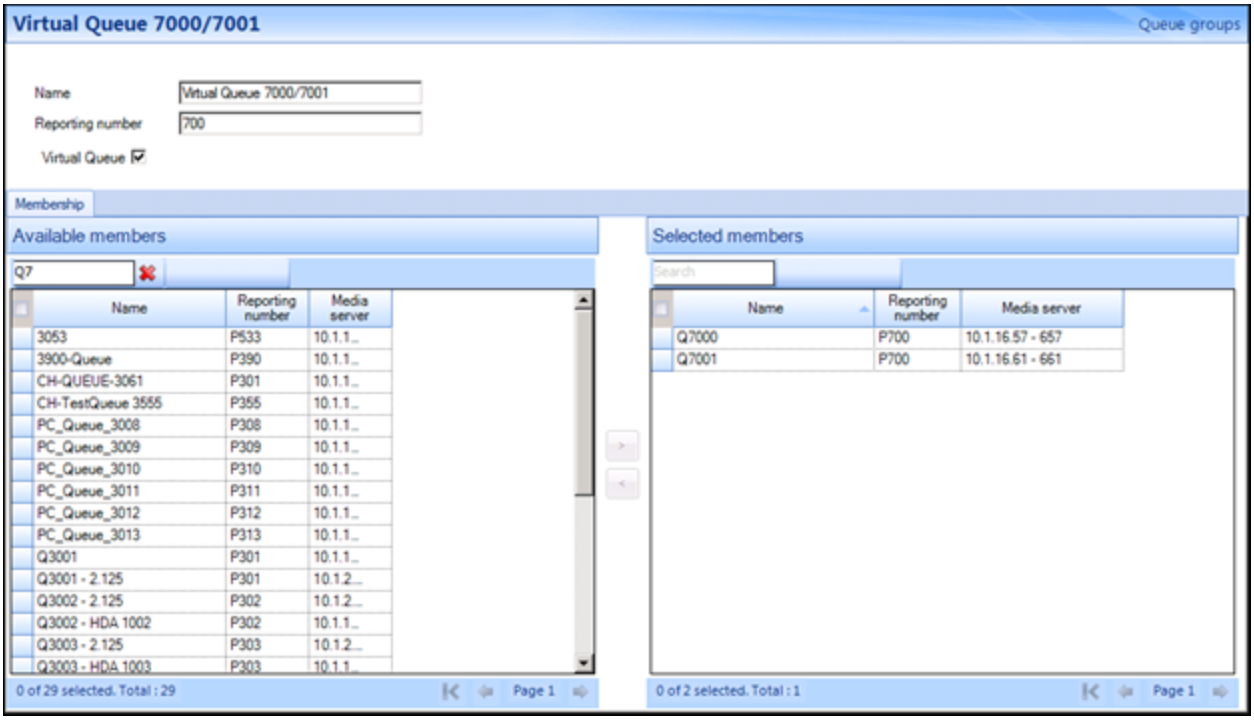
9. If you want the fax to interflow to a specific fax queue, select the **Internally interflow to this fax queue** check box, and select the interflow queue.
10. If you want the fax to interflow to a specific email address, select the **Externally interflow contacts to this email address** check box, and type the interflow email address.
11. Click **Save**.

Adding queue groups

Queue groups can optionally be configured as Virtual queue groups in YourSite Explorer. Virtual queue groups are comprised of two or more queues across one or more telephone switches that all send ACD calls to the same pool of agent groups, balancing loads across queues. Queues within a virtual queue group must have the must have the same reporting numbers, the same agent groups, and different dialable numbers. For example, in Figure 6 - 10 below, the virtual queue group is made from two queues on two different telephone systems:

- PBX 1: Queue 7000: reporting number P700, dialable 7000 on PBX1, agent groups 700, 701, 702 assigned
- PBX 2: Queue 7001: reporting number P700, dialable 7001 on PBX2, agent groups 700, 701, 702 assigned

Figure 6 - 10 Virtual Queue Group



Virtual queue groups provide the ability to merge multiple queues into a single visual representation in Interactive Visual Queue and provide callers with an accurate position in queue through the Updated Position in Queue messaging service.

NOTE: Although virtual queue groups are added and configured under Queue Groups in YourSite Explorer, a virtual queue group is treated as a singular entity.

You must add queue groups to the YourSite database, and associate queues to the queue groups so you can run reports on queue group activities and view queue group activities in real time.

NOTE: When a queue is added in Contact Center Management and synchronized with the telephone system, real-time events are turned on by default.

If you have an SX-200 telephone system, you must add queue groups in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess telephone system, you add queue groups in YourSite Explorer.

Adding queue groups (in YourSite Explorer)

To add a queue group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queue Groups.**
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the queue group.
5. If you want to make the queue group a Virtual queue group, select the **Virtual Queue** check box.
   NOTE: Virtual queue groups may include queues from multiple telephone systems, but the queues must have the same reporting numbers, different dialable numbers, and the same agent groups.
6. On the ribbon, click **Save**.

Associating queues with queue groups (in YourSite Explorer)

To associate a queue with a queue group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queue Groups**.
3. Select a queue group from the list.
4. On the **Membership** tab, under **Available members**, select a queue and click **>** to move the queue to the **Selected members** list.
5. On the ribbon, click **Save**.

Adding queue groups (in the Contact Center Management website)

To add a queue group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Queue=>Queue group**.
3. Click **Add**.
4. Specify queue group identification information.
5. If you want to add all queues to this queue group, select the **Automatically add all queues to this queue group** check box.
6. Click **Save**.

Associating queues with queue groups (in the Contact Center Management website)

To associate a queue with a queue group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Queue=>Queue group**.
3. Across from the queue group to which you want to associate queues, click **Members**.
   The Edit queue group members window opens.

4. Under **Available queues**, select the check boxes of the members to be added to the group and click **Add selected >>**.
5. Click **Save**.

Adding extensions

When you perform Synchronization, YourSite Explorer is configured to mirror the phone set extension numbers/base directory numbers (DNs) on the 3300 ICP. If you have traditional agents that can sit at multiple locations within your organization, hot desking agents, or general business hot desking extensions, we recommend you give these base extensions generic names based on the position of the physical DNs (for example, Base DN: Floor 2, Desk 1). We recommend only general business hot desking extensions assigned to specific hot desking users be given user-based names (for example, Hot desking extension: John, Smith). If you have traditional ACD agents who sit at the same desk every day, or traditional extension phone sets that belong to single users, we recommend that the base DNs be configured with the user's names.

NOTE: Agents are programmed in YourSite Explorer. If agents are in a clustered environment but not hot desking and not resilient, the agent names will not display on the telephone switch. You must enter these agent names outside of Contact Center Management.

In order to provide Contact Center Work Timer functionality in Contact Center Client, every traditional agent's extension or every hot desking Agent ID must be enabled with a MiTAI monitor.

If your agents handle calls for multiple voice queues, you can add additional agent login IDs. For the SX-200, you do so in YourSite=>Configuration=>Employee=>Employee=>View agent logins. For the 3300 ICP, 5000, and Axxess, you do so in YourSite Explorer.

Adding extensions (in YourSite Explorer)

NOTE: For information on configuring extensions for IVR Routing, see "Configuring extensions" on page 440.

To add an extension in YourSite Explorer

1. In YourSite Explorer, click **YourSite=>Devices**.
2. Click **Extensions**.
3. Click **Add**.
4. Under **General**, specify extension identification information and click **...** to select the media server and failover media server for the extension.
5. Select the **Class of Service** for the media server, from the drop-down list.
6. Under **Notes**, select the **Disable real-time monitoring and data collection on this device** check box if you do not want to enable the extension to be set with a MiTAI monitor, viewed in Contact Center Client, and use Contact Center Softphone or Salesforce.com Connector.
   By default, this check box is not selected.
7. If the extension is a general business hot desking extension, select the **Is general business hot desking** check box.
8. If the extension will be costed with Call Accounting, under **Licensing**, select the **Cost this extension** check box.
9. If you want to enable this extension for external hot desking, select the **External hot desk user enabled** check box.
   Extensions that are enabled as external hot desk users can handle non-ACD calls while logged in externally.

10. After **External dialing prefix**, type the dialing prefix for the external device to which calls will be routed.
11. After **External dialing number**, type the dialing number for the external device to which calls will be routed.
12. On the ribbon, click **Save**.

Adding extensions (in the Contact Center Management website)

To add an extension

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Extension=>**.
3. Click **Add**.
4. If you want to create an employee ID and associate it with the extension, select the **Create a new employee for this extension** check box.
   NOTE: Select this check box only if you have not already added employee IDs to the database. Some employees have multiple extension reporting numbers. Associating an employee with each of the employee's extensions enables you to run an employee report and consolidate the data for all of the employee's extensions.
5. Specify extension identification information and select a media server and failover media server for the extension.
6. After **Site**, select the site with which to filter the media server list.
7. Under **Advanced options**(3300 ICP only),
   - If the extension is resilient, click **This extension is resilient**.
   - If the extension will be costed with Call Accounting and you are not licensed for Call Accounting resiliency, click **This extension is costed**.
   - If you are licensed for Call Accounting resiliency and the extension will be resilient and costed, click **This extension is resilient and costed**.
   - To apply the advanced option to all extensions associated with the media server, select the **Apply this setting to all extensions associated with this media server** check box.
8. Click **Save**.

Adding extension groups

After adding extensions, you add extension groups and associate extensions with these groups.

If you have an SX-200 telephone system, you must add extension groups in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess, you add extension groups in YourSite Explorer.

Adding extension groups (in YourSite Explorer)

To add an extension group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Extension groups**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the extension group.
5. On the ribbon, click **Save**.

Associating extensions with extension groups (in YourSite Explorer)

To associate an extension with an extension group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Extension groups**.
3. Select an extension group from the list.

4. On the **Membership** tab, under **Available members**, select an extension and click **>** to move the extension to the **Selected members** list.
5. On the ribbon, click **Save**.

Adding extension groups (in the Contact Center Management website)

To add an extension group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Extension=>Extension group**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the extension group.
5. If you want to add all voice extensions to this extension group, select **Automatically add all voice extensions to this extension group**.
6. On the ribbon, click **Save**.

Associating extensions with extension groups (in the Contact Center Management website)

To associate an extension with an extension group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Extension=>Extension group**.
3. Across from the extension group to which you want to associate extensions, click **Members**. The Edit extension group members window opens.
4. Under **Available extensions**, select the check boxes of the members to be added to the group and click **Add selected >>**.
5. Click **Save**.

Adding trunks

If you have an SX-200 telephone system, you must add trunks in the Contact Center Management website using YourSite=>Configuration. If you have a 3300 ICP, 5000, or Axxess, you add trunks in YourSite Explorer.

NOTE:

- If you want to report on SMDR information for SIP trunks you must ensure your SMDR tag is numbered. Please see the *Contact Center Management Installation Guide.*
- We recommend you name trunks and trunk groups in a way that helps you identify them as either SIP or TDM trunks, enabling the trunk type to be easily identified in reports.

Adding trunks (in YourSite Explorer)

To add a trunk

1. In YourSite Explorer, in the left pane, click **YourSite.**
2. Under **Devices**, click **Trunks**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the trunk.
5. Click **...** and select a **Media server** to associate with the trunk.
6. On the ribbon, click **Save**.

Adding trunks (in the Contact Center Management website)

To add a trunk

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Trunk=>**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the trunk.
5. Select a **Site** to associate with the trunk.
6. Select a **Media server** to associate with the trunk.
7. Click **Save**.

Adding trunk groups

You add trunk groups and then associate trunks with the trunk groups.

If you have a 3300 ICP, 5000, or Axxess, you add trunk groups in YourSite Explorer. If you have an SX-200, you add trunk groups in the Contact Center Management website.

NOTE:

- If you have Traffic Analysis and/or Call Accounting and use the same trunk group numbers across multiple telephone systems, you must associate each trunk group with a media server.
- We recommend you name trunks and trunk groups in a way that helps you identify them as either SIP or TDM trunks, enabling the trunk type to be easily identified in reports.

If you have Traffic Analysis and/or Call Accounting and use the same trunk group numbers across multiple telephone systems, you must associate each trunk group with a media server.

Adding trunk groups (in YourSite Explorer)

To add a trunk group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Trunk groups**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the trunk group.
5. Click **...** and select a **Media server** to associate with the trunk group.
6. On the ribbon, click **Save**.

Associating trunks with trunk groups (in YourSite Explorer)

To associate a trunk with a trunk group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Trunk groups**.
3. Select a trunk group from the list.
4. On the **Membership** tab, under **Available members**, select a trunk and click **>** to move the trunk to the **Selected members** list.
5. On the ribbon, click **Save**.

Adding trunk groups (in the Contact Center Management website)

To add a trunk group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Trunk=>Trunk Group**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the trunk group.
5. Select a **Media server** to associate with the trunk group.
6. If you want to add all trunks to this trunk group, select the **Automatically add all trunks to this trunk group** check box.
7. Click **Save**.

Associating trunks with trunk groups (in the Contact Center Management website)

To associate a trunk with a trunk group

1. In Contact Center Management, click **YourSite=>Configuration.**
2. On the Configuration menu, click **Trunk=>Trunk group**.
3. Across from the trunk group to which you want to associate trunks, click **Members**.
   The Edit trunk group members window opens.
4. Under **Available trunks**, select the check boxes of the members to be added to the trunk group and click **Add selected >>**.
5. Click **Save**.

Adding DNIS

Dialed Number Identification Service (DNIS) is a feature of toll-free lines that identifies the telephone number the caller dials. This assists agents who handle calls for more than one business or product line. Each business or product line has its own toll-free number. When a caller dials a toll-free number, the telephone system forwards information to the agent allowing the agent to identify who the caller dialed. For example, a caller dials a toll-free number for a cruise line. The telephone system sends a script to the agent along with the call. The agent then knows to answer “Good morning. Thank you for calling Southern Cruises,” instead of the name of another cruise line serviced by the center.

Adding DNIS (in YourSite Explorer)

To add a DNIS

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **DNIS**.
3. Click **Add**.
4. Specify DNIS identification information and click **...** to select the media server for the DNIS.
5. After **Short Abandon**, type the duration for the call abandon parameter. If the abandon time is less than the call abandon parameter, then the call is a short abandon call and is not included in the call statistics (for example, type 5 to define a short abandon call as a call that lasts less than 5 seconds).
6. After **Service Level**, type the Service Level time.
7. If you have Call Accounting, select a carrier plan, call type, and call rate.
8. On the ribbon, click **Save**.

Adding DNIS (in the Contact Center Management website)

To add a DNIS

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **DNIS=>.**
3. Click **Add**.
4. Specify DNIS identification information and select the media server for the DNIS.
5. After **Short Abandon**, type the duration for the call abandon parameter. If the abandon time is less than the call abandon parameter, then the call is a short abandon call and is not included in the call statistics (for example, type 5 to define a short abandon call as a call that lasts less than 5 seconds).
6. After **Service Level**, type the Service Level time.
7. Click **Save**.

Adding DNIS groups

After adding DNIS, you can create DNIS groups and then associate DNIS numbers for specific businesses or product lines to those groups.

Adding DNIS groups (in YourSite Explorer)

To add a DNIS group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **DNIS groups**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the DNIS group.
5. On the ribbon, click **Save**.

Associating DNIS to DNIS groups (in YourSite Explorer)

To associate a DNIS with a DNIS group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **DNIS groups**.
3. Select a DNIS group from the list.
4. On the **Membership** tab, under **Available members**, select a DNIS and click **>** to move the DNIS to the **Selected members** list.
5. On the ribbon, click **Save**.

Adding DNIS groups (in the Contact Center Management website)

To add a DNIS group

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **DNIS=>DNIS Group**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the DNIS group.
5. If you want to add all DNIS to this DNIS group, select the **Automatically add all DNIS to this DNIS group** check box.
6. Click **Save**.

Associating DNIS to DNIS groups (in the Contact Center Management website)

To associate a DNIS with a DNIS group

1. On the configuration menu, click **DNIS=>DNIS Group.**
2. Across from the DNIS group to which you want to associate DNIS, click **Members**.
   The Edit DNIS group members window opens.
3. Under **Available DNIS**, select the check boxes of the members to be added to the DNIS group and click **Add selected >>**.
4. Click **Save**.

Adding Account Codes

Account Codes can be verified, non-verified, or forced.

- **Verified and Non-Verified Account Codes**
  Verified and Non-Verified Account Codes allow callers to complete a call without entering a code. These codes are used to categorize calls or portions of calls. You define Account Codes in the YourSite database to generate reports for specific departments, services, and companies. For example, an agent who receives calls for three catalog companies enters Account Code 01 for calls to company X, Account Code 02 for calls to company Y, and Account Code 03 for calls to company Z. When you configure the Account Codes, Contact Center Management generates reports on the number, origin, and handling of calls for each of the departments, services, or companies.
- **Forced Account Codes**
  Both Verified and Non-Verified Account Codes can be forced. With Forced Verified Account Codes, you must enter the Account Code as soon as the phone is off-hook. With Forced Non-Verified Account Codes, you must enter the Account Code after you dial the phone number.

  For example, you might have 03 programmed on the telephone system as the trunk access code for calling England. Before you make a call to England, you must preface the telephone number with the Account Code 03, otherwise the call will not go through. To report on these verified Account Codes, you define them in the YourSite database.

NOTE:

- If you will used forced account codes and have a Make Busy button programmed on your Mitel phone set, you must remove the Make Busy button, or forced account codes will not work with Interactive Contact Center and Contact Center PhoneSet Manager.
- If a Forced Verified Account Code is not entered in before work timer expires, then a -1 Non Compliant Code will be automatically assigned to the call.

You can add Account Codes for individual departments, projects, and services and generate reports on them. Agents can tag incoming calls with Account Codes for various services. Agents who work for companies that use Call Accounting can use Account Codes to gain access to outside lines.

If you are adding Account Codes to be used by voice agents, you print a copy of your telephone system assignment forms to use as a guide for programming. If you are adding Account Codes to be used by email, SMS, chat, or fax agents, you enter Account Code reporting numbers of your choice.

You can label Account Codes as call classification codes. This option associates the entire handling time to calls of this Account Code type. This option is available for contact centers that have the 3300 ICP only.

If you have an SX-200, you add Account Codes in Contact Center Management, YourSite=>Configuration.

If you have a 3300 ICP, 5000 or Axxess, you add Account Codes in YourSite Explorer.

Adding Account Codes (in YourSite Explorer)

To add an Account Code

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Codes.**
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the Account Code.
5. If the Account Code will be used as a call classification code, select the **Use as Classification Code** check box.
   NOTE:
   - When the "Use as Classification Code" check box is enabled, the Account Code duration spans from the time the call arrives until the call ends. When you disable the "Use as Classification Code" check box, the Account Code duration spans from the time the code was entered until the next code is entered or the call ends.
   - As a best practice, we recommend you name all call classification codes for easy identification or group call classification codes in Account Code groups.
6. On the ribbon, click **Save**.

Adding Account Codes (in the Contact Center Management website)

To add an Account Code

1. In Contact Center Management, click **YourSite=>Configuration.**
2. On the configuration menu, click **Account Code**.
3. Click **Add**.
4. Select the employee ID that is associated with this Account Code.
5. Type a **Name** and **Reporting number** for the Account Code.
6. Click **Save**.

Adding Account Code groups

You can create Account Code groups to group similar Account Codes or to differentiate traditional Account Codes and call classification codes. Agents can readily identify and select appropriate Account Codes using the soft phone or Interactive Contact Center and supervisors can report on Account Code groups.

To add an Account Code group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Code Groups.**
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the Account Code group.
5. On the ribbon, click **Save.**

Associating Account Codes with Account Code groups

To associate an Account Code with an Account Code group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Code groups**.
3. Select an Account Code group from the list.
4. On the **Membership** tab, under **Available members**, select an Account Code and click **>** to move the Account Code to the **Selected members** list.
5. On the ribbon, click **Save**.

Adding Account Code categories

In businesses that use a large number of Account Codes, Account Code categories can be used to provide a hierarchical and grouped listing of the Account Codes available to agents and employees from the soft phone toolbar within Contact Center Client. You configure Account Code categories from within YourSite Explorer. Once you have configured Account Codes, they can be nested under specific Account Code categories. An Account Code can only be in one category. Call Classification Codes, which are treated the same way as Account Codes, can optionally be nested in Account Code categories. Account Code category availability to agents and employees can optionally be controlled using Contact Center Management / Call Accounting security. When Account Code categories are enabled, Contact Center Management / Call Accounting reports will display the Account Code category path (for example, Sales=>Automotive=>Tires).

To enable Account Code categories

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Codes.**
3. In the ribbon, click the **Configuration** tab.
4. Enable the **Display Account Codes in categories**checkbox.

To add an Account Code category

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Codes.**
3. In the ribbon, click the **Configuration** tab.
4. Ensure the **Display Account Codes in categories** checkbox is enabled.
5. Click **Edit categories**.
   The Account Code category designer displays.
6. Using the Account Code category designer, add and name Account Code categories in the left pane and then add the Account Codes you have configured, which display in the left pane) to the custom categories.
   Account Code categories are sorted by category name and Account Code reporting number. Account Code categories will display in soft phone toolbars exactly as you have designed them in the Account Code category designer. If you have Account Code categories enabled, but do not assign Account Codes to categories, leaving them in the right pane of the designer, these Account Codes will not be available in the soft phone toolbar.

Adding ANI

You define area codes and corresponding regions on the ANI tab. The ANI window provides area codes used to produce reports on the number of telephone calls originating from various geographical regions.

To add an ANI number

1. In Contact Center Management, click **YourSite=>Configuration=>ANI**.
2. Click **Add**.
3. Specify ANI identification information.
4. After **Digits to follow**, type the digits that follow the ANI number.
5. Click **Save**.

Adding Make Busy Reason Codes

Voice agents can place themselves in Make Busy using their phone sets, provided the Make Busy with Reason option is enabled on the telephone system. Using Interactive Contact Center, agents can place themselves in Make Busy with reason in Contact Center Client, and supervisors can place agents in Make Busy with reason in Contact Center Client. Agents enter Make Busy Reason Codes to indicate why they are placing themselves in Make Busy and not answering contacts.

If you have Interactive Contact Center or Multimedia Contact Center, you assign Make Busy Reason Codes the reporting numbers of your choice. Otherwise, you type Make Busy Reason Code reporting numbers listed on the telephone system assignment forms.

Two Make Busy Reason Codes are configured by default with Contact Center Management and cannot be deleted from YourSite Explorer: Contact Center Work Timer (Reporting Number -3) and System Make Busy Code (Reporting Number -1). The -3 Make Busy Reason Code is specifically allocated for configurations that use Contact Center Work Timer instead of the default Mitel telephone system Work Timer.

The -1 Make Busy Reason Code is allocated for when:

- Multimedia Contact Center messages are requeued
- Multimedia Contact Center agents force forward messages
- Smart Algorithms are enabled and an agent goes into an ACD ringing state
- Certain Exchange public folder errors. For example, if errors are encountered with Exchange public folders for a specific agent for too many consecutive times

These codes are programmed with a minus (-) in front of them because Make Busy Reason Code 0 is reserved for telephone system Make Busy and custom Make Busy Reason Codes and can be programmed using any digit between 1-9 on the dial pad.

Adding Make Busy Reason Codes (in YourSite Explorer)

To add a Make Busy Reason Code

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Make Busy Reasons**.
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the Make Busy Reason Code.
5. On the ribbon, click **Save**.

Adding Make Busy Reason Codes (in the Contact Center Management website)

To add a Make Busy Reason Code

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Make Busy Reason Code.**
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the Make Busy Reason Code.
5. Click **Save**.

Adding Do Not Disturb Reason Codes

Interactive Contact Center, an optional application, enables supervisors who have a 3300 ICP, 5000, or Axxess telephone system to control the availability of agents and ACD queues. Likewise, agents can control their own availability, including placing themselves in or removing themselves from Do Not Disturb. There are many reasons why agents place themselves in Do Not Disturb. You assign these reasons in YourSite Explorer.

To add a Do Not Disturb Reason Code

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **DND Reason Codes**.
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the Do Not Disturb Reason Code.
5. On the ribbon, click **Save**.

Adding phone numbers

The phone number device enables you to

- Add contacts.
- Edit location information that displays in reports.

When adding a phone number to the database, you select

- **Area/City code** when you are adding or updating the area code for a province/state/city
  For the phone number 613-599-0045, 613 is the area code.
- **City exchange** when you are adding a new exchange
  For the phone number 613-599-0045, 599 is the city exchange (Kanata).
- **Contact** when you are adding a phone number with contact information
  For the phone number 613-599-0045, 5990045 is the contact.

To add a phone number area/city code

1. In YourSite Explorer, in the left pane, click **YourSite.**
2. Under **Devices**, click **Phone numbers**.
3. Click **Add=>Add an area/city code**.
4. Select a country and type an area/city name and area code.
   An area can be a city, region, province, or state.
5. On the ribbon, click **Save**.

To add city exchange information

1. In YourSite Explorer, in the left pane, click **YourSite.**
2. Under **Devices**, click **Phone numbers**.
3. Click **Add=>Add a city exchange**.
4. After **Country**, select a country.
5. After **Area/City name**, select a city, region, province, or state (for example, Greater Toronto Area).
6. After **City name**, type the name of a city or suburb (for example, Thornhill).
7. After **City/Exchange**, type a city exchange number (for example, 231).
   For the phone number 416-231-5555, 231 is the city exchange.
8. On the ribbon, click **Save**.

To add phone number contact information

1. In YourSite Explorer, in the left pane, click **YourSite.**
2. Under **Devices**, click **Phone numbers**.
3. Click **Add=>Add a contact**.
4. After **Country**, select a country.
5. After **Area/City name**, select a city, region, province, or state (for example, Washington).
6. After **City name**, select a city or suburb (for example, Des Moines).
7. Type a contact name and number.
   This information displays in the Phone Number Accounting Trace and Phone Number Group Accounting Trace reports.
8. If you want to hide the contact name and number in reports select the **Hide the name and number in reports** check box.
9. On the ribbon, click **Save**.

Adding phone number groups

You can associate Phone numbers with Phone number groups. Phone number groups are added in YourSite Explorer and then Phone numbers are associated with them.

To add a Phone number group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Phone number groups**.
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the Phone number group.
5. On the ribbon, click **Save.**

To associate a Phone number with a Phone number group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Phone number groups**.
3. Select a phone number group from the list.
4. On the **Membership** tab, under **Available members**, select a Phone number and click **>** to move the Phone number to the **Selected members** list.
5. On the ribbon, click **Save.**

Adding auto-acknowledgement messages and associating them with queues

You define the Multimedia Contact Center acknowledgement the customer receives (after emailing or sending a chat message to your company) on the Multimedia Contact Center auto-acknowledgement tab. For example, the Payment Response acknowledgement sent to a customer upon payment for an order might be "Thank you for shopping with us. Your order is scheduled for delivery on May 05, 2009 between the hours of 9:00 A.M. and 5:00 P.M., pending credit approval."

To add an auto-acknowledgement

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Multimedia Contact Center=>Multimedia Contact Center auto-acknowledgement**.
3. Click **Add**.
4. After **Name**, type the name of the auto-acknowledgement.
5. After **Body**, type the message the caller will receive.
6. Click **Save**.

To associate an auto-acknowledgement with a queue

1. In Contact Center Management, click **YourSite=>Configuration**.
2. On the configuration menu, click **Queue=>Queue**.
3. Across from a queue with an email, chat, or fax media server, click **Edit**.
4. On the **Multimedia Contact Center auto-acknowledgement** tab, select the **Enable auto-acknowledgement messages for this queue** check box.
5. After **During business hours, the auto-acknowledgement message is**, select a business-hours auto-acknowledgement message.
   An auto-acknowledgement is a greeting the client receives in response to contacting your company by email, SMS, chat, or fax. For example, the auto-acknowledgement could be "Thank you for your email. We will respond to your request shortly."
6. If you must create or modify an auto-acknowledgement message, click **Manage** and configure a message.
7. After **Outside business hours, the auto-acknowledgement message is**, select an after-hours auto-acknowledgement message.
8. Click **Save**.

Configuring Intelligent Queue devices

NOTE: You must have the Intelligent Queue application, and add an Intelligent Queue media server to your site before you can view the Intelligent Queue option on the YourSite Configuration menu. See "Adding Intelligent Queue media servers" on page 93.

Viewing Smart Choice layers

You can configure your ports to act as options, or Smart Choice message trees. Each option will play a user-defined message and transfer the caller to a user-defined destination, or allow the customer to create a voice callback if this option has been purchased.

To view Intelligent Queue Smart Choice layers in the YourSite database

- In Contact Center Management, click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice layer**.
  The Intelligent Queue Smart Choice layer window opens.
  Under Media server, the Intelligent Queue media servers are listed.
  Under Reporting number, the Intelligent Queue Smart Choice layer reporting numbers are listed.
  Under Name, the Intelligent Queue Smart Choice layer names are listed.

Adding Smart Choice layer groups

To add an Intelligent Queue Smart Choice layer group

1. In Contact Center Management, click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice layer group**.
2. Click **Add**.
   The Add an Intelligent Queue Smart Choice layer group window opens.
3. Specify identification information for the Smart Choice layer group.
4. Click **Save**.

Adding Smart Choice layers to a Smart Choice layer group

To add Intelligent Queue Smart Choice layers to an Intelligent Queue Smart Choice layer group

1. In Contact Center Management, click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice layer group**.
   The Intelligent Queue Smart Choice layer group window opens.
2. Across from the record of the Smart Choice layer group just created, click **Members**.
3. Under **Available Intelligent Queue Smart Choice layers**, select the check boxes of the members you want to add to the group and click **Add >>**.
4. Click **Save**.

Viewing Intelligent Queue ports

To view Intelligent Queue ports in the YourSite database

- In Contact Center Management, click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice port**.
  The Intelligent Queue Smart Choice port window opens.
  Under Media server, the media server associated with each Intelligent Queue port is listed.
  Under Reporting number, the Intelligent Queue port reporting numbers are listed.
  Under Name, the Intelligent Queue port names are listed.
  Under Dialable number, the dialable numbers are listed.

Adding Intelligent Queue port groups

To add an Intelligent Queue port group

1. In Contact Center Management, click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice port group**.
2. Click **Add.**
   The Add an Intelligent Queue Smart Choice port group window opens.
3. Specify identification information for the Intelligent Queue port group.
4. Click **Save.**

Adding Intelligent Queue ports to an Intelligent Queue port group

To add an Intelligent Queue port to an Intelligent Queue port group

1. In Contact Center Management, click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice port group**.
   The Intelligent Queue Smart Choice port group window opens.
2. Across from the record of the Intelligent Queue Smart Choice port group just created, click **Members**.
   The Edit Intelligent Queue Smart Choice port group members window opens.
3. Under **Available Intelligent Queue Smart Choice ports**, select the check box of the member you want to add to the group and click **Add >>**.
4. Click **Save**.

Viewing Intelligent Queue Smart Choice layer exit codes

Exit codes trigger each exit from a queue or from the auto attendant. They apply to Smart Choice message queues, RAD queues, and routing queues.

To view Intelligent Queue Smart Choice layer exit codes in the YourSite database

- In Contact Center Management, click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice layer exit code**.
  The Intelligent Queue Smart Choice layer exit code window opens.
  Under Reporting number, the Intelligent Queue exit code reporting numbers are listed.
  Under Name, the Intelligent Queue exit code names are listed.

Configuring employee scheduling preferences

Schedule Builder uses employee preferences/options as parameters when scheduling employees. You must configure employee scheduling preferences accurately in YourSite Explorer to create a meaningful schedule.

To configure employee information for scheduling

1. Select the employee or employees you want to configure.
2. Specify the employee role.
   See "Configuring employee roles" on page 164.
3. Specify employee work hours.
4. Specify employment status.
   See "Configuring employment status" on page 164.
5. Specify employee payroll information.
   See "Configuring employee payroll information" on page 164.
6. Specify employee availability.
   See "Configuring employee availability" on page 165.
7. Specify time off information
   See "Configuring employee time off" on page 165.
8. Specify employee skills
   See "Configuring employee skills" on page 166.

Configuring employee roles

To configure an employee role

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employees**.
3. Select the employee to which you will add an employee role.
4. On the **Workforce Scheduling** tab, click **General**.
5. If the employee is a supervisor who will schedule employees, select the **Is a supervisor of scheduled employees** check box.
6. After **Schedule supervisor name**, select the name of the scheduling supervisor from the list.
7. On the ribbon, click **Save**.

Configuring employee work hours

To configure employee work hours

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Work hours**.
5. Enter the minimum and maximum number of hours the employee can work in a day, week, or year.
6. If you want to schedule the employee for an unlimited number of hours, click **Unlimited**.
7. After **Minimum time required between shifts**, enter the minimum number of hours required between the employee's shifts.
   NOTE: Ensure you set a minimum time between shifts or Schedule Builder will schedule back-to-back shifts for employees.
8. If the employee is permitted to work overtime, under **Available**, select an overtime type from the list and click **>** to move the overtime type to the **Assigned** list.
9. On the ribbon, click **Save**.

Configuring employment status

To configure employment status

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees.**
3. Select an employee.
4. On the **Workforce Scheduling tab, click Payroll.**
5. If the selected employee is full-time, under **Employment status**, select **Full time**.
6. If the selected employee is part-time, under **Employment status,** select **Part time**.
7. On the ribbon, click **Save**.

Configuring employee payroll information

NOTE: If you want to schedule employees by seniority, the employee must be assigned a hire date.

To configure employee payroll information

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Payroll**.
5. Under **Salary**, after **Pay period**, select the pay period for the employee.

6. If the employee is paid an hourly salary, next to **Hourly salary**, specify the employee's pay per hour.
7. If the employee is paid a yearly salary, next to **Yearly salary**, specify the employee's yearly salary and the typical number of hours the employee works in a week.
8. On the ribbon, click **Save**.

Configuring employee availability

NOTE: If you do not specify availability, Schedule Builder assumes the employees are available 24 hours a day, seven days a week.

To configure employee availability

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling.**
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling tab, click Availability.**
5. Select the **Uses availability** check box**.**
6. Under **New Availability**, after **Work day**, select the day of the week the employee availability applies to from the list.
7. If the employee is available only during certain hours of the day, select **Part of the day** and specify the hours the employee is available.
8. If the employee is available all day, select **Full day**.
9. Click **Add availability.**
10. On the ribbon, click **Save**.

Configuring employee time off

To configure employee time off

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Time off**.
5. If the employee's time off is carried over based on their start date, under **Carryover date**, select **Employee start date**.
6. If the employee's time off is carried over based on a fixed date, under **Carryover date**, select **Fixed date** and specify the carryover date.
7. If the employee is permitted time off, under **Available**, select the time off type from the list and click **>** to move the time off type to the **Assigned** list.
8. On the ribbon, click **Save**.

Overriding employee time off

To override an employee time off type

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Time off**.
5. Under **Assigned time off**, select a time off type to override.
6. If you want to override the total number of time off hours allowed, select the **Override total hours allowed** check box and specify the number of hours.
7. If you want to override a percent of time off hours based on time worked, select the **Override % of hours worked** check box and specify the number of hours.

8. If you want to override the number of hours that can be carried over, select the **Override allowed carry over** and specify the number of hours.
9. If you want to override the time off hours available to the employee, after **Available as of**, specify the date after which the time off hours are available and number of hours that will be available.
10. On the ribbon, click **Save**.

Configuring employee skills

NOTE: If you have selected multiple employees to edit, skills that are not available to these employees are grayed out and cannot be assigned.

To configure employee skills

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling.**
2. Click **Employees.**
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Skills**.
5. Under **Available**, select the skill type from the list and click **>** to move the skill type to the **Assignedlist.**
6. Repeat step 5 for all skills the employee will use.
7. On the ribbon, click **Save**.

Configuring scheduling options

Before you can make schedules in Workforce Scheduling, you must configure the following scheduling options in YourSite Explorer

- Employees
  See "Adding employees" on page 123.
- Holidays
  See "Configuring holidays" on page 166.
- Overtime types
  See "Configuring overtime types" on page 167.
- Time off types
  See "Configuring time off types" on page 167.
- Skills
  See "Configuring skills" on page 168.

Configuring holidays

You configure holiday options on the Holidays window. You can add holidays that affect your contact center, specify which holidays give employees the day off, and specify which holidays are paid.

To configure a holiday

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Holidays**.
3. Click **Add**.
4. After **Name**, type the name of the holiday.
5. If this holiday is a company holiday and you want to receive warnings when trying to schedule employees for this day, select the **This holiday is a company holiday** check box.

6. Specify the pattern of the holiday.
   - If the holiday always falls on the same day of the month, select **Every** and specify the month and date the holiday falls on.
   - If the holiday has a pattern of falling on a certain day, week, and month, select **The** and specify the pattern, day of week, and month.
   - If the holiday is a calculated holiday, such as Good Friday or Easter Monday, select **Calculated holiday** and specify the holiday.
7. On the ribbon, click **Save**.

Configuring overtime types

You can configure the following overtime parameters:

- **Pay rate multiplier—**The number of times by which the basic pay is increased to calculate the overtime pay rate. For example, if the pay rate multiplier is 1.5 and applied to $10 per hour, the overtime pay rate is $15 per hour
- **Color—**The color in which the job displays in the time bar pane
- **Hours worked in a given day are greater than—**The number of hours in a day an employee must work before the employee is paid at the overtime pay rate
- **Hours worked in a given week are greater than—**The number of hours in a week an employee must work before the employee is paid at the overtime pay rate
- **Days of the week worked—**Any work done on these days will be considered overtime pay
- **Day of the year worked—**Any work done on this specific date will be considered overtime pay
- **Holiday worked—**Any work done on this specific holiday will be considered overtime pay

To configure an overtime type

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Overtime**.
3. Click **Add**.
4. After **Name**, type the name of the overtime type.
5. Under **Effects**, enter a pay rate modifier and select a color for the overtime type.
6. Under **Conditions**, select either **Hours worked**, **Days of the week worked**, **Days of the year worked**, or **Holiday worked**.
   - If you select Hours worked, you must select either Hours worked on a given day are greater than or Hours worked on a given week are greater than and specify the number of hours.
   - If you select Days of the week worked, select they days of the week to which this overtime type applies.
   - If you select Days of the year worked, select the days of the year to which this overtime type applies.
   - If you select Holiday worked, select the holiday to which this overtime type applies.
7. On the ribbon, click **Save**.

Configuring time off types

Employees might take time off work for a variety of reasons. Depending on the nature of time taken off, employees might be paid, employees might be required to take a full day as time off, and employees might accrue time off (for example, vacation).

Create time off types that reflect the time off that employees take at your contact center.

- Consider if the type of time off should accrue, such as vacation, time off for a medical procedure, or personal days.
- Consider when the time off is accrued. For example, an employee might accrue 1 day of paid sick leave per month.

- Consider if the type of time off must be taken as a full day.
- Consider if employees must qualify for the type of time off.
- Consider if employees can carry the time off over to the next year.

Workforce Scheduling can warn you when employees do not qualify for the time off or when the scheduled time off is not within the limits allowed.

To configure a time off type

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Time off**.
3. Click **Add**.
4. After **Name**, type the name of the time off type.
5. If employees will be paid for this time off type, under **Effects**, select the **Paid time off** check box and select a color for the time off type.
6. If employees can request this type of time off from Employee Portal, under **Effects**, select the **Can be requested** check box.
7. Under **Employment duration qualification**, select either the **Employed for at least** or **Employed no more than** check box and specify the number of months.
8. Under **Scheduling limitations**, select either the **You must schedule this type in increments of at least** or **You must not schedule this type for more than** check box and specify the number of hours per day/week.
9. If you want to limit the number of hours this time off type can be scheduled, select the **Limit the number of hours that can be scheduled** check box.
    - If you want to fix the annual amount of this time off type, select **Fixed annual amount of** and specify the number of hours.
    - If the annual hours of this time off type are accrued, select the **Annual hours are accrued** check box and select either **Weekly**, **Biweekly**, or **Monthly**.
    - If you want to base this time off type on a percent of the number of hours worked, select **Based on hours worked at a rate of** and specify a percent.
    - If you want to carry over a fixed amount of accumulated time off hours, select **Percent of accumulated hours, at a rate of** and specify a percent.
    - If you want to carry over a percent of accumulated time off hours, select **Percent of accumulated hours, at a rate of** and specify a percent.
10. On the ribbon, click **Save**.

Configuring skills

Employees offer a variety of different skills. For example, some employees might be bilingual or have certification in a specialty. Using Workforce Scheduling, you can incorporate these skills when you create your schedules.

Configuring the different types of skills allows you to create and manage schedules that incorporate the skills and skill levels of your employees. When you create schedules, Workforce Scheduling allows you to schedule employees with specific skill sets.

NOTE: Skill levels range from 1 to 10, level 10 being the highest skill level, or most skilled, and level 1 being the lowest skill level. Remember this when you configure employees in YourSite Explorer or on the Contact Center Management website.

To configure a skill

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Skills**.
3. Click **Add**.
4. After **Name**, type a name for the skill.
5. On the ribbon, click **Save**.

Business hour schedules

You create schedules that accurately reflect the business hours of your operation. You can create yearly or seasonal schedules. When you install Contact Center Management, the 24/7 default schedule is created. This schedule is for businesses that operate 24 hours a day, seven days a week.

Your contact center software performs certain tasks during business hours and other tasks after business hours. For example, Multimedia Contact Center sends business hour auto-acknowledgement messages to customers who contact you by email or chat during your business hours, and sends outside business hour auto-acknowledgement messages to customers who contact you by email or chat after your business closes for the day. You create schedules so that Contact Center Management knows what the hours of operation are for your business.

You create schedules for the SX-200 media server in the Contact Center Management website, under YourSite=>Schedule. You create schedules for 3300 ICP, 5000, and Axxess media servers in YourSite Explorer=>Schedules.

Creating schedules

The schedules you create do not expire. The weekly schedule configuration applies week after week until you change the schedule or apply a different schedule to the device. You can exclude specific dates from the schedule for national holidays.

To create a schedule in YourSite Explorer

1. In **YourSite Explorer**, click **Schedules**.
2. Click **Add**.
3. After **Name**, type the name of the schedule (for example, type Fall 2008 schedule).
4. After **Schedule exclusion list**, click **...** and select a schedule exclusion list.
5. If you must create or modify an exclusion list for the schedule, click **Manage schedule exclusion list** and configure a list of days to exclude from the schedule.
   See "Managing schedule exclusion lists" on page 170.
6. After **Start time**, select the business day start time for each day of the week.
7. After **End time**, select the business day end time for each day of the week.
8. After **Disable for day**, enable the check box for each day your business is closed.
9. Click **Save**.

To create a schedule in the Contact Center Management website

1. In Contact Center Management, click **YourSite=>Schedule**.
2. Click **Add**.
   The Add a schedule window opens
3. After **Name**, type the name of the schedule (for example, type Fall 2007 schedule).

4. After **Schedule exclusion list**, select a list.
5. If you must create or modify an exclusion list for the schedule, click **Manage schedule exclusion list** and configure a list.
   See "Managing schedule exclusion lists" on page 170.
6. After **Start time**, select the business day start time for each day of the week.
7. After **End time**, select the business day end time for each day of the week.
8. After **Disable for day**, select the check box for each day your business is closed.
9. Click **Save**.

Managing schedule exclusion lists

To manage schedule exclusion lists in YourSite Explorer

1. In **YourSite Explorer**, click **Schedules**.
2. Click **Add**.
3. Click **Manage schedule exclusion list**.
4. After **Name**, type the name of the exclusion list.
5. On the calendar, click the dates you want to exclude from the schedule.
6. Click **Save**.
7. Click **Apply** to apply the new schedule exclusion list to the schedule.

To manage schedule exclusion lists in Contact Center Management

1. In Contact Center Management, click **YourSite=>Schedule**.
   The Schedule window opens.
2. Click **Add** or **Edit**.
3. Click **Manage schedule exclusion list**.
4. After **Name**, type the name of the exclusion list.
5. On the calendar, click the dates you want to exclude from a schedule.
6. Click **Save**.
7. Click **Apply** to apply the new schedule exclusion list to the schedule.

Applying schedules

You can apply the schedules you create to

- Media servers— See "Adding media servers" on page 74
- Queues— See "Adding queues" on page 135
- Network Monitor alarms— See "Network Monitor alarms" on page 94
- WallBoarder sign plan business hour and scheduled messages— See "Creating sign plans for daisy-chained signs" on page 263
- Interactive Contact Center Queue control— See "Configuring Interactive Contact Center Queue control" on page 140

Monitoring and alarming subsystem

Contact Center Solutions uses a centralized alarming system that is entirely configured in YourSite Explorer. The Maintenance Alarm Dispatcher service is located on the Enterprise Server and performs server maintenance activities as well as controlling all alarming in the network. Alarm notifications are sent for each device that is triggering an alarm and distributed in the following ways:

- **Email:** Summary emails are sent to valid email subscribers and list all current, active alarm statuses as well as a list of alarms that triggered the alert.
- **RSS:** An RSS feed is published on the server and can be subscribed to by any RSS reader that has been given access to the server.
- **SNMP:** A count of alerting alarms for each category can be viewed in an SNMP manager.
- **Start Page:** A list of currently active Contact Center Management alarms with a Knowledge Base article list of descriptions, severity, impact on contact centers, and troubleshooting can be viewed on the Start Page of YourSite Explorer. (See "YourSite Explorer Start Page" on page 65.)

By default, alarms are configured to expire after 24 hours.

The Server Monitoring Agent is a standalone service that is deployed on each server in the enterprise. It monitors performance counter values based on alarm configuration, collects external alarm data from services, and notifies the Maintenance Alarm Dispatcher service when alarm states surpass configured thresholds.

Alarms may also be viewed with the Enterprise Status icon and RSS feed link, located in the lower-right corner of the YourSite Explorer window. The Enterprise Status icon is a circular, colored status indicator. The color indicates the highest level of severity for all alarms currently alerting (Normal = Green, Minor = Yellow, Major = Orange, Critical = Red, Unknown = Gray). If you subscribe to the RSS feed and your RSS reader is open, you will be notified with changes to alarm states. If you don't subscribe to the RSS feed, you can click the RSS feed link and view active alarms in your default browser.

In addition to receiving notification of alarms, you can quickly view Enterprise status and active alarms using the YourSite Explorer Start Page's Alarms tab. The Alarms tab consists of two panes: the Feed Preview and the prairieFyre Knowledge Base pane. The Feed Preview contains an RSS feed of the active alarms. The prairieFyre Knowledge Base pane contains a table of contents linking to relevant Knowledge Base (KB) articles for each alarm. Each KB article contains a description of the reason for the alarm, the severity of the alarm, the impact on contact centers, and troubleshooting steps.

Alarms are categorized based on the type of data they analyze. There are three types of alarms:

- **Performance counter and Registered services performance counters alarms:** based on performance counters
- **Media server alarms:** independently tracked for each media server
- **General alarms:** all other alarms

Alarms are configured in YourSite Explorer=>Enterprise=>Alarms.

To configure performance counter and Registered services performance counter type alarms

1. In YourSite Explorer, click **YourSite=>Alarms**.
   NOTE: Alarms is located in the Enterprise pane.
2. Select the performance counter or Registered services performance counters alarm you want to configure.
3. Click the **General** tab.
4. Select a category type from the drop-down list after **Category**, if you want to specify in which SNMP category you want this alarm to display.
5. Set minor, major, and critical thresholds and threshold durations for the alarm.
   The threshold duration you specify determines the length of time an alarm state is active before an alarm is triggered and notification is sent.
   You can disable any of the thresholds by selecting Disabled from the drop-down list next to the threshold.
6. Select the **Realert on value change** check box if you want to be notified every time the alarm value changes.
7. If you want to disable this alarm, click **Disable**.
8. If you want to temporarily disable this alarm, click **Snooze** and choose a length of time for which the alarm will be disabled. If you want to disable the alarm for a length of time outside of the available choices, click **Customize** and choose a time by using the options in the **Select Wake Time** window.
9. Click the **Actions** tab.
10. Select the **Enabled** check box if you want subscribers to receive emails when alarms are triggered.
11. Click **…** and select a **business hour** schedule to apply to this alarm.
12. If you want to receive notifications for critical alarms outside of specified business hours, select the **Ignore business hours for critical alerts** check box.
13. Click **Save**.

To configure media server type alarms

1. In YourSite Explorer, click **YourSite=>Alarms**.
   NOTE: Alarms is located in the Enterprise pane.
2. Select the media server type alarm you want to configure.
3. Click the **General** tab.
4. Select a category type from the drop-down list after **Category**, if you want to specify in which SNMP category you want this alarm to display.
5. After **Severity**, select the level of severity you want to apply to this alarm (minor, major, or critical).
6. After **Duration**, select the length of time the alarm state is active before an alarm is triggered and notification is sent.
7. Select the **Realert on value change** check box if you want to be notified every time the alarm value changes.
8. If you want to disable this alarm for specific media servers, after **Disable media servers**, click **…**, select the media server from the **Select disabled media servers** window, and click **OK**.
9. If you want to disable this alarm, click **Disable**.
10. If you want to temporarily disable this alarm, click **Snooze** and choose a length of time for which the alarm will be disabled. If you want to disable the alarm for a length of time outside of the available choices, click **Customize** and choose a time by using the options in the **Select Wake Time** window.
11. Click the **Actions** tab.
12. Select the **Enabled** check box if you want subscribers to receive emails when alarms are triggered.
13. Click **…** and select a **business hour** schedule to apply to this alarm.
14. If you want to receive notifications for critical alarms outside of specified business hours, select the **Ignore business hours for critical alerts** check box.
15. Click **Save**.

To configure general type alarms

1. In YourSite Explorer, click **YourSite=>Alarms**.
   NOTE: Alarms is located in the Enterprise pane.
2. Select the general type alarm you want to configure.
3. Click the **General** tab.
4. Select a category type from the drop-down list after **Category**, if you want to specify in which SNMP category you want this alarm to display.
5. After **Severity**, select the level of severity you want to apply to this alarm (minor, major, or critical).
6. After **Duration**, select the length of time the alarm state is active before an alarm is triggered and notification is sent.
7. Select the **Realert on value change** check box if you want to be notified every time the alarm value changes.
8. If you want to disable this alarm, click **Disable**.
9. If you want to temporarily disable this alarm, click **Snooze** and choose a length of time for which the alarm will be disabled. If you want to disable the alarm for a length of time outside of the available choices, click **Customize** and choose a time by using the options in the **Select Wake Time** window.
10. Click the **Actions** tab.
11. Select the **Enabled** check box if you want subscribers to receive emails when alarms are triggered.
12. Click **…** and select a **business hour** schedule to apply to this alarm.
13. If you want to receive notifications for critical alarms outside of specified business hours, select the **Ignore business hours for critical alerts** check box.
14. Click **Save**.

Validating alarms

Some alarms require the system to be validated before the alarms will clear. The Validate button must be clicked after the values have been corrected, otherwise the alarm will not be cleared until nightly synchronization. The alarm may not clear with nightly synchronization if the value is still wrong.

Consult the alarm's Knowledge Base article for validation information.

Enabling SNMP agent for alarms

Contact Center Solutions/Call Accounting includes an SNMP agent that enables you to monitor Contact Center Solutions/Call Accounting alarms through an SNMP manager. Contact Center Solutions/Call Accounting SNMP agent integrates with the Windows SNMP service and requires that a Windows SNMP Service be added and configured on the Enterprise Server.

The Contact Center Solutions/Call Accounting SNMP agent is primarily configured for traps only, but also responds to Get-request messages for trap messages.

SNMP Agent provides information on nine categories of alarms:

- General Category Alarm
- Data Collection Alarms
- Server Resource Alarm
- Communication Alarm
- License Violation Alarm
- IVR Alarm
- Reporting Alarm
- Performance Alarm
- Configuration Alarm

The value reported for each alarm category is the highest severity of alarm currently triggered in that category.

Configuring Windows SNMP service for the SNMP agent

Contact Center Solutions and Call Accounting requires the use of the Windows SNMP service for the Contact Center Solutions SNMP agent.

To configure Windows SNMP service for the SNMP agent

1. If you do not have SNMP Service installed on your server, install it using the **Add/Remove Program**, **Add Features**, or **Add roles and features** function of your Window server.
2. After the installation has completed, navigate to **Services**.
3. Right-click on **SNMP** and select **Properties**.
4. Select the **Traps** tab.
5. Under **Community name**, type a community name, such as **Public**, and click **Add to list**.
6. Under Trap destinations:, click **Add**.
7. Under **Host name, IP or UPX address:**, type the destination for Contact Center Solutions SNMP Agent traps.
8. Click **Add**.
9. Select the **Security** tab.
10. Click **Add**.
11. In the **Community rights** drop-down list, select **READ WRITE**.
12. Under **Community name:**, type **Public**.
13. Select the **Log On** tab.
14. Under **Log on as:**, select **Local System Account**.
15. Click **OK**.

    NOTE: After setting up your SNMP Agent, it is recommended you test it using an appropriate tool to confirm that it has been configured correctly.

SNMP MIB summary

Table 6 - 7 and Table 6 - 8 summarize object information from the MIB. The MIB is located in <drive>]/CCM/Services/MaintenanceAlarmDispatcher/Snmp.

Table 6 - 7 prairieFyre sub-tree

Object Type	Object Identifier
enterpriseAlarms	prairieFyre 1
enterpriseAlarms	prairieFyre 2
enterpriseAlarms	prairieFyre 3

Table 6 - 8 MIB enterpriseAlarms sub-tree summary

Object Type	Syntax Integer	Max Access	Description	Object Identifier
manufacturer	manufacturer	read-only	prairieFyre Software's Contact Center Suite	enterpriseAlarms 1
overridingSystemAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	This is the cumulative total of all reporting active alarms and should be viewed as the overriding alarm state that the prairieFyre suite is now reporting.	enterpriseAlarms 2
generalCatagoryAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	When a software entity raises an alarm not covered in the following list then it is categorized as a general alarm.	enterpriseAlarms 3
dataCollectionAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One of the Media Controller Data Link Connections within the prairieFyre Enterprise is offline. This could be a connection to a PBX or an e-Mail Server or SMS transport server or some other controller of a media transaction that is configured to be connected to the prairieFyre suite.	enterpriseAlarms 4
serverResourceAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more software services in the prairieFyre suite is reporting an unusual consumption of computer resources. This may a result of an exceptionally high CPU consumption or running low on phys-	enterpriseAlarms 5

Object Type	Syntax Integer	Max Access	Description	Object Identifier
			ical memory, for example. This may require a service restart to resolve.	
communicationsAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more service endpoints is reporting an error in its control channel with an associated endpoint. This may be a socket or WCF channel or may be an MSMQ error that is preventing normal process flow in the prairieFyre software suite.	enterpriseAlarms 6
licenseViolationAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	The prairieFyre Enterprise Licensing Manager is reporting that the installation is violating or has attempted to exceed enforced license limits for their installation. This may be configuring the YSE services for features or capacity they have not purchased.	enterpriseAlarms 7
ivrAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	The IVR services are reporting an alarm, which may be due to media ports being out of service or an inability to load a call flow.	enterpriseAlarms 8

Object Type	Syntax Integer	Max Access	Description	Object Identifier
reportingAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	The reporting engine is reporting an error that implies it cannot generate a requested report due to a system inoperability error. This may be a corrupt report template or could be a transaction error on the retrieval of SQL data to fill the report.	enterpriseAlarms 9
performanceAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more of the service endpoints in the prairieFyre suite is reporting an overload condition	enterpriseAlarms 10
configurationAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more of the service endpoints in the prairieFyre suite is reporting an error when loading configuration data.	enterpriseAlarms 11

Security roles

You create security roles if you want to restrict employees from specific devices and Contact Center Management application areas.

NOTE: In order for you to assign security roles, your account must be associated with a security role that does not restrict you from administering security.

The Contact Center Solutions default security setting of*Local Administrator* allows employees full access to all of the Contact Center Solutions applications (to which the contact center is licensed) and devices except Write Back for synchronization. Contact Center Solutions security roles are inclusive. This means that a security role assigned to an employee defines the application areas an employee can access.

When you install Contact Center Management, a default user is created. This assures you there is at least one account with which you can access the Contact Center Management website.

The default user name and password are

- Username: _admin
- Password: _password
- Security Role: Local Administrator

Security roles have two components:

Basic—Basic security controls user access to specific areas of Contact Center Management, Flexible Reporting, and to Workforce Scheduling and Schedule Adherence.

Advanced—Advanced security controls user access to customized lists of devices, real-time monitors, profiles, reports, sites, and users.

Creating and applying security roles

You can create security roles that have a number of combinations of basic and advanced authorizations applied to them. For example, you can create a security role with minimal security restrictions, granting users access to as many Contact Center Management reports and applications as you designate. You do this by leaving the security components listed under the Advanced tab set to "Not restricted". Alternatively, you can create a security role that has full access to someContact Center Management application areas but is restricted from accessing other reports and devices. (Figure 6 - 11.)

To create and apply a security role with basic and advanced components, you must

1. Ensure employees are configured in the YourSite database.
   See "Adding employees" on page 123.
2. Create security lists.
3. Configure basic security.
4. Configure advanced security.
5. Assign the security role to one or more employees.

To create and apply a security role with basic security components only, you must

1. Ensure employees are configured in the YourSite database.
2. Specify basic security.
3. Assign the security role to one or more employees.

To create and apply a security role with advanced security components only, you must

1. Create security lists if you want to apply advanced security.
2. Configure basic security.
3. Configure advanced security.
4. Ensure all employees are configured in the YourSite database.
5. Assign the security role to one or more employees.

Figure 6 - 11 Security flow chart

NOTE:
You create a security role only if you want to restrict employees from certain components of the CCM website.
Basic security restricts employees from specific application areas. Advanced security restricts employees from viewing specific contact center sites, devices, and application components. You create combined basic-advanced security roles if you want to restrict employees from some application areas, and some sites, devices, and/or application components.

1 Create security lists if you want to apply advanced security

2 Configure basic security

You can broadly restrict an employee from accessing an entire application area with basic security. For example, you could restrict an employee from using CCM YourSite Configuration.

3 Configure advanced security

You can restrict the employee from specific application components with advancec security. For example, you could specify supervisors view only employee reports (specific report type) on the employees they manage (specific devices). You can create a report list and restrict access to a specific report type. You can create a device list and restrict access to a specific group of employees.

4 Ensure all employees are configured in the YourSite database

5 Assign the security role to an employee

Creating security lists

You can use advanced security to restrict user access to sites, reporting, and real-time functions.

Before you can specify advanced security, you must create security lists (device lists, real-time monitor lists, report lists, site lists, and/or user lists). Each list must contain the devices, real-time monitors, reports, sites, and/or users to which employees are granted access. You can combine these lists when you assign a security role. For example, you can specify advanced security that permits users to create Employee Group Performance by Employee reports (specific report list) on Kanata employees (specific device list) only.

Use the following security lists to define advanced security:

- **Device list**—Device lists specify devices for which employees may view real-time information. You create device lists to restrict access to statistics on specific employees. For example, you might want a manager to view certain employees only (specific device - Kanata employees). The device list must contain the device (employee group - in this case, Kanata employees) to which the user may gain access.
  Devices include agents, agent groups, divisions, DNIS groups, employees, employee groups, Intelligent Queue Smart Choice Layer groups, Intelligent Queue Smart Choice Port groups, Intelligent Queue voice call back queue groups, Intelligent Queue Web call back queue groups, queue groups, teams, trunk groups, and voice extension groups. Statistics are generated from these devices. You can view these statistics or generate a report from them.
  NOTE: If you add an agent to a device list, you must also add the associated employee.
- **Profile list**—You create a profile list to restrict users from managing specific real-time monitor profiles.
- **Real-time monitor list**—The real-time monitor list specifies real-time monitors to which you are granted access. You create a real-time monitor list to restrict access to particular real-time monitors. The real-time monitor list must contain the monitors to which the user may gain access.
- **Report list**—You create report lists to restrict users from viewing specific report types. For example, you might want managers to view employee reports only (specific report category). The report list must contain the reports the user may run. If you do not assign a report list to the employee, then the employee will see every YourSite group and team when running reports and monitoring real-time activities (unless a basic security role is assigned to that employee that does not permit the employee to gain access to any reports).
- **Site list**—The site list specifies sites you may manage. You create a site list to restrict access to devices by site. For example, you might want a supervisor to view the employees at a particular site only. The site list must contain the site (in this case, Kanata) to which the user may gain access.
- **User list**—You create a user list to restrict a user from chatting online with certain employees. The user list must contain the employees with which the user may chat. For example, you might want managers to chat online with only the employees they supervise. If Jane manages Bill, Sue, and George, then you assign Jane an advanced security role that permits Jane to chat with Bill, Sue, and George (the user list would contain Bill, Sue, and George).
- **Card design list**—You create a card design list to restrict users from managing card designs (card designs specify the information displayed on agent, employee, and extension real-time monitors).

To create a security list

1. In Contact Center Management, click **YourSite=>Security=>Security lists=>**select the security list you want to create.
2. Click **Add**.
   The Add list tab opens.
3. After **Name**, type the list name (for example, type Jane's chat group).
4. After **Description**, type the list description (for example, type Jane's group).
5. Click the **Members** tab.

6. If you are creating a device or reports list, after **Filter by**, select a category to narrow the items that display in the list (for example, Agent group).
7. Select the check boxes of the members you want to include in the list.
8. Click **Save**.
   The security list displays in the list tree.

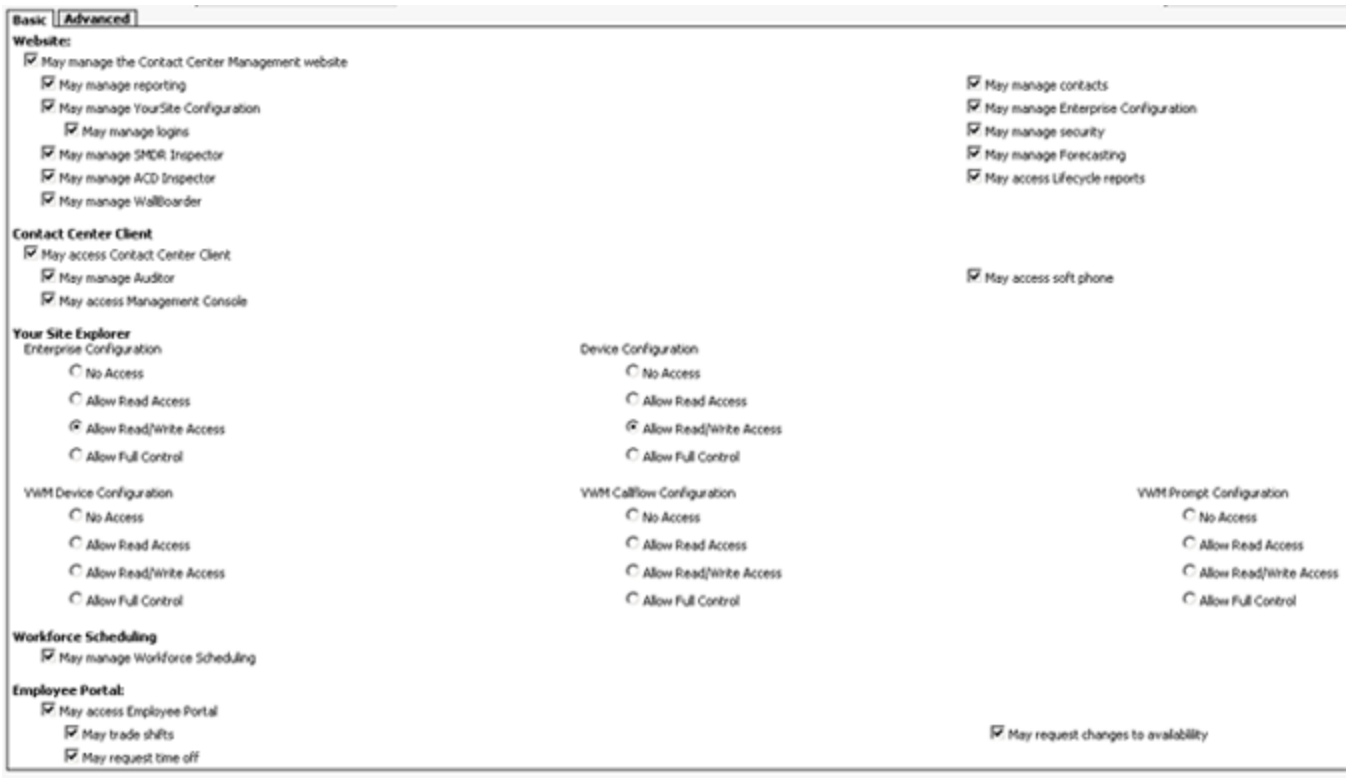
Configuring security roles

NOTE: When users first access the Contact Center Management website, by default, they can access all of the Contact Center Management Web applications.

You can create basic security to restrict user access to specific areas of the Contact Center Management website. For example, if you want to restrict users from viewing Contact Center Client and Enterprise Configuration, then you must create a security role with those characteristics. (See Figure 6 - 12.)

You must create a security list before you can create an advanced security role. Using these lists, you define a security role. See "Creating security lists" on page 180.

Figure 6 - 12 Basic security tab



To configure security roles

1. In Contact Center Management, click **YourSite=>Security=>Security roles**.
   The Security roles window opens. It lists all of the security roles that have been created.
2. Click **Add a role**.
3. After **Role name**, type the name of the security role, (for example, Contact Center Management only).
4. After **Role description**, type the description of this security role, (for example, No access to Workforce Scheduling and Schedule Adherence).

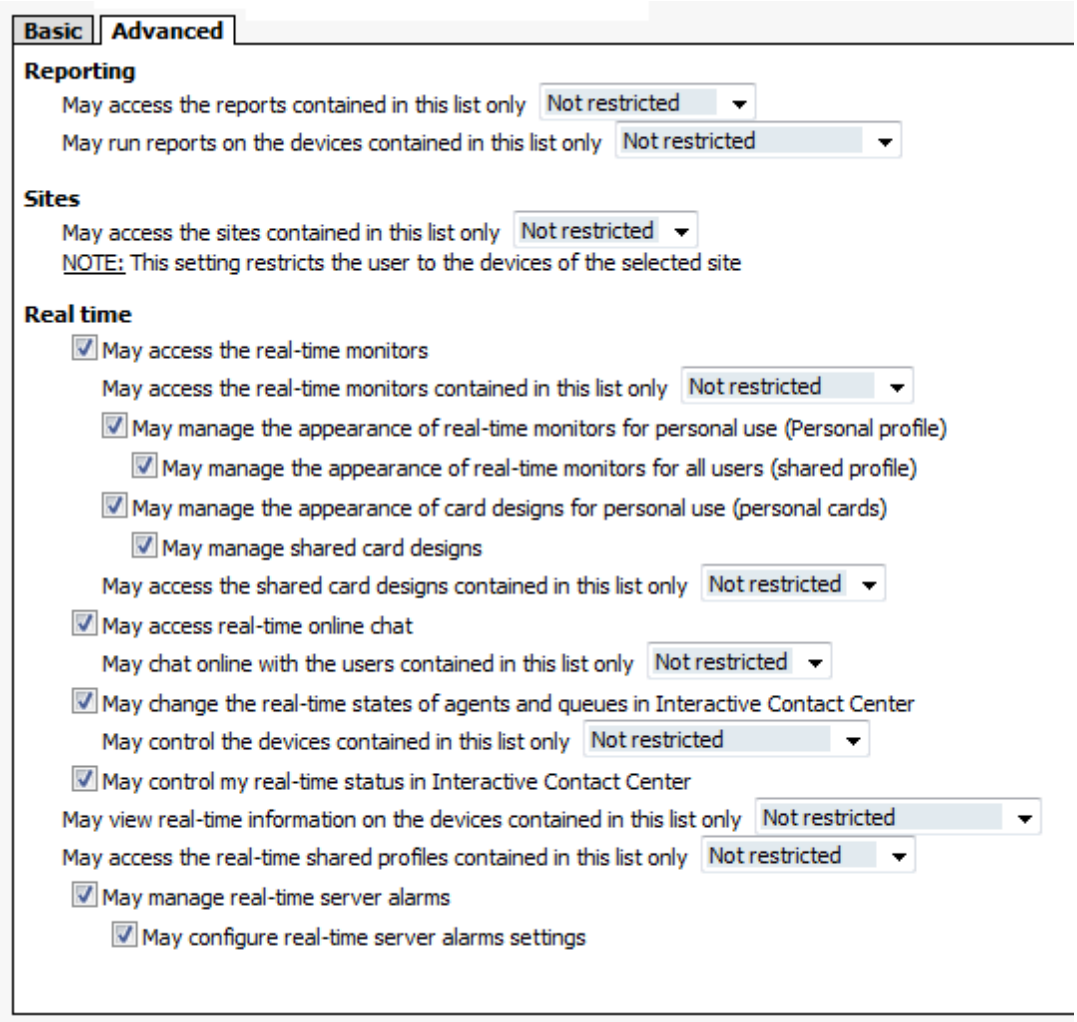
5. On the **Basic** tab, clear the check boxes of the items the user is not permitted to use. For example, if agents are not permitted to administer security, clear *May manage security*.
   See Table 6 - 9 for a description of the YourSite Explorer security setting options.
6. If required, click the **Advanced** tab and specify advanced security.
   An advanced security role restricts access to reports, real-time and Interactive Contact Center statistics, Chat, sites, and real-time monitors
   See Figure 6 - 13.
7. Click **Save**.

Table 6 - 9 describes the security setting options for YourSite Explorer synchronization that display in the Basic security tab.

Table 6 - 9 YourSite Explorer synchronization - security setting options

Option	Description
No access	If *No Access* is enabled you cannot configure Enterprise settings or devices in YourSite Explorer.
Allow Read Access	*Allow Read Access* enables you to read Enterprise/device configuration settings on the telephone system(s).
Allow Read/Write Access	*Allow Read/Write Access* enables you to read Enterprise/device configuration settings on the telephone system(s) and write them to the YourSite database.
Allow Full Control	*Allow Full Control* enables you to read Enterprise/device configuration settings on the telephone system(s), write them to the YourSite database, and write back devices programmed in YourSite Explorer to the telephone system.

Figure 6 - 13 Advanced security tab



Verifying security role properties

To verify the properties of a security role

1. In Contact Center Management, click **YourSite=>Security=>Security roles**.
   The Security roles window opens. It lists all of the security roles that have been created.
2. Click **View** adjacent to the security role for which you want to view properties.
   You can assign the security roles to new users and to existing users.

Assigning security roles to employees

NOTE: Users who are currently logged on will not be affected by changes made to their associated role until the next time they log on. If you want the security role changes to take effect immediately, start and stop the Contact Center Management website from the Internet Server Manager. All of the clients will be disconnected and forced to log on again.

To assign a security role to an employee

1. In Contact Center Management, click **YourSite=>Configuration**.
2. Click **Employee=>**.
3. Across from the record you want to edit, click **Edit**.
4. Click the **User account**tab.
5. After **Security role**, select a security role to assign to the employee.
   All security roles are listed here.
6. Click **Save**.

Configuring work timer

Work timer provides agents handling calls with a period of time after they finish a call to set classification codes, handle paperwork, or deal with other administrative tasks before returning to handling calls. Work timer is configured as a Class of Service for Media Servers, but may also be configured for individual queues if individual queues require shorter work timer, if classification codes need to be enforced, or to add work timer duration to the ACD handle time.

When configured, after call completion, work timer places the agent into the Work Timer real-time state and ACD calls no longer route to them, giving the agent time to do after call work. As the agent enters into the Work Timer agent state, their timer in PhoneSet Manager or Softphone begins counting down the configured work timer duration (In real-time monitors in Contact Center Client, work timer will count up). When the countdown reaches 00:00:00 or if the employee manually ends work timer, they are returned to the Idle real-time state where they can handle calls again.

Work timer can be cancelled manually by an agent by pressing the Cancel work timer button on their hard set or soft phone applications. If the “Force entry of a classification code” is enabled, agents must enter a classification code first. If they do not, work timer cannot be ended manually and a non-compliance classification code will be assigned to the call when work timer ends. Work timer can also be ended by an agent entering a classification code (if the “Cancel work timer once code” is entered is enabled).

Work timer’s maximum duration is dependent upon a contact center’s telephone system:

- MCD 5.0 and greater – 4 hours
- MCD 4.x or earlier – 10 minutes

Work timer is configured as a Class of Service for the telephone system, but may also be configured on a queue by queue basis. While Queue work timers override the Class of Service work timer, Queue work timers may not be greater than the work timer configured as a Class of Service for the telephone system.

NOTE: When an agent receives a transferred call and enters into work timer, regardless of the queue the agent is in, their work timer duration is taken from the Class of Service work timer as a transferred call does not enter via the queue.

For information on configuring work timer as a Class of Service for Media Servers, see "Editing Class of Service options" on page 110.

For information on configuring work timer for queues, see "Adding queues" on page 135.

Preparing media server agent timeout options for MCD 5.0+

By default, YourSite Explorer is configured to clear lines if an agent using that line remains in a single state for more than two hours. This can impact work timer's functionality if work timer has been configured to be greater than two hours. To make proper use of the four hour work timer feature available to MCD 5.0+, you must configure the agent state timeout audit options for your media servers to ensure that they do not interfere with work timer.

To configure the media server agent state timeout audit option

1. In YourSite Explorer, click **Media Servers**.
2. Select your media server from the list of media servers.
3. Click the **Data summary options** tab.
4. After **Clear line if agent primary Talk Time exceeds**, select 24 hours from the drop-down list.
5. If you are using multiple media servers, repeat steps 2-4 for all your contact center media servers.
6. Click **Save**.

Validating YourSite Explorer configuration

The Validate button manually triggers a validation of your contact center system configuration by going through Class of Service system options, SMDR options, agent groups, voice queues, and media servers, firing or clearing alarms as appropriate. Validation automatically takes place with the synchronization that occurs during nightly maintenance, but manual validation is required to clear some alarms.

To validate YourSite Explorer configuration

1. In YourSite Explorer, click the **Tools** tab.
2. Click the **Validate** button.

Chapter 7

Real-time Monitors

Contact Center Client

Wallboarder

Troubleshooting real-time issues

Real-time Monitors

The Enterprise Server continuously updates the real-time applications with telephone system data, and simultaneously updates connected clients through Transmission Control Protocol-Internet Protocol (TCP/IP). Contact Center Client real-time monitors are automatically updated to reflect device and device group changes made in YourSite Explorer. Supervisors and agents are provided with point-and-click access to real-time performance statistics for their contact center, enabling them to identify issues in contact center performance and see who is available to answer or assist with calls. For a demonstration of real-time monitors, click http://www.youtube.com/watch?v=oL-pXMSdOFc.

The real-time applications include Contact Center Client and WallBoarder. Supervisors and agents can view real-time voice statistics in Contact Center Client and the phone availability of contact center and general business employees. In contact centers that have the Multimedia Contact Center optional application, supervisors and agents can view real-time voice, email, chat, and fax statistics. WallBoarder displays text messages and contact center statistics on one or more Spectrum Light Emitting Diode (LED) reader boards (wall signs). See "WallBoarder" on page 249.

Contact Center Management integrates with OAISYS or dvsAnalytics Encore call recording software to enable 24/7 call recording. Call recordings are appended to specific Lifecycle reports. See "Call recording" on page 83.

In addition to real-time monitors, Contact Center Client includes the following application areas:

- **Network Monitor**
  Network Monitor provides information on the status of media server real-time data collection.
  See "Network Monitor" on page 343.
- **Auditor**
  Using Auditor, supervisors can view the historical real-time events that occurred on a particular date, in the sequence they occurred, at your own pace.
  See "Auditor" on page 337.
- **Management Console**
  Using Management Console, network administrators can restart services, administer the database, and perform maintenance functions.
  See "Management Console" on page 51.
- **Contact Center Chat**
  Contact Center Client provides instant messaging capabilities for both supervisors and agents and is typically used by contact center employees. Contact Center Chat provides the online chat presence of contact center employees, including Available, Offline, and Away. Agents can view the availability and presence of other contact center employees before they transfer calls or send online chat messages. With the Enterprise Presence / Chat Integration license, Contact Center Solutions integrates with Lync Server 2010 to provide enhanced presence.
  See "Using Contact Center Chat" on page 243.

The following optional applications and features reside in Contact Center Client:

- **Interactive Contact Center**
  Interactive Contact Center is an optional application that enables supervisors to control the availability of agents and ACD queues. Agents can log themselves on or off, and place themselves in or remove themselves from Make Busy or Do Not Disturb.
  See "Using Interactive Contact Center" on page 352.
- **Interactive Visual Queue**
  Interactive Visual Queue is an optional application that enables agents to monitor calls within queues, move calls from busy queues to less active queues, and call back abandoned callers.
  See "Using Interactive Visual Queue" on page 366.
- **Contact Center PhoneSet Manager and Contact Center Softphone**
  Contact Center PhoneSet Manager and Contact Center Softphone are optional applications that enable agents to use their desktop computers as IP-based phones.
  See "Contact Center PhoneSet Manager and Contact Center Softphone" on page 375.
- **Contact Center Screen Pop**
  Contact Center Screen Pop is an optional application that launches applications or Web pages. In addition, it enables agents to automatically receive caller and account information via pop-ups on their computer monitors every time they receive calls.
  See "Using Contact Center Screen Pop" on page 410.
- **Enterprise Presence / Chat Integration**
  With the addition of Lync Server 2010, agents and supervisors use Microsoft Lync as their default instant messaging client. The presence of all company employees is natively delivered in Contact Center Client. Contact center employees can view the presence of both internal and external contacts to determine if they are available to communicate. In addition to Available, Offline, and Away, employees see In a Meeting, Busy, In a call, Do Not Disturb, Be Right Back, and other presence indicators.

Lync Server 2010 extends the capabilities of Contact Center Chat enabling agents to communicate with people who are

- In the same company, but are not using Contact Center Client
- In the same company, but are not on the same intranet
- External to the company, where the companies in which they work have a Lync Server environment and use Lync
- External to the company, communicate over the public Internet, and use popular instant message services (MSN, AIM, Yahoo!)

In a Microsoft Lync environment, you can take advantage of other forms of communication: computer voice calls, video conferencing, white boarding, and desktop sharing capabilities. Communication with MSN, AIM and Yahoo! is typically limited to instant messaging only.

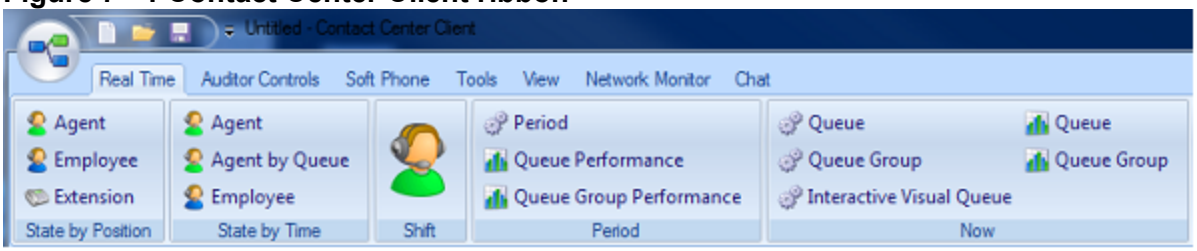
Contact Center Client

NOTE:

- By default, all supervisors and agents view all real-time monitors and devices in Contact Center Client. You can specify which monitors and devices users view in YourSite=>Security=>Security lists. In addition, you can configure security in YourSite=>Security=>Security roles that dictate whether users can manage personal and/or global profiles.
- An employee must be a member of an employee group in order for you to view the employee on the employee group monitors in Contact Center Client. A queue must be a member of a queue group in order for you to view the queue on the queue group monitors in Contact Center Client.
- The number of employees logged on at any time must be consistent with your software license.

Contact Center Client uses ribbons for device and monitor control. (See Figure 7 - 1.)

Figure 7 - 1 Contact Center Client ribbon



Some tabs that display in the ribbon are dependent upon which monitor is active. These are referred to as context sensitive tabs. When you enable context sensitivity for monitors, the associated context sensitive tab for the active monitor automatically becomes the active tab. See Table 7 - 1 for a list of the associated context sensitive tabs for each monitor. See Figure 7 - 2 for an example of context sensitivity enabled for the Agent State by Position monitor. Note that the Agent and Monitor Control tabs display in the ribbon.

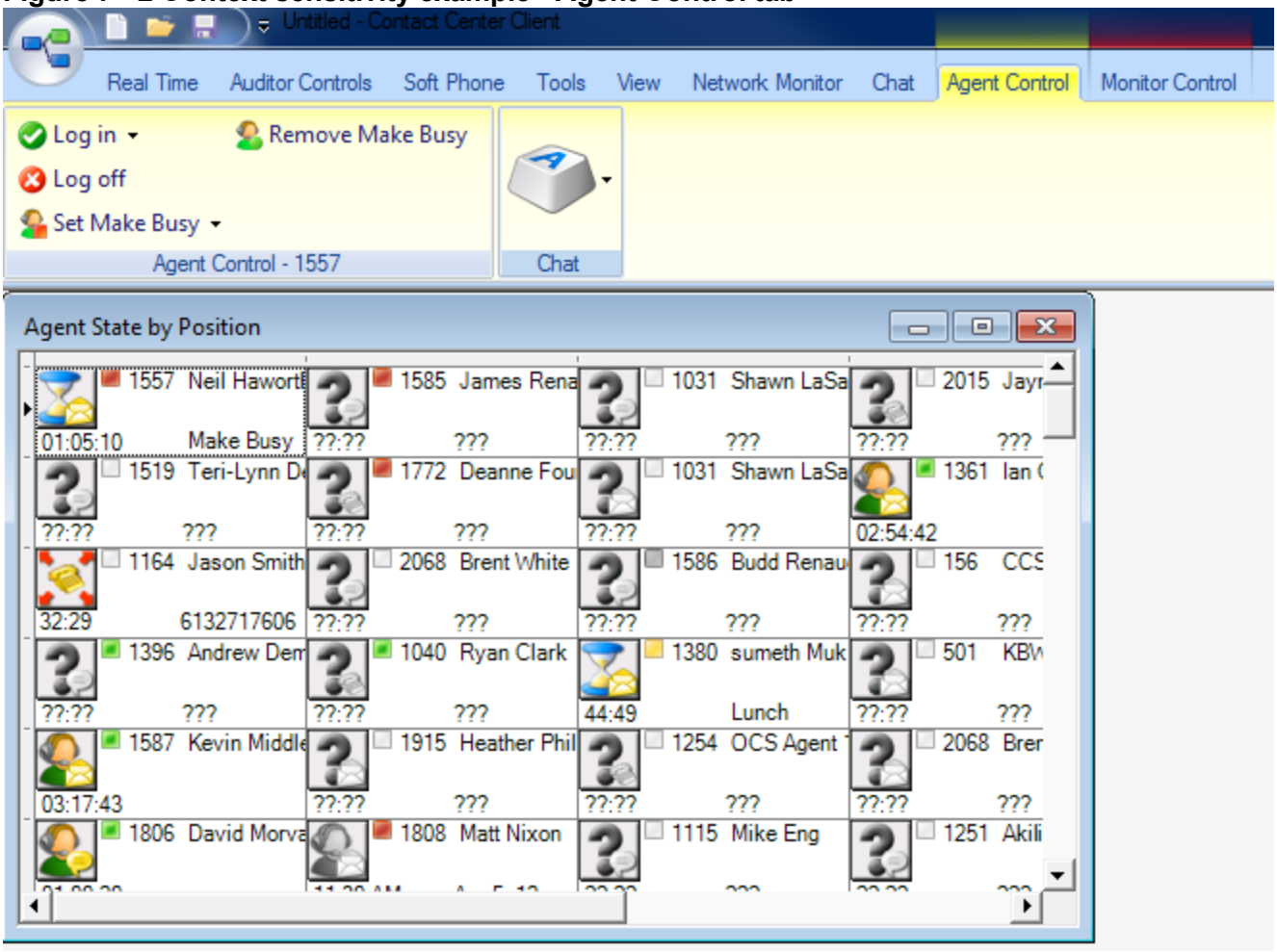
NOTE: The options that display in the Contact Center Client ribbon are dependent upon your individual security settings. Options which you are not given access to will not display.

Table 7 - 1 Context sensitivity options display per monitor

Monitor	Associated context sensitive tabs
Agent State by Position	Agent and Monitor Control tabs
Employee State by Position	Employee and Monitor Control tabs
Extension State by Position	Extension and Monitor Control tabs **NOTE:** When an agent is logged into an extension, the context sensitivity tab displays 'Agent Control'. When no agent is logged into the extension, the context sensitivity tab displays 'Extension Control'.
Agent State by Time	Agent and Monitor Control tabs
Agent State by Time for Queue	Agent and Monitor Control tabs
Employee State by Time	Employee and Monitor Control tabs
Agent Shift	Agent and Monitor Control tabs
Queue by Period	Monitor Options tab
Queue Now	Monitor Options tab
Queue Group Now	Monitor Options tab
Queue Per-formance	Chart Options tab
Queue Group Per-formance	Chart Options tab
Queue	Chart Options tab
Queue Group	Chart Options tab

Monitor	Associated context sensitive tabs
Interactive Visual Queue	n/a **NOTE:** Context sensitivity is not supported for the Interactive Visual Queue monitor

Figure 7 - 2 Context sensitivity example - Agent Control tab



Starting Contact Center Client

You start Contact Center Client to access real-time functionality. Supervisors and agents can view real-time voice statistics. In contact centers that have the optional Multimedia Contact Center application, supervisors and agents can view real-time voice, email, chat, and fax statistics. After starting Contact Center Client, you can choose to minimize it to either the system tray or the taskbar, depending on your operating system.

To start Contact Center Client

1. Open **Contact Center Client**.
2. If prompted, type your user name and password and verify the Enterprise Server IP address.
3. If you use Secure Socket Layer, select **SSL**.
   CAUTION: Do not select “Remember my credentials” if you intend to work both at the office and from home.
4. Click **Log on**.

When you minimize Contact Center Client and you are using Windows XP as your operating system, the Contact Center Client icon displays in your desktop system tray.

If you are using Windows Vista, you can optionally configure Contact Center Client to display in your desktop taskbar.

To display Contact Center Client in the taskbar

1. In Contact Center Client, click the Contact Center Client icon button in the upper-left of the ribbon.
2. Click **Options**.
3. Clear the **Hide when minimized** check box and click **OK**.
   Contact Center Client, when minimized, will display in the taskbar.
4. To save the profile, click the Contact Center Client icon button and click **Save as**.
5. Type a **Name** for the profile and click **OK**.
   The profile is saved and will automatically be applied each time you open Contact Center Client. When device associations to device groups are changed in YourSite Explorer (add, delete, rename), these changes will be automatically made in Contact Center Client real-time monitors saved with user profiles

Configuring Contact Center Client options

You can customize the Contact Center Client user interface and real-time monitor device control and display options by accessing the Options menu.

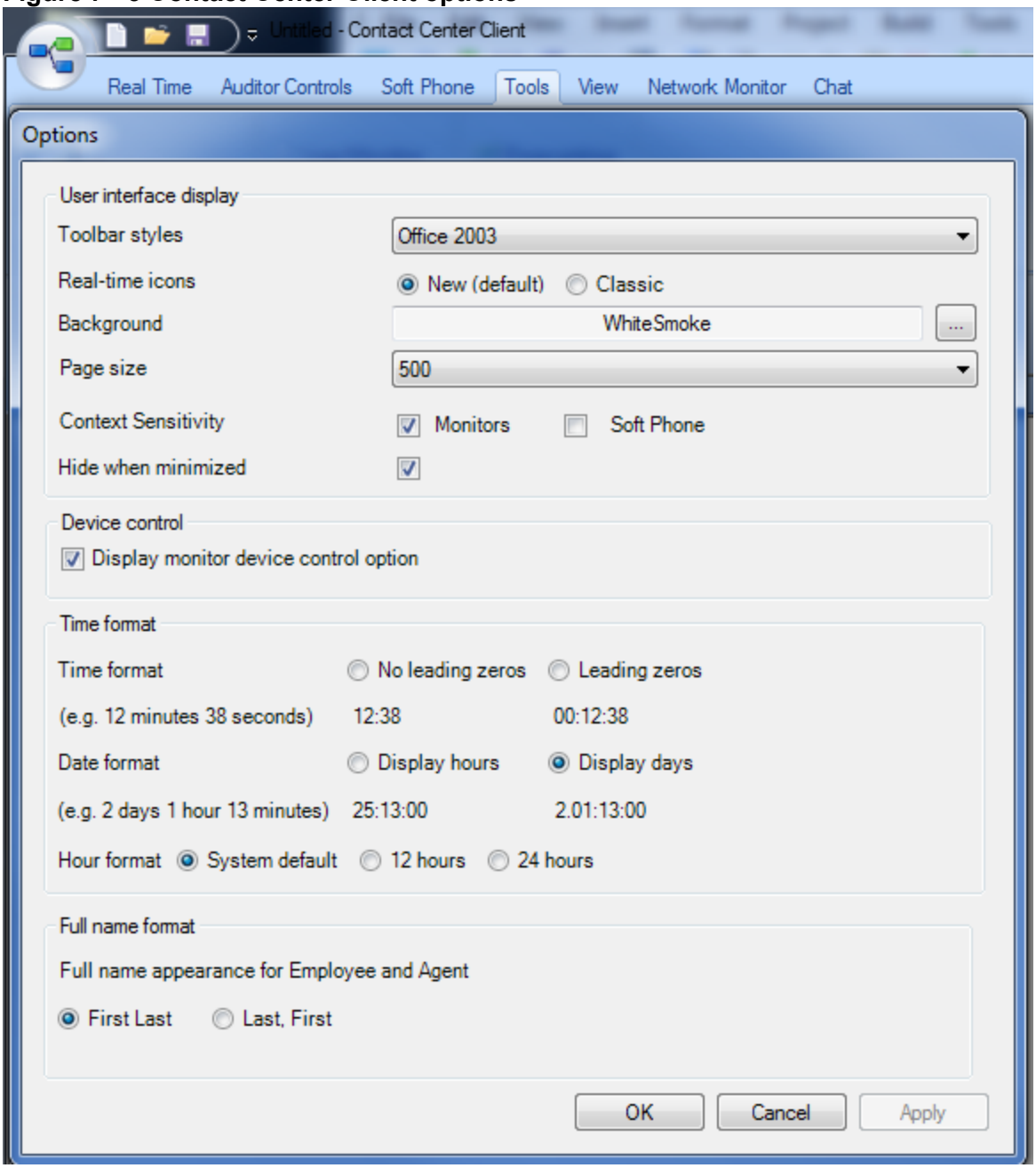
NOTE: The Contact Center Client button is the circular button located in the upper left corner of the window. The following options are available from the Contact Center Client button: New, Open, Open from file, Save, Save as, Save as file, Options, Logout, and Exit.

To configure Contact Center Client options

1. In the ribbon, click the Contact Center Client button.
   The Options window displays.
   See Figure 7 - 3.
2. Under **User interface display**, select a **Toolbar style**, **Real-time icon** type, **Background** color, **Page size**, and whether you want to hide Contact Center Client when the window is minimized.
3. Select **Context Sensitivity** for **Monitors** if you want the context sensitive tab to automatically become the active tab when you select a monitor.
   NOTE: Monitor context sensitivity is enabled by default.
4. Select **Context Sensitivity** for **Soft phone** if you want the soft phone tab to automatically become the active tab when a call is received.
   If the Soft phone toolbar is floating, context sensitivity does not apply. Soft phone context sensitivity is disabled by default.

5. Select the **Display monitor device control option** check box if you want to be able to see the option for monitor control when you right-click cells in a real-time monitor.
   NOTE: Monitor control enables you to simultaneously control all of the agents on a monitor and is only available if you have appropriate permissions, are licensed for Interactive Contact Center, and have extensions configured for your employees.
6. Configure **Time format** options.
   The options you select will display in the real-time monitor cells.
7. Under **Fullname format**, select how you want agent's and employee's first and last names to display in real-time monitors.
8. Click **OK**.

Figure 7 - 3 Contact Center Client options



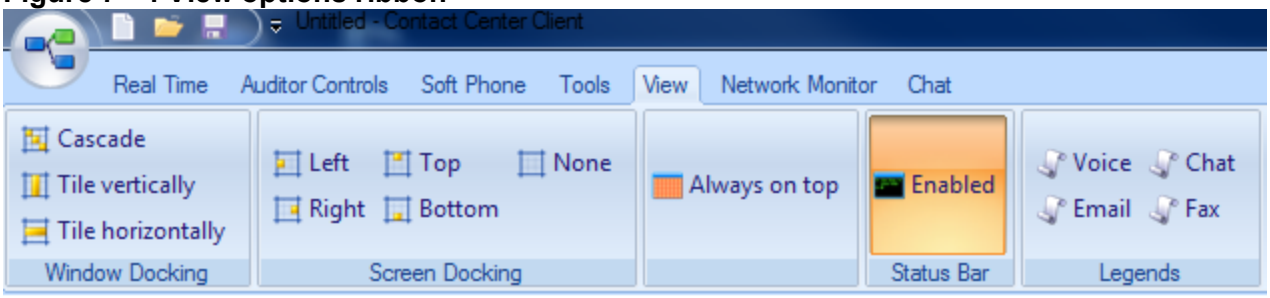
Adjusting the Contact Center Client view

You can adjust the way you view Contact Center Client features on your desktop.

To adjust the view

1. Click **View** in the Contact Center Client ribbon.
   The View options ribbon opens.
   See Figure 7 - 4.

Figure 7 - 4 View options ribbon



2. To change the way monitors display inside Contact Center Client, select from the options in the **Window Docking** column.
3. To adjust the position of the Contact Center Client window on your desktop, select from the options in the **Screen Docking** column.
4. If you want Contact Center Client to always display on top of other applications on your desktop, click **Always on top**.
5. Enable the **Status Bar** if you want the status bar to be visible at the bottom of the Contact Center Client window.
   See Figure 7 - 5.

Figure 7 - 5 Status bar

6. To open Voice, Email, Chat, or Fax legends, select from the options in the **Legends** column.

Agent states

NOTE: If Contact Center Client becomes disconnected from the server, upon re-connection agent states will automatically be synchronized with the server.

Table 7 - 2 lists the agent states and their corresponding icons for voice, email, chat, and fax.

Table 7 - 2 Agent states

Voice	Email	WebChat	Fax	Term	Meaning
				Ringing	an ACD call ringing on an agent's phone waiting to be handled a contact in an agents Multimedia Contact Center inbox waiting to be handled
				ACD	an agent handling an ACD call/email/chat/fax
				ACD Hold	an agent who has placed an ACD call/email/chat/fax on hold
				Idle	an agent logged on and waiting to receive a call/email/chat/fax
	-	-	-	Non ACD	an agent involved in an incoming non-ACD call or agent-originated call
	-	-	-	Non-ACD Hold	an agent who has placed a non-ACD call on hold
	-	-	-	Outbound	an agent on an outgoing call
	-	-	-	Outbound Hold	an agent who has placed an outgoing call on hold

				Off Hook	an agent has picked up the phone to dial a number
				Camp on	a call is waiting to be answered
				Forwarded to	the agent has set all incoming calls to be forwarded to an alternate answer point
	-	-	-	Do Not Disturb	an agent who has activated do not disturb and is not available to receive any ACD or non-ACD calls
				Make Busy	an agent who is not available to receive ACD calls/emails/chats/faxes but can receive calls dialed directly to the agent's extension this icon also displays when an external hot desk agent is in the Reseize Timer state
				System Make Busy	If an agent is a multimedia agent and is logged on to two or more media servers simultaneously, the system sends the agent only one incoming communication at a time. For example, when the agent picks up a call, then the system places the agent ID(s) for the other media server types in System Make Busy.
	-	-	-	Work Timer	an agent who is completing paperwork and is unavailable to receive calls
				Unknown	an agent who has not generated any activity since Contact Center Management was started
				Logged Off	an agent not currently logged in to any queue

Extension states

NOTE: If your Contact Center Client becomes disconnected from the server, upon re-connection the extension states will automatically by synchronized with the server.

Table 7 - 3 lists the extension states and their corresponding icons.

Table 7 - 3 Extension states

Icon	Term	Meaning
	Ringing	Call is ringing on the extension and waiting to be handled
	Idle	Extension is waiting to receive a call
	Non ACD	Extension is involved in an incoming call or an internal extension-originated call
	Non-ACD Hold	Extension has placed an incoming call or an internal extension-originated call on hold
	Outbound Call	Extension is on an outgoing call
	Outbound Hold	Extension has placed an outgoing call on hold
	Forwarded to	Extension has set all incoming calls to be forwarded to an alternate answer point

Icon	Term	Meaning
	Camp on	Extension is on a call and an incoming call is camped on (waiting to be answered)
	Off Hook	Extension's phone is off the hook, so cannot receive calls
	Do Not Disturb	Extension has activated Do Not Disturb and is not available to receive calls
	Logged off	Extension is not currently logged on and is unavailable to take calls

Understanding Contact Center Client features

Contact Center Client has agent, queue, queue chart, and call note monitors. For information on adding and viewing call notes, see "Adding call notes to a call" on page 394.

You can perform the following tasks on the monitors by either right-clicking within the monitor or selecting options via the Contact Center Client ribbon:

- Call recording
- Open monitors
- Dock monitors
- Add and remove device IDs
- Sort monitor devices
- Rearrange cells
- Set monitor dimensions
- Freeze and unfreeze columns
- Hide and show columns
- Filter device variables
- Set alarms
- Clear alarms
- Define monitor styles
- Group data
- Print monitors
- Arrange windows
- Modify the view
- Build marquee monitors to broadcast statistics and messages
- Chat online with agents and supervisors

Contact Center Client options

The following options apply to real-time monitors.

Call recording

On the Agent State by Time, Agent State by Position, and Agent State by Queue by Time monitors, the Call recording option enables you to start, stop, and restart call recording at any time during a call. See "Recording calls" on page 406.

Clear alarms

The Clear alarms command clears any current performance variable threshold alarms.

Set alarms

The Set alarms command specifies performance thresholds for queues and agents.

Add/Remove devices

The Add/Remove devices command adds or removes devices or device groups from the monitor. If you add agents, they are added to the bottom of the monitor.

Set table dimensions

On the Agent State by Position, Employee State by Position, and Extension State by Position monitors, the Set table dimensions command adds or deletes columns or rows. If you delete devices, they are deleted them from the lower-right side of the monitor.

Size table to frame

On all monitors, the Size table to frame command adjusts the table to fit within the frame

Sort monitor

On the Agent State by Position, Employee State by Position, and Extension State by Position monitors, the Sort monitor by Agent ID, name, state, or extension command sorts agents by Agent ID, name, state and time in state, or extension.

Filter device variables

On the Agent Shift, Queue by Period, and Queue Now monitors, the Filter device variables command filters the data based on conditions you specify and displays a subset of data on the monitor.

General

On all monitors, under Properties, the General option specifies the monitor name and enables the horizontal and vertical scroll bars.
On the queue monitors, you can also enable grouping.

On the agent, employee, and extension monitors you can also display tool tips, display a pattern upon failover, and display instant messaging online presence indicators.
On the Agent and Employee State by Time monitors, you can also sort logged off agents by the longest logged off first.

Print monitor

The Print monitor command prints the current monitor.

Enable grouping
Under Properties, the Enable grouping option displays a grouping panel to which users can drag columns. The grouping order determines the order in which the rows display. The Enable grouping option affects all monitors that contain columns.

Row settings
Under Properties=>Layout, the Row settings option specifies the background color and font color of rows, and the font type and text alignment.

Row alternate settings
Under Properties=>Layout, the Row alternate settings option specifies the background color and font color of alternate rows, and the font type and text alignment.

Column settings
Under Properties=>Layout, the Column settings option specifies the background color and font color of columns, and the font type and text alignment.

Column dimensions
Under Properties=>Layout, the Column dimensions option specifies the column height and width.

Column order
Under Properties=>Layout, the Column order option hides or displays individual columns, and specifies the order of columns across the monitor.

Monitor style
Under Properties=>Layout, the Monitor style option specifies styles and skins (sets of styles) for the monitor, and the Card design option specifies how information is displayed in the cells of agent, employee, and extension monitors.

Cascade
When you right-click a monitor tab, under Windows, the Cascade command distributes active monitors down and across the Contact Center Client window.

Tile vertically
When you right-click a monitor tab, under Windows, the Tile vertically command distributes active monitors across the Contact Center Client window.

Tile horizontally
When you right-click a monitor tab, under Windows, the Tile horizontally command distributes active monitors down the Contact Center Client window.

Dock Contact Center Client
When you right-click a monitor tab, under Windows, the Dock Contact Center Client command docks Contact Center Client at the top, bottom, left, or right of your desktop.

Always on top
When you right-click a monitor tab, under Windows, and select the Always on top command, Contact Center Client always displays on your desktop on top of all other open applications.

View

The View command hides or displays the main menu, status bar, real-time monitors, and email, fax, chat, and voice legends.

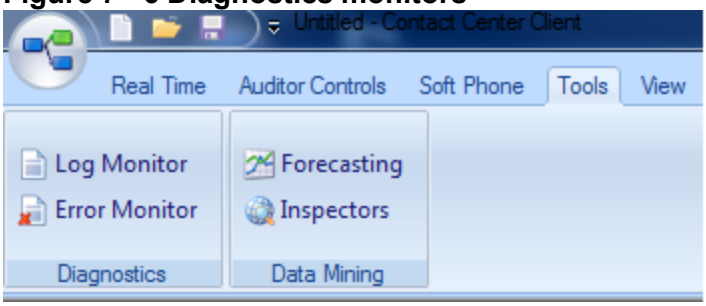
Diagnostics monitor

The log and error monitors are accessed via Contact Center Client.

To access log and error monitors

1. Click **Tools** in the Contact Center Client ribbon.
2. Click either **Log Monitor** or **Error Monitor**, depending on what kind of log information you want to review.
   See Figure 7 - 6.

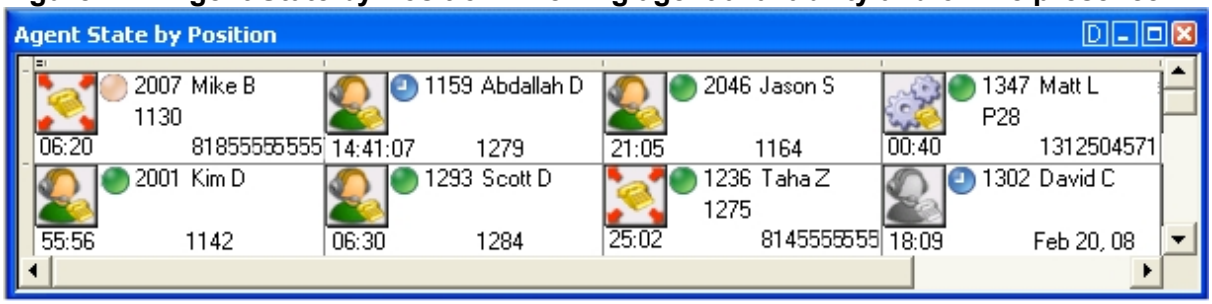
Figure 7 - 6 Diagnostics monitors



Viewing agent availability

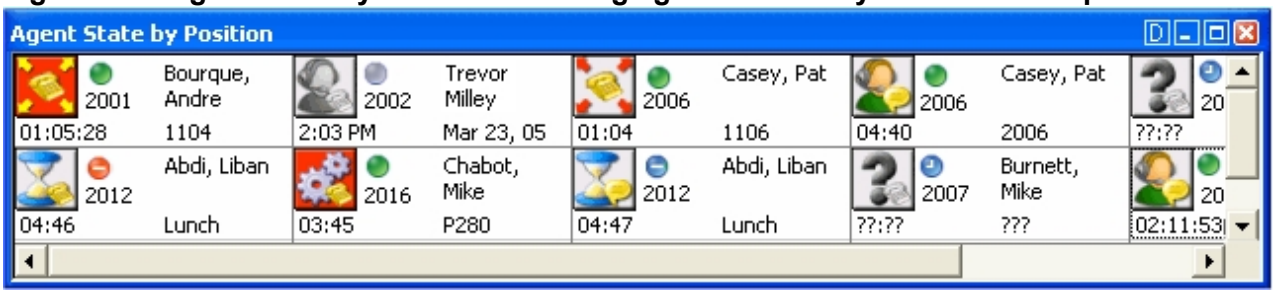
Contact Center Client provides instant messaging capabilities for both supervisors and agents and is typically used by contact center employees. Contact Center Chat provides the online chat presence of contact center employees, including Online, Offline, Away. On the agent, employee, and extension monitors, agents can view the availability and presence of other contact center employees before they transfer calls or send online chat messages. (See Figure 7 - 7.) If an agent cell in a monitor is grayed out, the phone is not connected to the network and considered out of service. The out of service state applies to phones that are not connected to the network, remote agents and employees that have lost their Internet connection, phones that are physically disconnected or malfunctioning, or employees that are not logged into their soft phone.

Figure 7 - 7 Agent State by Position - viewing agent availability and online presence



With the addition of Lync Server 2010, agents and supervisors use Lync Client as their default instant messaging client. The presence of all company employees is natively delivered in Contact Center Client. Contact center employees can view the presence of both internal and external contacts to determine if they are available to communicate. In addition to Available, Offline, and Away, employees see In a Meeting, Busy, In a call, Do Not Disturb, Be Right Back, and other presence indicators. (See Figure 7 - 8.)

Figure 7 - 8 Agent State by Position - viewing agent availability and enhanced presence



The following monitors display agent activities:

- Agent State by Position
- Employee State by Position
- Extension State by Position
- Agent State by Time
- Employee State by Time
- Agent Shift

Agent, Employee, and Extension State by Position

The Agent, Employee, and Extension State by Position monitors provide real-time information in cells that you can arrange to mirror your floor plan: you can view agents, employees, or phone extensions by their physical position in your contact center. In addition, these monitors enable you to view the current status of general business extensions. Card designs enable you to customize the information displayed in the cells. See "Customizing the information displayed on position and time monitors" on page 239.

When you first open an agent, employee, or extension monitor, you can select a card design:

- The Classic card displays the agent state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold).
- The Caller ID card displays the caller name and number (ANI), the number the caller/employee dials for incoming/outgoing calls, the state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold.
- Custom cards you create and share

Caller ID information is displayed when

- Agents, employees, and extensions are in the following real-time states: ACD, ACD Hold, Ringing, Non ACD, Non ACD Hold, Out, and Out Hold Time
- Extensions are in the following real-time states: Inbound and Outbound

You can set alarms for all real-time statistics and for caller ID information, such as the caller name and number.

NOTE: If you are upgrading to Contact Center Management Version 6.0 or greater, before you can select the Caller ID card on the Add devices window ofagent, employee, and extension monitors, you must make the card available. To do so, right-click an open monitor, select the Caller ID card under Properties, Layout=>Card design and click Apply.

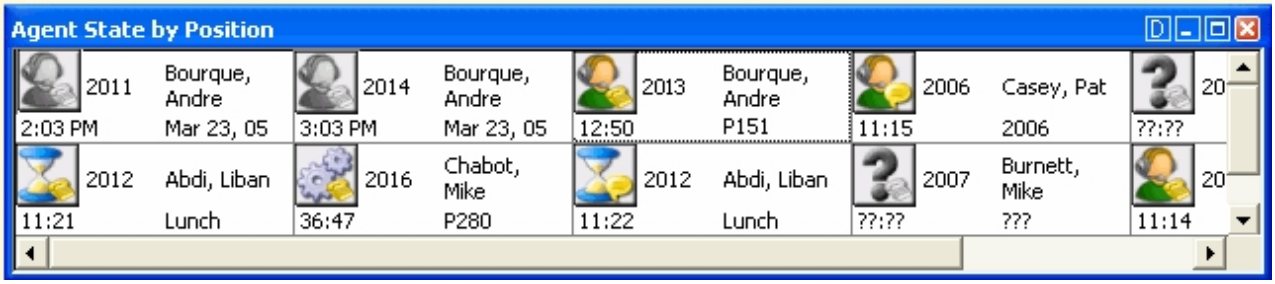
In a fault tolerant setup, if a network outage occurs the cells in the agent, employee, and extension monitors display a crisscrossed pattern to identify agents who have homed to their secondary controllers.

If an agent cell in a monitor is grayed out, the phone is not connected to the network and considered out of service. The out of service state applies to phones that are not connected to the network, remote agents and employees that have lost their Internet connection, phones that are physically disconnected or malfunctioning, or employees that are not logged into their soft phone.

Viewing the activities of agents who can log on to multiple voice queues

In Figure 7 - 9, the Agent State by Position monitor shows three cells for Andre Bourque, each with a different agent ID. The first two cells show Andre logged off of the telephone system. The third cell shows Andre's current state. Andre is logged on to Queue 151 using Agent ID 2013. He has been on an ACD call for 12 minutes and 50 seconds.

Figure 7 - 9 Agent State by Position - viewing multiple agent IDs



Agents can log on to the telephone system using only one agent ID at a time. If your agents have multiple voice IDs (and therefore multiple cells) the Agent State by Position monitor becomes cluttered.

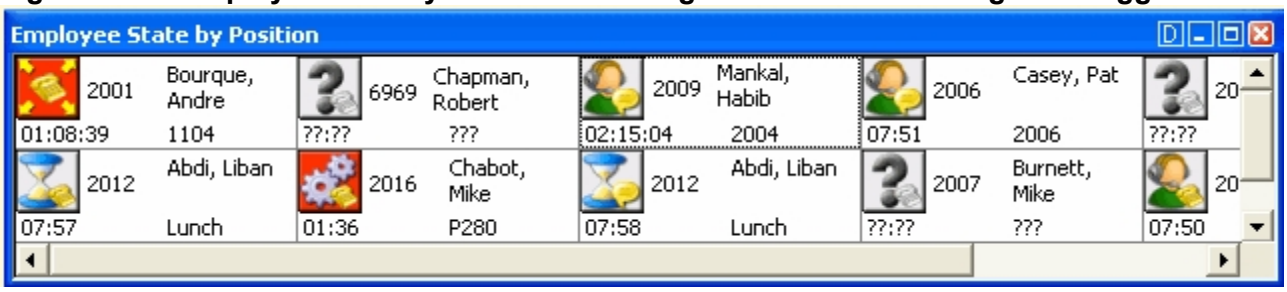
If you have agents who are cross trained to answer calls for different departments (and log in and out of various voice queues) the telephone system requires you assign the agents multiple IDs. You can use the Agent State by Position monitor to view the activities of each department. You create an Agent State by Position monitor for each department. When you arrange the cells for the agents in the same order for each department, you can easily compare the activities of one department with another.

Viewing the current logged on states of agents who log on to multiple queues

If you have voice agents who are cross trained to answer calls for different departments (and log in and out of several queues) the telephone system requires you assign the agents multiple IDs. If a voice agent has multiple agent IDs and you want to view the agent's current logged on state only, you use the Employee State by Position monitor. For example, agent Andre Bourque answers calls for English, French, and Spanish queues. In the YourSite database you assign him three agent IDs (one for each queue for which he answers calls) and an employee ID.

To view the monitor, you open the Employee State by Position monitor and select employees to add to the monitor. The monitor shows one cell for Andre, listing his current state and agent ID. (See Figure 7 - 10.)

Figure 7 - 10 Employee State by Position - viewing the ID to which the agent is logged on



Andre is currently logged on to Extension 1104 using Agent ID 2001. Sometime later you notice Andre is logged on to Extension 1119 using Agent ID 2009. (See Figure 7 - 11.)

Figure 7 - 11 Employee State by Position

Viewing extensions

NOTE: Users who will use the Extension by Position monitor must have the Class of Service HCI settings enabled.

- Traditional or hot desking ACD agents who sit at different desks each day and who log on using their agent ID
- General business, traditional extensions (non-contact center employees) who sit at the same desks each day, are assigned their own desk phone extensions, and do not log on to their phones (their phones are programmed with their personal settings and are always active)
- General business, hot desking extensions (non-contact center employees) who log on to any phone in the enterprise with a virtual extension configured with their personal settings. When the employee logs on the extension becomes active. When the employee logs off of the extension it goes out of service.

You can set up your real-time monitor profile to include two or more Extension by Position monitors: one with cells that are arranged to show the whereabouts of agents in your contact center, and another that shows the status of general business extensions: active/inactive, inbound/outbound.

Extension Inbound

Extension Inbound refers to a general business extension on an inbound call.

Extension Outbound

Extension Outbound refers to a general business extension on an outbound call

General business active extension

General business active extension refers to a Mitel desk phone/Contact Center PhoneSet Manager/Contact Center Softphone that is live with no ACD agents logged on (active extension), or an extension to which a general business hot desking user is logged on. The user is an active extension not logged on to any ACD queue.

General business inactive extension

General business inactive extension refers to a Mitel desk phone that has been unplugged or is damaged, or a soft phone that is not running because the computer is turned off or Contact Center Client is not running, or a hot desking extension to which nobody is logged on.

Traditional or hot desking ACD agents who sit at different desks each day

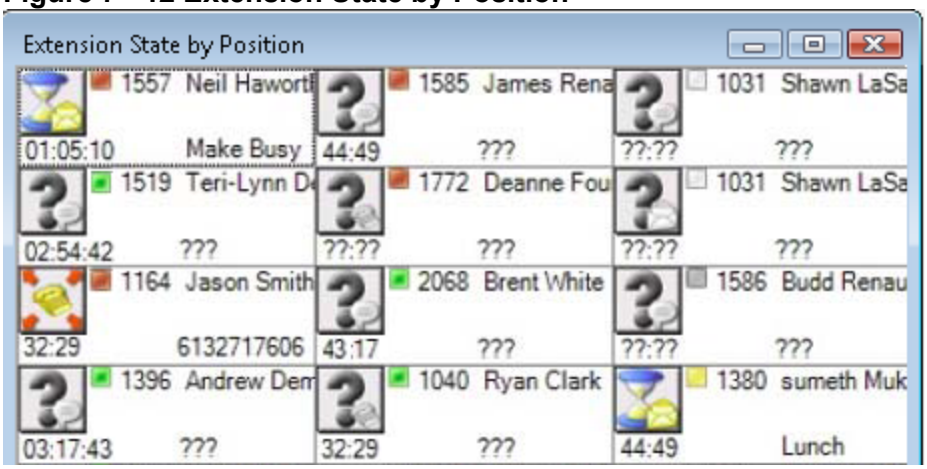
If you have traditional or hot desking ACD agents who sit at different desks each day, you use the Extension State by Position monitor to view where they are sitting in the contact center. After you add Registration Directory Numbers (RDNs)/desk phone extensions to the monitor, you can arrange the cells to match the layout of your contact center.

When nobody is logged on to a particular extension, the monitor cell displays the General business active icon and the phone set RDN ID. When an agent logs on to the desk phone, the monitor cell displays the ACD agent status, (which can include information such as the time in state, queue reporting number, and Make Busy status), the agent ID, the agent name, and the RDN (at the bottom of the cell). Depending on the agent's current state you may see additional information, such as the time in state, queue reporting number, or Make Busy status. If the Caller ID card design is selected, you will also see the caller name and phone number. (See Figure 7 - 12.)

If you would prefer that Extension State by Position monitor cells be blank when there are no agents logged on to the telephone system, you can right-click the monitor, select Properties, and clear the Enable the general business view check box.

If an agent cell in a monitor is grayed out, the phone is not connected to the network and considered out of service. The out of service state applies to phones that are not connected to the network, remote agents or employees that have lost their Internet connection, phones that are physically disconnected or malfunctioning, or employees that are not logged into their soft phone.

Figure 7 - 12 Extension State by Position



General business, traditional extensions who sit at the same desks each day

If you have general business, traditional extensions who sit at the same desks each day, you use the Extension State by Position monitor to view where they are sitting in the contact center. After you add their extensions to the monitor, you can arrange the cells to match the layout of your business, or arrange them alphabetically or by department.

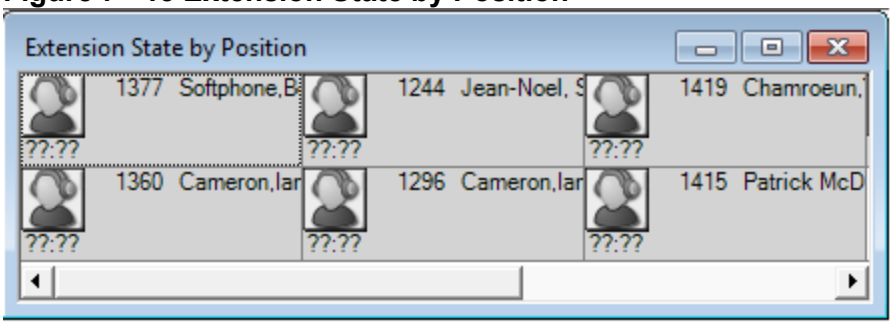
When a general business employees is in Idle, the cell for the employee's phone extension in the Extension State by Position monitor displays the employee's name and extension number, and the General business active icon. When the employee is on an incoming/outgoing call, the cell displays the Extension Inbound/Extension Outbound icon, the employee's name and extension number, and the time in state. If the Caller ID card design is selected, you will also see the caller name and phone number. Either card enables you to readily determine the online and phone availability of general business subject matter experts.

General business hot desking employees who sit at different desks each day

General business, hot desking extensions can log on to any phone in the enterprise and access their personal settings. When adding extensions to the Extension State by Position monitor, you can arrange them alphabetically or by department.

When an employee is logged on, the monitor cell displays the General business active icon, the employee's name and extension. When the employee is on an incoming/outgoing call, the cell displays the Extension Inbound/Extension Outbound icon and the time in state. If the Caller ID card design is selected, you will also see the caller name and phone number. When the employee logs off, the monitor cell is grayed out (inactive). (See Figure 7 - 13.)

Figure 7 - 13 Extension State by Position



Agent State and Employee State by Time

The Agent State by Time and Employee State by Time monitors provide real-time agent information under ACD, Idle, Non ACD, Unavailable, and Logged Off column headings. They display the same real-time information as that of the Agent State by Position, Employee State by Position, and Extension State by Position monitors. See "Agent, Employee, and Extension State by Position" on page 203.

If an agent is in an email, chat, or fax agent state, the monitors display the queue number to which the agent is logged on. Each column lists agents in order of time in state. You can specify which columns of agent statistics are displayed, and the order in which they are displayed. You can sort logged off agents by the longest logged off first. (See Figure 7 - 14.)

If you have agents who are cross trained to answer calls for different departments (and log in and out of various voice queues) the telephone system requires you assign the agents multiple IDs. You use the Employee State by Time monitor to view the activities of voice agents with multiple agent IDs. See "Viewing the current logged on states of agents who log on to multiple queues" on page 204.

Figure 7 - 14 Agent State by Time

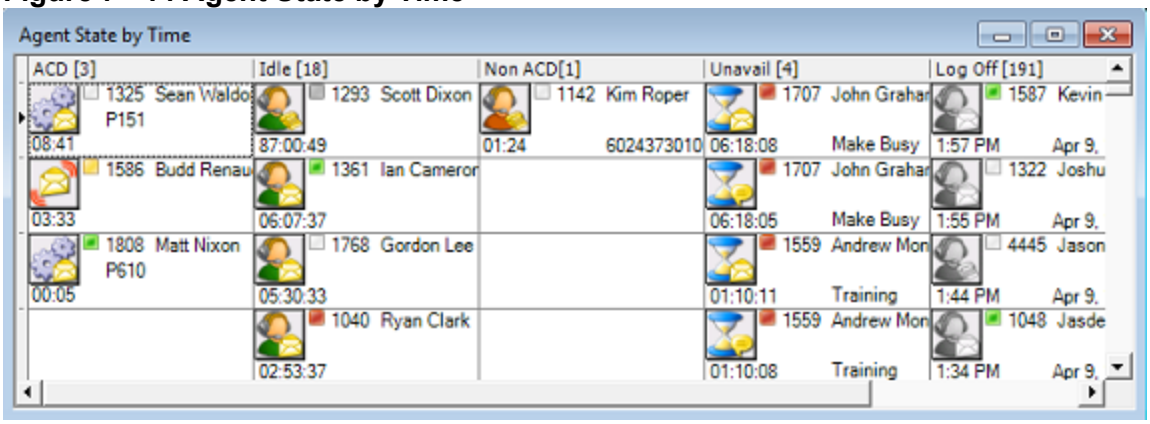


Table 7 - 4 lists the Agent State by Time and Employee State by Time column headings and their associated agent states.

Table 7 - 4 Agent State by Time and Employee State by Time column headings

Category	Associated agent states
ACD	includes agents in ACD and agents in ACD Hold
Idle	includes agents in the Idle state
Non ACD	includes agents in Non ACD, in Non-ACD Hold, Outbound agents, and Outbound Hold agents
Unavailable	includes agents in Do Not Disturb, Make Busy, Work Timer, Reseize Timer, and Unknown
Logged Off	includes agents in the Logged Off state

Agent State by Time for Queue

The Agent State by Time for Queue monitor is a Contact Center Client real-time monitor designed specifically for contact centers using Agent Group Presence functionality. However, the Agent State by Time for Queue monitor is available for all media server types. The Agent State by Time for Queue monitor is accessed from the Time menu in Contact Center Client and displays all agents configured in a specific Queue and agents who are on ACD calls, idle, on non-ACD calls, unavailable, logged on to the system (but not present in the queue being monitored), and logged off. (See Figure 7 - 15).

NOTE: Virtual queue groups are shown under the Virtual queue groups section of the Agent State by Time for Queue monitor. Any Agent State by Time for Queue monitors that are monitoring virtual queues are marked in the title as (virtual).

Figure 7 - 15 Agent State by Time for Queue

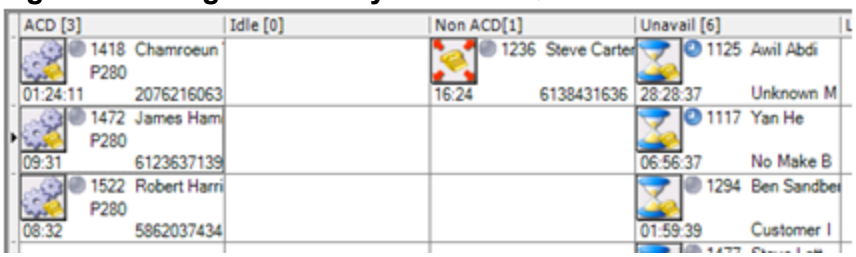


Table 7 - 5 lists the Agent State by Time and Employee State by Time column headings and their associated agent states.

Table 7 - 5 Agent State by Time for Queue column headings

Category	Associated agent states
ACD	includes agents in ACD and agents in ACD Hold
Idle	includes agents in the Idle state
Non ACD	includes agents in Non ACD, in Non-ACD Hold, Outbound agents, and Outbound Hold agents
Unavailable	includes agents in Do Not Disturb, Make Busy, Work Timer, Reseize Timer, and Unknown
Logged on to system	includes agents who are logged on to the telephone system but not in the queue being monitored
Logged Off	includes agents in the Logged Off state

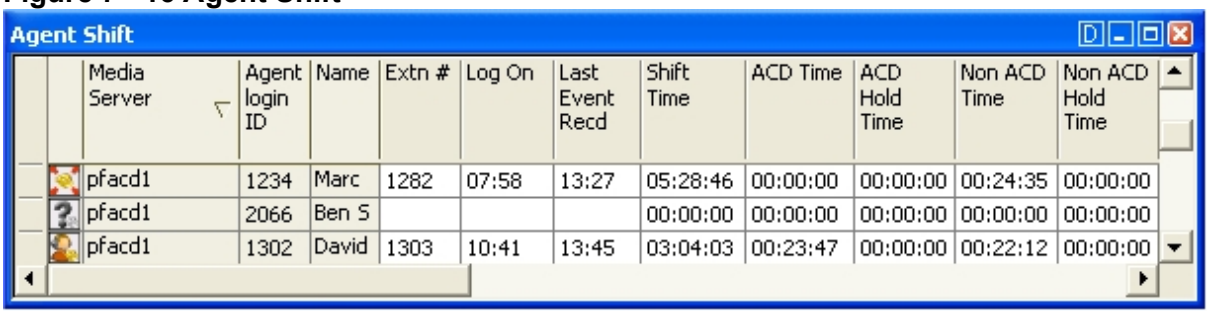
To view the Agent State by Time for Queue monitor

1. Open and log on to Contact Center Client.
2. Click **View=>Real time** to view the Contact Center Client monitor icons.
3. Click the **Time** icon and click **Agent State by Time for Queue**.
   The Add/Remove devices window opens. You can optionally sort members in either ascending or descending order.
4. Under **Queues**, select the queues to monitor.
5. Click **OK**.

Agent Shift

The Agent Shift monitor provides running totals of statistics on individual agents for the day. You can specify which columns of statistics are displayed, rearrange columns, and sort individual columns in ascending or descending order. (See Figure 7 - 16.)

Figure 7 - 16 Agent Shift



Media Server	Agent login ID	Name	Extn #	Log On	Last Event Recd	Shift Time	ACD Time	ACD Hold Time	Non ACD Time	Non ACD Hold Time
pfacd1	1234	Marc	1282	07:58	13:27	05:28:46	00:00:00	00:00:00	00:24:35	00:00:00
pfacd1	2066	Ben S				00:00:00	00:00:00	00:00:00	00:00:00	00:00:00
pfacd1	1302	David	1303	10:41	13:45	03:04:03	00:23:47	00:00:00	00:22:12	00:00:00

Agent Shift column heading definitions

Table 7 - 6 describes the Agent Shift column headings.

Table 7 - 6 Agent Shift column headings

Term	Meaning
Logged On	the time the agent logged on
Last Event Received	the last time an agent performed an event (for example, answered a call)
Shift Time	the total shift time for the agent
ACD Time	the total time the agent spent on ACD calls
ACD Hold Time	the total time for ACD calls put on hold
Non-ACD Time	the total time the agent spent on non-ACD calls
Non-ACD Hold Time	the total time for non-ACD calls put on hold
Outbound Time	the total time the agent spent on outbound calls
Outbound Hold Time	the total time for outbound calls agents put on hold
Do Not Disturb Time	the total time the agent spent in the Do Not Disturb state
Make Busy Time	the total time the agent spent in the Make Busy state
Wrap Up Time	the total time the agent spent in the Work Timer state
Do Not Disturb Count	the number of times the agent entered the Do Not Disturb state
Make Busy Count	the number of times the agent entered the Make Busy state
ACD Count	the total number of ACD calls answered by the agent
Short ACD Count	the total number of ACD calls answered that lasted less than 20 seconds
Hold ACD Count	the number of times the agent put ACD calls on hold
Non-ACD Count	the total number of non-ACD calls answered by the agent
Non-ACD Hold Count	the number of times the agent put non-ACD calls on hold
Outbound Count	the total number of outgoing calls the agent made
Outbound Hold Count	the number of times the agent put outgoing calls on hold
Calls Per Hour	the average number of incoming ACD calls answered by the agent per hour since the beginning of the shift
Agent Unavailable %	the percent of time the agent was set in Do Not Disturb or Make Busy and unavailable

Term	Meaning
Average Handle	the average amount of time the agent spent handling ACD calls (ACD Time divided by ACD Count)
Occupancy	the total time the agent spent in an occupied state (occupied state excludes idle time)

Viewing queue statistics

NOTE:

- You can see queue statistics during business hours as long as the business schedule you configure in YourSite=>Schedule or YourSite Explorer=>Schedules is consistent with your company's hours of operation. You assign business-hours schedules to queues in YourSite=>Configuration=>Queue=>Queue or in YourSite Explorer=>Queues=>Business Hours.
- When an agent receives an ACD call and fails to pick up the call after X seconds or X rings, the telephone system places the agent in Make Busy. The telephone system re-queues the call (places the call back in the same queue) and offers it to the next available agent.

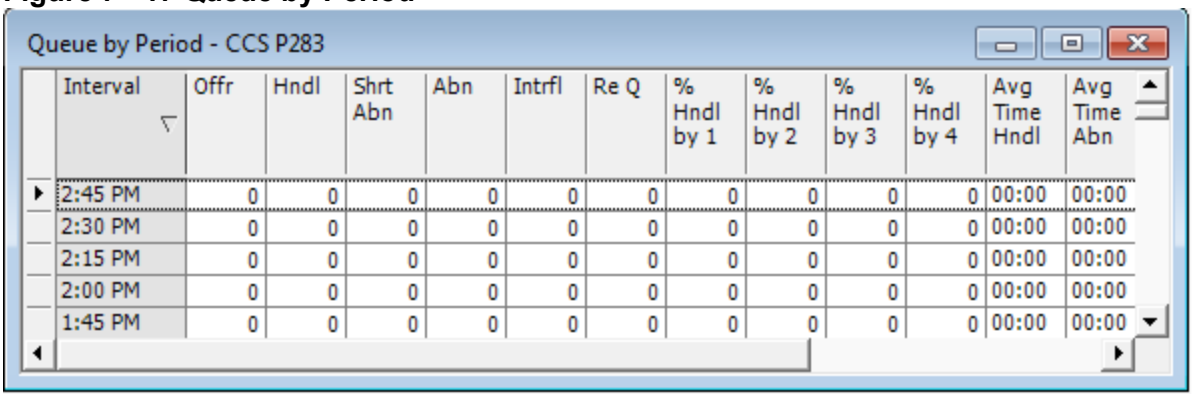
The following monitors display queue statistics:

- Queue by Period
- Queue Now
- Queue Group Now

Queue by Period

The Queue by Period monitor collates queue statistics by 15-minute intervals over a 24-hour period. The monitor refreshes each time there is a change in a statistic and each 15-minute interval. The Queue by Period monitor always displays the current 15 minute interval at the top of the monitor. You can specify which columns of statistics are displayed, rearrange columns, and sort individual columns in ascending or descending order. (See Figure 7 - 17.)

Figure 7 - 17 Queue by Period



Interval	Offr	Hndl	Shrt Abn	Abn	Intrfl	Re Q	% Hndl by 1	% Hndl by 2	% Hndl by 3	% Hndl by 4	Avg Time Hndl	Avg Time Abn
2:45 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
2:30 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
2:15 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
2:00 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
1:45 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00

Queue by Period column heading definitions

Table 7 - 7 describes the Queue by Period column headings.

Table 7 - 7 Queue by Period column headings

Term	Meaning
Offered	the total number of calls offered to the queue during the 15-minute interval
Handled	the total number of calls answered by agents during the 15-minute interval
Short Abandoned	during the 15-minute interval, the total number of calls abandoned before the short abandon time configured in YourSite
Abandoned	the total number of calls abandoned during the 15-minute interval before being answered by agents
Interflowed	the total number of calls interflowed during the 15-minute interval
Requeued	the total number of calls re-queued during the 15-minute interval
% Handled by 1-4	a count of all of the calls answered by the first, second, third, and fourth answer points during the 15-minute interval
#Handled by 1-4	the number of calls answered by the first, second, third, and fourth answer points during the 15-minute interval
Total Talk Time	the total time agents spent talking to callers during the 15-minute interval
Average Talk Time	the average time agents spent talking to callers during the 15-minute interval
Average Time to Handle	the average number of minutes callers waited before agents answered their calls during the 15-minute interval
Average Time to Abandon	the average number of minutes callers waited during the 15-minute interval before they abandoned their calls
Average Time to Interflow	the average number of minutes callers waited during the 15-minute interval before being interflowed
Service Level % Today	during the 15-minute interval, the percentage of calls answered within the Service Level Time specified for the queue
% Handled	during the 15-minute interval, the percentage of calls answered compared to the total number of calls offered to the ACD queue for the day
Wrap Up	the total time the agent spent in the Work Timer state during the 15-minute interval
Make Busy	the total time the agent spent in the Make Busy state during the 15-minute interval
Occupancy	the total time the agent spent in an occupied state during the 15-minute interval (occupied state excludes idle time)

Queue Now and Queue Group Now

NOTE:

- Virtual queue groups are shown under the Queue groups column in the Queue Now monitor so that their individual queues can be selected in a single operation.
- Hierarchical individual queues that comprise each queue group (virtual or otherwise) can now be displayed in the Queue Group Now monitor.
- Contact Center Client updates Longest Waiting statistics every fifteen seconds, or more frequently as records are received from the telephone system.
- Contact Center Client obtains the Calls Waiting, Longest Waiting, and Agents Available statistics from the ACD data stream. If the telephone system has not updated Contact Center Management with ACD real-time statistics within the last 90 seconds, question marks display in place of these statistics.
- Agents logged in and idle whose extensions are ringing are included in the Agent Available statistic. Agents whose extensions are ringing are not included in the Unavailable statistic.
- The Average Handling Time is the Average Talk Time plus the Average Hold Time. If an agent calls a supervisor in search of more information (while the caller is on hold) and/or transfers or conferences the call, these times are added to the Average Handling Time value.
- When an agent receives an ACD call and fails to pick up the call after X seconds or X rings, the telephone system places the agent in Make Busy. The telephone system re-queues the call (places the call back in the same queue) and offers it to the next available agent.
- The abandoned calls column in the Interactive Visual Queue monitor displays all abandoned calls, whereas, the abandoned column in the Queue Now monitor does not peg short abandons as abandoned calls. Because of this difference, you may notice discrepancies between the abandoned call information in these two monitors.

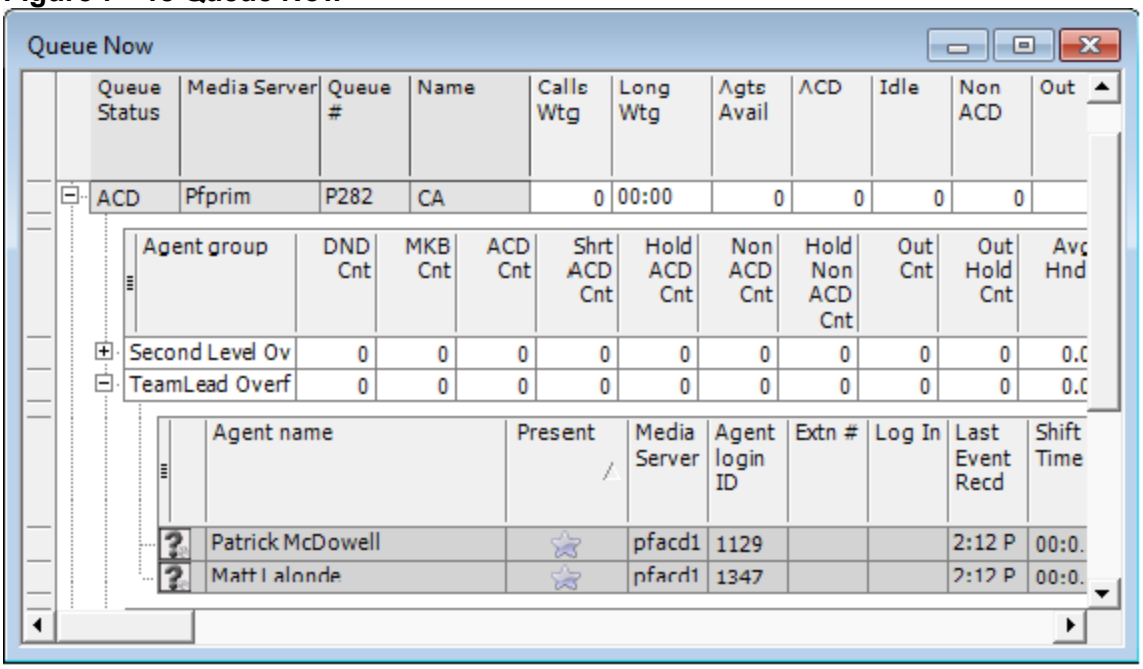
The Queue Now and Queue Group Now monitors display the following queue and queue group statistics: Calls Waiting, Longest Waiting, Agents Available, ACD, Idle, Non ACD, Outbound, Unavailable, Offered, Handled, Abandoned, Interflowed, Requeued, % Handled by 1, % Handled by 2, % Handled by 3, % Handled by 4, Average Time to Handle, Average Time to Abandon, Total Talk Time, Average Talk Time, Service Level %, % Handled, Total Queue Unavailable, Current Queue Unavailable, Offered Last Hour, Time to Handle Last Hour, % Handled Last Hour, Service Level % Last Hour, Handled Last Hour, Abandoned Last Hour, Interflowed Last Hour, Unavailable Last Hour, Average Handling Time Last Hour, Offered Last 15 Minutes, Time to Handle Last 15 Minutes, % Handled Last 15 Minutes, Service Level % Last 15 Minutes, Handled Last 15 Minutes, Abandoned Last 15 Minutes, Interflowed Last 15 Minutes, Unavailable Last 15 Minutes, Average Handling Time Last 15 Minutes, % Abandoned, % Abandoned Last Hour, % Abandoned Last 15 Minutes, Remote Calls Waiting, Remote Longest Waiting, Logged Out, Logged In Not Present, Agent Unavailable %, Wrap Up, Make Busy, Occupancy, #Handled by 1, #Handled by 2, #Handled by 3, and #Handled by 4.

The Queue Now and Queue Group Now monitors display the following agent and agent group statistics: DND Cnt, MKB Cnt, ACD Cnt, Shrt ACD Cnt, Hold ACD Cnt, Non ACD Cnt, Hold Non ACD Cnt, Out Cnt, Out Hold Cnt, Avg Hndl, Shift Time, DND Time, MKB Time, Wrap Up Time, ACD Time, Hold ACD Time, Non ACD Time, Hold Non ACD Time, Out Time, Out Hold Time, Occupancy Time, Agent Name, Present, Media Server, Agent login ID, Extn#, Log In, Log Off, Calls per Hour, On failover, Agt Unavail%, Occupancy, Logged in Not Present Time, External Handle Duration, External Inbound Count, and External Outbound Count.

On the Queue Now monitor, you can specify which columns of statistics are displayed, rearrange columns, and sort individual columns in ascending or descending order. You can expand a queue and view statistics on the agent groups associated with the queue. You can expand an agent group and view performance statistics on the agents in the group. (See Figure 7 - 18.)

When you expand the Queue Now monitor to display the Agent name column, the monitor also displays agent presence in the queue. Presence is indicated by a colored star in the Present column. A green star indicates the agent is present in the queue. A gray star and gray row indicates the agent is not present in the queue.

Figure 7 - 18 Queue Now



Queue Now and Queue Group Now column heading definitions

Table 7 - 8 describes the real-time and over-the-business-day Queue Now and Queue Group Now queue and queue group statistics.

Table 7 - 8 Queue Now and Queue Group Now queue statistic column headings

Term	Meaning
Calls Waiting	The current number of callers queued up waiting for an agent to become available, including those listening to silence, music, or recorded announcements
Longest Waiting	The current duration, in minutes and seconds, of the call waiting the longest in queue
Agents Available	The current number of agents logged on and not in Do Not Disturb, Make Busy, Work Timer, Reseize Timer, or Unknown
ACD	The current number of agents handling ACD calls
Idle	The current number of agents logged on and ready to receive calls
Non-ACD	The current number of agents handling non-ACD calls
Outbound	The current number of agents on outgoing calls

Term	Meaning
Unavailable	The current number of agents in Do Not Disturb, Make Busy, Work Timer, or Unknown
Offered	The total number of calls offered to the queue
Handled	The total number of calls answered by agents for the day
Abandoned	The total number of calls abandoned before being answered by an agent for the day
Interflowed	The total number of calls interflowed for the day. Interflow is a mechanism that directs a call waiting in queue to another answer point.
Requeued	The total number of calls re-queued for the day
Average Time to Handle	The average time it takes for the call to be answered by an agent
Average Time to Abandon	The current average duration callers wait before abandoning calls
Average Talk Time	The current average time agents spend talking to callers
Service Level %	The percentage of calls answered within your Service Level Time value over the day
% Handled	The percentage of calls answered compared to the total number of calls offered to the ACD queue for the day
% Handled by 1-4	The percentage of all of the calls answered by the first, second, third, and fourth answer points
#Handled by 1-4	The number of calls answered by the first, second, third, and fourth answer points
Total Talk Time	The current total time agents spend talking to callers
Current Queue Unavailable	The total number of callers that were rerouted after you set the queue to Unavailable. When you make the queue available again, this value resets to zero.
Total Queue Unavailable	The total number of times during the day callers dialed the queue and were rerouted because no agents were logged on to the queue or you set the queue to Unavailable See Current Queue Unavailable.
Offered Last Hour	The total number of calls offered to the queue in the last hour of business
Time to Handle Last Hour	The predicted duration callers, who call in the last hour of business, wait before being answered by an agent
% Handled Last Hour	The percentage of calls answered in the last hour of business, compared to the total number of calls offered to the ACD queue for the day

Term	Meaning
Service Level % Last Hour	The percentage of calls answered within your Service Level Time value in the last hour
Interflowed Last Hour	The total number of calls interflowed during the last hour of business. Interflow is a mechanism that directs a queue delayed call to voice mail or to another answering point
Handled Last Hour	The total number of calls answered by agents during the last hour of business
Abandoned Last Hour	The total number of calls abandoned during the last hour of business
Unavailable Last Hour	The total number of times, in the last hour of business, callers dialed the queue and were rerouted because no agents were logged on to the queue or you set the queue to Unavailable See Current Queue Unavailable.
Average Handling Time Last Hour	The average duration of calls from agent pick up to client hang up (including hold time) during the last hour of business
Offered Last 15 Minutes	The total number of calls offered to the queue in the last 15 minutes of business
Time to Handle Last 15 Minutes	The predicted duration callers, who call in the last 15 minutes of business, wait before being answered by an agent
Average Handling Time Last 15 Minutes	The average duration of calls from agent pick up to client hang up (including hold time) during the last 15 minutes of business
% Handled Last 15 Minutes	The percentage of calls answered in the last 15 minutes of business, compared to the total number of calls offered to the ACD queue for the day
Service Level % Last 15 Minutes	The percentage of calls answered within your Service Level Time value in the last 15 minutes of business
Handled Last 15 Minutes	The total number of calls answered by agents during the last 15 minutes of business
Abandoned Last 15 Minutes	The total number of calls abandoned during the last 15 minutes of business
Interflowed Last 15 Minutes	The total number of calls interflowed during the last 15 minutes of business. Interflow is a mechanism that directs a queue delayed call to voice mail or to another answering point

Term	Meaning
Unavailable Last 15 Minutes	The total number of times, in the last 15 minutes of business, callers dialed the queue and were rerouted because no agents were logged on to the queue or you set the queue to Unavailable See Current Queue Unavailable.
% Abandoned	The percentage of calls that were abandoned. The % Abandoned = (Calls Abandoned ÷ Calls Offered).
% Abandoned Last Hour	The percentage of calls that were abandoned in the last hour of business.
% Abandoned Last 15 Minutes	The percentage of calls that were abandoned in the last 15 minutes of business.
Remote Calls Waiting	When you have more than one telephone system networked together, this is the current number of calls waiting in a remote queue to be answered by agents at your site
Remote Longest Waiting	When you have more than one telephone system networked together, this is the wait time for the caller waiting the longest in a remote queue to be answered by an available agent at your site
Logged Out	The number of agents that are associated with the queue but not logged in to the system
Logged In Not Present	The number of agents that are logged into the telephone system, but not present in the queue being monitored
Agent Unavailable %	The percent of time the agent was set in Do Not Disturb or Make Busy and unavailable
Wrap Up	The total time the agent spent in the Work Timer state
Make Busy	The total time the agent spent in the Make Busy state
Occupancy	The total time the agent spent in an occupied state (occupied state excludes idle time)

Table 7 - 9 describes the real-time and over-the-business-day Queue Now and Queue Group Now agent and agent group statistics.

Table 7 - 9 Queue Now and Queue Group Now agent statistic column headings

Term	Meaning
Agent name	The name of the agent being monitored
Agent group	The name of the agent group being monitored

Term	Meaning
Present	Indicates whether the agent is present in the queue Presence is indicated by a colored star. A green star indicates the agent is present in the queue. A gray star and gray row indicates the agent is not present in the queue
Media Server	The media server to which the agent is associated
Agent login ID	The login ID of the agent being monitored
Extn#	The extension where the agent logged in
Log In	The most recent time the agent logged into Contact Center Management
Log Off	The most recent time the agent logged out of Contact Center Management
Shift Time	The total elapsed time logged for the agent or agent group , calculated based on the difference between log in and log off
DND Time	The duration of time where Do Not Disturb was the overriding state for the agent or agent group, controlled by the agent or the supervisor
MKB Time	The duration of time where Make Busy was the overriding state for the agent or agent group, controlled by the agent or the supervisor
Wrap Up Time	The duration of time where Wrap Up Time was the overriding state for the agent or agent group. Wrap up time does not include any time spent making or taking calls during the wrap up timer.
ACD Time	The duration of ACD calls handled, from agent pickup to client hangup (does not include hold time)
Hold ACD Time	The duration of time ACD calls spent on hold
Non ACD Time	The duration of non-ACD calls handled, from agent pickup to client hangup
Hold Non ACD Time	The duration of time non-ACD calls spent on hold
Out Time	The duration of time agents spent talking in outbound calls
Out Hold Time	The duration of time outbound calls spent on hold, for agents
DND Cnt	The number of times the agent entered the Do Not Disturb state
MKB Cnt	The number of times the agent entered the Make Busy state
ACD Cnt	The number of ACD calls answered by the agent
Shrt ACD Cnt	The number of ACD calls answered by the agent, where the talk time was less than the Short Handle parameter

Term	Meaning
Hold ACD Cnt	The number of times ACD calls were placed on hold
Non ACD Cnt	The number of non-ACD calls answered by the agent
Hold Non ACD Cnt	The number of times non-ACD calls were placed on hold
Out Cnt	The number of outbound calls answered by the agent
Out Hold Cnt	The number of times outbound calls were placed on hold
Avg Handl	The average duration of calls, from agent pickup to client hangup
Occupancy	The duration of time the agent spent processing calls (total shift minus idle time)
Calls per Hour	The total ACD call count minus the ACD short handle call count, divided by the shift time for the agent
On failover	Indicates whether the primary media server is offline and has failed over to the secondary (redundant) media server
Agt Unavail%	The percentage of time for the shift that the agent was unavailable (Do Not Disturb, Make Busy, and Wrap Up Timer)
Logged in Not Present Time	The duration of time the agent was logged into Contact Center Management but not present in a queue
External Handle Duration	The duration of time the agent spent handling external calls
External Inbound Count	The number of incoming external calls
External Outbound Count	The number of outgoing external calls

Viewing queue chart statistics

NOTE:

- You can see queue charts during business hours as long as the business schedule you configure in YourSite=>Schedule or YourSite Explorer=>Schedules is consistent with your company's hours of operation. You assign business-hours schedules to queues in YourSite=>Configuration=>Queue=>Queue or in YourSite Explorer=>Queues=>Business Hours.

The following charts display queue statistics:

- Queue Now
- Queue Group Now
- Queue Performance by Period
- Queue Group Performance by Period

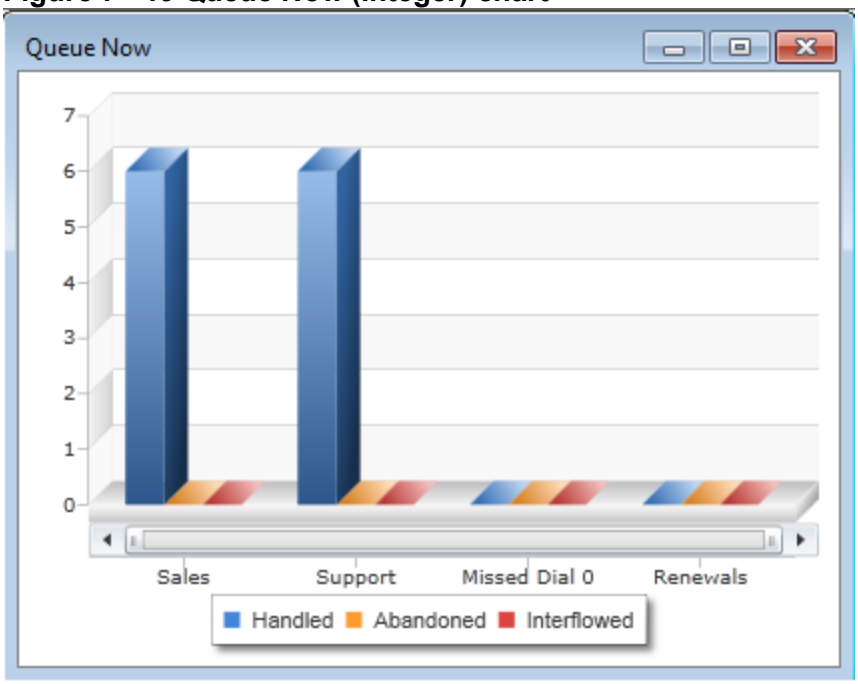
Queue Now and Queue Group Now

The Queue Now and Queue Group Now (Integer) charts show, by default, the total calls Handled, Abandoned, and Interflowed across queues and queue groups for the day. Along with the defaults, the charts can be configured to display call statistics for Calls Waiting, Agents Available, ACD, Idle, Non ACD, Outbound, Unavailable, Offered, Requeue, Total Queue Unavailable, Current Queue Unavailable, Offered Last Hour, Handled Last Hour, Abandoned Last Hour, Interflowed Last Hour, Unavailable Last Hour, Offered Last 15 Minutes, Handled Last 15 Minutes, Abandoned Last 15 Minutes, Interflowed Last 15 Minutes, Unavailable Last 15 Minutes, Remote Calls Waiting, Logged out, Logged in not present, # Handled by 1, # Handled by 2, # Handled by 3, and # Handled by 4. (See Figure 7 - 19.)

Queue Now and Queue Group Now (Percentage) charts show, by default, Service Level %, Handled %, % Handled by 1, % Handled by 2, % Handled by 3, % Handled by 4, % Handled Last Hour, Service Level % last Hour, % Handled Last 15 Minutes, Service Level % Last 15 Minutes, %Abandoned, %Abandoned Last Hour, and %Abandoned Last 15 Minutes.

Queue Now and Queue Group Now (Time) charts show, by default, Longest Waiting, Average Time to Handle, Average Time to Abandon Minutes, Average Talk Time, Ttl Talk Time, Time to Handle Last Hour, Average Time to Handle Last Hour, Hdnl Last 15 Min, Average Handling Time Last 15 Minutes, Rmt Long Wtg, Total work timer minutes, Total make busy minute, and Total occupancy minutes.

Figure 7 - 19 Queue Now (Integer) chart



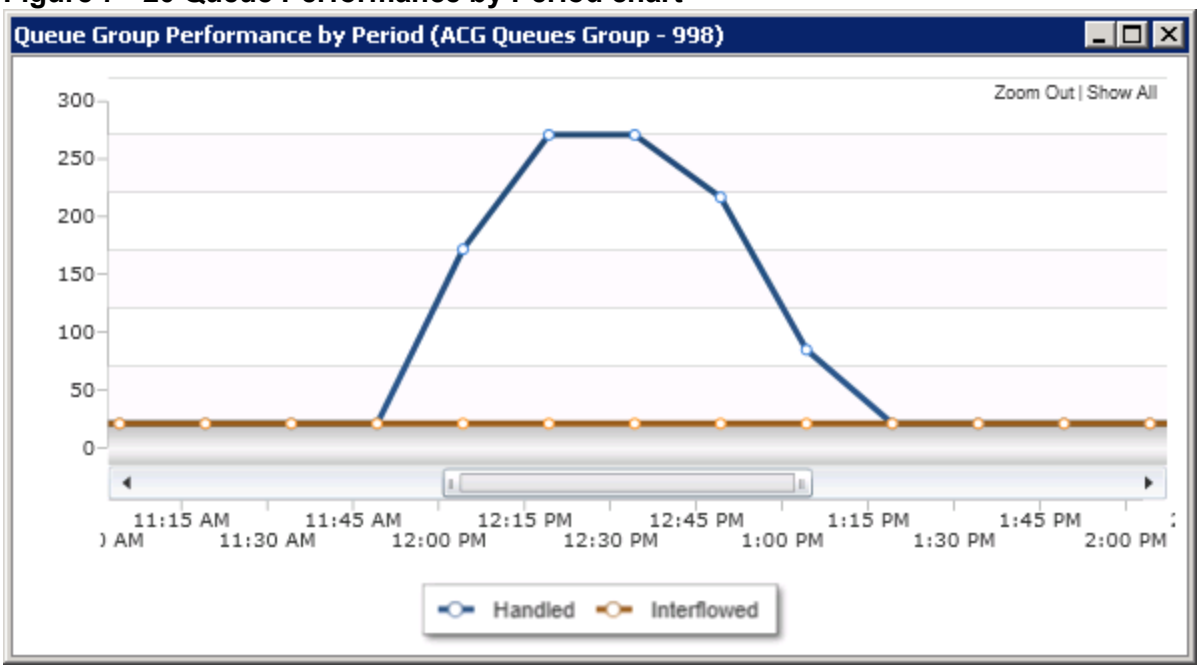
Queue Performance by Period and Queue Group Performance by Period

The Queue Performance by Period and Queue Group Performance by Period (Integer) charts show, by default, the calls Handled and Interflowed across 15-minute intervals for queues and queue groups. Along with the defaults, the charts can be configured to display call statistics for Offered, Short Abandoned, Abandoned, Requeue, # Handled by 1, # Handled by 2, # Handled by 3, and # Handled by 4. (See Figure 7 - 20.)

The Queue Performance by Period and Queue Group Performance by Period (Percentage) charts show, by default, % Handled by 1, % Handled by 2, % Handled by 3, % Handled by 4, Service Level % Today, and % Handled.

The Queue Performance by Period and Queue Group Performance by Period (Time) charts show, by default, Average Time to Handle, Average Time to Abandon, Average Time to Interflow, Ttl Talk Time, Average Talk Time, Total work timer minutes, Total make busy minutes, and Total occupancy minutes.

Figure 7 - 20 Queue Performance by Period chart



Navigating charts

You can zoom in and out of charts to change how the data is displayed in the chart, expanding or compressing the displayed data. If the range of data displayed exceeds the boundary of the chart window in Contact Center Client, you can use the horizontal scroll bar to move back and forth across the displayed data.

To zoom in on a chart

1. Hold your mouse over the edge of the horizontal scroll bar until the cursor turns into a double-arrow (<->) icon.
2. Click and drag the edge of the horizontal scroll bar towards the opposite side of the scroll bar.
   The chart zooms in and the horizontal scroll bar shrinks in size.
   NOTE: To undo the zoom function, click **Zoom Out**.

To zoom out of a chart

1. Hold your mouse over the edge of the horizontal scroll bar until the cursor turns into a double-arrow (<->) icon.
2. Click and drag the edge of the horizontal scroll bar and drag to zoom out.

To show the entire chart in the window

- If you are zoomed in, in the chart window click **Show All**.

To scroll across the chart

- Click and drag the horizontal scroll bar in the direction you wish to scroll the chart.

Viewing callback lists

NOTE:

- You can monitor the currently available callbacks in real time.
- You can requeue and reject callbacks.

The Global callback monitor displays callback information.

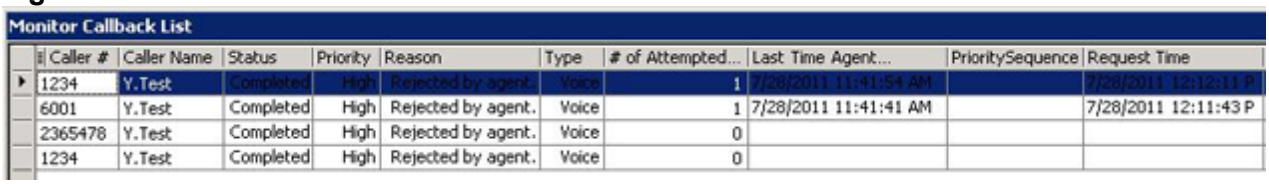
Global callback monitor

The Global callback monitor enables system administrators to monitor callback states in real time and displays the callbacks currently available. Using the Global callback monitor, you can requeue and delete callbacks. (See Figure 7 - 21.)

To access the global callback monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. Click the **Callbacks** icon.
   The Monitor Callback List displays.

Figure 7 - 21 Global callback monitor



Caller #	Caller Name	Status	Priority	Reason	Type	# of Attempted...	Last Time Agent...	PrioritySequence	Request Time
1234	Y.Test	Completed	High	Rejected by agent.	Voice	1	7/28/2011 11:41:54 AM		7/28/2011 12:12:11 P
6001	Y.Test	Completed	High	Rejected by agent.	Voice	1	7/28/2011 11:41:41 AM		7/28/2011 12:11:43 P
2365478	Y.Test	Completed	High	Rejected by agent.	Voice	0			
1234	Y.Test	Completed	High	Rejected by agent.	Voice	0			

Table 7 - 10 describes the Global callback monitor column headings.

Table 7 - 10 Global callback column headings

Column heading	Definition
Caller number	the phone number provided by the caller
Caller name	the name of the caller
Status	the state of the callback — new request, in progress, requeued, completed, unknown
Priority	the importance level of the callback. Callback priority levels are: • Voice — High • Web — Normal • Caller abandoned — Low
Reason	lists why the callback is in a particular status
Type	the type of callback — voice, web, or caller abandoned
# of Attempted Calls from Agent	the number of times the agent attempted the callback
Last Time Agent Attempted	the last time the agent attempted the callback
Request Time	the specific time the callback will be executed
Time Received	the specific time the caller submitted the callback request
Web IP Address	the IP address of the caller who submitted the callback request
Last Attempted Call to Client	the specific time the last callback attempt to the caller was made
Attempted Calls to Client	the number of times the callback was attempted
Client Available From	the earliest time the caller is available to receive the callback
Client Available To	the latest time the caller is available to receive the callback
ANI	the phone number of the caller
DNIS Number	the phone number the caller dialed
Dialable	the dialable number of the device that will handle the callback
Device Name	the name of the device that will handle the callback
Device Type	the type of device that will handle the callback — agent, queue, or exten-

Column heading	Definition
	sion
Recorded Message	contains a hyperlink to the voice callback .wav file left by the caller
Country	the country the call originated from
Area	the province/state or other area the call originated from
Port	the number of the port attempting to perform the callback

Viewing ports

NOTE:

- You can monitor port states in real time and view currently executing call flows.
- You can select the ports you want to monitor individually or by hunt group.
- You can remove ports from Do Not Disturb.

The Port Status monitor displays port information.

Port status monitor

The Port Status monitor enables system administrators to monitor port states in real time and displays the call flows that are currently executing on ports. Using the Port Status monitor, you can take ports out of Do Not Disturb and playback historical port events in Auditor mode. (See Figure 7 - 22.)

To access the port status monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. Click the **Ports** icon.
   The Port status monitor displays.

Figure 7 - 22 Port status monitor

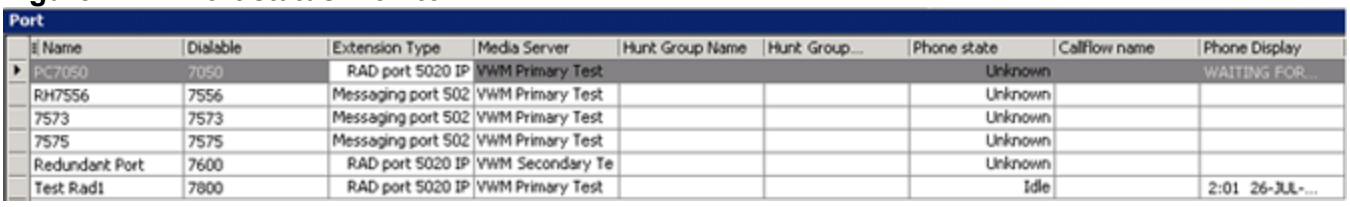


Table 7 - 11 describes the Port Status monitor column headings.

Table 7 - 11 Port Status column headings

Column heading	Definition
Name	the name of the port
Dialable	the port's dialable number
Extension Type	the type the extension — RAD, messaging, callback, or UPiQ
Media Server	the media server to which the port is associated
Hunt Group Name	the name of the hunt group the port is associated with. A port can be associated with more than one hunt group
Hunt Group Dialable	the dialable number of the hunt group
Phone state	the state of the phone — idle, dialing, talking, ringing, or unknown
Call flow name	the name of the executing call flow
Phone Display	displays the MiAUDIO state (that is displayed on the phone)
ANI	the phone number of the caller
DNIS	the phone number dialed by the caller
Redirect	the number of the device the call was directed from

Viewing Web pages

While using Contact Center Client, you can view Web pages using the Web browser monitor.

To view a Web page within Contact Center Client

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. Click the **Web** icon.
   The Web Browser Properties window opens.
3. After **Monitor title**, type a name for the monitor.
4. After **Start URL**, type the Web address of the website to view.
   NOTE: The website address must begin with http:// or you will not be able to view the monitor.
5. Optionally, select a value for the Web Browser **Refresh Rate**.
6. Click **OK**.

Viewing and customizing real-time monitors

NOTE:

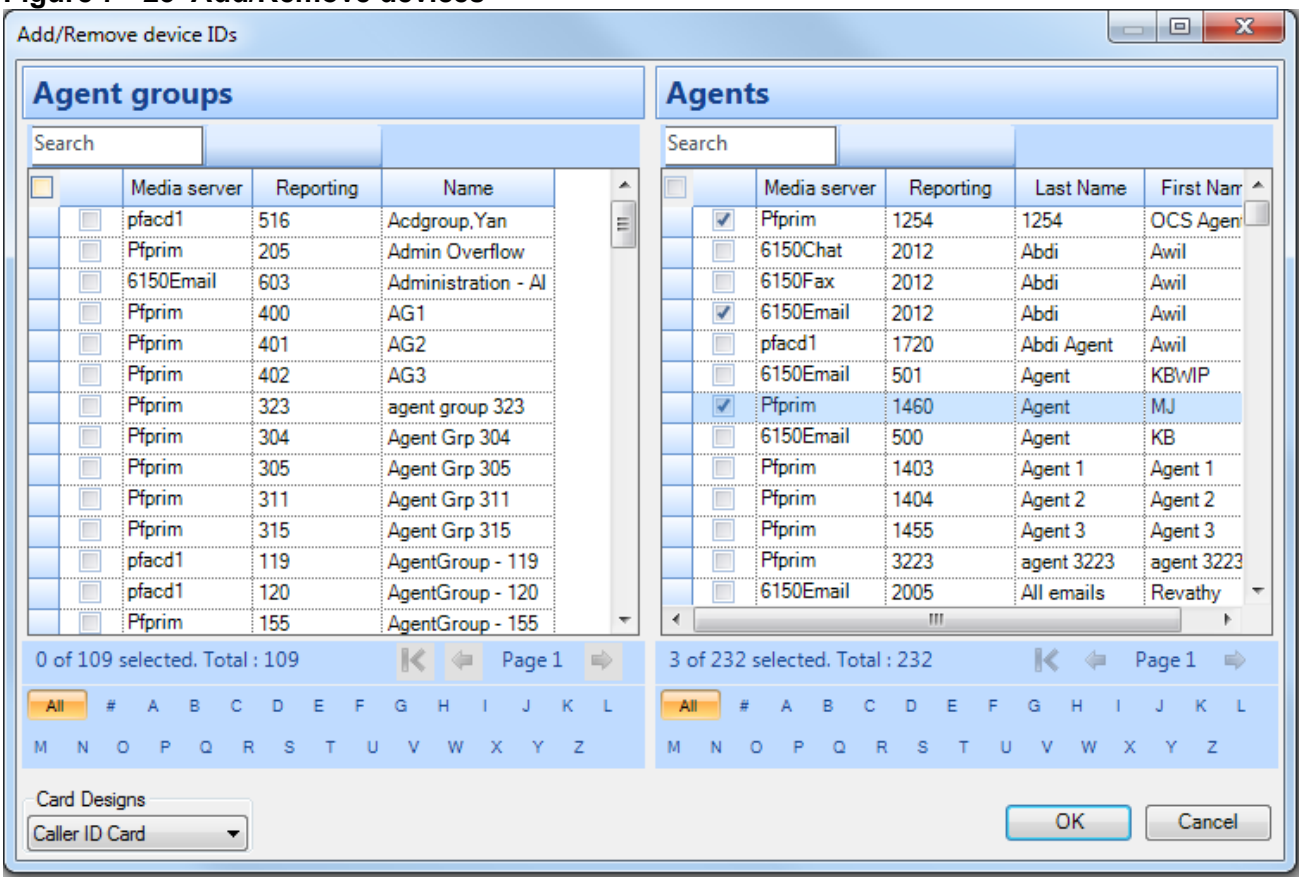
- Contact Center Client has a tabbed interface for managing and arranging windows. You can dock the monitors, displaying them on overlapping tabbed panels to maximize real estate. This enables you to readily navigate between monitors.
- You can save threshold settings and display characteristics you define for monitors. When you click File=>Save, Contact Center Client saves all open monitors under one profile name. You can click File=>Open to open another profile, or File=>New to create a new profile.

Opening monitors

To open a monitor in Contact Center Client

1. In the Contact Center Client ribbon, click **Real time** to view the Contact Center Client monitor icons.
2. In the **State by Position** column on the ribbon, click **Agent** .
   This selects the Agent State by Position monitor and the Add/Remove device IDs window opens. See Figure 7 - 23.
3. Under **Agent groups**, select agent groups to monitor and/or under **Agents**, select agents to monitor.
4. Under **Card designs**, select a card design.
   Card designs specify the information displayed on agent, employee, and extension monitors.
5. Click **OK**.

Figure 7 - 23 Add/Remove devices



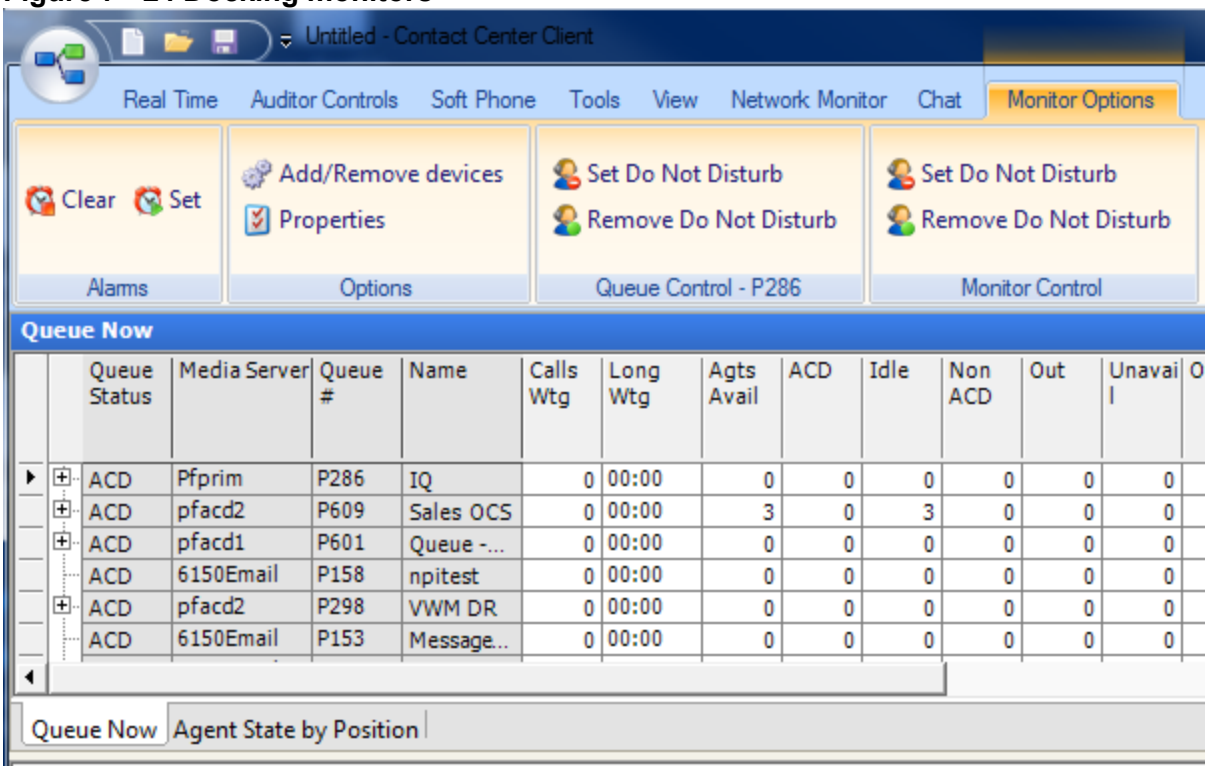
Docking monitors

You can dock monitors and readily navigate between them. You can dock a monitor to the top, bottom, left, or right of another monitor. Alternatively, you can dock a monitor on the top, bottom, left, or right side of the Contact Center Client window. You can dock monitors on top of one another, displaying them on overlapping tabbed panels to maximize real estate.

To dock a monitor on top of another monitor

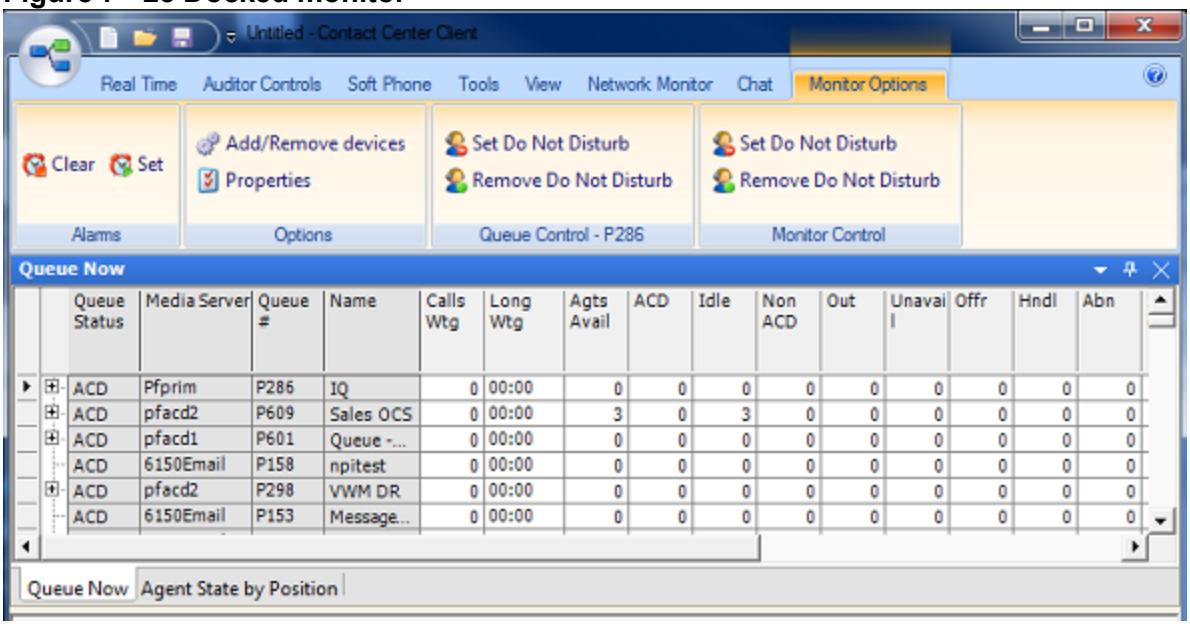
1. Right-click the title bar of an open monitor and select **Dock**.
2. Repeat step 1 for all open monitors.
3. Click the title bar of a monitor and drag the monitor on top of a second monitor placing your cursor in the center of the four-headed arrow that displays.
   See Figure 7 - 24.

Figure 7 - 24 Docking monitors



4. Release the mouse button.
   Your monitors are displayed on overlapping tabbed panels.
   See Figure 7 - 25.

Figure 7 - 25 Docked monitor



Adding and removing devices

You can add and remove devices from all of the Contact Center Client monitors except for the chart monitors.

To add devices to the bottom of a monitor

1. Right-click an open monitor and click **Add/Remove devices**.
2. Under **Agent/Employee/Queue groups**, select additional agent, employee, or queue groups to add to the monitor, or under **Agents/Employees/Queues**, select additional agents, employees, or queues to add to the monitor.
3. Click **OK**.
   On the Agent State by Position, Employee State by Position, and Extension State by Position monitors a blank row of cells separates the original agents from those you just added. To remove the blank row you must sort the monitor.
   See "Sorting monitor devices" on page 230.

To remove devices from a monitor

1. Right-click an open monitor and click **Add/Remove devices**.
2. Under **Agents/Employees/Queues**, clear the check boxes of the agents, employees, or queues to be removed.
3. Click **OK**.

NOTE: You can alternatively add and remove devices via the Monitor Options tab in the Contact Center Client ribbon for the Queue by Period, Queue Now, and Queue Group Now monitors.

Sorting monitor devices

When you select devices to display on a monitor, you can specify the devices be sorted by media server (on agent monitors only), ID, or name (alphabetically) in ascending or descending order. When the monitor opens, the devices display in the order you selected.

To sort the devices displayed on a monitor

- In the left pane of the **Add/Remove devices** window, click **Media server** to sort the members by media server, click **Name** to sort the members alphabetically, or click **Reporting** to sort the members by ID, in either ascending or descending order.

You can sort information by state, name, agent ID, or extension on the Agent State by Position, Employee State by Position, and Extension by Position monitors.

To sort agents or employees by state

- Right-click a monitor and click **Sort monitor=>By state**.

If you sort agents by state, Contact Center Client displays the agents by state and time in state across the monitor in the following order:

- Ringing
- ACD
- ACD Hold
- Idle
- Non ACD
- Non-ACD Hold
- Outbound
- Outbound Hold
- Do Not Disturb
- Make Busy
- System Make Busy
- Work Timer
- Unknown
- Logged Off

To sort agents or employees by name

- Right-click a monitor and click **Sort monitor=>By name**.

To sort agents or employees by agent ID

- Right-click a monitor and click **Sort monitor=>By agent ID**.

To sort agents or employees by extension

- Right-click a monitor and click **Sort monitor=>By extension**.

Rearranging cells

You can rearrange cells on the Agent State by Position, Employee State by Position, and Extension State by Position monitors.

To rearrange cells

- On an open monitor, drag a cell to a different position on the monitor.

You can rearrange columns on the Agent Shift, Queue by Period, Queue Now, and Queue Group Now monitors.

To rearrange columns

1. Right-click an open monitor and click **Properties**.
2. Click the **Layout** folder.
3. Click **Column order**.
4. Click a column header and click the up or down arrow key to change the position of the column relative to other columns on the monitor.

NOTE: You can alternatively rearrange cells via the Monitor Options tab in the Contact Center Client ribbon for the Queue by Period, Queue Now, and Queue Group Now monitors.

Setting monitor dimensions

You can specify the numbers of rows and columns of cells to display on the Agent State by Position, Employee State by Position, and Extension by Position monitors. You can then adjust the table to fit within the monitor frame.

To set table dimensions

1. Right-click a monitor and click **Set table dimensions**.
2. After **Columns**, type a number.
3. After **Rows**, type a number.
4. Click **OK**.
   Columns or rows are added or deleted from the monitor. You can redistribute the cells using a drag-and-drop operation.

To size the table to fit the frame

- Right-click in any real-time monitor and select **Size table to frame**.

Hiding monitor columns

On the Agent Shift, Queue by Period, Queue Now, and Queue Group Now monitors, you can hide specific columns of statistics.

To hide columns

1. Right-click an open monitor and click **Properties**.
2. Click the **Layout** folder.
3. Click **Column order**.
4. In the **Visible** column, clear the check boxes of the columns you want to hide from view.

NOTE: You can alternatively hide monitor columns via the Monitor Options tab in the Contact Center Client ribbon for the Queue by Period, Queue Now, and Queue Group Now monitors.

Configuring chart characteristics

Individual charts have a range of configurable characteristics and options that enable users to customize their chart display.

You can right-click charts to access the following options or select them via the Chart Options tab:

- Change the chart types
- Configure the legend
- Configure the color scheme
- Enable points labels
- Modify Properties

Changing chart type

Contact Center Client enables you to configure the type of chart, either column or line, used for your Queue and Queue Group Performance by Period charts.
Queue and Queue Group Now charts display as bar charts.

1. Right-click on an open By Period chart and click **Chart Type**.
2. Select the type of chart you want your chart to display.

NOTE: Alternatively, you can change the chart type by selecting an open By Period chart, and choosing **Column** or **Line** from the drop-down list beside **Type** in the Chart Options tab.

Configuring the legend

You can choose if your chart has a legend, as well as configure where the legend displays.

To configure the legend

1. Right-click on an open queue chart and click **Legend box**.
2. Select or deselect **Enabled** to either display or remove the legend.
3. Right-click on an open queue chart and click **Legend box**.
4. Click **Left**, **Top**, **Right**, or **Bottom** to determine where you want the legend box to display.

NOTE: Alternatively, you can configure the legend by selecting an open queue monitor and accessing options from the **Legend** section of the **Chart Options** ribbon.

Configuring the color scheme

You can select the color scheme for the chart.

To configure the color scheme for a chart

1. Right-click on an open queue chart and click **Color**.
2. Select the color scheme you want to apply to the chart from the list.

NOTE: Alternatively, you can configure the color scheme by selecting an open queue chart and selecting color options from the drop-down list beside **Color** in the **Chart Options** ribbon.

Defining queue chart properties

Under Chart properties, you can select general chart characteristics, such as colors and stacked effects. You can define series characteristics, such as the type of chart, the fill properties, and the shape of the bars. In addition, you can define y axis characteristics.

To define queue chart properties

1. Right-click an open queue monitor and click **Chart properties**.
2. On the **General** tab, specify general chart characteristics (colors, effects, and 3D).
3. Click the **Series** tab.
4. Specify series characteristics (chart style, fill style, bar type, and border style).
5. Click the **Y Axis** tab.
6. Specify axis scale characteristics, label characteristics, and the width and color of the axis line.
7. Click **OK**.

NOTE: Alternatively, you can configure queue chart properties by selecting an open queue monitor and clicking **Properties** located in the **Chart Options** ribbon.

Enabling point labels

You can enable labels for each point in your chart.

To enable point labels

- Right-click on an open queue chart and click **Points labels**.

NOTE: Alternatively, you can enable point labels by selecting an open queue chart and clicking **Enabled** in the **Points Label** section of the **Chart Options** ribbon.

Modifying Properties

Properties controls the way chart data displays. Under Properties, you can

- Specify the queue chart title
- Highlight statistics
- Configure 2D and 3D statistics
- Animate charts
- Select call statistics to display
- Create and modify constant lines

NOTE: You can either right-click an open queue chart to modify properties or select an open queue chart and choose options via the Properties section of the Chart Options tab.

Specifying the queue chart title

Under Properties, you can specify the title of the queue chart.

To specify the queue chart title

1. Right-click on an open queue chart and click **Properties**.
2. After **Monitor title**, select and delete the old chart title and type a new name for the queue chart.
3. Click **OK**.

Highlighting statistics

Under Properties, you can enable the highlight feature. When the highlight feature is enabled, and when you move your cursor over a bar representing a specific call statistic, that bar is highlighted and the other bars, representing other call statistics, are dimmed.

To highlight statistics

1. Right-click on an open queue chart and click **Properties**.
2. Expand the **Chart properties** tree and click **General**.
3. Select the **Highlight** check box.
4. Click **OK**.

Configuring 2D or 3D chart displays

Under Properties, you can configure whether your chart displays bars in 2D or 3D. By default, your charts display in 3D.

1. Right-click on an open queue chart and click **Properties**.
2. Expand the **Chart properties** tree and click **General**.
3. Select the **3D** check box to enable or disable 3D charts.
4. Click **OK**.

Animating charts

Under Properties, you can enable the animated feature. When the animated feature is enabled, changes to chart values actively display. The animated feature is disabled by default.

CAUTION: Enabling the animated feature will result in additional CPU load on the affected workstation.

To animate charts

1. Right-click on an open queue chart and click **Properties**.
2. Expand the **Chart properties** tree and click **General**.
3. Select the **Animated** check box.
4. Click **OK**.

Selecting call statistics to display

Under Properties, you can select call statistics to display. For example, you can add Calls Waiting, Agents Available, Idle, and Requeued statistics to the Queue Group Now (Integer) chart.

To select call statistics to display

1. Right-click on an open queue chart and click **Properties**.
2. Expand the **Chart properties** tree and click **Series data**.
3. Select the **Series data type** radio button to define the types of data visible in the chart.
    - Integer
    - Percentage
    - Time
4. If you are selecting call statistics for a Queue or Queue Group Performance by Period chart, click **Time Interval**. Select the radio button for the interval you want to use and set the time.
5. Under **Visible**, select the check box of the data you want to add to the chart.
6. Alternatively, under **Visible**, clear the check box of the data you want to remove from the chart.
7. Click **OK**.

Creating and modifying Constant lines

Under Properties, you can configure Constant lines. Constant lines are horizontal lines you configure to display across your chart at set values on the Y-axis, enabling you to clearly see how the data being displayed in the chart meets with desired values.

To create Constant lines

1. Right-click on an open queue chart and click **Properties**.
2. Click **Chart properties**.
3. Click **Constant lines**.
4. Click **Add**.
5. Click in the **Color** box to choose a color.
   NOTE: The default constant line color is red.
6. After **Text**, type the name you want to display beside the constant line in the chart.
7. After **Value**, type the value you want the constant line to mark.
8. After **Width**, select the thickness of the line.
9. Click **OK**.
   The Constant line will be added to the list of active Constant lines.

To modify a Constant line

1. Select the Constant line you want to modify and click **Edit**.
2. After **Text**, type the name you want to display beside the Constant line in the chart.
3. After **Value**, type the value you want the Constant line to mark.
4. After **Width**, select the thickness of the line.
5. Click **OK**.

To delete a Constant line

- Select the Constant line you want to delete and click **Delete**.

Filtering device variables

On the Queue Now, Agent Shift, Queue by Period, and Queue Group Now monitors, you can filter specific device variables. For example, on the Queue by Period monitor, you could filter the Calls Offered variable and display statistics for the intervals during which the queue was offered five or more calls.

To filter variables

1. Right-click a monitor and click **Filter device variables**.
2. Click **Filter data to show**, select a variable, select an operand, and type a number.
3. Click **OK**.
   A subset of the data is displayed based on the conditions defined in the filter.

Setting alarms

You can define alarms to alert you to significant changes in contact center activity. Using the alarms, you specify performance thresholds for contact center elements, such as queues and agents, and customize the visual, auditory, or email delivery of alarms. If any availability or performance issues arise, your alarms deliver a notification enabling you to instantly change agent and queue availability to adjust to unplanned call volumes. For a demonstration of alarm configuration and functions, click http://www.youtube.com/watch?v=cDdUa1l-Q1o.

Client alarms are specific to each computer. To notify you that performance thresholds are not being met, you can configure alarms so that

- Monitor cells and statistics change color.
- A pop-up notification opens on your desktop.
- A sound prompt, such as a beep or .wav file, plays.
- You are notified by email.
- Contact Center Client opens on top of all open applications.

To configure alarms for real-time monitors

1. Add performance thresholds.
2. Specify threshold colors.
3. Specify threshold notification.

Adding performance thresholds

To add performance thresholds so you can monitor alarms

1. Right-click a monitor and click **Set alarms**.
   Alternatively, select an open monitor and click Set alarms in the Alarms column, found in the Monitor or Chart Options tab in the Contact Center Client ribbon.
   The Set alarms window open.
   NOTE: You can select the **Apply the alarm thresholds to all devices displayed on the monitor** check box to apply the threshold settings for performance variables across all queues or agents. Alternatively, you can select **Apply the alarm thresholds to a specific list of devices** to apply the threshold settings for a performance variable to a list of queues or agents.
2. Under **Devices**, select one or more queues or agents or select the **Select all** check box to select all queues or agents.
3. In the **Performance variables** list, select a variable.
4. Under **Alarm Thresholds**, click **Add threshold** and type a value for the upper boundary of the threshold.
   The lower boundary cannot be modified. The lower boundary of the next threshold is always slightly greater than the upper boundary of the previous threshold.
5. Click **OK**.

Specifying performance threshold colors

To configure performance threshold colors

1. For the alarm threshold for which you want to specify colors, under **Background**, click the arrow.
   A color palate opens.
2. Select a color.
3. Under **Font color**, click the arrow.
   A color palate opens.
4. Select the font color for the alarm threshold.
5. Click **OK**.

Specifying threshold notification

To configure performance threshold sound notification

1. For the alarm threshold for which you want to be notified by a sound, under **Sound**, select the check box.
   The Sound window opens.
2. Specify the alarm triggering properties.
3. Specify the sound you want played when the alarm is triggered.
4. Click **Save**.

To configure performance threshold pop-up window notification

1. For the alarm threshold for which you want to be notified by a pop-up window, under **Pop-up**, select the check box.
   The Pop-up window opens.
2. After **Duration**, type the number of seconds you want the pop-up alarm to be displayed when threshold conditions are satisfied.
3. If you want to display the pop-up alarm on top of all of the other applications, select the **Keep this message visible on mouse over** check box.
4. Optionally, click the **Format font** button to specify font attributes for the pop-up alarm message.
5. In the text box, type the message for the performance threshold and click the **Add variable** button to insert performance variables. (for example, type CW P001 = <calls waiting variable>).
6. Click **Save**.

To specify that Contact Center Client opens on top of all other applications when a performance threshold is satisfied

- For the alarm threshold for which you want to be notified, under **Bring to front**, select the check box.

To configure performance threshold email notification

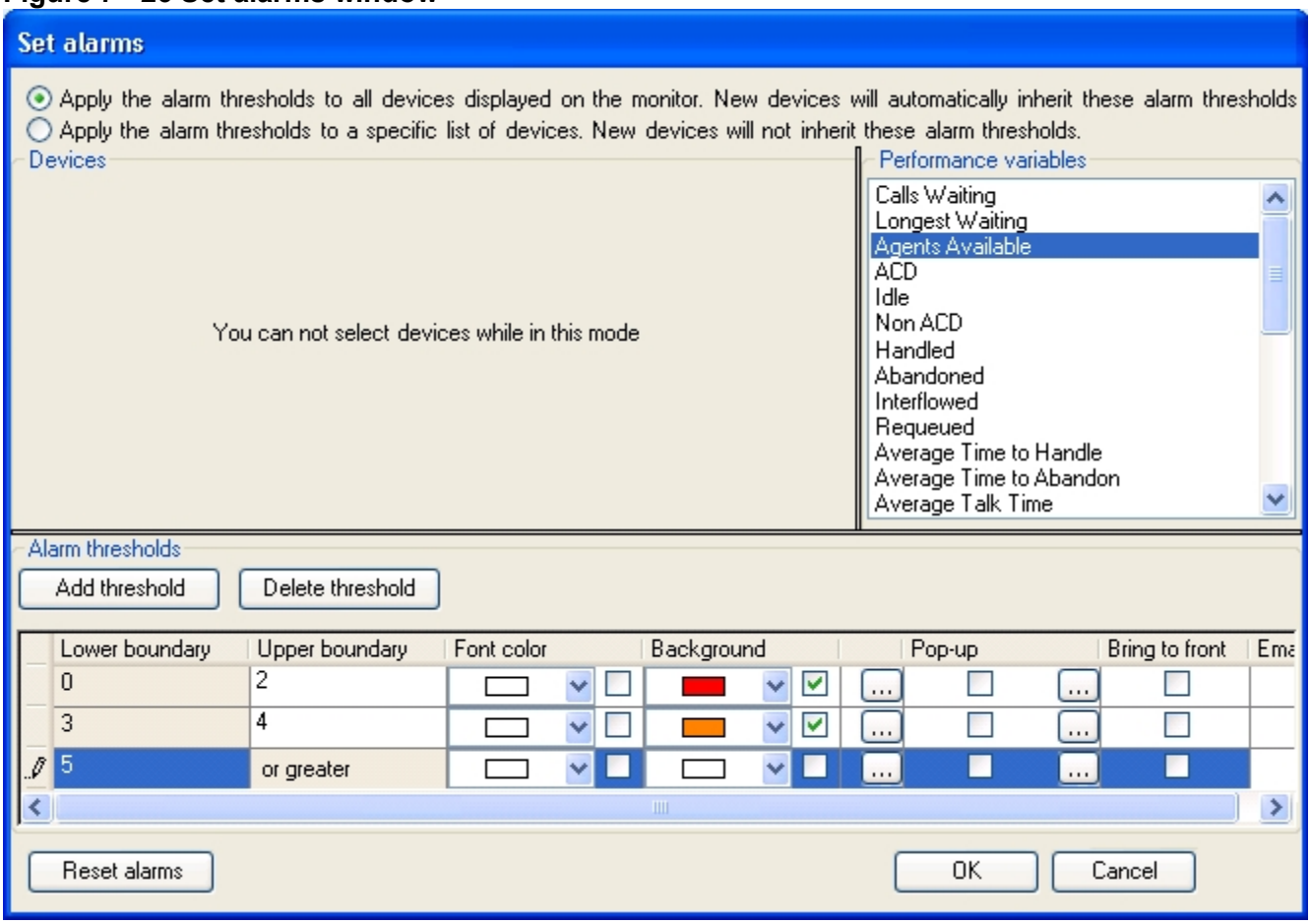
1. For the alarm threshold for which you want to be notified, or notify others by email, under **Email**, select the check box.
   The Email window opens.
2. After **Distribution**, specify which contacts are to be notified by email when threshold conditions are satisfied.
   See "Emailing reports" on page 282.
3. After **Subject**, type the subject of the email to be sent (for example, type Calls Wtg in Sales Queue 1 >10!).
4. In the message box, type the body of the email.
5. Click **Save**.

Consider the threshold programming in Figure 7 - 26. When the number of agents available in the technical support queue is between 0 and 2, the cell housing the Agents Available statistic is red. When the number of agents available is between 3 and 4, the cell turns orange. When the number of agents available is 5 or greater, the cell turns white. In addition, audible alarms and pop-up alarms display.

To clear any current client alarms in Contact Center Client

- Right-click the monitor and click Clear alarms.

Figure 7 - 26 Set alarms window



Customizing the information displayed on position and time monitors

On the agent, employee, and extension by position and by time monitors, real-time information is displayed in cells (cards). You can select from available card designs, or customize cards to display specific information.

When you first open an agent, employee, or extension monitor, you can select a card design on the Add/Remove device IDs window:

- The Classic card displays the agent state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold).
- The Caller ID card displays the caller name and number (ANI), the number the caller/employee dials for incoming/outgoing calls, the state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold.
- Custom cards you create and share

The Caller ID card is the default card design. You can use this card design, or select the Classic card or a customized card. You can create new card designs or copy existing card designs and modify them. For example, you can add or remove text and variables from cards and rearrange the information displayed. You can share card designs with other employees. When you select a card design for an agent, employee, or extension monitor, it is applied to all monitors of that type.

Selecting and customizing card designs

To select a card design

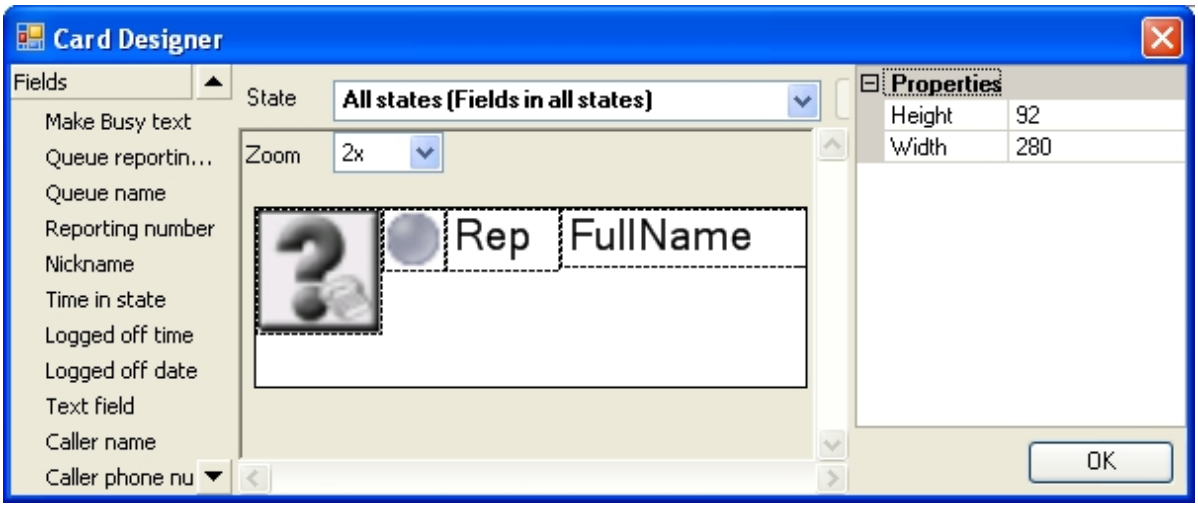
1. Right-click an open position or time monitor and click **Properties**.
2. Click **Layout=>Card design**.
3. Under **Design name**, select a card design.
4. Click **OK**.

To customize cards for position and time monitors

1. Under **Card design**,
   - If you want to create a card design, click **New**.
   - If you want to edit an existing card design, select a card design and click **Edit**.
   - If you want to create a card design based on the Caller ID card or the Classic card, select either card and click **Copy**.
2. On the **New card design** window, type the name of the new card design.
3. If you want to share the design with other agents, select **Share design**.
4. Click **OK**.
5. Select the card and click **Edit**.
   See Figure 7 - 27.
6. After **State**, select a state for the card design.
   You can use the same card design for all states or you can customize cards for specific states, such as ACD, Idle, Make Busy, and Unknown.
7. Under **Fields**, select a field type and drag and drop it to the card design.
8. If you want to resize the field, click the field and use your pointer to move or resize the field.
9. If you want to change the properties for a field, click the field and change the properties in the right pane of Card Designer.
10. If you want to change the size of the card design preview, after **Zoom**, select a different magnification value from the list.

11. Add additional fields to the card.
12. Select **Copy to** if you want to copy the current design to the card of a different state.
13. Click **OK**.
    The new card design displays on the Card design list.
14. Click **OK**.

Figure 7 - 27 Card Designer window



Defining monitor styles

You can customize the appearance of individual monitor elements. For example, you can configure the font size and color of column headings or apply a skin of predefined colors and font attributes to the entire monitor.

To customize the appearance of monitor elements

1. Right-click an open monitor and click **Properties**.
2. Click **General=>General settings**.
3. If you want to change the title of the monitor, after **Title**, type a name.
4. If you want to scroll horizontally on the monitor, select the **Enable horizontal scroll bars** check box.
5. If you want to scroll vertically on the monitor, select the **Enable vertical scroll bars** check box.
6. If you want to group monitor headings, select the **Enable grouping** check box.
7. If you want to apply a skin to the monitor, click **Layout=>Monitor style**.
8. Click **Load style** and select a skin.
9. Otherwise, under **Properties**, manually configure the column settings, column font, row settings, and row-alternate settings.
10. Click **OK**.

Adding text to card designs

You can use a text box to add custom text to a card.

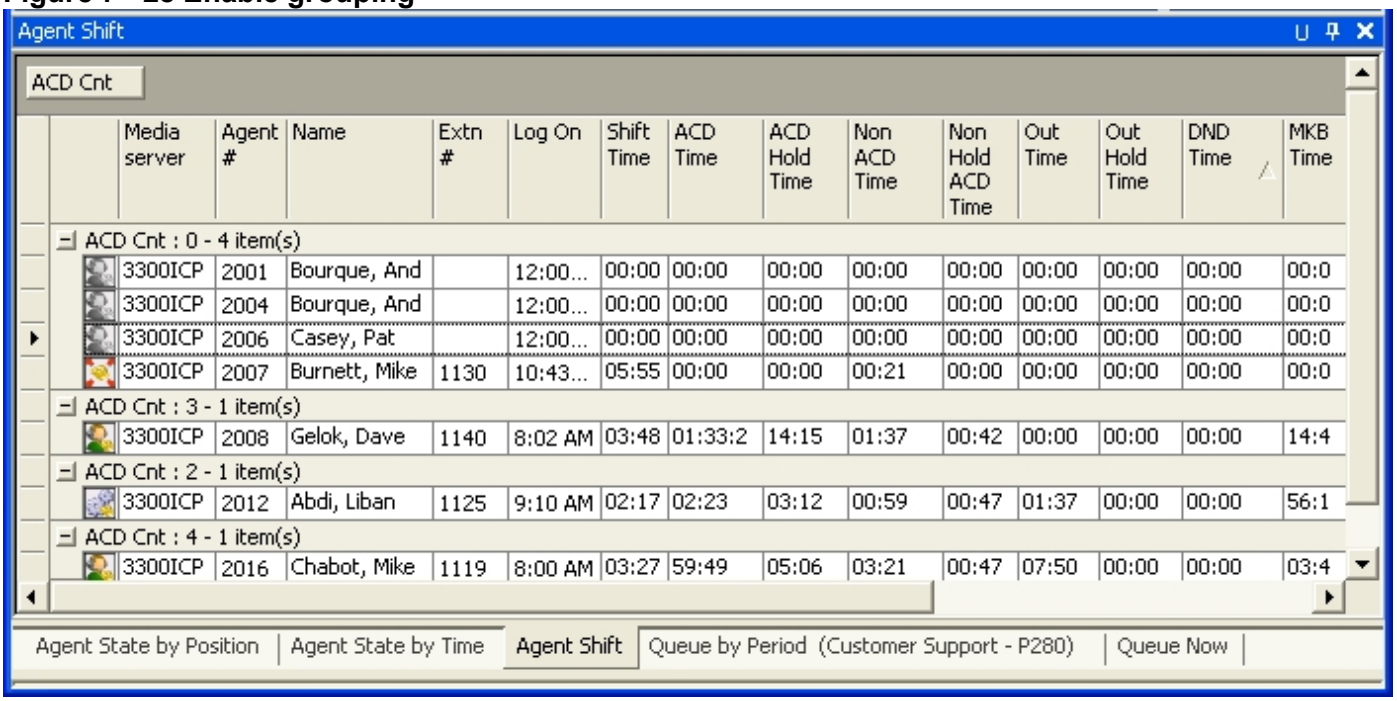
To edit text that you have added to a card

1. Select the text box.
   Properties displays on the right.
2. Under **Properties**, in the box to the right of **Text**, type the text to be added to the card.
3. Click **OK**.
4. Click **OK**.

Grouping data

You can group rows of data in the Queue Now monitor, and other monitors that contain columns. For example, you can group the data by the ACD count statistic and readily see which agents handled the most calls, and which agents handled the least calls, as illustrated in Figure 7 - 28.

Figure 7 - 28 Enable grouping



The Enable grouping option displays a grouping panel to which users drag columns. The grouping order determines the order in which the rows display.

To enable grouping

1. Right-click an open monitor and click **Properties**.
2. Select the **Enable grouping** check box.
3. Click **OK**.
   The monitor displays a grouping panel.
4. Drag a column heading to the panel to group by the column heading.

Building marquee monitors

You can build marquee monitors to broadcast real-time statistics and messages and alarm on real-time contact center performance statistics. With marquee monitors and wall-mounted marquee displays, such as LCD monitors or LED reader boards, you can offer your supervisors and agents access to important contact center performance metrics. For a demonstration of marquee monitors, click http://www.youtube.com/watch?v=wFsiFz6JgMc.

You can build a marquee monitor to broadcast statistics and messages. To do so, you must

- Specify styles for the marquee monitor.
- Configure marquee text and variables.

Configuring marquee monitor styles

To specify attributes for the marquee background

1. Click the **Marquee** icon.
   The Configure marquee window opens.
2. Click **Add a message**.
   The Add a message window opens.
3. Type a name for the message.
4. Under **Position**, select **Top**, **Right**, **Left**, **Center**, or **Bottom** to specify how the message is to be displayed on the marquee.
5. Click **Format marquee**.
   The Format marquee window opens.
6. After **Background color**, select a color for the background.
7. After **Cell color**, select a color for the marquee cells.
8. After **Cell size**, specify a value for the size of the marquee cells.
9. After **Cell spacing**, select a value for the space between marquee cells.
10. To specify the marquee text font type and color, click **Format font**.
    The Font window opens.
11. Select font attributes.
12. Click **OK**.
13. If you want the message and the background of the message to be displayed using pixels, select the Matrix style check box.
14. Click **OK**.
15. Click **OK**.
    The marquee displays.
    You must configure marquee text and variables.
    See "Configuring marquee text and variables" on page 242.

Configuring marquee text and variables

To configure text and variables for the marquee

1. Right-click the marquee and click **Configure marquee**.
   The Configure marquee window opens.
2. In the **Message editor** text box, type a message to display on the marquee (for example, type Calls Wtg =).
3. Under **Message editor**, click the **Add variable** button.
   The Add/Edit variable window displays.
4. Click **Add**.
   The Configure variable window opens.

5. Under **Variable types**, click the monitor type to which the variable applies.
6. Under **Variables**, click a variable.
7. Under **Devices**, select the check box of a device.
8. Under **Thresholds**, click **Add threshold** and specify a value for the upper boundary of the first threshold.
9. Click **OK**.
10. For the threshold, under **Variable**, select a color to be displayed in the marquee message string.
11. For the threshold, under **Message**, select a color for the text that will precede the variable in the marquee text string.
12. After **Type a name for the variable**, type a name.
13. Click **OK**.
14. On the **Configure marquee** window, in the **Message editor** text box, position your pointer where you want to add the variable.
    You can add variables at the beginning, middle, or end of message strings.
15. On the **Add/Edit variable** window, double-click the variable to add it to the message string.
16. Click the **Add** variable button.
    The Add/Edit variable window opens.
17. Click the **Configure transition effects** button and select the check boxes for the transition effects to be included.
18. Click **OK**.
    The marquee displays, showing the text you typed and a real-time value for the performance variable. You can define additional thresholds for the performance variable, and add additional variables to the marquee.

Using Contact Center Chat

Contact Center Client provides instant messaging capabilities for both supervisors and agents and is typically used by contact center employees only. Contact Center Chat provides the online chat presence of contact center employees, including Online, Offline, and Away. Agents can view the availability and presence of other contact center employees before they transfer calls or send online chat messages.

Using Contact Center Chat, you can communicate essential information to one or more agents, agent groups, or supervisors quickly and securely. You can coach agents and send timely messages, such as asking an agent to delay going on break when it is busy.

NOTE:

- You must have a security role that does not restrict you from gaining access to Contact Center Chat.
- You must log on to Contact Center Client in order to send and receive online messages.
- When you receive a message it is displayed immediately on top of all open windows.
- Contact Center Chat requires server to client hostname resolution to properly function.

Contact Center Chat is enabled by default. If you want to disable Contact Center Chat you do so in the Contact Center Management website in YourSite=>Enterprise=>local site. If you want to disable Contact Center Chat in YourSite Explorer, you do so in YourSite=>Site=>Chat Settings.

NOTE:

- In order to use Enterprise / Presence Chat integration, you must enable Contact Center Chat.
- If Contact Center Chat is disabled for a particular site all employees associated to that site will be unable to communicate with each other using Contact Center Client.

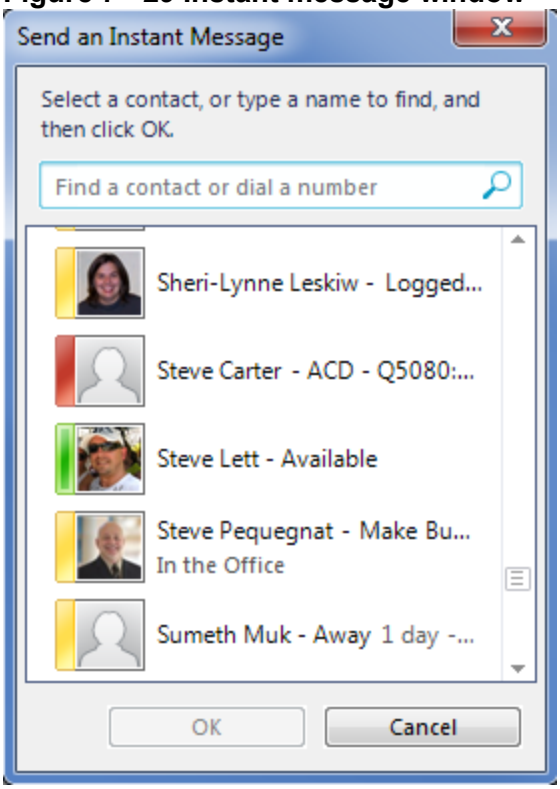
Sending an initial Contact Center Chat message

On an agent, employee, or extension monitor, you can right-click an agent's cell and click Send instant message to send an online message to the agent.The example below demonstrates integration with Microsoft Lync Server 2010, enabling Microsoft Lync as the default instant messaging client.

To send a chat message

1. Click **Chat** in the Contact Center Client ribbon.
2. Double-click the ID that displays beside **Contact Center Chat** in the toolbar.
   The Send an Instant Message window opens.
   See Figure 7 - 29.
3. Type the recipient's name in the contact text box or double-click a contact from the contact list.
   The Conversation window displays.
4. Type a message.
5. Click **Enter**.

Figure 7 - 29 Instant message window



To send a chat message while viewing agents on an agent, employee, or extension monitor

1. Right-click a cell in any open agent monitor and click **Send instant message**.
   The Conversation window opens.
2. Type a message.
3. Click **Send**.

Adding someone to a conversation

To add someone to a conversation

1. On the Conversation window, click the Invite someone to join this conversation icon.
2. Double-click a contact to add the contact to the conversation.
3. Click **Send**.

Responding to a Contact Center Chat message

Agents and supervisors can receive Contact Center Chat messages only if they are logged on to Contact Center Client.

To respond to a chat message

1. Type a message.
2. Click **Send**.
   Contact Center Chat sends your response to all chat session participants.

Using Contact Center Client with Lync

NOTE: In order to use Enterprise Presence / Chat integration, an employee's email address, as configured in YourSite Explorer under Employee, must be the same as the SIP address configured in Lync Server 2010.

With the addition of Lync Server 2010, agents and supervisors use Lync Client as their default instant messaging client. The presence of all company employees is natively delivered in Contact Center Client. Contact center employees can view the presence of both internal and external contacts to determine if they are available to communicate. In addition to Available, Offline, and Away, employees see In a Meeting, Busy, In a call, Do Not Disturb, Be Right Back, and other presence indicators.

If an agent views an employee on a real-time monitor and notes the employee is online, the agent can right-click the employee and send an instant message.

Table 7 - 12 provides details on the presence indicators that are available when Contact Center Client is used in conjunction with Lync Client and Mitel Enterprise Presence / Chat Integration.

Table 7 - 12 Lync presence indicator icons

Presence Icon (Large)	Presence Icon (Small)	Status Text	Description
		Available	The contact is online and can participate in conversations. Users can manually set this status, but the next automatic state change will override this setting.
		Busy	The contact is available, but is engaged by another activity. Busy contacts will not be routed ACD calls, but may receive non-ACD calls. Possible activities include the following: **In a Call**—the contact is in a phone, voice, or video conversation. **In a Meeting**—the Outlook calendar shows that the contact has a scheduled meeting. Users can manually set this status.
		Do Not Disturb	The contact is engaged by another activity and is unavailable. Contacts in Do Not Disturb will neither receive ACD or non-ACD calls. Users can manually set this status.
		Away / Inactive Be Right Back Off Work	The contact is likely unavailable. Possible reasons include the following: The contact's computer has been idle for more than the away time period setting (5 minutes by default). **NOTE:** By default, the transition from Available to Inactive occurs after 5 minutes. Then, after five more minutes, the status changes to Away if there is still no activity on the computer. The contact's Outlook calendar or Out of Office Assistant indicates that they are out of the office. The contact is temporarily unavailable **NOTE:** As soon as activity is detected on the contact's computer, Ignite automatically resets the presence status to the appropriate state.

			The contact has locked their computer. The contact has manually set their presence to Away or Be Right Back. Users can manually set this status. **NOTE:** When a user manually sets themselves as Away, they are still available to receive calls, such as from a transfer.
		Offline	The contact is not available. Possible reasons for this include the following: The contact has manually set their presence status to Appear Offline. The contact has not signed into Lync. The contact has blocked you from seeing their presence status. Lync is not running on the contact's computer.
		Presence unknown	Lync cannot determine the status of the contact. This status is typically displayed because the contact's presence status is unavailable to Lync, such as for a contact who is part of an organization that is not a federated partner.

Sending an instant message

On an agent or employee monitor, you can right-click an agent or employee's cell and click Send instant message to send an online message to the agent or employee. You can also send instant messages using Microsoft Lync. Using Lync, you can send instant messages to individuals or multiple contacts. After initiating a conversation, you can invite additional contacts to the conversation.

NOTE: Supervisors send instant messages to contacts or groups of contacts using Contact Center Client.

To send an instant message while viewing agents on an agent, employee, or extension monitor

1. Right-click a cell in an open monitor and click **Send instant message**.
   The Conversation window displays.
2. Type a message.
3. Click **Send**.

To send an instant message to an individual in Lync

1. Double-click a contact in the **Contact list** in Lync.
   The Conversation window displays.
2. Type a message in the **Conversation** window.
3. Press **Enter**.

To send an instant message to multiple contacts in Lync

1. To send an instant message to a contact group, right-click the group's name in the **Contact list** and click **Send an Instant Message**.
2. If you want to select specific contacts from a group, expand the group in the **Contact list**, press **Ctrl**, and select the contacts to which you want to send an instant message. Right-click the last contact selected and click **Send an Instant Message**.
3. Type a message in the **Conversation** window.
4. Press **Enter**.

To invite additional contacts to a conversation in Lync

1. In the **Conversation** window, click the **People Options** icon and select **Invite by Name or Phone Number**.
2. Select the contacts you want to invite to the conversation and click **OK**.
   Alternatively, drag one or more contacts from the Contact list to the Conversation window.

NOTE:

- When you invite people to a conversation, conferencing features become active.
- A group instant messaging conference cannot exceed 100 participants.

Hot desking

When an agent is configured as a Mitel hot desking agent, the agent can sit at any extension on the network and log on to the extension. After the agent is logged on, the agent takes control of the extension. The agent's Contact Center Client and soft phone real-time profile settings are available. Any previous associations with the extension are taken out of service. When an agent logs off, the agent disconnects from the extension and the default settings for the extension are restored automatically.

External hot desk agents

External hot desk agents can work remotely using, for example, a standard PSTN analog telephone or a cellular telephone. External hot desk agents are similar to regular hot desk agents with additional configuration available to specify external number information. To access external hot desk agent functionality you must configure the following options in the User and Device Configuration form for the 3300 ICP:

- **External Hot Desking Enabled:** Select “Yes” to enable external hot desk agent functionality.
- **External Hot Desking Dialing Prefix:** Type the prefix digit(s) required to dial out to the external hot desk device.
- **External Hot Desking Number:** Type the telephone number of the external hot desk device. This number will be used by the telephone system to route ACD calls to the external hot desk agent.

  NOTE: The combined length of the external dialing prefix and external number cannot exceed 26 digits.

An agent ID can be associated to only one external dialing number. If an external hot desk agent will use more than one external device for handling calls they must be associated to one agent ID for each external dialing number.

An external hot desk agent can either log in externally or internally. When they log in internally (locally) the telephone system recognizes them as a standard hot desk agent. When they log in externally the telephone system recognizes them as an external hot desk agent.

WARNING: If an external hot desk agent is using a personal phone to handle calls, incoming calls that are not answered could reach their personal voicemail.

NOTE:
- 3300 ICP release MCD 5.0+ is required to access external hot desk agent capabilities.
- External hot desk agent functionality is only supported for use with hot desk agents, not traditional ACD agents.

The following options are available for external hot desk agent login:
- Log in locally from a MiNET phone: agent displays as a regular hot desk agent
- Log in locally from an analog, cellular, or MiNET phone and connect through a loopback trunk: agent displays as an external hot desk agent
- Log in externally from an analog or cellular phone: the agent ID is registered as an external pivot device number and the external number dialing that has been configured in the telephone system is overlaid on this external pivot device number. The external number is then used by the telephone system to deliver ACD calls to the external hot desk agent. The agent displays as an external hot desk agent.

  NOTE: An external hot desk agent can also log in externally by directly contacting a specific trunk configured for this purpose. In this case, the agent would not need to log in via Contact Center Client. For more information, log into Mitel Edocs, open the Mitel Communications Director System Administration Help Tool, and browse to "External Hot Desking - Operation".

WallBoarder

The WallBoarder application displays real-time performance statistics and text messages on one or more Spectrum Light Emitting Diode (LED) reader boards (wall signs).

WallBoarder parameters

WallBoarder consists of site(s), sign groups, signs, sign variables, sign messages, and sign plans.

Site

At the Site level, you
- Add sign groups to your site by clicking Add=>Sign group.
- Specify the name of the computer on which the WallBoarder Service is installed on the Edit WallBoarder Service for tab.
- Enable priority messages on the Priority message tab.
- View communications between the Enterprise Server Service and the WallBoarder Service on the Database load log tab.
- Verify the serial addresses of your wall signs on the Query signs tab.
- Add sign variables to your site by clicking Add=>Sign variable.
- Add sign messages to your site by clicking Add=>Sign message.
- Add sign plans to your site by clicking Add=>Sign plan.

Edit WallBoarder Service for tab

The Edit WallBoarder Service for tab provides the following function:

- *The WallBoarder Service is installed on the following computer* specifies the computer on which the WallBoarder Service is installed.

Priority message tab

NOTE:

- You create priority messages on the Add sign message tab.
- Priority messages override all of the other messages.

The Priority message tab provides the following function:

- *Enable this priority message for this sign group immediately* sends a message to all of the wall signs in the sign group immediately, overriding any business hour, or scheduled messages.

Database load log tab

Under Diagnostics, the Database load log tab records communications between the Enterprise Server Collector Service and the WallBoarder Service, and indicates if the WallBoarder Service has loaded the sign plan configured by the Contact Center Management user.

Query signs tab

Under Diagnostics, the Query signs tab lists the wall signs the WallBoarder Service can locate, and information relating to these signs. It displays the serial addresses of the wall signs. This can come in handy.

For example, you have connected a wall sign to Com port 3, have configured the sign and specified the com port value in WallBoarder, and have reset the wall sign, but it does not display the messages in the sign plan. Most likely, the serial address of the sign is not the same as that configured in WallBoarder. The Query signs tab displays the true serial address of the wall sign. You can easily verify the address and amend the address on the Edit sign tab for the sign.

Sign groups

NOTE: You must create at least one sign group in order to register wall sign addresses. You can include all of the wall signs under one sign group, or create additional sign groups. Sign groups dictate which messages are displayed by particular wall signs.

At the Sign group level, you can

- Edit sign groups on the Edit sign group tab.
- Define the wall sign refresh interval and reset wall signs on the Advanced tab.
- Add signs to your sign groups by clicking Add=>Sign.

Sign addresses distinguish wall signs for messaging purposes. Each wall sign has a unique sign address. You add one or more signs to a sign group. For example, you could add Wall sign 1 to Sign group 1, and Wall signs 2 to 4 to Sign group 2. You associate each sign group with a sign plan. Using sign groups and sign plans you can display the same message on one or more wall signs, or display unique messages on all wall signs.

Edit sign group tab

The Edit sign group tab provides the following functions:

- *Name* lists the name of the sign group.
- *Site* is the contact center site where WallBoarder is installed.

Advanced tab

The Advanced tab provides the following functions:

Reinitialize all of the wall signs every x seconds

The Reinitialize all of the wall signs every x seconds field restarts all of the wall signs in the sign group (clearing all of the sign memory) at the time interval you specify.

Refresh all of the sign messages every x seconds

The Refresh all of the sign messages every x seconds field resends all of the messages to all of the wall signs in the sign group at the time interval you specify. If you see question marks [???] instead of statistics on a wall sign, this means the Enterprise Service does not have a value for the variable. There are two reasons why the Enterprise Service does not have a value for the variable: it is in the process of loading the variable or the telephone system has not sent any real-time information yet.

Refresh all of the ACD sign variables every x seconds

The Refresh all of the ACD sign variables every x seconds field updates all of the variables on all of the wall signs in the sign group at the time interval you specify.

Update wall signs in serial for sign messages

The Update wall signs in serial for sign messages check box updates the wall signs in a sign group individually for sign messages, at the refresh time interval you specify.

Update wall signs in serial for sign variables

The Update wall signs in serial for sign variables check box updates the wall signs in the sign group individually for sign variables, at the refresh time interval you specify.

Minimum pause time between wall sign updates is x seconds

After WallBoarder sends a message or variable update to a wall sign, the Minimum pause time between wall sign updates is x seconds field suspends the transmission of subsequent information to the wall sign for x seconds. Typically you select a value greater than zero only if you have a small Spectrum reader board, such as the 251C reader board.

Minimum display time for a message is x seconds

After WallBoarder sends a message to a wall sign, the Minimum display time for a message is x seconds field displays the message for a minimum of x seconds. This ensures you can view the message for a sufficient amount of time before a subsequent message displays.

Minimum pause time after beep is sent is x seconds

If you select the Beep check box on the Add sign plan tab, the wall sign produces an audible beep prior to displaying each message. It takes a few seconds for the beep to occur. Therefore, the wall sign is delayed in receiving messages by a few seconds.
The Minimum pause time after beep is sent is x seconds field suspends the transmission of messages to the wall sign for x seconds, to accommodate the beep.

Reinitialize all of the wall signs in this sign group

The Reinitialize all of the wall signs in this sign group command restarts all of the wall signs in the sign group instantly, clearing all of the sign memory.

Apply to all of the sign groups at this site

The Apply to all of the sign groups at this site command applies the configuration values on the Advanced tab to all of the sign groups at the site.

Signs

At the Sign level, you

- Configure sign information on the Add sign tab.
- Configure sign connectivity information on the Connectivity tab.
- Reset the wall sign and send a test message to the wall sign on the Tools tab.
- Add signs to your sign groups by clicking Add=>Sign.

Diagnostics

Under Diagnostics, the following tabs list information pertaining to wall sign function and are used for trouble shooting purposes:

- General
- Properties
- Tool tab
- Error reporting
- Current message tabs

Tools tab

Under Diagnostics, the Tools tab displays wall sign settings and provides the following functions:

- *Reset sign* restarts the wall sign and empties the sign memory.
- *Get status* displays the latest sign diagnostics.
- *Send test message* sends a message to the wall sign to test the connectivity.

Sign messages

At the Sign message level, you

- Compose, test, and save message strings displayed on wall signs on the Add sign message tab
  Message strings indicate to the wall sign how messages are displayed. They are constructed of
  - Text
  - Queue and queue group performance variables (Variables)
  - Display characteristics (Position, Color, Effects, Special, and Miscellaneous)
- Add sign messages to your site by clicking Add.

Add sign tab

The Add sign tab provides the following functions:

Name

The Name field specifies the name of the sign.

Sign address
The Sign address field specifies the address of the wall sign. Each wall sign has a unique address. You use a keypad provided with the master sign to set the internal addresses of your signs. The addresses distinguish wall signs for messaging purposes. If you have one wall sign only, its address is 00. If you have more than one wall sign, then the address of the master sign is 01.

NOTE: When you assign serial addresses to your Spectrum wall signs using remote or software spectrum tools, you must specify sign addresses greater than 9 as hexadecimal variants. For example, the following decimals are converted to hexadecimal: 10 = a, 11 = b, 12 = c, 13 = d, 14 = e, 15 = f.

Sign group
The Sign group field specifies the sign group to which the sign belongs.

Connectivity tab
NOTE: The default data bits, parity bit, and stop bits Com port settings for newer Spectrum IP/Serial wall signs are 8, None, 1. In the past, the default Com port settings were: 7, Even, 2. If you select one set of Com port values and the wall sign does not display information, try selecting the other set of Com port values, or refer to the Spectrum documentation to verify the correct default Com port settings.

The Connectivity tab provides the following functions:
- *Com port or TCP/IP* specifies the sign connectivity. The default value for Com port is 1.
- The default value for Baud rate is 9600.
- The default value for Data bits is 8.
- The default value for Parity bit is None.
- The default value for Stop bits is 1.
- *TCP* specifies the TCP/IP address of the wall sign.
- *DNS* specifies the name you assigned the wall sign on the network.
- *Port* specifies the port number used by the wall sign.
- *Sign memory* specifies the memory capacity of the sign (typically 32k).
- *Reset this wall sign when it does not respond and at midnight* resets the wall sign. When the WallBoarder Service restarts, it queries the wall sign for the information listed on the sign Diagnostics tabs. If it does not get an answer, it resets the wall sign.

Add sign message tab
The Add message tab provides the following functions:
- *Name* specifies the name of the message.
- *Site* is the contact center site where WallBoarder is installed.
- *Test message* sends the message to the wall sign so you can verify it works.

Variables
You associate a queue, queue group, or agent group, and a performance variable with the sign variable on the Variable tab. You specify display characteristics and color-coded alarm thresholds. When you incorporate a sign variable, such as Sign Variable 6, in a message string, the real-time value of the associated performance variable is displayed.

Position
The Position tab specifies the vertical position of the message string on the wall sign. If you do not specify the text position, the wall sign defaults to the fill mode. The message enters the wall sign from the upper left corner and scrolls to fill up to three rows of text. If you specify the text position, do so before you set other display features.

Color
The Color tab specifies the color of the text you type in the message string, and the color of any pre-defined text and graphics you select on the Special tab. You can specify different colors for each word in the text string. If you specify text coloring, do so after specifying text positioning, but prior to specifying other display features. Some Spectrum signs offer more color choices than other Spectrum signs. Please refer to the Spectrum product brochure for more information.

Effect
The Effects tab specifies how messages move across wall signs. If you do not specify effects, the wall sign defaults to the Automode option. Automode produces random message display formats, such as message strings that flash or roll to the left.

Special
The Special tab provides display features and illustrations you can add to message strings.

Misc
The Misc (Miscellaneous) tab specifies the speed at which WallBoarder displays message strings, the size of message string text, the display time and date, and other features.

Sign variables
At the Sign variable level, you
- Associate a queue or queue group, and a performance variable with the sign variable on the Add sign variable tab.
- Define and save display characteristics for sign variables on the Advanced tab.
- Add sign variables to your site by clicking Add.

Add sign variable tab
The Add sign variable tab provides the following functions:
- *Name* specifies the name of the sign variable.
- *Site* is the contact center site where WallBoarder is installed.
- *Select a device type group* specifies the device type (queue or queue group) you will associate with the sign variable.
- *Select a device* specifies the device you will associate with the sign variable (for example, Queue Group 1).
- *Select a variable type* specifies the performance variable you will associate with the sign variable (for example, Agents on ACD).

Advanced tab
The Advanced tab provides the following functions:
- *Select display options for this variable* specifies the number of characters reserved for a performance variable in the message string. It centers, left-justifies, or right-justifies the performance variable within the variable string position.
- *Enable variable color based on these thresholds* defines color-coded alarms for performance thresholds for the variable.

Sign plans

The WallBoarder Service displays messages in the following order:

1. Priority messages
2. Business-hour messages
3. Scheduled messages
4. Sign plan messages
5. Default sign plan message

At the Sign plan level, you

- Create a sign plan.
- Associate the sign plan with a sign group.
- Specify up to five statements (conditions) for the sign plan on the Add sign plan tab.
- Specify the hours of operation for your business on the Business hours tab.
- Schedule messages to be displayed on the Scheduled messages tab.

When you configure a sign plan, you can configure up to five messages for a sign group. The conditions, or values, of variables dictate which message strings WallBoarder displays, and the priority in which WallBoarder displays them. If none of the conditions are satisfied, WallBoarder displays the default message on all of the wall signs. The default message can be a message congratulating agents, or informing them of an upcoming meeting or other need-to-know information.

Add sign plan tab

The Add sign plan tab provides the following functions:

- *Name* specifies the name of the sign plan.
- *Sign group* specifies the sign group to which the sign plan applies.
- *If* check boxes activate conditional messages. You can specify up to five statements (conditions). Conditions dictate which message strings WallBoarder displays, and the priority in which WallBoarder displays them.
- *Sign variable* specifies the sign variable to display for the current (active) condition.
- *Evaluates to* specifies the value, above or below which, WallBoarder displays the message string associated with the sign variable for the current condition.
- *Play message* specifies the sign message to display for the current (active) condition.
- *Beep* programs the wall sign to produce an audible beep prior to displaying a message for a satisfied condition.
- *Default message to play if no variables have triggered a message to play* specifies a default message to display on the wall sign. WallBoarder displays the message during periods when the defined conditions (“If” statements) are not satisfied for the sign group. That is, when call center performance objectives are being met.

Business hours tab

The Business hours tab provides the following functions:

- *Outside business hours display this message* specifies which message is displayed on the wall signs after business hours.
- *Business-hours schedule for this sign plan* specifies the hours of the day for the sign plan
- *Manage schedule* creates and edits business hour schedules.
- *Apply this business-hours schedule to all of the sign plans at this site* applies the schedule to all of the sign plans at your contact center site.

The Scheduled messages tab provides the following function:

- *Play this message during these hours* specifies the message to be displayed and the schedule for displaying the message.

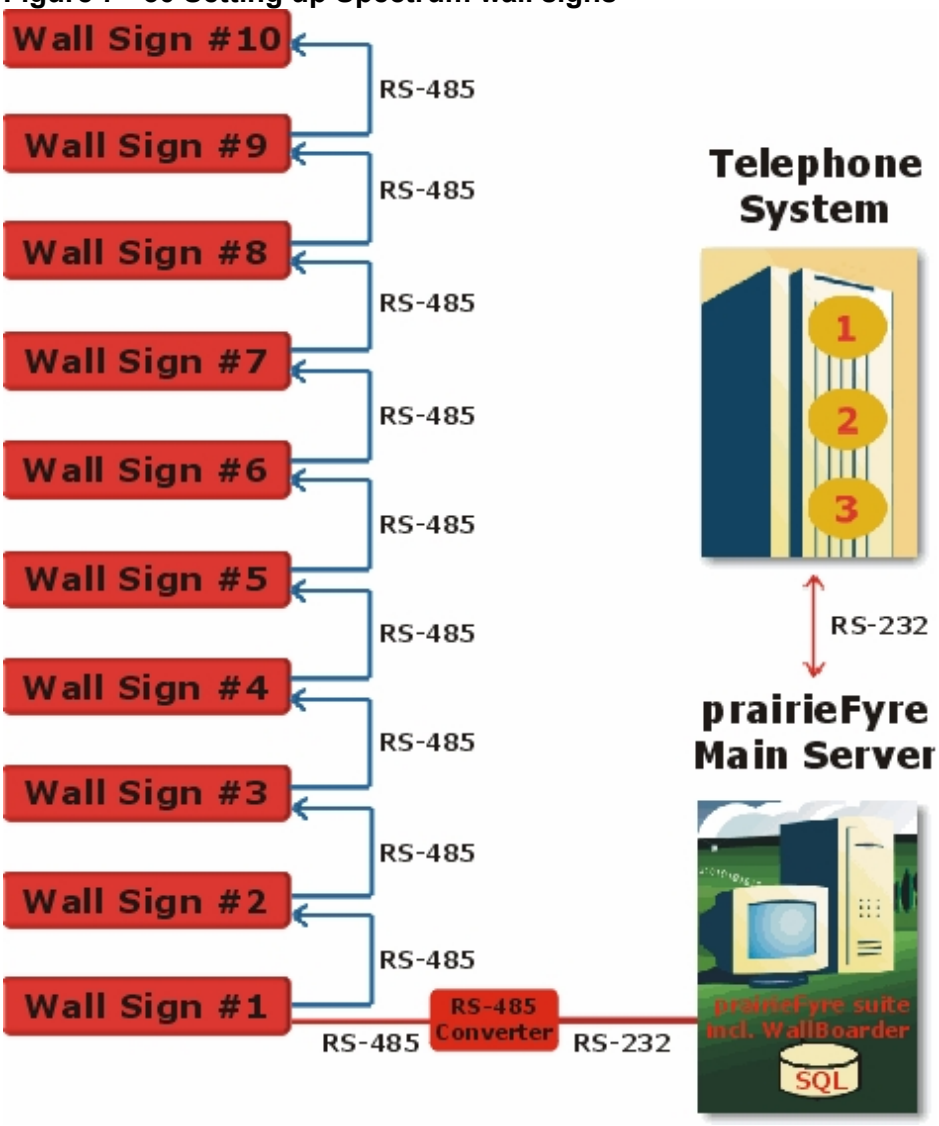
NOTE: You create schedules under YourSite=>Schedule.

Connecting Spectrum wall signs

NOTE: For detailed information on how to install Spectrum wall signs, view the Spectrum wall sign installation manuals on the Enterprise Server at <drive>:\Program Files\prairieFyre Software Inc\CCM\Websites\CCMWeb\webforms\help\online_en.

If you have multiple wall signs, you can daisy chain the wall signs together.Figure 7 - 30 illustrates the connectivity between the Enterprise Server and the master sign (Wall sign 1). The Enterprise Server connects to the master sign over an RS-232 25-pin cable, an RS-485 converter, and RS-485 RJ-11 cabling. The master sign connects to slave signs over RS-485 cabling. In this setup, one Enterprise Server com port is dedicated to your wall signs.

Figure 7 - 30 Setting up Spectrum wall signs



If you do not want to dedicate an Enterprise Server com port to your wall signs (or you simply need another computer to connect to a wall sign), you can hook up your wall sign(s) to a client computer. You click Help=>Software downloads/Installations=>Remote Server installation and install a remote media server (data collection point) on a client computer. The computer connects to the master wall sign over an RS-232 25-pin cable, an RS-485 converter, and RS-485 RJ-11 cabling, as in the proceeding setup. In this setup, one client computer com port is dedicated to your wall sign(s).

The new Spectrum IP wall signs plug into a network jack on the wall, just like your network printer.

Each wall sign has a unique sign address. You add one or more signs to a sign group. For example, you could add Wall sign 1 to Sign group 1, and Wall signs 2 to 4 to Sign group 2. Keep in mind that all of the signs in the same sign group, display the same messages. You associate each sign group with a sign plan. Using sign groups and sign plans, you can display the same message on one or more wall signs, or display unique messages on all of the wall signs.

Configuring wall signs and wall sign messages

To configure wall signs and wall signs messages

1. For each site, select the computer on which the WallBoarder Service is installed.
2. Add sign group(s). (In the tree under Site, click Add=>Sign group.)
3. Add sign(s) to sign group(s) and send a test message to test the sign connectivity. (In the tree under Sign group, click Add=>Sign.)
4. Configure sign variables to use in sign plans. (In the tree under Site, click Add=>Sign variable.)
5. Configure sign messages to use in sign plans and test the messages. (In the tree under Site, click Add=>Sign message.)
6. Add and configure a sign plan for each sign group. (In the tree under Site, click Add=>Sign plan.)

Selecting the computer on which the WallBoarder Service is installed

To select the computer on which the WallBoarder Service is installed

1. Click **Real time=>WallBoarder**.
2. Expand the Enterprise tree and click the name of your site.
3. The Edit WallBoarder Service for tab opens.
   See Figure 7 - 31.
4. After **The WallBoarder Service is installed on this computer**, select the computer on which the WallBoarder Service is installed.
5. Click **Save**.

Figure 7 - 31 Edit WallBoarder Service for prairieFyre Demo tab

Creating sign groups

NOTE: You must create at least one sign group in order to register wall sign addresses. You can include all of the wall signs under one sign group, or create additional sign groups. Keep in mind that all of the signs in the same sign group, display the same messages.

Sign addresses distinguish wall signs for messaging purposes. Each wall sign has a unique address. You set the internal sign addresses using the keypad provided with the master sign, and register the sign addresses in WallBoarder on the Sign tab.

Each sign group has one or more signs. For example, you can specify that Sign group 1 provide real-time displays for Wall sign 1, Sign group 2 provide real-time displays for Wall signs 2 to 4, and so on. You associate each sign group with a sign plan. Using sign groups and sign plans, you can display the same message on one or more wall signs, or display unique messages on all of the wall signs.

Sign groups dictate which messages are displayed by particular wall signs.

To add a sign group and specify sign group information

1. Click **Real time=>WallBoarder**.
2. Click the name of your site.
   The Edit WallBoarder Service for tab opens.
3. Click **Add=>Sign group**.
   The Add sign group tab opens.
   See Figure 7 - 32.
4. After **Name**, type the sign group name.
5. After **Site**, select the contact center site where WallBoarder resides.
6. Click the **Advanced** tab.
7. After **Reinitialize all wall signs every**, select a time interval for restarting all of the wall signs in the sign group.
8. After **Refresh all sign messages every**, select a time interval for resending all of the messages to all of the wall signs in the sign group.
   If you see question marks [???] instead of statistics on a wall sign, this means the Enterprise Service does not have a value for the variable. The Enterprise Server does not have a value for the variable because it is in the process of loading the variable, or the telephone system has not sent any real-time information yet.
9. After **Refresh all ACD sign variables every**, select a time interval for updating all of the variables on all of the wall signs in the sign group.
10. After **Minimum pause time between wall sign updates is**, select a time interval for pausing between wall sign updates.
11. After **Minimum display time for a message is**, select a time interval for displaying a wall sign message.
12. After **Minimum pause time after beep is sent in**, select a time interval for pausing after a beep is sent.
13. If you want to reinitialize all of the wall signs, click **Reinitialize all wall signs in this sign group**.
14. To apply the preceding options to all of the sign groups, click **Apply to all sign groups at this site**.
15. Click **Save**.

Figure 7 - 32 Add sign group tab

Adding signs to sign groups

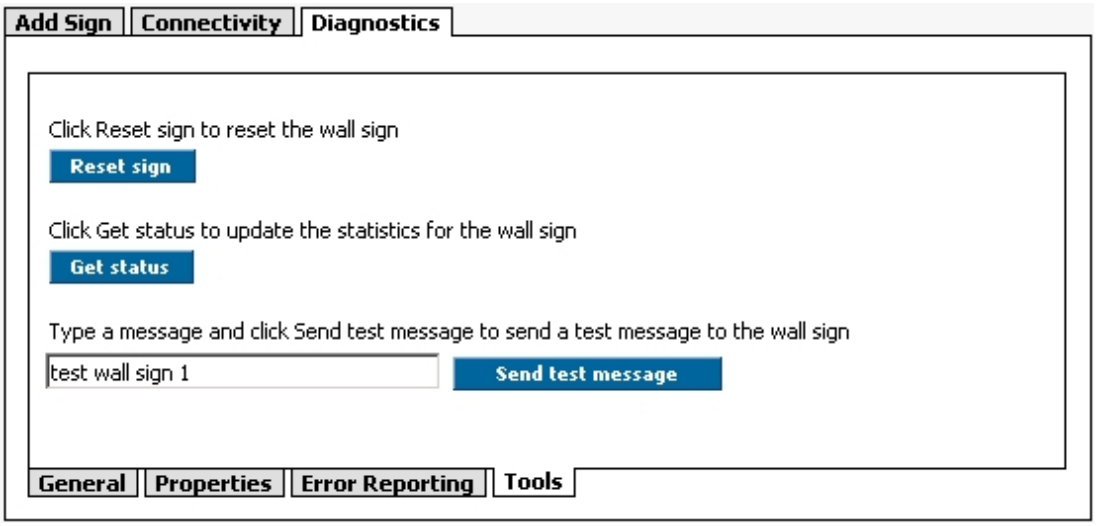
NOTE: You can add one or more signs to a sign group. Keep in mind that all of the signs in the same sign group, display the same messages.

To add signs and specify sign information

1. Click **Real-time=>WallBoarder**.
2. Click a sign group.
3. Click **Add=>Sign**.
   The Add sign tab opens.
4. After **Name**, type the sign name.

5. After **Sign address**, select the address for the sign (for example, type 1).
   You set the internal sign addresses using the keypad provided with the master sign, and register the sign addresses in WallBoarder in the Sign address field.
6. After **Sign group**, select the sign group to which the sign belongs.
7. Click the **Connectivity** tab.
   NOTE: The default data bits, parity bit and stop bits Com port settings for newer Spectrum IP/Serial wall signs are 8, None, 1. In the past, the default Com port settings were: 7, Even, 2. If you select one set of Com port values and the wall sign does display information, try selecting the other set of Com port values, or refer to the Spectrum documentation to verify the correct default Com port settings.
8. If you click **Com port**, accept the default settings for Com port, baud rate, data bits, parity bit, and stop bits.
9. If you click **TCP/IP**, click **TCP** and specify the TCP/IP address of the wall sign, or click **DNS** and specify the name you assigned the wall sign on the network.
10. After **Port**, specify the port number used by the wall sign.
11. After **Sign memory**, select the memory for the sign based on manufacturing specifications.
12. Optionally select the **Reset this wall sign when it does not respond and at midnight** check box.
13. Click the **Diagnostics** tab.
14. Click the **Tools** tab.
    See Figure 7 - 33.
15. To restart the wall sign and empty the sign memory, click **Reset** sign.
16. To display the latest sign diagnostics, click **Get status**.
17. To verify the wall sign setup, type a message and click **Send test message**.
18. Click **Add=>Sign** and repeat steps 4 to 12 to add additional signs to the sign group.
19. Click **Save**.

Figure 7 - 33 Diagnostics tab



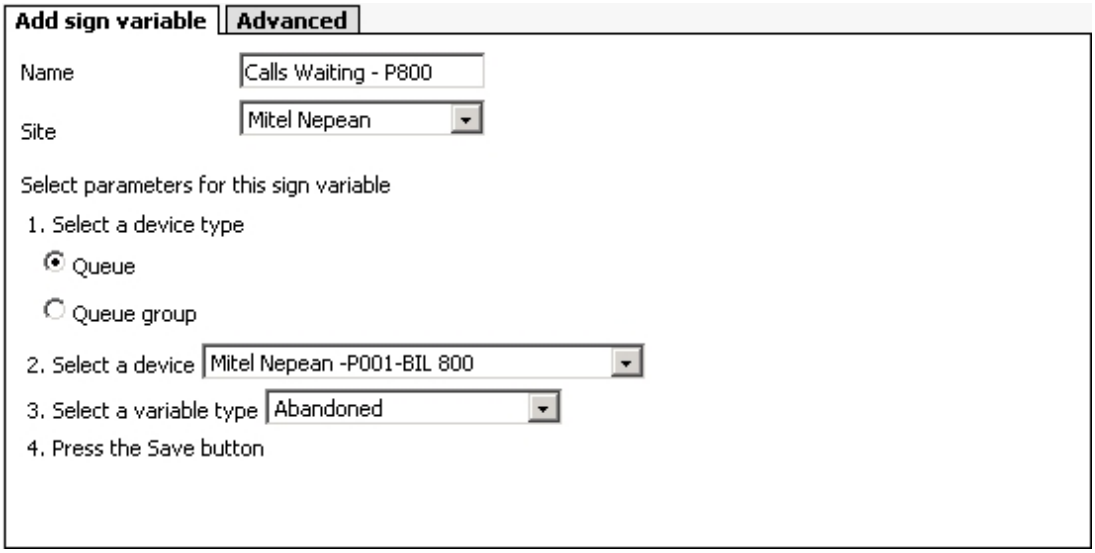
Configuring sign variables

You define and save display characteristics for sign variables (performance variables associated with a particular queue or queue group) on the Add sign variable tab.

To configure sign variables

1. Click **Real-time=>WallBoarder**.
2. Click **+**, located beside **local site**.
3. Click **Sign variables**.
   The Add sign variable tab opens.
   See Figure 7 - 34.
4. After **Name**, type a meaningful name for the sign variable (for example, type Calls waiting - P800).
   The name will display in a list of sign variables on the Message tab.
5. After **Site**, select the contact center site where WallBoarder resides.
6. After **Select a device type**, click a device type (for example, click Queue).
7. After **Select a device**, select a device (for example, select P800).
8. After **Select a variable type**, select a performance variable (for example, select Abandoned).
9. Click the **Advanced** tab.
   NOTE: Some performance variables require a display width of eight characters. For example, WallBoarder displays the Average Speed of Answer Today in hh:mm:ss. If you select a value less than 8 for the width, the at symbol [@] will display on the wall sign in place of the Average Speed of Answer Today statistic.
10. After **Select display options for this variable**, click **Left**, **Center**, or **Right** to left-justify, center, or right-justify the performance variable within the variable string position, and accept the default value for the width of displayed characters.
11. Select the **Base variable color on these thresholds** check box, and specify performance thresholds for the variable.
    In this example, we selected the calls waiting in queue performance variable and P800 to associate with the Calls waiting - P800 sign variable.
12. Click **Add** and repeat steps 3 to 10 to specify other sign variables for your queues and queue groups.
13. Click **Save**.

Figure 7 - 34 Add sign variable tab



Configuring sign messages

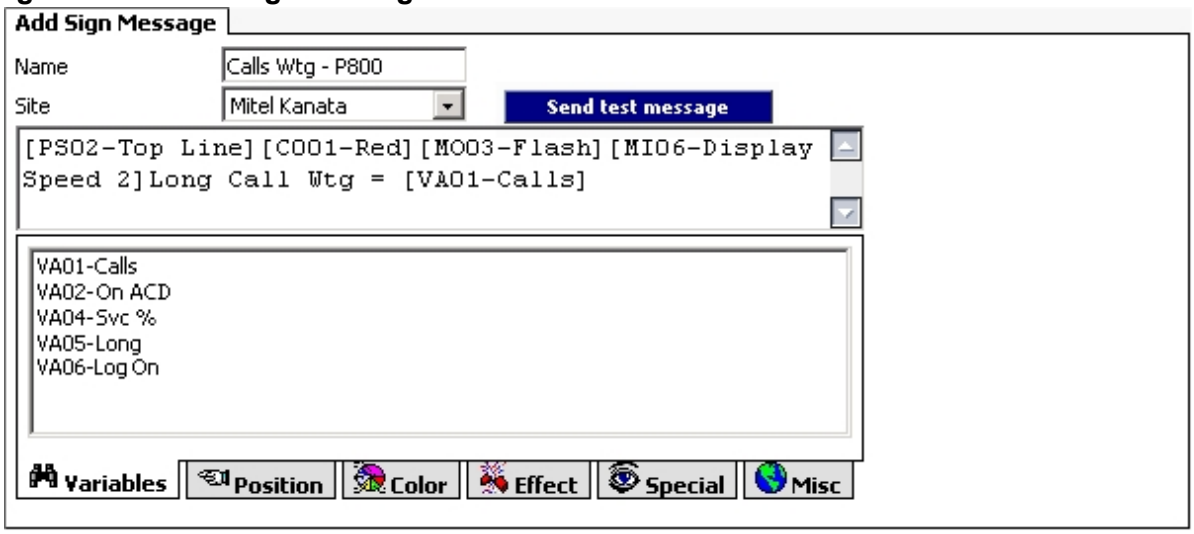
You compose, test, and save message strings displayed on wall signs on the Add sign message tab. Message strings indicate to the wall sign how messages are displayed. They are constructed of performance variables, text, display features, and optionally graphics.

Consider the message strings defined in Figure 7 - 35. WallBoarder displays the first message string on the top line [PS02-Top Line] of the wall sign. It displays the Long Call Wtg = component of the message string in red [C001-Red]. The message string flashes [MO03-Flash] across the sign at display speed 2 [MI06-Display Speed 2]. It is comprised of text you type (Long Call Wtg =) and Sign variable 1 [VA01-Calls], that displays the real-time value for the longest waiting caller performance variable. The color of the sign variable statistic changes with the wait time of the longest waiting caller, as per the threshold settings defined on the Variable tab.

To create sign messages

1. Click **Real-time=>WallBoarder**.
2. Click **Sign messages**.
   See Figure 7 - 35.
3. After **Name**, type the message name (for example, type Calls Wtg - P800).
   The name will display in a list of sign messages on the Plan tab.
4. After **Site**, select the contact center site where WallBoarder resides.
   NOTE: If you do not select display attributes, WallBoarder will post the message using default display attributes.
5. Click the **Position**, **Color**, **Effect**, **Special**, and/or **Misc** tabs and double-click display attributes to select them.
6. Type a message (for example, type Calls Wtg 800 =).
7. Click the **Variables** tab and double-click a variable to select it (for example, double-click Calls waiting - P001).
8. Click **Send test message**.
   In this example, Calls Wtg P800 = displays on the wall sign followed by the real-time value for the calls waiting in queue performance variable.
9. Click **Add** and repeat steps 3 to 8 to create and test other sign messages.
10. Click **Save**.

Figure 7 - 35 Add Sign Message tab



Creating sign plans

You associate each sign group with a sign plan. Using sign groups and sign plans, you can display the same message on one or more wall signs, or display unique messages on all of the wall signs. All of the signs in a sign group display the same messages.

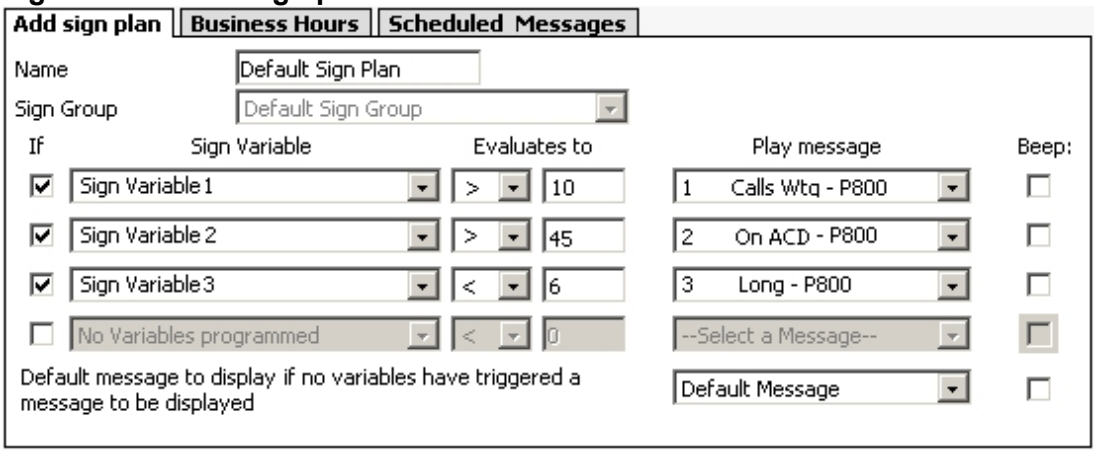
If you have two wall signs (that are not daisy chained together) and you want to display the same messages on both signs, you create one sign group, add both signs to it, and associate the sign group with a sign plan. The serial addresses do not need to be unique in this case, as you are communicating with each sign on a dedicated connection (for example, one sign may be connected to a comport, and the other sign to the network using IP).

You dictate the messages displayed by particular wall signs on the Add sign plan tab. You can specify up to five statements (conditions) using sign groups. Conditions dictate which message strings WallBoarder displays and the priority in which WallBoarder displays them. If none of the conditions are satisfied, WallBoarder displays the default message on all of the wall signs in the sign group. The default message can be a message congratulating agents, or a message informing them of an upcoming meeting or other need-to-know information.

Consider the conditions defined in Figure 7 - 36:

- The first condition specifies “If Sign variable 1 (the calls waiting in P800) exceeds 10, play Sign message 01.”
- The second condition specifies “If Sign variable 2 (the agents logged on to P008) exceeds 45 seconds, play Sign message 02.”
- The third condition specifies “If Sign variable 3 (the longest waiting caller in P008) drops below 6, play Sign message 03.”

Figure 7 - 36 Add sign plan tab



Creating sign plans for daisy-chained signs

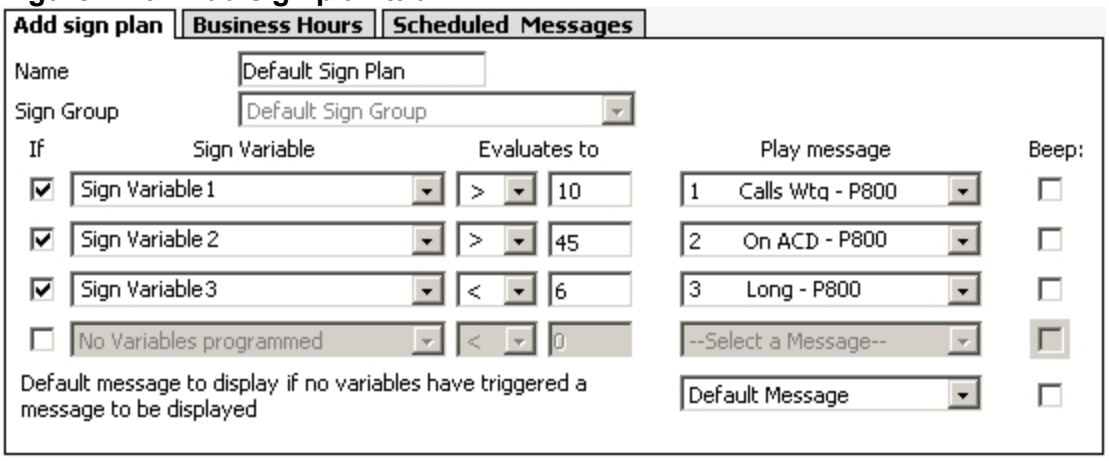
If your wall signs are daisy chained together and you want to display the same messages on all of the wall signs, you create one sign group, add your signs to it, and associate the sign group with a sign plan. The wall signs share the same com port, but have unique serial addresses.

If your wall signs are daisy chained together and you want to display unique messages on all of the wall signs, you must create one sign group for each sign in the chain, and associate each sign group with a unique sign plan. The wall signs share the same com port, but have unique serial addresses.

To create a sign plan

1. Click **Real-time=>WallBoarder**.
2. Click **Sign plan**.
   The Add sign plan tab opens.
   See Figure 7 - 37.
3. After **Name**, type the plan name (for example, type Sign plan - P800).
4. After **Sign group**, select the sign group to which you will apply the sign plan.
5. Select the **If** check box to define the first conditional message for the sign plan.
6. Under **Sign variable**, select a sign variable.
7. Under **Evaluates to**, specify the threshold, above or below which, a sign message is displayed.
8. Under **Play message**, select a sign message.
9. If you want an audible alarm to accompany the message, select the **Beep** check box.
10. Click the **Business hours** tab.
11. After **Outside business hours display the following message**, select a message to be displayed on the wall signs after business hours.
    NOTE: Business-hour messages override scheduled messages.
12. After **Business hours schedule for the sign plan**, select a schedule that defines the hours of operation for your business.
13. If you want to apply the schedule to all of the sign plans at your contact center site, select the **Apply the business hours schedule to all of the sign plans at this site** check box.
14. Click **Save**.

Figure 7 - 37 Add sign plan tab



Activating priority messages

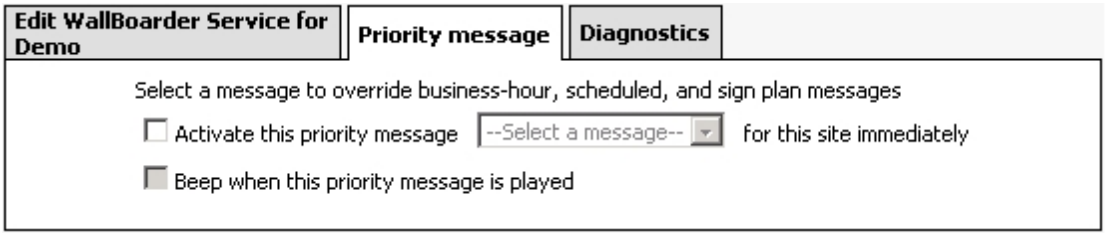
NOTE:

- You create priority messages on the Add sign message tab.
- Priority messages override all of the other messages.

To activate a priority message

1. Click **Real-time=>WallBoarder**.
2. Expand the Enterprise tree and click the name of your site.
   The Edit WallBoarder Service for tab opens.
3. Click the **Priority message** tab.
   See Figure 7 - 38.
   NOTE: When you enable a priority message, WallBoarder displays the message on all of the wall signs until you manually clear the *Enable this priority message* check box.
4. To send a priority message, select the **Enable this priority message** check box and select a priority message to display on all of the wall signs at the site.
5. If you want an audible alarm to accompany the priority message, select the **Beep when this priority message is played** check box.
6. Click **Save**.

Figure 7 - 38 Priority message tab



Scheduling messages

NOTE:

- You can create schedules under YourSite=>Schedule.
- Business-hour messages override scheduled messages.

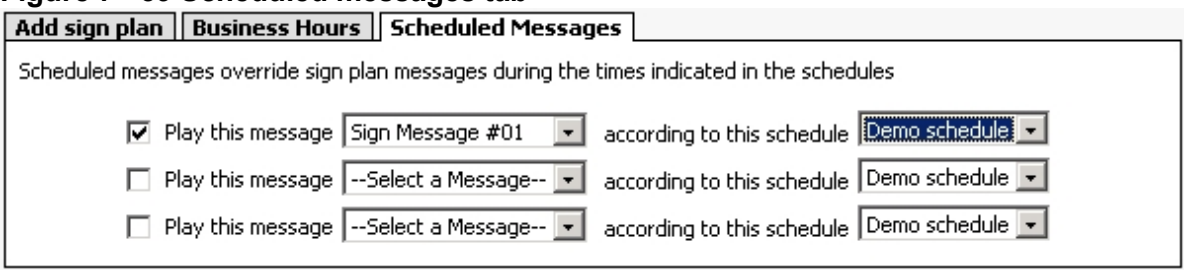
You can schedule specific messages to play according to schedules.

To schedule a message

1. Click **Real-time=>WallBoarder**.
2. Expand the Enterprise tree and click **Sign plan**.
   The Add sign plan tab opens.
3. Click the **Scheduled messages** tab.
   See Figure 7 - 39.
4. Select a check box to activate a schedule.
5. Select the **Play this message** check box to activate the message.
6. After **Play this message**, select a message.
   NOTE: When you enable a scheduled message, WallBoarder displays the message on all of the wall signs in the sign group (associated with the sign plan) until you manually clear the Play this message check box.

7. After **according to this schedule**, select a schedule.
8. Click **Save**.

Figure 7 - 39 Scheduled messages tab



Troubleshooting real-time issues

The following information pertains to Contact Center Client, Interactive Contact Center, and Enterprise Presence / Chat Integration.

Interactive Contact Center and resiliency

When the collector is started while the telephone system is in resilient fail-over mode, Interactive Contact Center device control will not function. If this happens, the Do Not Disturb status of the queue in the Queue Now monitor will not update.

Enabling Enterprise Presence / Chat Integration

If you want to use Lync as your default instant messaging client and view enhanced presence on real-time monitors, you must enable Enterprise Presence / Chat Integration.

To enable Enterprise Presence / Chat Integration

1. In Contact Center Management, click **YourSite=>Enterprise**.
2. In the Enterprise tree, click **local site**.
3. After **Chat settings**, select the **Chat enabled** check box.
4. Select the **Enable Enterprise Presence and Chat Integration** check box.

Ensuring Contact Center Client recognizes Lync users

In some instances, Contact Center Client agent, employee, and extension monitors will display an employee's instant message presence as *Unknown* even though the employee is online. The following solutions address the most common problems in displaying instant message presence on real-time monitors.

Employee and agent monitors display instant message presence as Unknown

If your agent or employee monitors are displaying a user's instant message presence as Unknown even though the user is online, this means

- Lync Server does not recognize the user because the user's email address in YourSite Configuration is not the same as the SIP address of the user specified on the SIP server, or
- The user is not configured as a contact in Lync.

To determine the email addresses as entered on the SIP server

1. On the Lync Server, click**Start=>All Programs=>Administrative Tools=>Lync Server 2010**.
2. In the left pane, expand the tree.
3. Under **Forest=>Domain=>Lync servers and pools**, select your server pool.
4. Right-click **Users** and select **Export list**.
5. Save the list of SIP email addresses to a file.

To make the user known to Lync Server

- In **YourSite Explorer=>YourSite=>Employee**, verify the user's email address is the same as the email address of the user specified on the SIP server.i

Extension monitor displays instant message presence as Unknown

If your extension monitor is displaying a user's presence as Unknown even though the user's extension is configured in YourSite Configuration, this means

- Lync does not have a user associated with the extension, or
- The user is not configured as a contact in Lync.

To make the extension known to Lync Server

1. On the Lync Server, browse to **Active Directory Users and Computers**.
2. In the right pane, right-click the user and select **Properties**.
3. On the **General** tab, after **Telephone Number**, type the user's phone extension.
4. On the **Lync** tab, after **SIP URI**, verify the SIP email address for the user.

To add the user as a contact in Lync

- In Lync, click **Contacts=>Add a Contact** and add the user's email address as specified on the SIP server.

Chapter 8

Reports

Reports

NOTES:

- Microsoft Excel Viewer is required as a minimum on all client computers to view reports. Microsoft Excel 2003 or greater is required on the Enterprise Server to generate and view reports. The Microsoft Excel Viewer can be downloaded for free at http://www.microsoft.com/downloads/en/details.aspx?familyid=1cd6acf9-ce06-4e1c-8dcf-f33f669dbc3a&displaylang=en.
- As a best practice, we recommend you limit the reports you run to under 65,000 rows of data. If you need to run reports with more than 65,000 rows of data you must take the following requirements into consideration. Reports with more than 65,000 rows can only be viewed in Microsoft Excel 2007 or greater. In addition to this, you must ensure that your Enterprise Server hardware meets the minimum memory requirements. If you are running reports with more than 65,000 rows of data, we recommend you use Server Configuration 4 as the hardware and software guidelines for the Enterprise Server. For more information, see the *Contact Center Solutions and Call Accounting System Engineering Guide*.

The Reporter and Scheduled Reports applications provide detailed performance statistics. You use Reporter to produce on-demand reports, and Scheduled Reports to automate report generation. You can generate reports for day of week, day of month, week, or 15, 30, or 60-minute intervals, and for over-midnight shifts. You can create presentation-quality tables and charts in Microsoft Excel or Adobe Acrobat .pdf format.

The prairieFyre Service analyzes the raw telephone system data with respect to the YourSite Explorer configuration details. The service then writes the statistical data to Structured Query Language (SQL). It is this statistical data that sources the reports.

Time stamps for data produced in a 5000/Axxess configuration that uses a CT Gateway are based on the Enterprise Server's PC clock. If the 5000/Axxess configuration includes Remote Servers, then time stamps are based on the Remote Server's PC clock. Time stamps for the 3300 ICP are based on the telephone system clock.

You can view reports in .pdf and you must install Excel on the Enterprise Server to view reports. Whether you want to view reports in .pdf or Excel, you must set up contacts and contact groups to which you will email reports.

For a demonstration of reporting and how it enables contact center supervisors and managers to readily pinpoint problem areas and measure and manage contact center performance, click http://www.youtube.com/watch?v=kmq8jboyR8k.

Understanding reports

To create meaningful reports you must understand reporting concepts.

Service Level is the standard measurement of customer service because it provides the most accurate representation of the customers' experience. An appropriate Service Level objective is one that

- Satisfies callers' expectations for service
- Keeps abandonment in check (at less than five percent)
- Minimizes expenses and maximizes revenue

Understanding the following terms will help you define your corporate Service Level objective.

Offered
All of the contacts (calls, emails, SMS messages, chats, faxes) received by the ACD queue, regardless of how they are handled or routed, are referred to as *offered* contacts. Offered contacts include ACD handled contacts, abandoned (long) contacts, and interflowed (long) contacts. ACD requeued contacts, queue unavailable (path available) contacts, and abandoned (short) contacts are not considered to be offered contacts. The Erlang C equation uses offered contacts and Average Talk Time data in calculating the agents required.

Handled
Handled contacts are calls, emails, SMS messages, chats, and faxes answered by live agents. If an agent answers a call and then forwards it to another agent or supervisor before the Short Handle time threshold, the call is classified as an ACD Short Handle Call. You define a Short Handle time threshold for queues.

Abandoned
Abandoned calls are calls that do not reach agents because callers hang up. Abandoned chats are chats that do not reach agents because customers end the chat sessions before agents become available to chat. Neither emails nor faxes can be abandoned. A call is considered a *Call Abandoned (Long)* call when the caller hangs up after the Short Abandon time threshold. If you define a Short Abandon time of 6 seconds, and a caller hangs up after 7 seconds, the call is considered a Call Abandoned (Long) call. A call is considered a *Call Abandoned (Short)* call when the caller hangs up at or before the Short Abandon time threshold.
You define a Short Abandon time threshold for queues.

Interflowed
Interflow is a mechanism that directs a contact (call, email, SMS message, chat, fax) waiting in queue to another answer point. When a contact has been waiting in queue for longer than the interflow time defined in the system, the contact is interflowed and the interflow timer starts. If the interflow timer expires, the contact is re-directed to yet another answer point. The interflow timer runs independently of the overflow timer.

The interflowed statistic represents the number of contacts removed from a queue and sent to another answer point. *Calls Interflowed (Short)* calls are calls that interflow before the Short Abandon time threshold. *Calls Interflowed (Long)* calls are calls that interflow after the *Short Abandon* time threshold.

The telephone system Dial Out of Queue feature is a user-initiated interflow feature which removes a call from queue and sends it to an alternate answer point. A Dial Out of Queue call is considered a Calls Interflowed call in the reports.

Service Level time
The *Service Level time* is the time used in calculating the queue service objective, such as 80 percent (Service Level percent) of contacts answered within 120 seconds (Service Level time). You specify a service objective for queues.

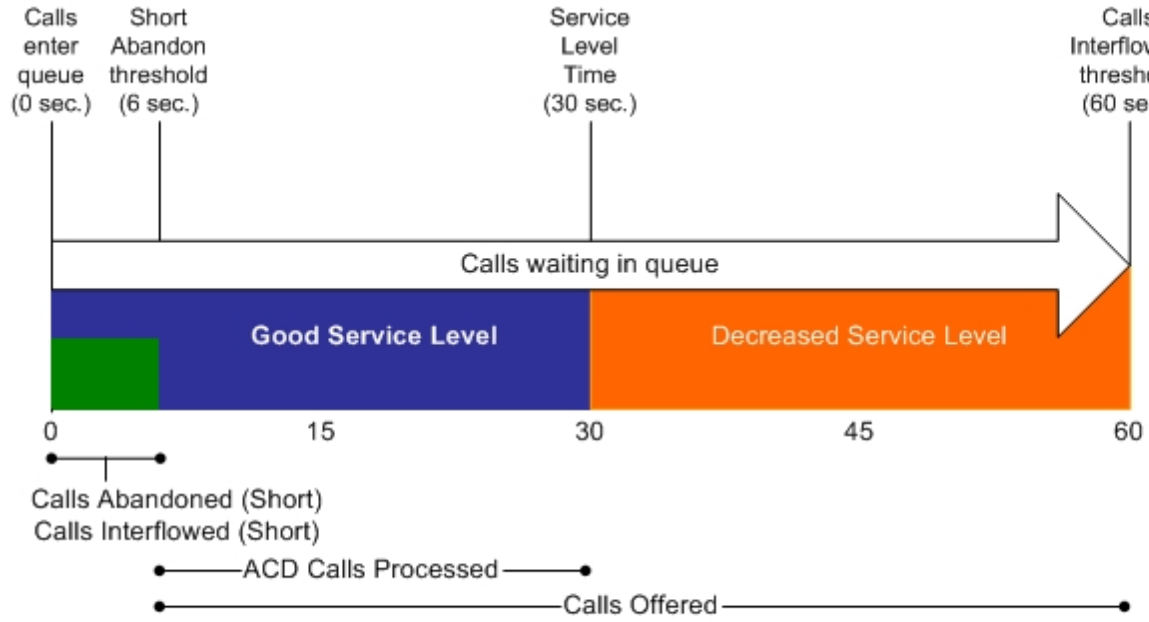
Service Level Count
Service Level Count = The number of contacts answered within the specified Service Level Time.

Service Level percent
Service Level Percent = Service Level Count ÷ ACD offered
For calls and chats, the Service Level percent is the number of calls/chats which are handled, abandoned, and interflowed before the Service Level time, compared to the total number of calls/chats handled, abandoned, and interflowed. The Service Level percent = (Handled + Abandoned (Long) + Interflowed (Long)) within the Service Level time ÷ Total (Handled + Abandoned (Long) + Interflowed (Long)).

For emails, SMS messages, and faxes, the Service Level percent is the number of emails/SMS messages/faxes which are handled and interflowed before the Service Level time, compared to the total number of emails/faxes handled and interflowed. The Service Level percent = (Handled + Interflowed (Long)) within the Service Level time ÷ Total (Handled + Interflowed (Long)).

In Figure 8 - 1, the Service Level objective is to handle 80 percent of calls in less than 30 seconds. Calls that wait in queue for 60 seconds are routed to voice mail.

Figure 8 - 1 Service Level percent



No service level statistic: calls abandoned or interflowed before the Short Abandon threshold are not included in the Service Level percent calculation.

Good service: ACD Calls Handled (in 0 to 30 sec.)+ Calls Abandoned (Long) (in 6 to 30 sec.) + Calls Interflowed (Long) (in 6 to 30 sec.), are included in the Service Level percent calculation as ACD Calls Processed.

Decreased service: ACD Calls Handled + Calls Abandoned (Long) + Calls Interflowed (Long), occurring beyond the service level time, are included in the Service Level percent calculation as part of the Calls Offered.

Setting the Service Level objective

An appropriate Service Level objective is one that

- Satisfies customers' expectations for service
- Keeps abandonment in check (at less than five percent)
- Minimizes expenses and maximizes revenue
- Meets with the approval and support of agents, supervisors, and senior management

Voice queue Service Level objective

You set the queue Service Level objective in YourSite Explorer=>YourSite=>Queues (3300 ICP, 5000, or Axxess) or YourSite=>Configuration=>Queue=>Queue (SX-200).

The voice statistics defaults are
- Service Level percent = 80%
- Service Level time = 20 seconds
- Short abandon threshold = 6 seconds
- Short handle threshold = 20 seconds
- Overflow is set at the telephone system switch and there is no default
- Interflow is set at the telephone system switch and there is no default
- Wrap-up time is set at the telephone system switch and we recommend you set it for 1 second

Email queue service level objective

You set the email queue Service Level objective in YourSite=>Configuration, Queue=>Queue.

The email statistics defaults are
- Service Level percent = 80%
- Service Level time = 120 minutes
- Short handle threshold = 20 minutes

You set the interflow value in YourSite=>Configuration, Queue=>Queue, Multimedia Contact Center Email routing options tab.

There is no interflow default for email.

The following do not apply to email:
- Overflow
- Wrap-up time
- Abandon

Chat queue service level objective

You set the chat queue Service Level objective in YourSite=>Configuration, Queue=>Queue.

The statistics defaults are
- Service Level percent = 80%
- Service Level time = 120 seconds
- Short abandon threshold = 6 seconds
- Short handle threshold = 20 minutes

You set the interflow value in YourSite=>Configuration, Queue=>Queue, Multimedia Contact Center WebChat routing options tab.

The queue statistic default is
- Interflow = 120 seconds

The following do not apply to chat:
- Overflow
- Wrap-up time

Fax queue service level objective

You set the fax queue Service Level objective in YourSite=>Configuration, Queue=>Queue.

The statistics defaults are

- Service Level percent = 80%
- Service Level time = 120 minutes
- Short handle threshold = 20 minutes

You set the interflow value in YourSite=>Configuration, Queue=>Queue, Multimedia Contact Center Fax routing options tab.

There is no interflow default for email.

The following concepts do not apply to email:

- Overflow
- Wrap-up time
- Abandon

Report types

For a complete description of report types and fields, see the *Contact Center Solutions Reports Guide*.

The Contact Center Management report types include voice, email (includes SMS), chat, fax, multimedia, Workforce Scheduling, and Intelligent Queue reports.

Administrative reports

Administrative reports consists of the Employee Profile. It provides configuration data and contact information on each employee.

Voice reports

Voice reports provide detailed information about call performance. Voice reports can be generated on the following devices: Employee, Agent and Agent Group, Queue and Queue group, Team, Extension, Trunk, DNIS, and Forecast.

Lifecycle reports

Lifecycle reports provide detailed information on all of the events related to the life of a specific call, from the moment the call enters the telephone system to call termination. You can generate Lifecycle reports on the following devices: agent, agent group, queue, queue group, DNIS, DNIS group, extension, extension group, trunk, trunk group, media server, and site. Lifecycle reports can be filtered by call direction, DNIS, trunk, queue, duration in queue, agent, Account Code, hold duration, call duration, phone number, and extension. If you have clustered your enterprise into a single site, you can run a Lifecycle report on site to report on your entire enterprise. Lifecycle reports also include call notes and links to call recordings. For detailed information on configuring Lifecycle reports, see the *Contact Center Management Installation Guide*.

NOTE:

- Lifecycle reports containing data for internal transferred ACD calls will not link data properly unless the Call ID feature on the telephone system is enabled.
- If you have a Network ACD environment with telephone systems in the same time zone, you must synchronize telephone system clocks to ensure Lifecycle report accuracy.

Email reports

Email reports provide detailed information about email or SMS performance, depending on the media the email queue is configured to handle. Email reports can be generated on the following devices: Agent, Agent Group, Queue, and Queue Group. You can generate these reports if you are licensed for Multimedia Contact Center Email.

To avoid confusion, when configuring an email queue to handle SMS, we recommend you name the queue with a unique identifier (for example, Sales SMS Queue). This will also assist with running reports on SMS statistics, as in this release SMS is handled as email and SMS statistics display in email reports generated on SMS queues.

NOTE:

- Any email statistics in reports generated on SMS queues pertain to SMS contacts
- Any email statistics in Agent reports pertain to SMS contacts if the agent(s) are handling SMS media.

Chat reports

Chat reports provide detailed information about Chat performance. Chat reports can be generated on the following devices: Agent, Agent Group, Queue, and Queue Group. You can generate these reports if you are licensed for Multimedia Contact Center Chat.

Fax reports

Fax reports provide detailed information about fax performance. Fax reports can be generated on the following devices: Agent and Agent Group. You can generate these reports if you are licensed for Multimedia Contact Center Fax.

Multimedia reports

Multimedia reports provide detailed information across media types: Voice, Email/SMS, Chat, and Fax. Multimedia reports can be generate on the following devices: Employee Group and Queue. You can generate these reports if you are licensed for Multimedia Contact Center.

Intelligent Queue reports

Intelligent Queue reports provide detailed information about Intelligent Queue performance. Intelligent Queue reports can be generated on Smart Choice Layers and Smart Choice Ports. You can generate these reports if you are licensed for Intelligent Queue.

Workforce Scheduling reports

Workforce Scheduling reports provide detailed information about schedules. Schedule reports can be generated on Agents and Agent Groups. You can generate these reports if you are licensed for Workforce Scheduling.

Real-Time Schedule Adherence reports

Real-Time Schedule Adherence reports provide detailed information about schedule adherence. Schedule adherence can be generated on Employee Groups. You can generate these reports if you are licensed for Intelligent Queue.

Call Accounting reports

Contact Center Management with Call Accounting reports provide detailed information about Agent and Queue call costing. The remaining Call Accounting and Subscriber Services reports can be found in the *Call Accounting Reports Guide*.

Custom Reports
Custom Reports are a collection of reports developed based on specific customer requests. You can generate these reports if your Contact Center Management license includes this type of report.

Traffic Analysis Reports
Traffic Analysis Reports provide detailed information about trunk traffic.

Recommended top-five reports
prairieFyre recommends every contact center use the following top-five reports:

Queue Performance by Period
The Queue Performance by Period report shows traffic level highs and lows and the Service Level you provide at these times. Generate this report each day and watch for trends in the traffic level, abandon rate, and Service Level.

Queue Group Performance by Queue
The Queue Group Performance by Queue report compares queues and provides information on the performance of your entire contact center.

Queue Group (Answer, Handle, Abandon) Spectrum by Queue
The spectrum reports provide valuable information on how calls are dispersed in your contact center. You can configure answer, handle, and abandon thresholds, and describe the percent breakdown by time for

- Calls Answered - Which call waited in queue for the greatest duration before an agent answered? How quickly are most calls answered?
- Calls Handled - What was the greatest duration an agent spoke to a caller? How quickly do most agents complete a call?
- Calls Abandoned - What was the greatest duration a caller waited before hanging up? What was the average time a caller waited in queue before hanging up?

Agent Group Performance by Period
The Agent Group Performance by Period report enables you to identify trends in agent group performance.

Agent Group Event by Period (hh:mm:ss)
The Agent Group Event by Period (hh:mm:ss) report enables you to compare the performance of agents who perform similar jobs. This report provides the shift time by agent, and a variety of call counts and peg counts for phone use.

Using reports to identify problems

The recommended top-five reports help you identify problems that affect your Service Level objectives. Table 8 - 1 and Table 8 - 2 address frequently asked questions.

Table 8 - 1 Solving problems with queue reports

What do I watch for in the queue reports?	How do I find the source of the problem and resolve it?
A drop in Service Level	When does the Service Level drop during the day? 1. Check the Agent Group Performance by Period report to see the distribution. How many agents were logged on throughout the day. 2. Examine agent talk times. Do you have a chatterbox agent? 3. Use Auditor to re-run events during a time interval to see exactly what each agent was doing. 4. Generate a forecast report with your Service Level goals to determine the number of agents required by period for the day. Compare the forecast statistics to the Average Manned Agent statistic in the Agent Group Performance by Period report. Have you scheduled enough agents to meet your Service Level objective? Why are some queues not meeting their Service Level goals while others are? • Check the Agent Group Performance by Queue report. Are some agent groups overworked?
High abandon callers	Why did the callers hang up? 1. Check the Average Delay to Abandon statistic. Did the callers hang up because they were impatient? Did callers wait a long time in queue? Were agent talk times excessive during this time? If so, why? 2. In Data Mining=>Auditor, re-run the interval to see exactly what each agent was doing. 3. Generate the Queue ANI Abandon report and then call back the customers to determine why they abandoned their calls.
A high requeue count (because it decreases the Average Speed of Answer time and the Service Level)	Are agents forgetting to set themselves as Unavailable on their telephone sets before they leave their desks? • Check the Agent Group Performance by Period report to see which agents are experiencing requeues. Remind agents to use the Unavailable option.

Table 8 - 2 Solving problems with agent reports

What do I watch for in the agent reports?	How do I find the source of the problem and resolve it?
Extremely high or low performance statistics	Do some agents perform 20-30% worse than other agents? 1. Silent monitor agents periodically to ensure they are properly trained to handle callers' needs, and are not chatting unnecessarily. 2. Check Outbound or Non-ACD statistics for peg counts and times. Generate an Agent Inbound or Outbound Trace report to see a list of all calls. Are agents spending too much time on personal calls? Do some agents perform 20-30% better than other agents? 1. High ACD/Non-ACD/Outbound call counts is not a problem if agents are maintaining high Service Levels. Silently monitor agents periodically to ensure they are providing a high quality of service, but not rushing callers. 2. Check the ACD Call Count <20 seconds statistic in the Agent Event by Period report. Not many voice transactions can occur in less than 20 seconds. This could indicate that agents are “padding” their ACD handle statistics by prematurely terminating calls.
High Unavailable statistics	Are agents accumulating Unavailable time and Make Busy peg counts? 1. Check the Agent Event by Period (hh:mm:ss) report to evaluate individual statistics. Determine how much Make Busy and Do Not Disturb (DND) time agents are logging. Be sure agents are adhering to your contact center policies regarding when to use Make Busy and Do Not Disturb. Check if your agents are using Unavailable instead of logging out. 2. For agents who have high Make Busy peg counts, run the Auditor application with an Agent by Time monitor for the agent group. Be sure agents are not using Make Busy to avoid being the longest idle agent or to avoid being sent the next ACD call. 3. Implement Make Busy with Reason functionality. Assign reasons with which agents go into Make Busy. Track Make Busy use by generating the Agent Performance by Make Busy Reason Code report.

Reporter

Using the Reporter application, you can generate on-demand voice reports, email/SMS reports, chat reports, fax reports, multimedia reports, Workforce Scheduling scheduling reports, and Intelligent Queue reports. You can restrict access to any or all of the reports with advanced security roles using report lists. See "Security roles" on page 177.

SMS reports are handled as email reports. To differentiate SMS contacts from email contacts in reports, we recommend you configure a queue to handle only SMS contacts and run email reports on that queue only.

NOTE:
- Any email statistics in reports run on SMS only queues pertain to SMS contacts
- Any email statistics in Agent reports pertain to SMS contacts if the agent(s) are handling SMS contacts.

Reporter options

The complete list of Reporter options follows.
- **Report type—**specifies the report name.
- **Start date and End date—**specify the range of dates used in the report. You can pick any calendar date as the start date and any date later in the calendar year as the end date.
- **Start hour and End hour—**specify the hours of the day included in the report.
- **Days to include—**specifies the days of the week to include in the report.
- **Report mode** —specifies the report period: 15, 30, or 60 minutes.
- **Email the report to —** emails the report spreadsheet and associated graph to the email address selected in the email to list. You add contacts and contact groups to the email to list under the My options menu.
- **Print the report check box—** prints the report spreadsheet.
- **Include the charts when printing**—prints the report spreadsheet and the associated graph.

Setting up contacts and contact groups

Before you generate a report, if you want to email that report, you must set up
- My email contacts, which includes personal email addresses
- My email contact groups, which includes mailing lists comprised of global contacts and My email contacts

Setting up email contacts for emailing reports

To set up groups for emailing reports

1. Click **My options=>My contacts=>My email contacts**.
   The My email contacts window opens.
2. Click **Add**.
   The Add contact window opens.
3. Type the first name, last name, and email address of the person to whom you will email reports.
4. Click **Save**.

Setting up email contact groups for emailing reports

If you intend to email the report to more than one recipient you must add the recipients to a mailing list and then associate the recipients with a group.

To set up groups for emailing reports

1. Click **My options=>My contacts=>My email contact groups**.
   The My email contacts window opens.
2. Click **Add**.
   The Add contact window opens.
3. Type the name and description of the email group to which you will email reports.
4. Click **Save**.
   The new email contact group opens on the My email contact groups window.
5. Across from the record of the contact group, click **Members**.
6. Under **Available contacts**, select the check boxes of the contacts you want to add to the group.
7. Click **Add>>**.

Generating on-demand reports

NOTES:

- You can generate on-demand reports on licensed employees' extensions only. The number of employees' extensions you license in YourSite Configuration Explorer must be consistent with your software license.
- Workforce Scheduling reports are generated differently from Contact Center Management reports. See "Generating Workforce Scheduling reports" on page 279.

Generating Workforce Scheduling reports

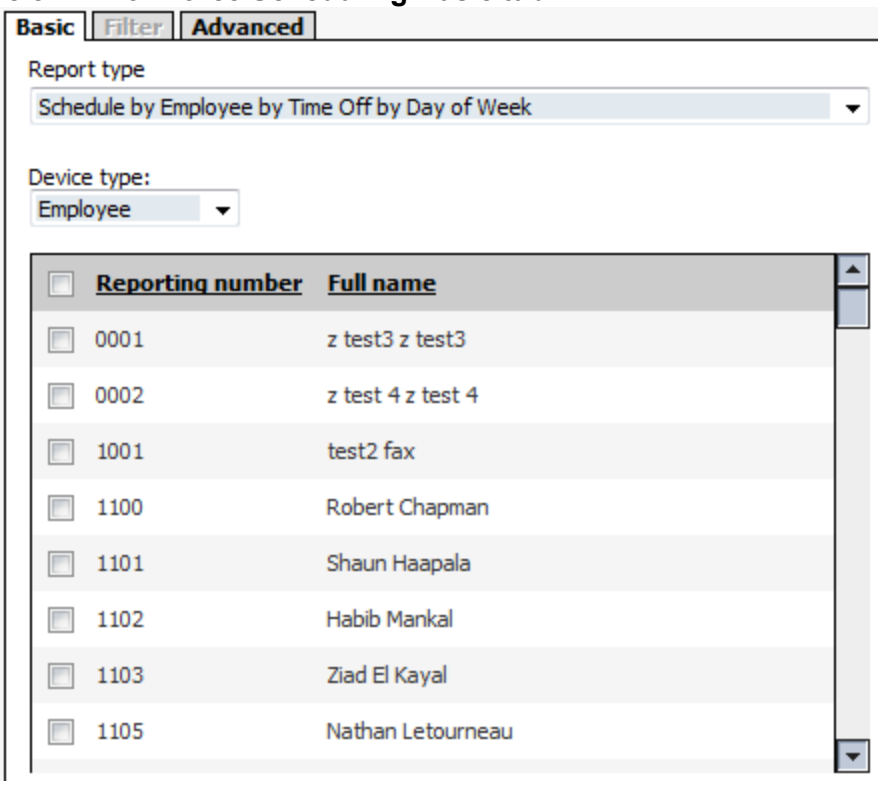
The following steps detail how to generate a Schedule by Employee by Time Off by Day of Week report. All other Workforce Scheduling reports are generated by following a similar procedure.

NOTE: Some report features may be available or unavailable depending on the report type you want to generate. For example, the Interval feature is unavailable (and will appear greyed out) for the Schedule by Employee by Time Off by Day of Week report.

To generate a Workforce Scheduling report

1. Click **Reporter=>Workforce Scheduling=>Schedules**.
   The Basic tab opens.
   See Figure 8 - 2.

Figure 8 - 2 Workforce Scheduling Basic tab



2. After **Report type**, select the **Schedule by Employee by Time Off by Day of Week** report.

3. After **Device type**, select one of the following:
   - Employee — only the employees selected will appear in the report
   - Supervisor — only the employees associated with the selected supervisor will appear in the report
   - Employee group — only the employees who are members of the selected employee group will appear in the report
   - Schedule — only the employees associated with the selected schedule will appear in the report
4. Select one or more devices from the table.
   Hold down the <Shift> key or <Ctrl> key to select more than one device.
   NOTE: If you want one report that spans two days (for example, from December 3 at 9 P.M. to December 4 at 5 A.M.), then make the Start date and the End date the date the shift begins (December 3). If you make the Start date the date the shift begins (December 3) and the End date the date the shift ends (December 4), you will generate a report that spans three days (December 3 from 9 P.M. to December 5, 5 A.M.). The time span for each shift cannot exceed 24 hours.
5. After **Start date** and **End date**, specify the start and end dates for the report.
6. Click the **Filter** tab (if available for the report type selected). Otherwise skip to step 8.
7. Specify the filtering options to include in the report.
8. Click the **Advanced** tab.
9. After **Report output language**, select the language used in the report output.
10. After **Render type**, specify how you will view reports, either in Excel or PDF format.
11. If you want to email the report, select the **Email the report to** check box and specify to whom you will email the report:
    - A contact group — select the this contact group check box, and select a group
    - One contact only — select the this contact check box, and select a contact
    - A contact that is not listed — select the this email address check box, and type the email address

    You add contacts and contact groups to the Email to list under My options=>My contacts.
12. If you want to print the report spreadsheet, select the **Print the report** check box.
13. Click **Submit**.
    The Report submitted screen opens.
14. Click **View Report Inbox**.
    The Report Inbox window opens, listing all created reports.
15. Click **View** to open a report.
    The report opens in the format you specified in step 10.

Generating reports

NOTE: The following steps detail how to generate a Voice Agent Group Performance by Period report.

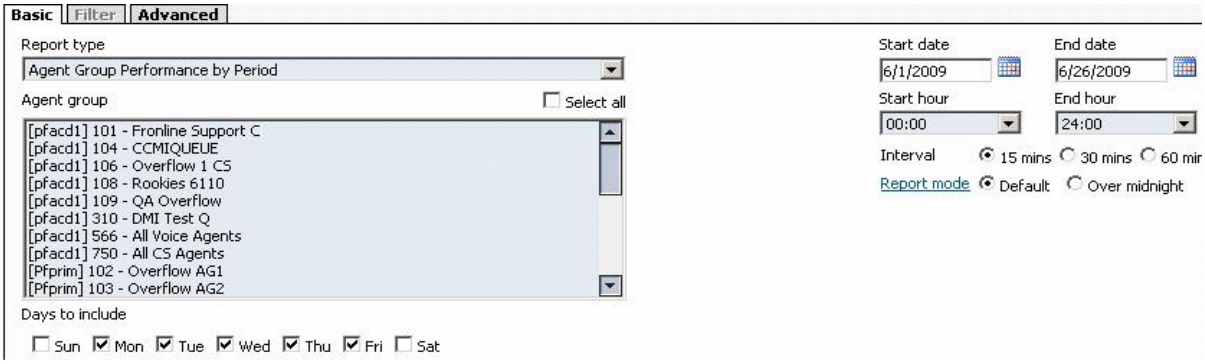
To generate a report

1. Click **Reporter=>Voice=>Agent reports**.
   The Basic tab opens. If you want to run an Administrative report, then you select Reporter=>Administrative=>Employee reports.
   See Figure 8 - 3.
2. After **Report type**, select the **Agent Group Performance by Period** report.
3. After **Agent group**, click one or more agent group.
   Hold down the <Shift> key or <Ctrl> key to select more than one agent group.
   NOTE: If you want one report that spans two days (for example, from December 3 at 9 P.M. to December 4 at 5 A.M.), then make the Start date and the End date the date the shift begins (December 3). If you make the Start date the date the shift begins (December 3) and the End date the date the shift ends (December 4), you will generate a report that spans three days (December 3 from 9 P.M. to December 5, 5 A.M.). The time span for each shift cannot exceed 24 hours.

4. After **Start date** and **End date**, specify the start and end dates for the report.
5. After **Start hour** and **End hour**, specify the start and end hours for the report.
6. After **Interval**, specify the time interval in which the statistics will display in the report.
7. If your contact center does not operate 24 hour a day, after **Report mode**, click **Default**.
8. If you want to run a report over midnight, click **Over midnight**.
   The Over midnight report mode is most appropriate for 24-hour contact centers.
9. After **Days to include**, select the days of the week to include in the report.
10. Click the **Filter** tab.
    NOTE: The Filter tab is available for Forecast, Call Accounting, Lifecycle, Workforce Scheduling, and Make Busy / DND Code reports only. For all other report types, skip to step 12.
11. Specify the filtering options to include in the report.
12. Click the **Advanced** tab.
13. If you want to create a separate report for each day in the date range you selected, select the **Create one report for each day in the selected date range** check box.
14. After **Report output language**, select the language used in the report output.:
15. After **Render type**, specify how you will view reports, either in Excel or .pdf format.
    This option is available for Call Accounting, Lifecycle, Workforce Scheduling, and Flexible Reporting reports only.
16. If you want to email the report, select the **Email to** check box and specify to whom you will email the report:
    - A contact group, select the **this contact group** check box, and select a group
    - One contact only, select the **this contact** check box, and select a contact
    - A contact that is not listed, select the **this email address** check box, and type the email address

    You add contacts and contact groups to the Email to list under My options=>My contacts.
17. If you want to print the report spreadsheet, select the **Print the report** check box.
18. If you want to print the report chart, select the **Include charts when printing** check box.
19. Click **Submit**.
    The Report submitted screen opens.
20. Click **View Report Inbox**.
    The Report Inbox window opens, listing all created reports.
21. Click **View** to open a report.
    The report opens in the format you specified.

Figure 8 - 3 Reporter: Basic tab



Emailing reports

To email a report

1. After selecting a report to email, click the **Advanced** tab.
2. After **Report output language**, select the language of the report from the list.
3. If you want to email the report spreadsheet, under **Excel distribution**, select either the **this contact group** or **this contact** check box.
4. Or, if you want to email to a specific address, select the **this email address** check box and type the email address.
5. Click **Submit**.
   The Report submitted screen opens.
6. Click **View report inbox**.
7. After **Complete**, click **View**.

Printing reports

To print a report

1. After selecting a report to print, click the **Advanced** tab.
2. After **Report output language**, select the language of the report from the list.
3. If you want to print the report spreadsheet, under **Excel distribution**, select the **Print the report** check box.
4. Click **Submit**.
   The Report submitted screen opens.
5. Click **View report inbox**.
6. After **Complete**, click **View**.

Scheduled Reports

You use Scheduled Reports to automate the generation of voice, email/SMS, chat, fax, multimedia, Workforce Scheduling, and Intelligent Queue reports. You can restrict user access to any or all of the reports with advanced security roles. See "Creating and applying security roles" on page 178.

SMS reports are handled as email reports. To differentiate SMS contacts from email contacts in reports, we recommend you configure a queue to handle only SMS contacts and run email reports on that queue only.

NOTE:

- Any email statistics in reports run on SMS only queues pertain to SMS contacts
- Any email statistics in Agent reports pertain to SMS contacts if the agent(s) are handling SMS contacts.

Scheduled reports options

To create a scheduled report you must complete the following options on the properties and distribution tabs.

- *Schedule name* is a user defined name to describe the contents of the schedule.
- *Schedule will run* specifies how often the schedule will be generated.
- *At* defines when the scheduled report will be generated.
- *Reports time span* defines the dates of report activity to appear in the report.
- *Output language* specifies the language used in the report tables and charts.
- *Email the report to* defines the email contact group to which the report is sent.
- *Print the report* indicates the scheduled report will be printed every time it is generated.

Generating scheduled reports

NOTE:

- Ensure Contact Center Client is running before you generate a report or execute a report schedule, otherwise the report or the schedule will fail.
- You can generate reports on licensed employees only. The number of employees you license in YourSite Configuration must be consistent with your software license.

To generate a scheduled report, you must follow these steps:

1. Create a report schedule.
2. Add reports to the schedule.

Creating report schedules

NOTE: If you select printing and mailing options, Reporting Service prints and emails *all* of the reports included in the schedule on the date the system generates the reports.

You can create schedules for Contact Center Management Reports, Contact Center Management Individual Reports, and Workforce Scheduling Schedules.

Using Contact Center Management Reports schedules, you can

- Generate reports on all contact center devices.
- Distribute reports to yourself and to a contact, a contact group, or a specific email address.

Using Contact Center Management User reports schedules, you can

- Generate reports on agents and employees.
- Distribute reports automatically to yourself and to the individuals within the agent groups, employee groups, and/or teams you select.

Using Workforce Scheduling Schedules, you can

- Generate reports on employee schedules.
- Distribute agent/employee report schedules to yourself and to individual employees associated with the schedules you select.

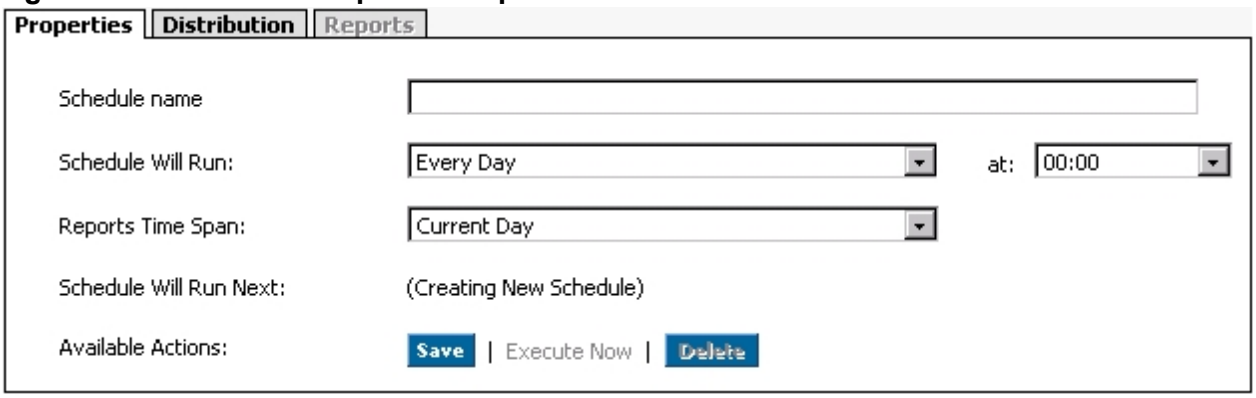
Creating Contact Center Management Report schedules

To create a schedule for Contact Center Management reports

1. Click **Reporter=>Scheduled Reports**.
   The Contact Center Management Report schedules tab opens.
2. Click **Next>>**.
   See Figure 8 - 4.
3. After **Schedule name**, type a schedule name.
4. After **Schedule will run**, select the schedule frequency, for example, every day, every Wednesday, or the start of month.
   When you select the day, all of the reports associated with the schedule will be generated that day, every week.

5. After **at,** click the time of day the schedule will be activated.
   For example, if you select Wednesday at 7:00 A.M., all of the reports associated with the schedule will be generated every Wednesday at 7:00 A.M.
   NOTE: Reports are based on the data in the SQL database. We recommend you schedule your reports for *after* the nightly maintenance routine runs, that is, after 2:00 A.M., to ensure the reports are based on the entire day's raw telephone system data.
6. After **Reports time span**, select a time span.
   If you select Year to date, the report output includes all of the days from January 1 to the present date. If you select From given start date to current date you will produce reports for your fiscal year.
7. Click the **Distribution** tab.
8. If you want to email the report to a contact group, under **Excel distribution**, select the **Email the report to** check box, select the **this contact group** check box, and then select a group.
   NOTE: You add contacts and contact groups to the email to list under My options=>My contacts.
9. If you want to email the report to one contact only, select the **Email the report to** check box, select the **this contact** check box, and then select a contact.
10. If you want to email the report to a contact that is not listed, select the **Email the report to** check box, select the **this email address** check box, and then type an email address.
    NOTE: You add contacts and contact groups to the email list under **My options=>My contacts**.
11. If you want to print the report spreadsheet, under **Excel distribution**, select the **Print the report** check box.
12. If you also want to print the report graphs, select the **Include charts when printing check box.**
13. Click **Save**.
14. Add the reports you want to generate using the schedule you just created.
    See "Adding Contact Center Management reports to schedules" on page 286.

Figure 8 - 4 Scheduled Reports: Properties tab



Creating Contact Center Management User report schedules

To create a schedule to automatically email agents/employees their reports

1. Click **Reporter=>Scheduled Reports**.
2. Click the **Contact Center Management User report schedules** tab.
3. Click **Next>>**.
   The Properties tab opens.
4. After **Schedule name**, type a schedule name.
5. After **Schedule will run**, select the schedule frequency, for example, every day, every Wednesday, or the start of month.
   When you select the day, all of the reports associated with the schedule will be generated that day, every week.

6. After **at,** click the time of day the schedule will be activated.
   For example, if you select Wednesday at 7:00 A.M., all of the reports associated with the schedule will be generated every Wednesday at 7:00 A.M.
   NOTE: Reports are based on the data in the SQL database. We recommend you schedule your reports for *after* the nightly maintenance routine runs, that is, after 2:00 A.M., to ensure the reports are based on the entire day's raw telephone system data.
7. After **Reports time span**, select a time span.
   If you select *Year to date*, the report output includes all of the days from January 1 to the present date. If you select *From given start date to current date* you will produce reports for your fiscal year.
8. Click the **Distribution** tab.
   You can email reports to members of agent groups, employee groups, and teams.
9. Click the type of group(s) to which you want to email agent and employee reports.
10. Within each type of group, select the check boxes of the groups to which you will email reports.
11. Click **Save**.
12. Add reports you want to automatically distribute to the agent group(s), employee group(s) and teams you selected.
    See "Adding agent and employee reports to Contact Center Management User report schedules" on page 286.

Creating Workforce Scheduling report schedules

To create a schedule to automatically email agents/employees their report schedules

1. Click **Reporter=>Scheduled Reports**.
2. Click the **Workforce Scheduling report schedules** tab.
3. Click **Next>>**.
   The Properties tab opens.
4. After **Schedule name**, type a schedule name.
5. After **Schedule will run**, select the schedule frequency, for example, every day, every Wednesday, or the start of month.
   When you select the day, all of the reports associated with this schedule will be generated that day, every week.
6. After **at,** click the time of day the schedule will be activated.
   For example, if you select Wednesday at 7:00 A.M., all of the reports associated with this schedule will be generated every Wednesday at 7:00 A.M.
   NOTE: Reports are based on the data in the SQL database. We recommend you schedule your reports for *after* the nightly maintenance routine runs, that is, after 2:00 A.M., to ensure the reports are based on the entire day's raw telephone system data.
7. After **Reports time span**, select a time span.
   If you select *Year to date*, the report output includes all of the days from January 1 to the present date. If you select *From given start date to current date* you will produce reports for your fiscal year.
8. Click the **Distribution** tab.
9. Select the check boxes of the schedules you want to email to employees.
10. Click **Save**.
11. Add reports.
    See "Adding work schedules to Workforce Scheduling Schedules" on page 286.

Adding Contact Center Management reports to schedules

NOTE: Before you can add reports to schedules, you must create and save the schedules.

To add a report to a Contact Center Management report schedule

1. On the **Manage schedule** window, click **Add report.**
2. Select a report category, for example **Queue reports.**
3. After **Report type**, select a report to add to the schedule.
4. After **Queue**, select the queue(s) for which you will generate reports.
5. After **Days to include**, select the days of the week to include in the report (for example, if you select a date range of September 1 to September 30, and select Wed and Friday as the days to include, you will produce a report for the Wednesdays and Fridays that fall between September 1 and September 30).
6. After **Start hour** and **End hour**, select a start hour and end hour for the report.
7. If you are generating an event by period report, after **Interval**, select the time interval for reporting.
   NOTE: If you want to generate a report that spans two days (for example, from December 3 at 9 P.M. to December 4 at 5 A.M.), then select December 3 for the Start date *and* the End date. The time span for each shift cannot exceed 24 hours.
8. After **Report mode**, select **Default**or **Over midnight**.
9. Click the **Advanced** tab.
10. After **Report Output language**, select a language.
11. Click **Submit**.

Adding agent and employee reports to Contact Center Management User report schedules

To add agent and employee reports to a Contact Center Management User reports schedule

1. On the Manage schedule window, click **Add report**.
2. Select a report category, for example **agent reports**.
3. Under **Report type**, select the report you want to add to the schedule.
4. After **Start hour** and **End hour**, select a start hour and end hour for the report.
5. If you are generating an event by period report, after **Interval**, select the time interval for reporting.
6. After **Report mode**, select either **Default** or **Over midnight**. **.**
7. After **Days to include**, select the days of the week to include in the report (for example, if you select a date range of September 1 to 30, and select Wednesday and Friday as the days to include, you will produce a report for the Wednesdays and Fridays that fall between September 1 and September 30).
8. Click the **Advanced** tab.
9. After **Report Output language**, select a language.
10. Click **Submit**.

Adding work schedules to Workforce Scheduling Schedules

To add work schedules to a Workforce Scheduling Schedule

1. On the Manage schedule window, click **Add report**.
2. Click **Workforce Scheduling=>Workforce Scheduling Schedule reports**.
3. Under **Report type**, select the work schedule you want to add to the schedule.
4. Click the **Advanced** tab.
5. After **Report Output language**, select a language.
6. Click **Submit**.

Generating scheduled reports immediately

If you want to generate your scheduled reports at a specific time (other than immediately), you specify the date and time they will be generated when you create the schedule. See "Creating report schedules" on page 283.

To generate scheduled reports immediately

1. Click **Reporter=>Scheduled Reports**.
2. After **Select a schedule**, select the schedule you want to generate.
3. Click **Execute schedule now**.
   The Execute schedule now window opens.
4. In the **Start date** and **End date** calendars, select start and end dates for the report.
5. Click **Submit**.
   The reports associated with the schedule are generated immediately and placed in your Report Inbox.

Report Inbox

The Report Inbox application displays the on-demand, scheduled, and forecast reports generated under your user name over the past 30 days. Inbox manager deletes reports from your inbox by date range.

NOTE:

- In Report Inbox, if the report status is *Pending* for an extended period of time, start Client Component Pack Manager and confirm the Enterprise Server IP address and your user name and password are correct.
- In Report Inbox, if *Data Limit Exceeded* opens, re-generate the report using a shorter time span.

Report Inbox includes

- *Today's reports* displays all of the reports generated today under your user name.
- *Yesterday's reports* displays all of the reports generated yesterday under your user name.
- *All of your reports* displays all of the reports generated under your user name over the last 30 days.
- *Inbox Manager* deletes reports from your inbox by date range.

Reporter Inbox options

Report Inbox has the following options.

- *Report type* lists the report name.
- *Media server* defines the media server used in reporting.
- *Reporting* specifies the reporting number of the device or device group as configured on the telephone system.
- *Name* is the name of the device or device group.
- *Request date* is the date and time the report was generated.
- *Status field* confirms if your report is ready. When *Complete* appears in the status field the report is waiting in your Report inbox. When *Pending* appears, the report is not ready. *No data* means no records are available for the parameters you specified. *Failed*means the report did not generate. If a report fails, the Reporting Service logs errors in the NT Event log.
- *View* displays reports generated in Microsoft Excel.
- *Delete* deletes reports from your report inbox.

Viewing reports

To view report details

1. Click **View Report Inbox** (upon submitting a report) or click **Report Inbox=>Today's reports**.
2. Select the **Automatically refresh this page every 10 seconds** check box to automatically update the Status column.
   The Status column indicates if your reports are ready:
   - Complete: The the report is waiting in your report inbox.
   - Pending: The report is not ready.
   - No data: No no records were available for the parameters you specified.
   - Data limit exceeded: The time span selected was too great. Select a shorter time span and re-generate the report.
   - Failed: The the report did not generate. If a report fails, Inbox Manager logs errors in the event log. Clicking Re-submit regenerates the report.
3. Click **View** to view the report spreadsheet and chart.

Viewing call recordings

If you use OAISYS or dvsAnalytics Encore call recording integration, you can access call recordings from Lifecycle reports. Hyperlinks to call recordings are located after the Full Name column of call segments in Lifecycle reports. (See Figure 8 - 5.)

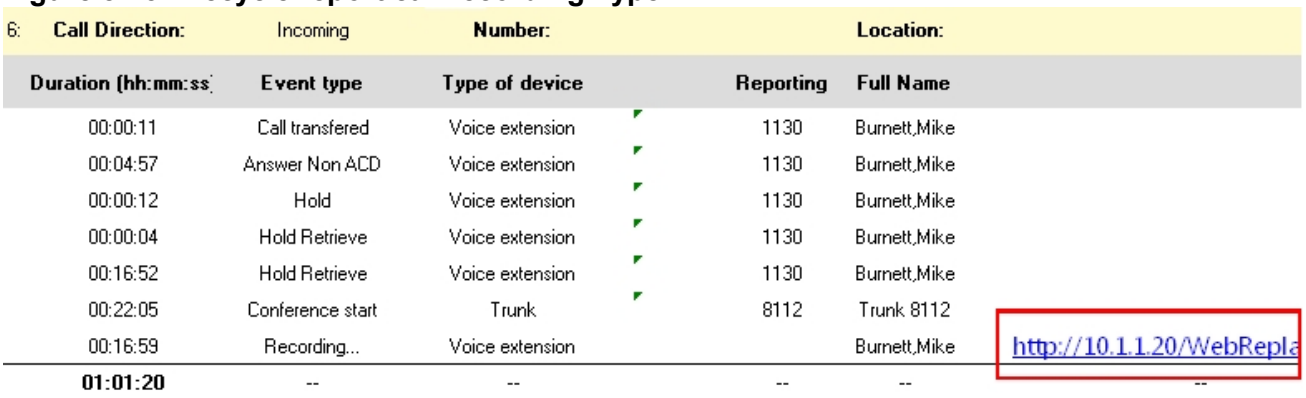
NOTE:

- The OAISYS Tracer or dvsAnalytics Encore supports the use of non-administrative user accounts to access call recordings. We recommend you create one non-administrative user account on the Tracer system and provide the log in credentials to all employees who require access to call recordings.
- When you first access the OAISYS system from the link provided in Lifecycle reports, you are presented with a log in screen. You must enter a valid set of credentials and ensure that the "Auto Login" check box is selected. This will ensure you provide your credentials the first time you access a call recording only. Close Internet Explorer and click the link in the Lifecycle report again to access the call recording.

To view a call recording

1. Run a Lifecycle report that contains call recordings.
   See "Generating reports" on page 280.
2. Click **View Report Inbox** (upon submitting a report) or click **Report Inbox=>Today's reports**.
3. After the report is complete, click **View** to view the Lifecycle report.
4. Click a call recording hyperlink.
   See Figure 8 - 5.
   If you are using OAISYS Tracer, you must provide the OAISYS Tracer system credentials, select Auto Login, close Internet Explorer, and click the hyperlink to the call recording again before you can view the call recording.
5. Click **Play**.

Figure 8 - 5 Lifecycle report call recording hyperlink



6:	Call Direction:	Incoming	Number:		Location:	
Duration (hh:mm:ss)	Event type	Type of device		Reporting	Full Name	
00:00:11	Call transfered	Voice extension		1130	Burnett,Mike	
00:04:57	Answer Non ACD	Voice extension		1130	Burnett,Mike	
00:00:12	Hold	Voice extension		1130	Burnett,Mike	
00:00:04	Hold Retrieve	Voice extension		1130	Burnett,Mike	
00:16:52	Hold Retrieve	Voice extension		1130	Burnett,Mike	
00:22:05	Conference start	Trunk		8112	Trunk 8112	
00:16:59	Recording...	Voice extension			Burnett,Mike	http://10.1.1.20/WebRepla
01:01:20	--	--		--	--	--

Editing reports in Excel

You can graph specific data by highlighting one or more columns of data in the Excel spreadsheet and using the Excel Chart Wizard. For more information, see Microsoft Excel Help.

Deleting reports

Maintenance Service deletes any reports that are 30 days or older from your report inbox. You must save any reports you want to retain beyond 30 days to your hard drive or network directory.

Report Writer uses the following criteria to determine a report's age. For on-demand reports, the request date governs the report's age. For scheduled reports, the date the system generates the report governs the report's age. Inbox manager does not delete reports you schedule to generate in the future.

To delete all of the reports submitted on a given date

1. Click **Report Inbox=>Inbox manager**.
2. Select fixed dates or a date range for deleting reports.
3. Select the status type(s).
4. Click **Delete**.
   The Inbox manager deletes all of the reports submitted on the dates you specified.

Configuring user printer settings

You can configure reports to print on either a network or a local printer, for each employee.

To configure user printer settings

1. In YourSite Explorer, click **Employees**.
2. Select the employee for which you want to configure user printer settings.
3. Under **Report Distribution**, specify the path of the network printer and select print and email options.
   You must configure the network printer as the default printer on the Enterprise Server. The printer name is case sensitive.

Troubleshooting reporting issues

Common reporting troubleshooting issues are described below.

Troubleshooting missing data

NOTE: You can run reports on licensed employees only.

If you run a report and notice that the data for a device is missing from the report output, verify the device is programmed in the telephone system and in the YourSite database. If you determine the device is missing from the database, add it to the database and use the Summarize Data command (in the Management Console application) to update the prairieFyre Service and the SQL database with the complete telephone system data stored on the local hard drive. You can then produce reports on the device.

To summarize data

1. Open **Contact Center Client**.
2. If prompted, type your user name and password.
3. Click **Log on**.
   The Contact Center Client window opens.
4. On the main toolbar, click **Management**.
5. Click **Maintenance**.
6. Click **Summarize data**.
7. Follow the steps in the Summarize Data Wizard to summarize the data.

Configuring reports to exclude Junk Mail from completed email statistics

Using the Registry Editor on the Enterprise Server, you can configure multimedia reports to exclude Junk Mail from the completed email statistics. If you exclude Junk Mail from completed email statistics, the following statistics will be affected:

- Completed count
- Completed total duration
- Hold count
- Hold total duration
- Short handled count

To exclude Junk Mail from completed email statistics

1. In Windows, open the **Run** command, type **regedit**, and click **OK**.
   The Registry Editor opens.
2. Expand the tree to **HKEY_LOCAL_MACHINE\Software\prairieFyre Software Inc\CCM**.
3. Right-click **Common** and select **New=>String Value**.
4. Type **SubtractJunkEmailStatsFromCompletedStats** and click **Enter**.
5. Right-click the **SubtractJunkEmailStatsFromCompiledStats** string and select **Modify**.
   The Edit String window opens.
6. Under **Value data**, type **1**.
7. Click **OK**.

Troubleshooting Reporting Service

Why is Reporting Service not emailing or printing my reports?

- Ensure the SMTP Mail settings are correctly configured.
- Ensure the printer settings are correctly configured.
- View the log file for Reporting Service to find out why reports are not being printed/emailed the way you expect in the installation/Log file.

Chapter 9

Forecasting

Forecasting terms

Forecasting tool

Forecasting

Forecasting involves taking historical data generated by your telephone system and using it to predict future traffic volumes and patterns. Forecasting is the basis for estimating required resources, such as agents, trunks, and workstations. You take a year or more of ACD queue traffic data, examine trends in Call Load patterns and determine the ACD Handling Times of the calls. After you run a forecast, you examine the data and make adjustments based on current contact center conditions. You can tweak the forecast by adding or reducing calls, based on your intuition, and information gathered by yourself and others. See "Step #3 Forecast the Call Load" on page 23 for more information on forecast concepts.

For a demonstration of how forecasting can help contact centers make informed scheduling decisions, click http://www.youtube.com/watch?v=IKwl6CEwQxQ.

Forecasting terms

Conducting a forecast involves accurately estimating Time to Handle, Wrap Up Time, and ACD Calls Offered values. The following terms are used in forecasting resource requirements:

- **Service Level percent**
  See "Understanding reports" on page 269.
- **Service Level time**
  See "Understanding reports" on page 269.
- **Wrap Up time**
  Wrap Up Time is the time an agent spends completing transactions associated with a call after the agent hangs up. The Wrap Up Time is a standardized period. If an agent requires additional time to complete paperwork or online transactions, the agent can leave the ACD queue temporarily for this purpose.
- **Agent Efficiency percent**
  Agent Efficiency percent is the percentage of time agents spend on ACD calls relative to the time agents are scheduled to work. Agent efficiency is calculated using a straight linear relationship. For example, 50% agent efficiency means that two more agents are required to handle the forecasted workload. An Agent efficiency percentage of 100 is unrealistic. Agents routinely take breaks, perform other non-ACD duties, make outgoing calls, and place themselves in Make Busy.
- **Average Talk time**
  Average Talk Time is the average time agents spend talking to callers.
- **Calls Offered**
  You can predict the agent requirement for your Service Level percent and Service Level time targets by applying the Erlang C equation to the estimated Call Load and average ACD Handling Time.
- **Manned Agents**
  Manned Agents is the average number of agents who were logged on for the interval of time being forecasted.
- **Time to Handle**
  Time to Handle is the average time calls wait in queue before agents handle them.

- **ACD Handling time**
  ACD Handling time is the talk time plus the hold time. If an agent calls a supervisor in search of more information (while the caller is on hold) and/or transfers or conferences the call, the system adds these times to the ACD Handling Time value.
  For example, an agent speaks to a caller for two minutes and then puts the caller on hold for three minutes and tries to solve the problem. This might include a call to the supervisor. The agent then initiates a conference call with the caller and a third party and they speak for three minutes and resolve the issue. Therefore, the ACD Handling Time for the agent is 2 + 3 + 3 = 8 minutes.
- **Call Load**
  The term *Call Load* is to the combined effect of the number of calls received by the ACD queue and their duration, or the calls offered x (average ACD Handling Time + average Wrap Up Time).

Forecasting tool

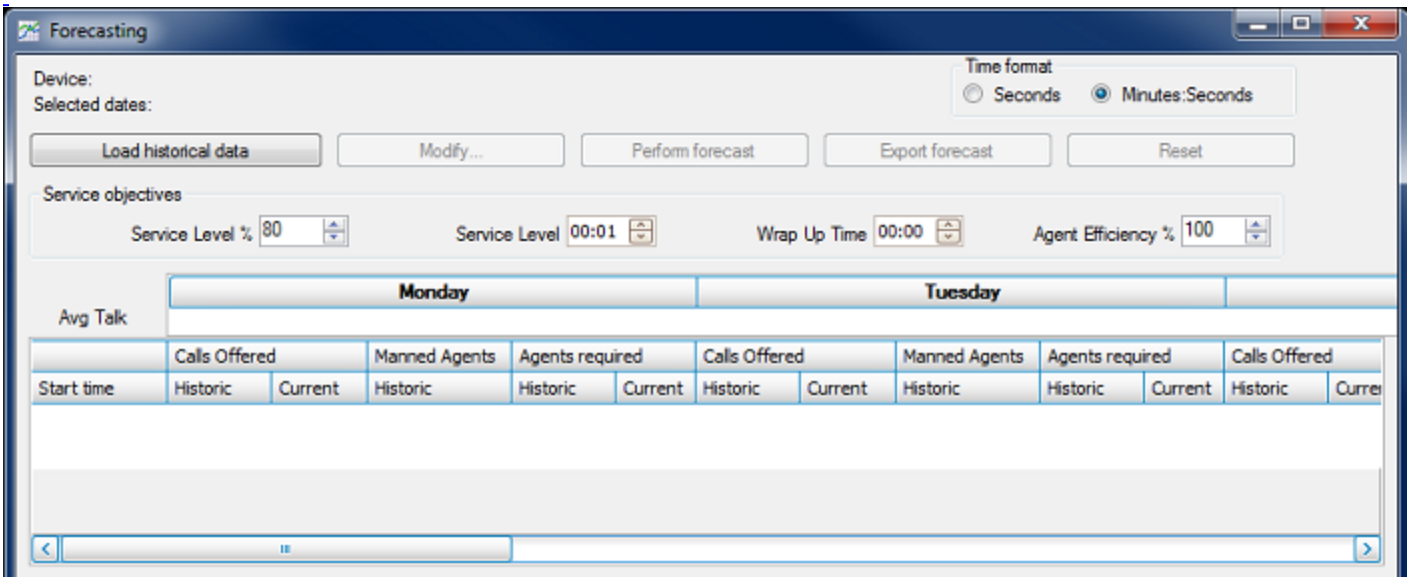
You use the Forecasting tool to create forecasts based on historical contact center traffic volumes. You can then perform "what-if" scenarios, and optimize the balance between the agents scheduled and your Service Level objectives.

The Forecasting tool is accessed via Contact Center Client. In order to access the Forecasting tool, your security role must have the "May manage Forecasting" option enabled.

To access the Forecasting tool

1. Click **Tools** in the Contact Center Client ribbon.
2. In the **Data Mining** column, click **Forecasting** to open the Forecasting tool.
   The Forecasting window opens.
   See Figure 9 - 1.

Figure 9 - 1 Forecasting window



To forecast resource requirements you

1. Load historical data.
2. Modify historical data if required.
3. Perform a forecast.
4. Print the forecast.

Loading historical data

When you load historical data, you include data over a historical period that best represents the call center activity for the time period. You can select sequential or non-sequential dates (for example, Monday, Wednesday, and Friday) to use in the forecast.

To load historical data

1. In Contact Center Client, click **Tools=>Forecasting**.
   NOTE: You can load historical data for a queue or queue group. If you are using the forecast to build a schedule, select historical data from the same queue group with which the schedule is associated. This data will best represent the agents required for your schedule.
2. Click **Load historical data**.
   The Forecasting window opens.
3. Under **Queues** or **Queue groups**, click on the queue or queue groups you want to use as the source of historical data.
   NOTE: You can select one or more specific dates and/or date ranges of historical data.
4. If you want to add a specific date, under **Historical date(s) for the forecast**, click **Specific day**.
   - Select a date.
   - Click **Add dates**.
   - Repeat step 4 to add more dates.
5. If you want to add data from a date range, click **Date range**.
   - After Every, select the date frequency.
   - Select the check boxes for one or more days of the week.
   - After From and To, select the start and end dates of the historical data period used for the forecast.
   - Click Add dates.
   - Repeat step 5 to add more date ranges.
6. After **Start hour** and **End hour**, select the time frame for historical data.
   The Interval value, in minutes, is the time increment by which the forecast will be displayed. For example, if you schedule your employee shifts in 30 minute increments, select 30 minutes as the Interval value.
7. After **Interval**, select the schedule interval: 15, 30, or 60 minutes.
8. Click **Submit**.
   The forecast table is populated with historical data.

Modifying historical data

You must load historical data before you can modify it. After you perform a forecast and run "what-if" scenarios, the changes you make to the historical data (for example, Calls Offered and Average Talk time) affect the agents required.

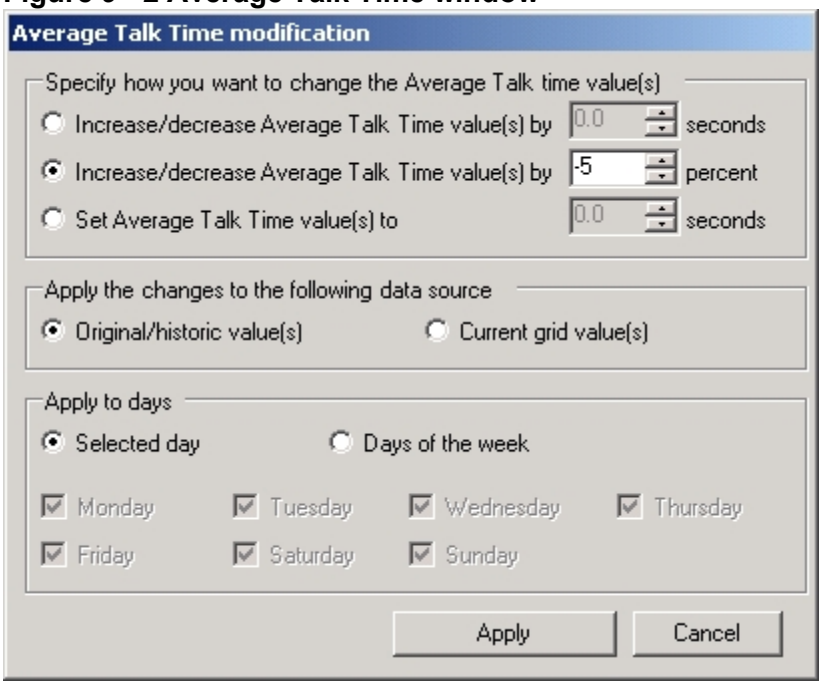
Modifying Average Talk time

You can modify the Average Talk time value for one day or several days simultaneously.

To modify the Average Talk time parameter on the forecast grid

1. Click **Modify...=>Average Talk time**.
   See Figure 9 - 2.
2. Under **Specify how you want to change the Average Talk Time value(s)**, specify how you want to modify Average Talk time:
   - Add seconds to or subtract seconds from the value
   - Increase or decrease by a percent of the value
   - Select a fixed value
3. Under **Apply the changes to the following data source**, specify if you want to modify the original value or the current grid value.
4. Under **Apply to days**, select the days for which you want to modify Average Talk time.
5. Click **Apply**.

Figure 9 - 2 Average Talk Time window



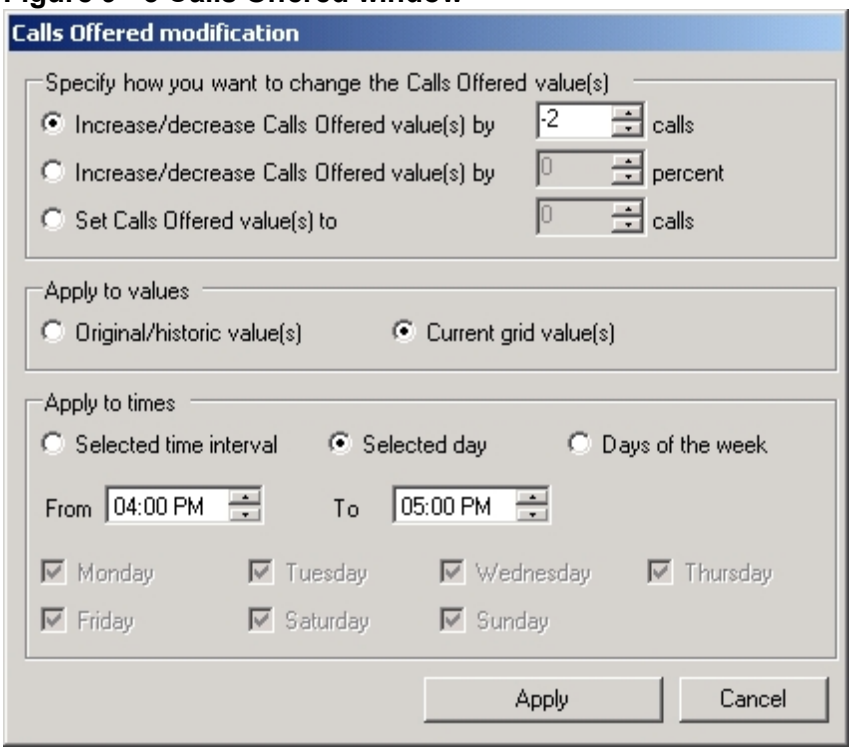
Modifying Calls Offered

You can modify the Calls Offered value for one or several time intervals simultaneously.

To modify the Calls Offered parameter on the forecast grid

1. Click **Modify...=>Calls Offered**.
   See Figure 9 - 3.
2. Under **Specify how you want to change the Calls Offered value(s)**, specify how you want to modify Calls Offered:
   - Add calls to or subtract calls from the values
   - Increase or decrease by a percent of the values
   - Select a fixed value
3. Under **Apply the changes to the following data source**, specify if you want to modify the original value or the current grid value.
4. Under **Apply to times**, select the days and time interval for which you want to modify Calls Offered.
5. Click **Apply**.

Figure 9 - 3 Calls Offered window



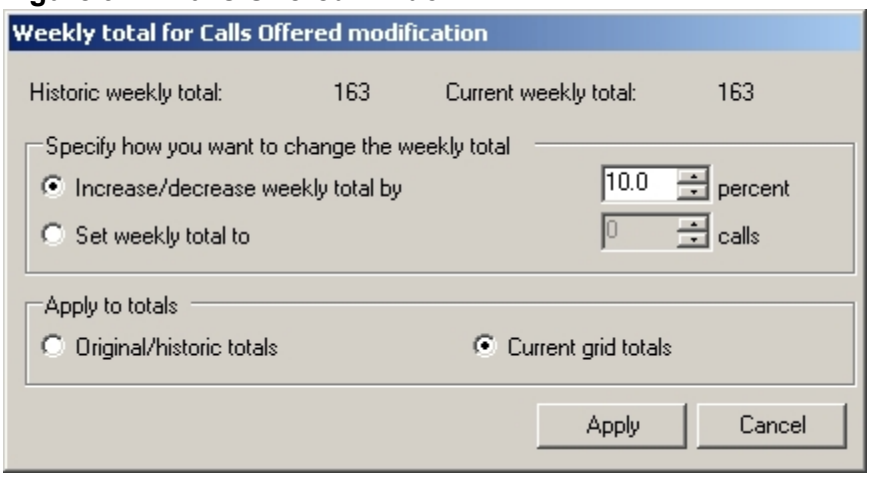
Modifying the weekly total for Calls Offered

You can modify the Calls Offered values for an entire week simultaneously. Modifying these values changes the number of Calls Offered while maintaining the same proportion of calls across all time intervals. For example, if you increase the weekly total by 10 percent, an interval with 10 calls will change to 11. However, an interval with zero calls will remain zero.

To modify the Calls Offered parameter on the forecast grid

1. In Contact Center Client, click **Tools=>Forecasting**.
2. Click **Modify...=>Weekly total**.
   See Figure 9 - 4.
3. Under **Specify how you want to change the weekly total**, specify how you want to modify Calls Offered over the week:
   - Increase or decrease by a percent of the values
   - Select a fixed value
4. Under **Apply to totals**, specify if you want to modify the original values or the current grid values.
5. Click **Apply**.

Figure 9 - 4 Calls Offered window



Performing forecasts

NOTE: You must load historical data before you can perform a forecast. See "Loading historical data" on page 294.

To run a forecast

1. Specify the Service Level %, Service Level Time, Wrap Up Time, and Agent Efficiency % you expect for the queue or queue group.
2. Click **Perform forecast**.
   You can perform what-if scenarios on the historical data using different Service Level objectives until you are satisfied with the forecast.

Printing forecasts

After you generate forecast data you can print it.

To print a forecast

1. Click **Export Forecast**.
   The Forecast data export window opens.
2. Click **Printer**.
3. Click **Export**.
   The print preview window opens.
4. Click the print direct icon, or click the print icon, specify your printer options, and click **OK**.

Saving forecasts as Excel files

After you generate forecast data you can export it to a Microsoft Excel spreadsheet.

To export a forecast as an Excel file

1. Click **Export Forecast**.
   The Forecast data export window opens.
2. Click **Microsoft Excel**.
3. Click **Export**.
   The forecast opens in a Microsoft Excel spreadsheet you can modify and save.

Chapter 10

Data-mining

ACD Inspector

SMDR Inspector

Auditor

Data Mining

The data-mining tools comprise

- **ACD Inspector**
  ACD Inspector searches for agent and ACD queue event records.
- **SMDR Inspector**
  SMDR Inspector searches through SMDR data to find specific contact center events.
- **Auditor**
  Using Auditor you can view the historical real-time events that occurred on a particular date, in the sequence they occurred, at your own pace.

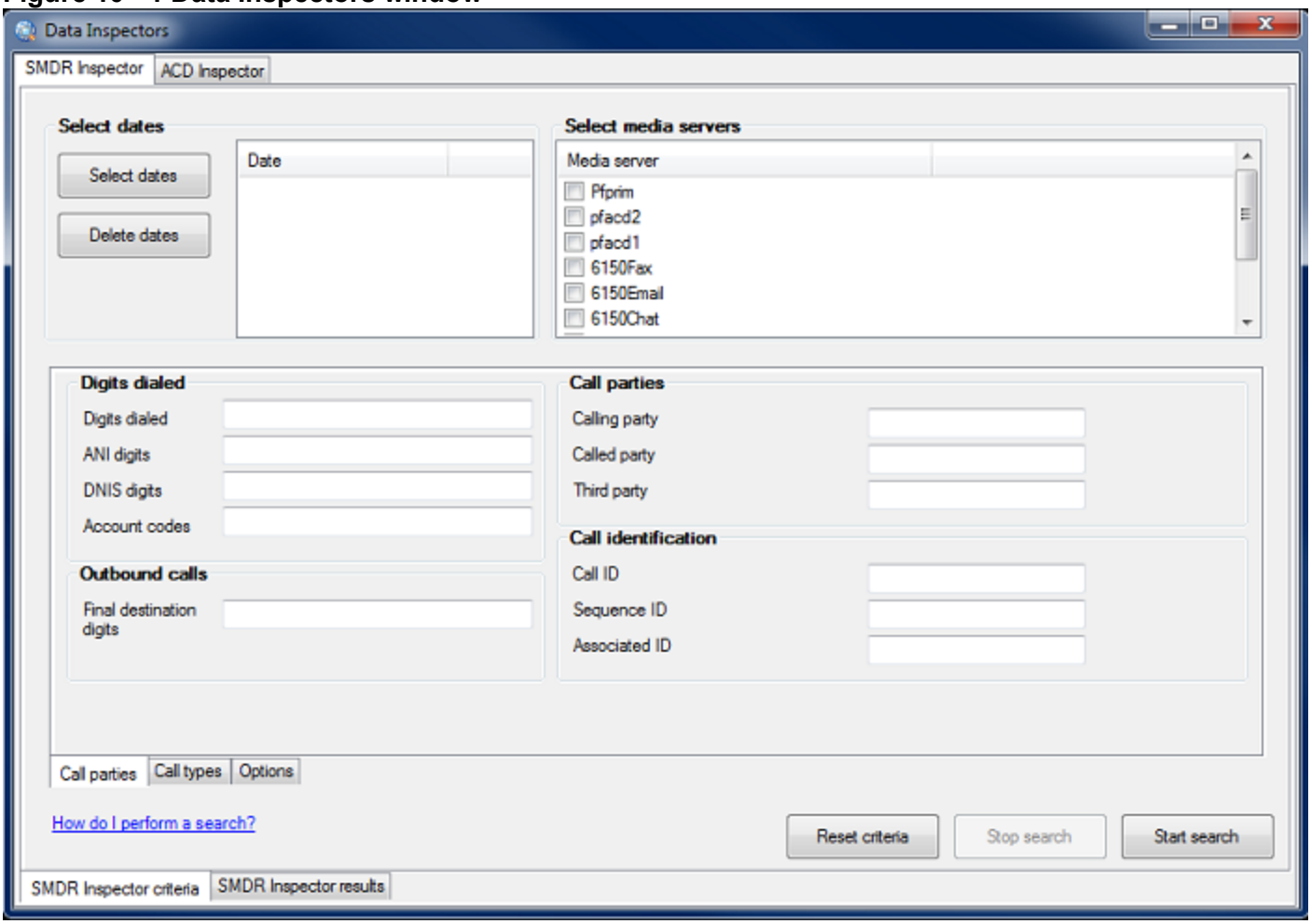
NOTE: For ACD Inspector and SMDR Inspector to function effectively when using Internet Explorer 9 as your browser, you must add Contact Center Management to the Internet Explorer Trusted Sites category and set the Internet security to medium. See the *Contact Center Management Installation Guide*.

You access ACD and SMDR Inspectors via the Contact Center Client ribbon. In order to access the ACD and SMDR Inspectors, your security role must have the "May manage ACD Inspector" and "May manage the SMDR Inspector" options enabled.

To access ACD and SMDR Inspectors

1. Click **Tools** in the Contact Center Client ribbon.
2. In the **Data Mining** column, click **Inspectors** to open the Data Inspectors tool.
   The Data Inspectors window opens.
   See Figure 10 - 1.

Figure 10 - 1 Data Inspectors window



ACD Inspector

ACD Inspector searches through telephone data obtained from the telephone system, for agent and ACD queue event records. For example, using ACD Inspector, you can find the exact time an agent logs off at lunch. You can run a search and examine the activities of individual agents or all of the agents in a particular agent group or customer service queue during that time interval. You can also search on specific agent states and other parameters, such as the number of calls waiting and the number of active agents. The search follows a wild card format. Your specifications do not have to be exact. You can make the search as inclusive or exclusive as you wish. The results are placed in an easy-to-interpret grid that can be printed or saved to file. You can verify that your reports are valid by conducting searches against raw telephone system data.

There are four types of search result tabs:

- Agent events
- Queue events
- Date events
- Exception events

Running searches in ACD Inspector

NOTE:When you run searches on queues in ACD Inspector, be sure to include a P preceding the queue number.

When you run a search, ACD Inspector searches through the raw telephone system data on the local hard drive. Each search requires the following information:

Select dates/Delete dates

The Select dates button specifies the date range within which you want to search. The Delete dates button deletes days within the range you selected. The date is displayed month first, then day, then year.

Select media servers

The Select media servers check boxes specify the origin of the data used in the search. Currently you can search on telephone activity only. In the future, you will be able to search on email, chat, and fax activity.

In addition to the date and media server parameters, the ACD Inspector has the following search criteria tabs:

- Agent events
- Queue events
- Option events

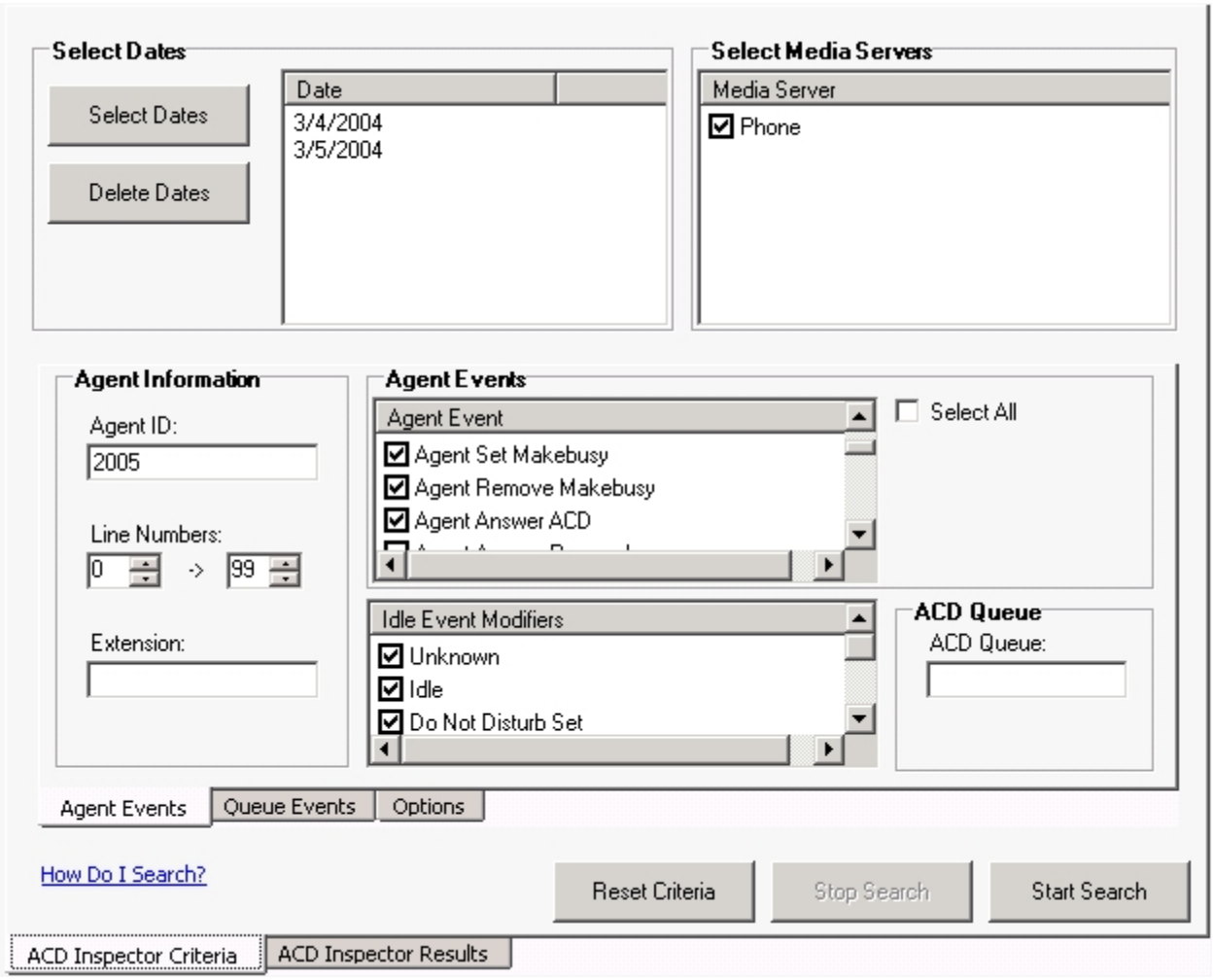
You can use the Reset criteria button to reset all of the search parameters to their default settings.

Agent events criteria for searches

NOTE: When conducting a search, if you accept the default settings—all check boxes—the search output will contain all of the event records. You can clear check boxes to narrow down your search. For example, if you clear all of the agent states except for the Agent login and Agent logout check boxes, the agent event search output will include log on and log off event records only.

When you click Tools=>Inspectors=>ACD Inspector, the Agent events tab opens. It displays the agent event criteria used in the search. (See Figure 10 - 2.)

Figure 10 - 2 ACD Inspector main window - Agent events tab



The Agent events tab has the following search criteria:

Agent information

The Agent information boxes specify the agent's ID and extension number, and line numbers for one or more telephone lines to which the agent connects. You can search for agent information records for a particular agent, or for all of the agents. The agent information specifies the Agent ID for the media server you have already selected. For example, if you selected the media server Phone, ensure you select the Agent Login ID for the media server Phone. It is specified in YourSite Explorer=>YourSite=>Agents.

Agent events

The Agent events criteria are listed and automatically selected.

Idle event modifiers

The idle event modifier check boxes provide additional agent event searches. You can select one or more check boxes to include records for agents who are in the following states: unknown, idle, DND, Make Busy, and both DND and Make Busy.

NOTE: When conducting a search, if you accept the default settings the search output will contain all of the event records. You can clear check boxes to narrow down your search.

ACD queue

The ACD queue specifies the queue to which your agent belongs. For example, if the agent belongs to Tech Support, then you specify the Tech support queue. The agent's queue is specified in YourSite Explorer=>YourSite=>Queues. When you enter an ACD queue number and an agent number (in the Agent ID box), the search results contain records for all of the calls the agent receives from the queue.

Table 10 - 1 describes the ACD information provided by the Agent events tab.

Table 10 - 1 ACD information provided by Agent event tab

Agent events	Description
Agent Login	This record is produced whenever an agent successfully logs on.
Agent Logout	This record is produced whenever an agent successfully logs off. If agent A is currently logged on extension X and agent B logs on to extension X, a log off record is automatically produced for A. This is followed by the log on record for B. Make Busy is automatically enabled on the extension when the agent logs out. No remove Make Busy record is produced. The extension number is the prime line of the ACD set which an agent is logged on.
Agent Set Do Not Disturb	A record is not produced when a hunt group is placed in DND. The records do not differentiate between setting DND locally and remotely. The extension number reported is always the prime line of the ACD extension. A set DND record will be produced for the following conditions: • Setting DND locally by using the DND access code • Setting DND remotely by using the remote DND access code • Setting DND remotely by using the attendant console features key • Setting DND locally on a SUPERSET 4 telephone by pressing the select features hardkey and dialing the digit 2 or setting it on a SUPERSET 4DN or SUPERSET 430 telephone by pressing the Do Not Disturb Feature Key
Agent Remove Do Not Disturb	The extension number is always the prime line of the ACD extension. A clear DND record will be produced for the following conditions: • Clearing DND locally by using an access code • Clearing DND remotely by using the Cancel Remote DND access code • Clearing DND remotely by using the attendant console feature key • Clearing DND by using the Cancel All Features access code • Clearing DND by using the Cancel All DND feature on the attendant console • Agent logging in on an extension in DND
Agent Set Make Busy	This record is produced whenever an extension is placed in the Make Busy state. A record is not produced when an agent logs out because Set Make Busy is implied when an agent log out record is received. The extension number is always the prime line of the ACD extension.
Agent Remove Make Busy	This is similar to Set Make Busy. No record is produced when the agent logs on. The remove Make Busy is implied by the log in record. The extension number is always the prime line of the ACD extension.
Agent Answer ACD	This record is produced whenever an agent answers a call that was directed to the ACD hunt group. The event record contains the Agent ID and extension number (hunt group pilot number to which the call was placed). The ACD extension that answered the call can be determined by using the last agent log in event for that extension. If the ACD set does not have a logged in agent, the Agent ID area is blank and the extension number is that extension's prime line.
Agent Answer Personal	A record of all of the non-ACD hunt group calls are included in this category. The extension number is always the prime line of the ACD extension that answered.

Agent events	Description
Agent Make Outbound	This record is produced whenever an agent originates a call and enters a conversation. A record is not produced under the following conditions: entering a feature access code, dialing an invalid number, or hanging up before the called party answers. An agent extension number is always the prime line of the ACD set that originated the call.
Agent Idle	If work timer is in effect, the Agent Idle record is produced when the work timer expires or when it is cancelled. If the agent enters Make Busy while work timer is in effect, an Agent Idle record is produced followed immediately by a set Make Busy record. A record is not produced to show the end of the call or the start of the work timer. This entire period is treated as part of the time to process the call. If work timer is not in effect, the Agent Idle record is produced at the end of a call, not when the agent hangs up. For example, if the agent presses the HANG-UP softkey and remains off hook for 5 seconds, the record is produced when the HANG-UP is pressed, not when the agent actually goes on hook. The extension number is always the prime line of the ACD set that is now idle.
Agent Work timer Stat	This record is produced when an agent terminates an ACD call and the work timer is started for that agent. If the work timer cannot be started, an idle event record is produced instead.
Agent Remove Work timer	This record is produced when the work timer expires for that agent.
Agent Hold Active	When an agent places a call on hold, a record is produced. If the agent places another call or answers a call on a second line, the second call will be recorded independently of the first.
Agent Hold Retrieve	When the held call is retrieved, a record is produced, indicating that the agent is now busy on that line.
Agent Hold Abandon	When the held call is abandoned, a record is produced for that line.
Agent Answer Remote ACD	When an agent answers a remote ACD call, a record is produced. When you have networked ACD (more than one telephone system networked together), local calls are calls routed through the same telephone system that the agent's extension is located, remote calls are calls routed through the other telephone system.
Agent Ringing ACD	This record is produced when the telephone rings with an ACD call.
Interactive Contact Center Queue Set DND Request	This record is produced when the agent set the queue in DND.

Agent events	Description
Interactive Contact Center Queue Set DND	A record is produced when the supervisor puts a queue in DND and when the Contact Center Management system puts a queue in DND. In YourSite=>Configuration=>Queue, on the Business Hours tab, you set the hours of operation for the business. The Contact Center Management system reads these hours of operation and will put this queue in DND during off hours.
Interactive Contact Center Queue Remove DND Request	This record is produced when the agent removed the queue from DND.
Interactive Contact Center Queue Remove DND	A record is produced when the supervisor removes the queue from DND and when the Contact Center Management system removes the queue from DND. In YourSite=>Configuration=>Queue, on the Business Hours tab, you set the hours of operation for the business. The Contact Center Management system reads these hours of operation and will remove this queue from DND during business hours.
Interactive Contact Center Agent Login Request	This record is produced when the agent logged on.
Interactive Contact Center Agent Login	This record is produced when the supervisor logged on the agent.
Interactive Contact Center Agent Logout Request	This record is produced when the agent logged off.
Interactive Contact Center Agent Logout	This record is produced when the supervisor logged off the agent.
Interactive Contact Center Set MKB with Reason Code Request	This record is produced when the agent sets himself as Make Busy.
Interactive Contact Center Set MKB with Reason Code	This record is produced when the supervisor sets the agent in Make Busy.
Interactive Contact Center Remove MKB Request	This record is produced when the agent sets himself in Make Busy.
Interactive Contact Center Remove MKB	This record is produced when the supervisor removed the agent from Make Busy.

Agent events	Description
Interactive Contact Center Set DND Request	This record is produced when the agent sets himself as DND.
Interactive Contact Center Remove DND	This record is produced when the supervisor removed the agent from DND.
Interactive Contact Center Sync Queue	This record is produced when Interactive Contact Center queues are synchronized to match the telephone system queues. In YourSite=>Configuration=>Queue, under Interactive Contact Center options, you can select this queue to be synchronized with the telephone system data each night. That means that the information in Contact Center Management will be changed to reflect what is programed on the telephone system.
Interactive Contact Center Sync Agent Group	This record is produced when Interactive Contact Center agent groups are synchronized to match the telephone system queues.
Interactive Contact Center Sync Agent	This record is produced when Interactive Contact Center agents are synchronized to match the telephone system queues.
Interactive Contact Center Sync Started	This record is produced when the synchronization between the Contact Center Management database and the telephone system is started.
Interactive Contact Center Sync Finished	This record is produced when the synchronization between the Contact Center Management database and the telephone system is finished.

Queue events criteria for searches

When performing a queue events search, you can search on the following criteria:

- Agent group statistics
- Queue statistics
- Date

The Queue events tab has the following search criteria:

Queue information

The Queue information box specifies the ACD queue or agent group used in the search. When you type an ACD queue or agent group number, the search results contain records specific to that ACD queue or agent group.

Queue event

When you select all three queue event check boxes (Agent Group statistics, Queue statistics, Date), the search results contain records for all of the agent groups and queues, and all of the telephone system refresh cycles. The telephone system performs a re-synchronization and generates a refresh record every time it notices the date or hour has changed (once an hour).

Agent information

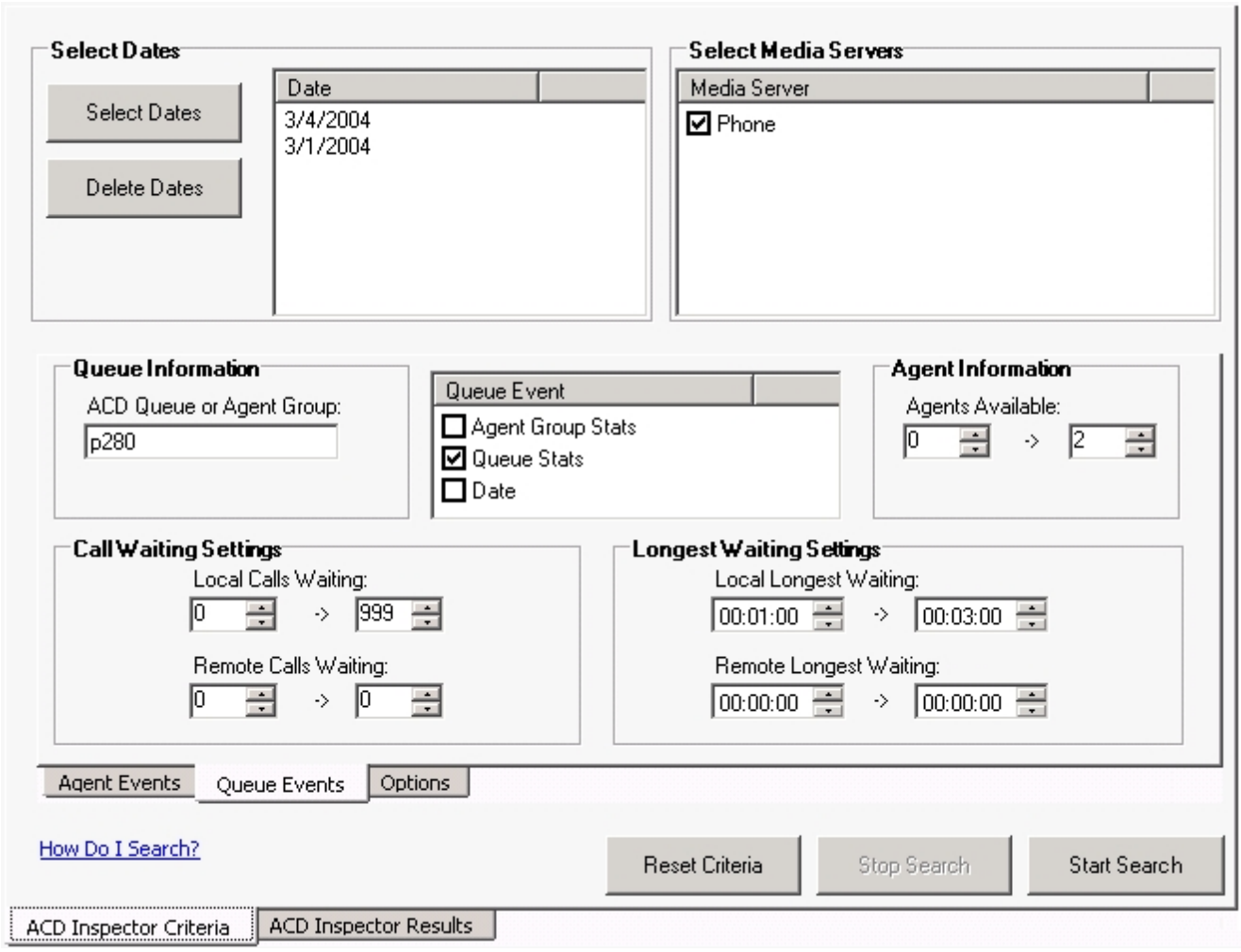
The Agent information boxes specify the range of values for the Agents Available statistic used in the search. For example, if you select a range of 5 to 10, the search results contain records for all of the calls during periods when 5 to 10 agents were logged on to the ACD, but not in Make Busy or Do Not Disturb.

Calls waiting/Longest waiting settings

The Calls waiting settings and Longest waiting settings boxes specify ranges of values for the Calls waiting and Longest waiting statistics. For example, selecting a range from 10 to 999 in the Calls waiting box produces all of the records for calls received during periods when more than 10 callers waited in queue.

The Queue events tab displays the queue event criteria used in the search. (See Figure 10 - 3.)

Figure 10 - 3 ACD search criteria - Queue events tab



Option events criteria for searches

The Option events tab displays the telephone system refresh records, error, and information criteria used in the search. (See Figure 10 - 4.)

The Option events tab has the following search criteria:

Time ranges

The Time ranges boxes specify the time interval used for the search. The time interval applies to searches on agent and queue events.

Exception records

Collector Service tags telephone system records that contain errors with an E (telephone system 1) or e (telephone system 2). Under Exception records, you select the Error records check box to include these records in the search output.

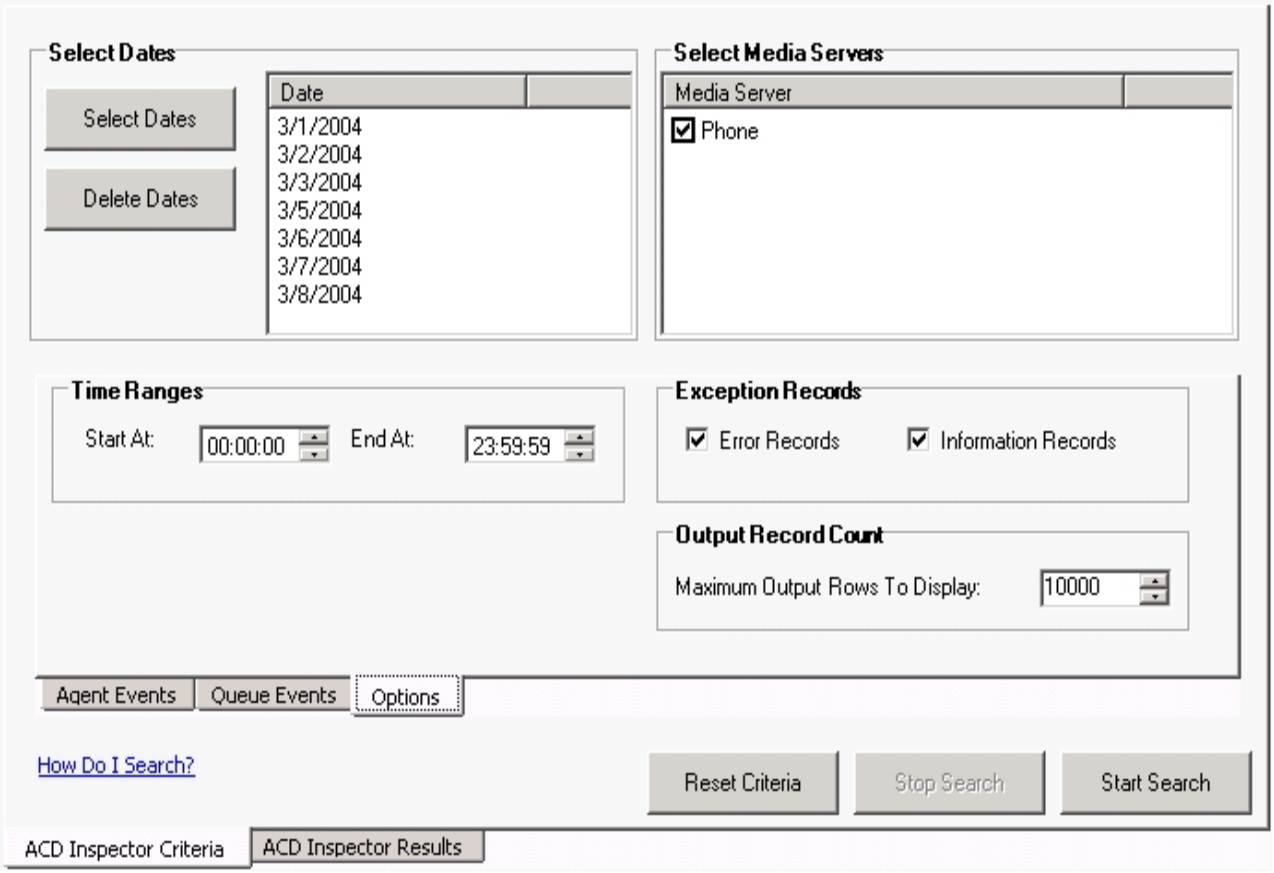
Collector Service writes a log record to the data stream upon start up. It tags the log record with an I to indicate it is an information record. You select the Information records check box to include log records in the search output. ACD Inspector displays the error and information search result records on the Exception records tab.

In contact centers that have two telephone systems, Collector Service tags records from the second telephone system with an S. You specify the Com ports used by your telephone systems on the Data collection tab of YourSite Configuration.

Output record count

The Output record count specifies the maximum number of rows of records to display.

Figure 10 - 4 ACD search criteria - Option events tab



Running agent events searches

NOTE: When you run a search on Agent Answer ACD, type the Agent ID but do not type the agent's extension. Once answered, an ACD call is not pegged as an extension but is pegged as ACD. You will get no data if you type the agent's extension.

You can run an Agent events search to find all of the records of when agent 2005 was on ACD and used Set Make Busy.

To run an Agent events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
   The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click **Select dates** and select March 3, 2003 to March 5, 2003.
3. Under **Select media servers**, **Phone** is preselected.
   NOTE:
   When you run a search on Agent answer ACD, type the Agent ID but do not type the agent's extension. Once answered, an ACD call is not pegged as an extension but is pegged as ACD. You will get no data if you type the agent's extension.
   You can find the Agent ID by selecting YourSite=>Configuration=>Agent login=>Agent login. The Agent ID is located under the Agent login ID heading. Ensure you select the Agent ID associated with the Phone media server.
4. Under **Agent information**, type the Agent ID, 2005.

5. Under **Agent events**, if you are not selecting all events, clear **Select all.**
6. Select the **Agent event(s)** you want to search on, in this case, **Agent answer ACD**, **Set Make Busy**, and **Remove Make Busy**.
7. You can leave the **ACD queue** blank.
8. Click **Start search**.
   The ACD Inspector results - Agent events tab opens.

Agent events search results

This section describes the records produced when you run searches in ACD Inspector. Table 10 - 2 describes the ACD information provided by the Agent events tab. The Agent events tab displays the ACD activity and the Make Busy activity for agent 2005. (See Figure 10 - 5.)

Figure 10 - 5 ACD search results - Agent events tab

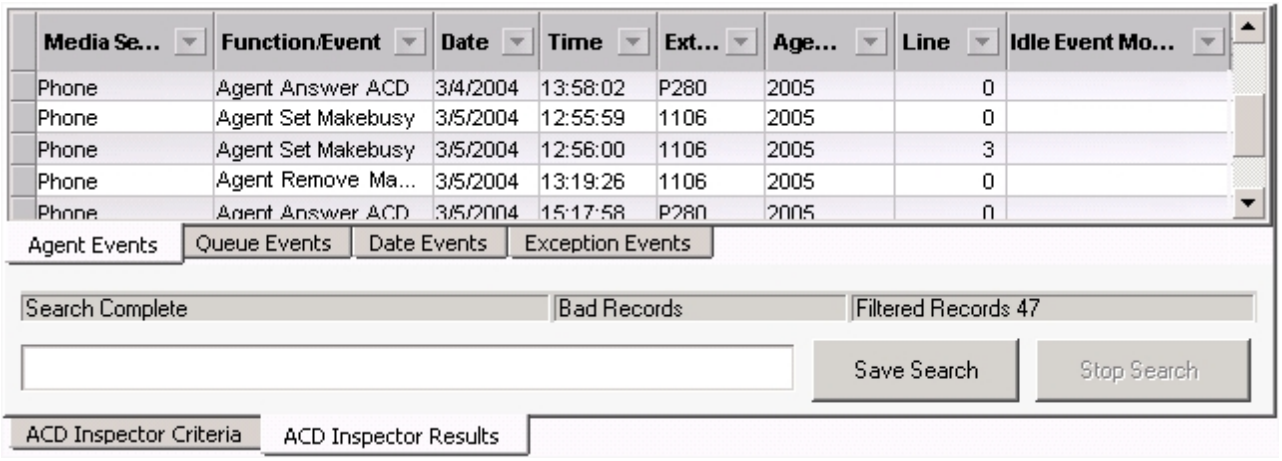


Table 10 - 2 Agent events result information

Column heading	Description
Media server	The Media server box identifies the telephone system (with or without MiTAI) that produced the event record.
Function/Event	The Function/Event box displays the criteria for which you searched - in this case Agent answer ACD, Agent set Make Busy, Agent remove Make Busy.
Date	The Date box displays the date of the event record (month/day/year).
Time	The Time box displays the time the event occurred.
Extension Queue ID	The Extension Queue ID displays the Extension or ACD queue used for the call. The Extension Agent ID column contains the extensions when a search involves the extension (such as Make Busy). It contains Queue IDs when no extension information is requested (such as Agent Answer ACD).
Agent ID	The Agent ID box displays the agent number for the agent involved in the call.
Line	The Line number box displays the telephone line the agent used to pick up or originate the call.
Idle Event Modifier	The Idle Event Modifier box indicates when the agent is idle.

Narrowing an Agent events search

You can use the Options tab in conjunction with the Agent events search or the Queue events search. Using the Options tab, you narrow down the time frame for either search.

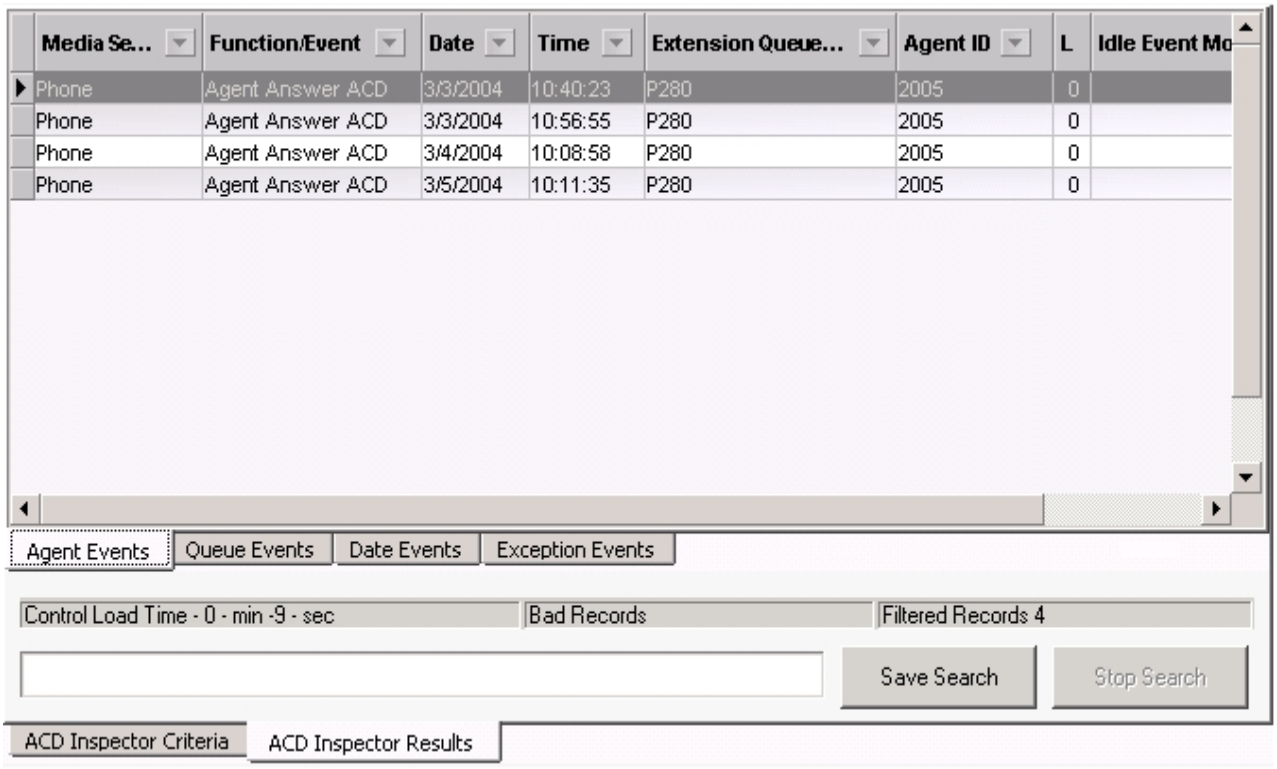
You can run an Agent events search to find all of the records for a specific agent who was on ACD and when that agent used Set Make Busy. Then you narrow the search with the Options tab to search between 9:00 A.M. and 11:00 A.M. only. The ACD Inspector results on the Agent events tab display the ACD activity and the Make Busy activity for agent 2005 between 9:00 A.M. and 11:00 A.M. (See Figure 10 - 6.)

To run an Agent events/Options events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector.**
   The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click **Select dates** and select March 3, 2007 to March 5, 2007.
3. Under **Select media servers**, **Phone** is preselected.
   NOTE:
   When you run a search on Agent answer ACD, type the Agent ID but do not type the agent's extension. Once answered, an ACD call is not pegged as an extension but is pegged as ACD. You will get no data if you type the agent's extension.
   You can find the Agent ID by selecting YourSite=>Configuration=>Agent login=>Agent login. The Agent ID is located under the Agent login ID heading. Ensure you select the Agent ID associated with the Phone media server.

4. Under **Agent information**, type the Agent ID, 2005.
5. Under **Agent events**, if you will are not selecting all events, clear **Select all.**
6. Select the **Agent event(s)** you want to search on, in this case, **Agent answer ACD, Set Make Busy,** and **Remove Make Busy.**
   You can leave the ACD queue blank.
7. Click the **Option** tab.
8. Under **Time ranges**, select the **Start at** and **End at** times with which to narrow the Agent events search.
   In this example, the start time is 9:00 A.M. and the end time is 11:00 A.M.
9. Click **Start search**.
   The ACD Inspector results - Agent events tab opens.

Figure 10 - 6 ACD search results - Agent events tab



Running queue events searches

You can run a Queue events search to determine when you had too few agents available to answer calls for a particular queue. You search for a maximum of two agents and local calls that waited between one and three minutes.

To run a Queue events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
   The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click the **Queue events** tab.
3. Click **Select dates** and select March 1, 2003 and March 4, 2003.
4. Under **Select media servers, Phone** is preselected.
5. Under **Queue information**, type the ACD Queue, p280.
6. Under **Queue event**, select **Queue stats.**

7. Under **Agent information**, type 0-2 agents.
   In this example, you want to know when you have only two agents scheduled to answer the queue.
8. Under **Calls waiting setting**, select 0-999 Local calls waiting.
   In this example, you want to know the number of calls waiting on the telephone system to which your agent is connected. If you have only one telephone system, you do not have any remote calls waiting.
9. Under **Longest waiting settings**, select 1-3 minutes.
   In this example, you want to know the number of local calls that waited between 1-3 minutes. You think waiting up to a minute is acceptable, so you did not search for calls less than a minute. If you have only one telephone system, you do not search for the remote longest waiting.
10. Click **Start search**.
    The ACD Inspector results - Agent events tab opens.
11. Click the **Queue events** tab.

Queue events search results

The Queue events tab displays the number of calls that waited between one and three minutes (one call), when there were a maximum of two agents available, for the dates selected, for queue 280. (See Figure 10 - 7.)

Figure 10 - 7 ACD search results - Queue events tab

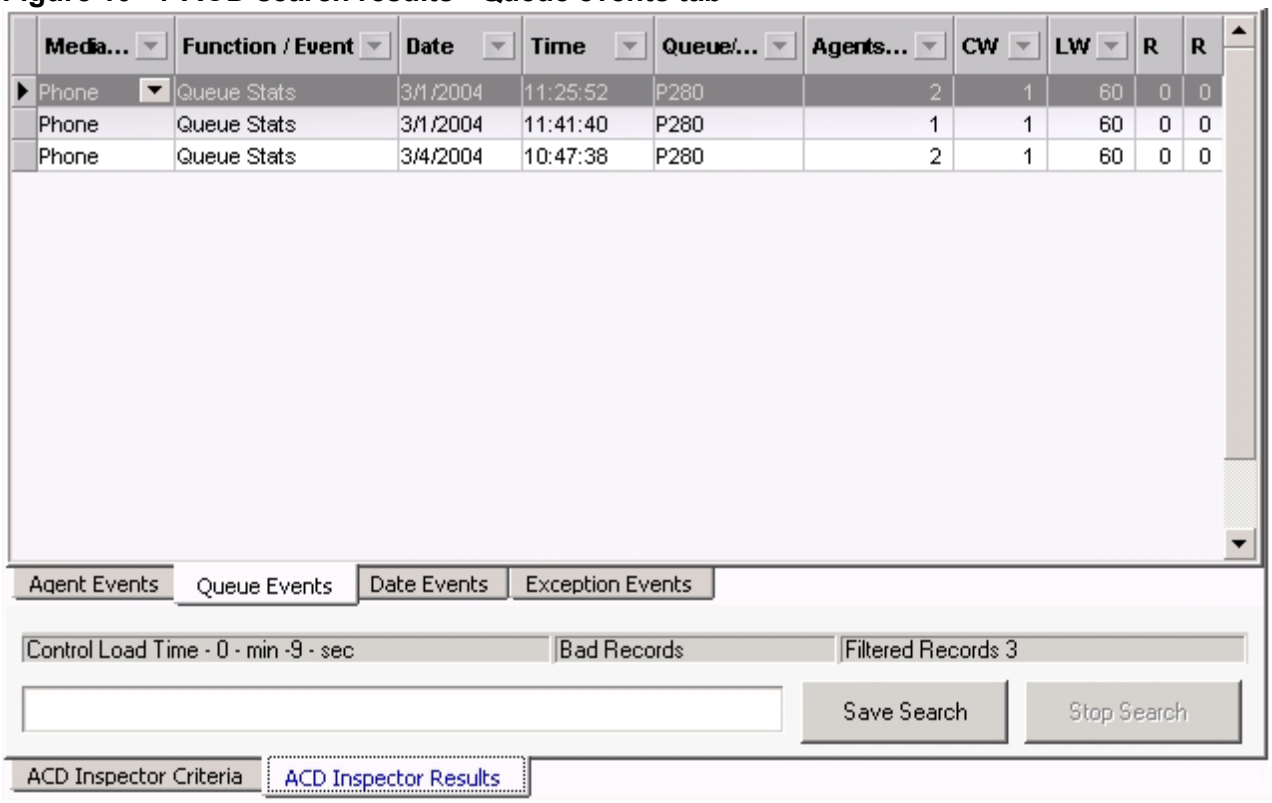


Table 10 - 3 describes the ACD information provided by the Queue events tab.

Table 10 - 3 Queue events result information

Column heading	Description
Media server	The Media server box identifies the telephone system (with or without MiTAI) application that produced the event record.
Function/Event	The Function/Event box indicates whether the event record is for a queue or an agent group.
Date	The Date box displays the date of the event record (month/day/year).
Time	The Time box displays the time the event occurred (in seconds).
Queue/Agent group	The Queue/Agent group box displays the queue or agent group number.
Agents available	The Agents available box displays the current number of agents logged on to the ACD system, who are not in Make Busy or Do Not Disturb.
CW (Number of local calls waiting)	The CW box displays the number of local callers waiting for an available agent.
LW (Longest local call waiting)	The LW box displays the wait time for the caller waiting the longest in queue for an available agent.
Rem CW (Number of remote calls waiting)	When you have networked ACD (more than one telephone system networked together), the Rem CW box displays the number of remote callers waiting for an available agent.
Rem LW (Longest remote call waiting)	When you have networked ACD (more than one telephone system networked together), the Rem LW box displays the wait time for the caller waiting the longest in a remote queue for an available agent.

Narrowing a Queue events search

You use the Options tab in conjunction with the Agent events search or the Queue events search. Using the Options tab, you can narrow down the time frame for either search.

You can run a Queue events search to find when you have too few agents available to answer calls for a particular queue. You search for a maximum of two agents and local calls that waited between one and three minutes.Then you narrow the search with the Options tab to search between 9:00 A.M. and 11:00 A.M. only.

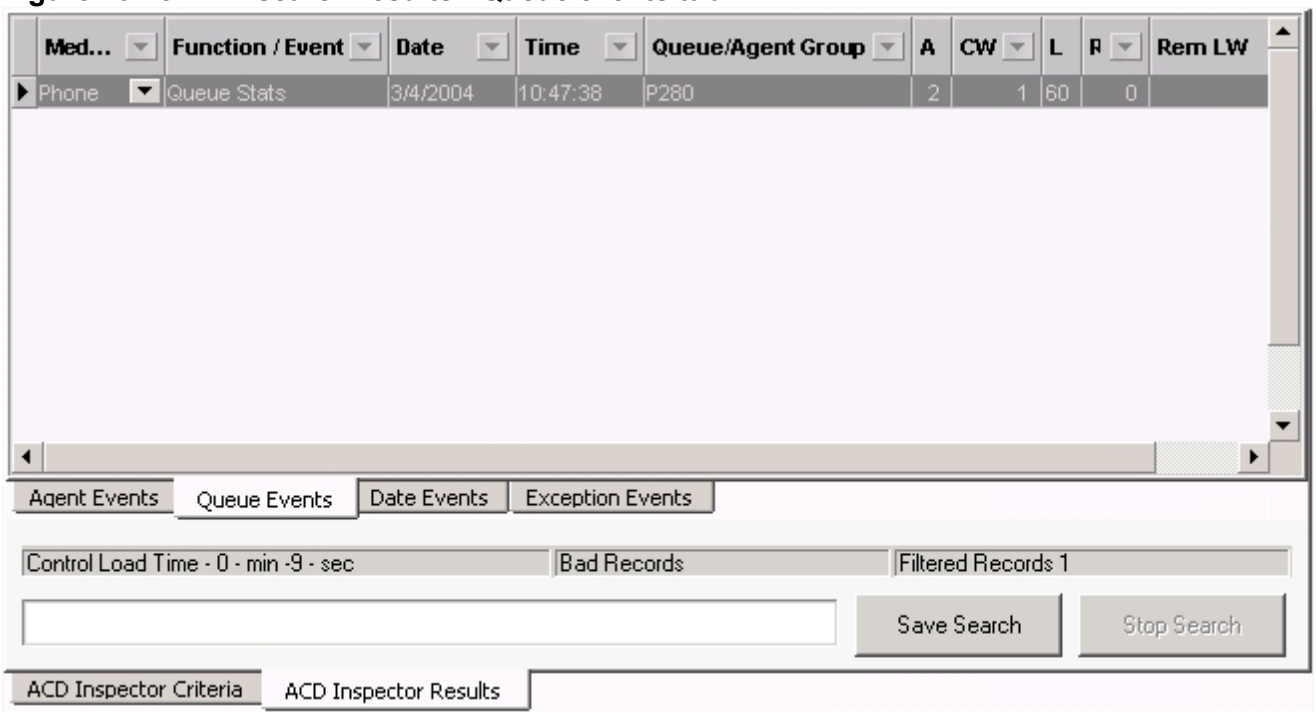
To run a Queue events/Options events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
   The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click the **Queue events** tab.
3. Click **Select dates** and select March 1, 2003 to March 4, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Queue information**, type the ACD Queue, p280.

6. Under **Queue event**, select **Queue stats**.
7. Under **Agent information**, type 0-2 agents.
   In this example, you want to know when you have only two agents scheduled to answer the queue.
8. Under **Calls waiting setting**, select 0-999 Local calls waiting.
   In this example, you want to know the number of calls waiting on the telephone system to which your agent is connected. If you have only one telephone system, you do not have any remote calls waiting.
9. Under **Longest waiting settings**, select 1-3 minutes.
   In this example, you want to know the number of local calls that waited between 1-3 minutes. You think waiting up to a minute is acceptable, so you did not search for calls less than a minute. If you have only one telephone system, you do not search for the remote longest waiting.
10. Click the **Option** tab.
11. Under **Time ranges**, select the **Start at** and **End at** times with which to narrow the Agent events search.
    In this example, the start time is 9:00 A.M. and the end time is 11:00 A.M.
12. Click **Start search**.
    The ACD Inspector results - Agent events tab opens.
13. Click the **Queue events** tab.

The Queue events tab displays the number of calls that waited between one and three minutes, when there were a maximum of two agents available, for the dates selected, between 9:00 A.M. and 11:00 A.M. for queue 280. There was only one call that waited between one and three minutes in the selected time frame and queue. (See Figure 10 - 8.)

Figure 10 - 8 ACD search results - Queue events tab



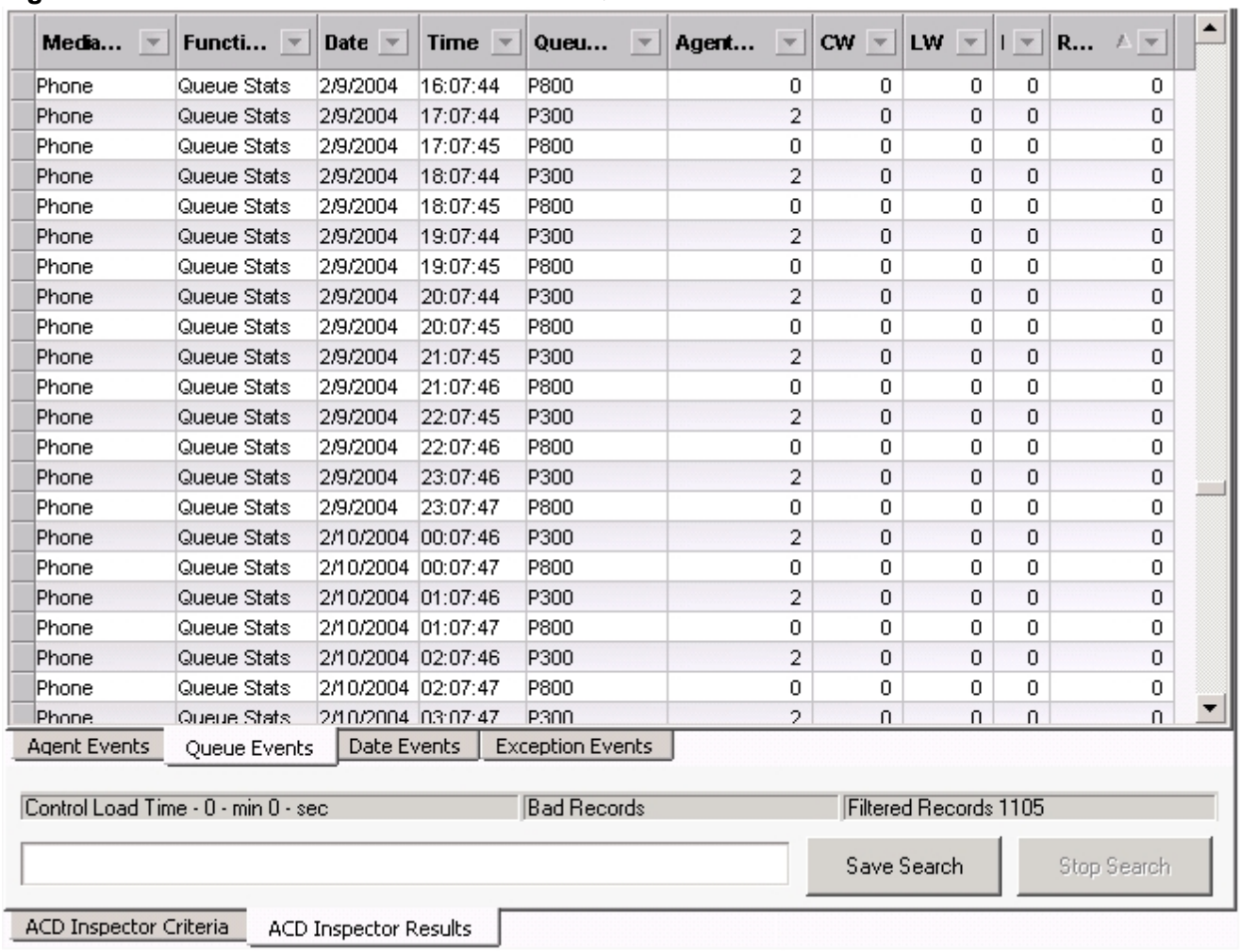
Running wild card queue events searches

When performing searches on the Queue Events tab, you can enter a *P800* under Queue information and the search will produce records involving Queue 800 only. Alternatively, you can run wild card searches. When you perform wild card searches, you use * to represent the wild card. For example, if you enter "*00" under Queue information on the Queue events tab, the search will produce records for all of the Queues or Agent groups that end in "00" (for example, 200, 300).

To run a wild card Queue events search, where all of the queues end in "00".

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
   The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click the **Queue events** tab.
3. Click **Select dates** and select February 9, 2003 and February 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Queue information**, type ***00**.
   In this example, you are searching for all of the queues that end in "00".
6. Under **Queue event**, select **Queue stats**.
7. Under **Agent information**, type 0-2 agents.
   In this example, you want to know when you have only two agents scheduled to answer the queue.
8. Under **Calls waiting setting**, select 0-999 Local calls waiting.
   In this example, you want to know the number of calls waiting on the telephone system to which your agent is connected. If you have only one telephone system, you do not have any remote calls waiting.
9. Under **Longest waiting settings**, select 1-3 minutes.
   In this example, you want to know the number of local calls that waited between 1-3 minutes. You think waiting up to a minute is acceptable, so you did not search for calls less than a minute. If you have only one telephone system, you do not search for the remote longest waiting.
10. Click **Start search**.
    The ACD Inspector results - Agent events tab opens.
11. Click the **Queue events** tab.
    See Figure 10 - 9.

Figure 10 - 9 ACD Wild card search results - Queue events tab



Media...	Functi...	Date	Time	Queu...	Agent...	CW	LW	I	R...
Phone	Queue Stats	2/9/2004	16:07:44	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2004	17:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2004	17:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2004	18:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2004	18:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2004	19:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2004	19:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2004	20:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2004	20:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2004	21:07:45	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2004	21:07:46	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2004	22:07:45	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2004	22:07:46	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2004	23:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2004	23:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2004	00:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/10/2004	00:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2004	01:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/10/2004	01:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2004	02:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/10/2004	02:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2004	03:07:47	P300	2	0	0	0	0

Wild card queue events search results

The Queue events tab displays the Queue statistics when there were a maximum of two agents available, for the dates selected, for all of the queues that end in “00”. The Queue statistic in this case are the records of the telephone system performing re-synchronization. A refresh record is produced every time the system notices the date or hour has changed (once an hour).

Running searches for error and information records

Using the Options tab, you can run a search for error and information records. The error messages are records of sequence errors. The information records are records of when the Collector restarts.

To run an exception events search

1. Click the **ACD Inspector criteria** tab.
2. Click the **Options** tab.
3. Click **Select dates** and select a date.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Time ranges**, type the Start at and End at times.

6. Under **Exception records** ensure the **Error records** and/or **Information records** check boxes are selected.
7. Under **Output record count**, select the maximum number of records you want to display.
8. Click **Start search**.
   The ACD Inspector results - Agent events tab opens.
9. Click the **Exception events** tab.

Exception events search results

Table 10 - 4 describes the ACD information provided by the Exception events tab.

Table 10 - 4 Exception event result information

Column Heading	Description
Media server	The Media server box identifies the telephone system (with or without MiTAI) application that produced the event record.
Record	The Function/Event box displays refresh records. The refresh event signifies the start of a new cycle of group and queue statistics.

SMDR Inspector

SMDR Inspector searches through SMDR data to find specific contact center events. For example, suppose you receive a complaint from a caller who waited 16 minutes in queue for a customer service agent, sometime between 1:00 P.M. and 1:30 P.M. sometime last week. In a single session, you can search through data from multiple days to find a specific event. The search follows a wild card format. Your specifications do not have to be exact. You can make the search as inclusive or exclusive as you wish. The results are placed in an easy-to-interpret grid that can be printed or saved to file. You can verify that your reports are valid by conducting searches against raw telephone system data.

Common SMDR Inspector searches include searches for all of the records on

- Queue P001
- Calls the telephone system sent to agent group 23
- The queue for which agent 8000 answered calls
- Outbound calls made by agent 2311 (internal and external)
- Where Account Codes were entered
- DNIS that start with 89
- Calls transferred to trunks

The search result tabs consist of the following:

- SMDR search results
- Exception results

Starting SMDR Inspector

To start SMDR Inspector on the client computer

1. Click **Tools** in the Contact Center Client ribbon.
2. In the **Data Mining** column, click **Inspectors** to open the Data Inspectors tool.

Running searches in SMDR Inspector

When you run a search, SMDR Inspector searches through the raw telephone system data on the local hard drive. Each search requires the following information:

Select dates/Delete dates

The Select dates button specifies the date range within which you want to search. The Delete dates button deletes days within the range you selected. The date is displayed month first, then day, then year.

Select media servers

The Select media servers check boxes specify the origin of the data used in the search. Currently you can search on telephone activity only. In the future, you will be able to search on email, chat, and fax activity.

In addition to the date and media server parameters, SMDR Inspector has the following search criteria tabs:

- Call parties
- Call types
- Options

Call parties criteria for searches

The Call parties criteria helps you to find call events such as, what calls an agent received (Called party), what calls an agent made (Calling party), or what extension the call was transferred to (Third party). (See Figure 10 - 10.)

The Call parties tab search options are as follows.

Digits dialed

The Digits dialed box specifies the queue number of the queue that picks up the call (for inbound calls).

The ANI digits box specifies the area code and telephone number for an inbound call. The search results contain records that match the data the user typed in the ANI field.

The DNIS digits box specifies the phone number the caller dialed. The DNIS could be product specific, or it could specify demographic variables or marketing targets.

The Account Code box specifies the Account Code number used in the search. Agents enter Account Code numbers to tag inbound and outbound calls.

Outbound calls

The Outbound calls box specifies telephone number the agent dials (for outbound calls).

Call parties

The Calling party box specifies the extension or agent number (for an outbound call), or the trunk number (for an inbound call) used in the search.

The Called party box specifies the answering extension or the trunk number (for an outbound call) used in the search.

The Third party box searches for call records on the extension number used in a transfer.

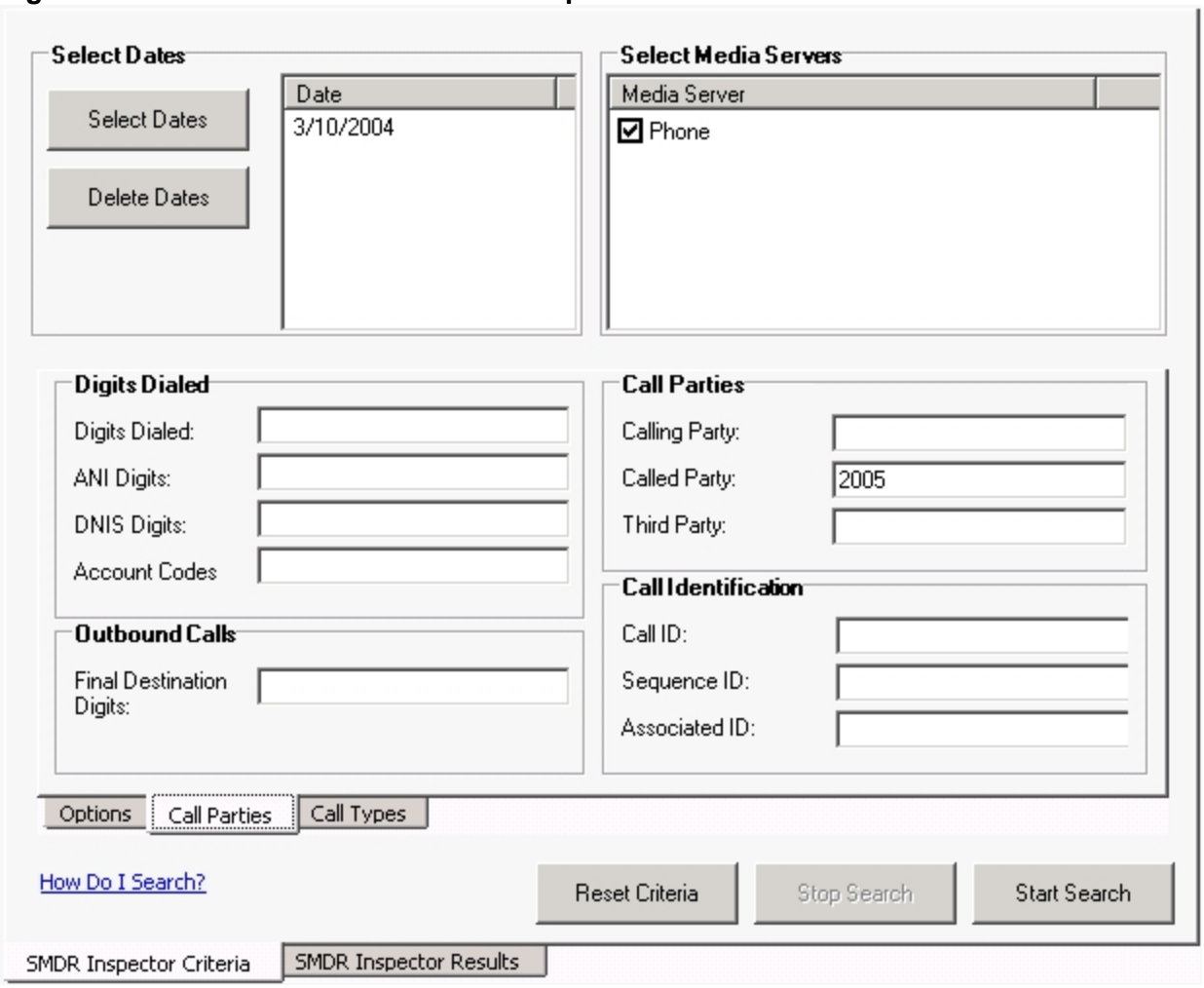
Call identification

The Call identification box specifies the Mitel call IDs assigned to a call segment.

The Sequence ID box specifies the sequence number assigned to the call record by the telephone system.

The Associated ID box specifies the number attached to associated data records of the call assigned by the telephone system.

Figure 10 - 10 SMDR search criteria - Call parties tab



Call types criteria for searches

The Call types tab displays the types of calls the agent receives, for example, ACD or non-ACD, abandoned, interflowed, requeued, unavailable, or outbound calls. (See Figure 10 - 11.)

The Call types tab search options are as follows.

Call types

The *Call types* check boxes specify one or more categories of calls used in the search. The telephone system generates an Unavailable (Queue unavailable calls) event record when a caller dials a queue and the queue is not available (in DND) or there are no agents logged on to handle the call.

Answer supervision

The *Answer supervision* check box searches for instances where calls were answered by the called party. If you have answer supervision and you make an outbound call but the called party does not answer (you hang up) then an SMDR record is generated with no duration. If you do not have answer supervision then no SMDR record is generated at all.

Busy call

The *Busy call* check box searches for call records on queues or extensions the caller dials but finds busy.

Error by caller

The *Error by caller* check box searches for call records on numbers the caller dials that are not recognized by the telephone system.

TAFAS answered

The *TAFAS Answered* check box searches for call records that involve calls manually picked up by agents at alternate extensions. In a TAFAS answered call, an employee hears another employee's phone ring and dials a number to pick up the call.

Internal call

The *Internal call* check box searches for call records on calls between employees that do not involve trunks.

Blank

The *Blank* check box searches for call records that have no data in the Call completion box. That is, when the check box is selected, the search output contains records where there is nothing recorded in the Call completion box.

Attendant involved

The *Attendant involved* options specify whether or not call records for calls involving an automated attendant are used in the search.

Transfer/Conference

The *Transfer/Conference* check box searches for records on transferred or conferenced calls.

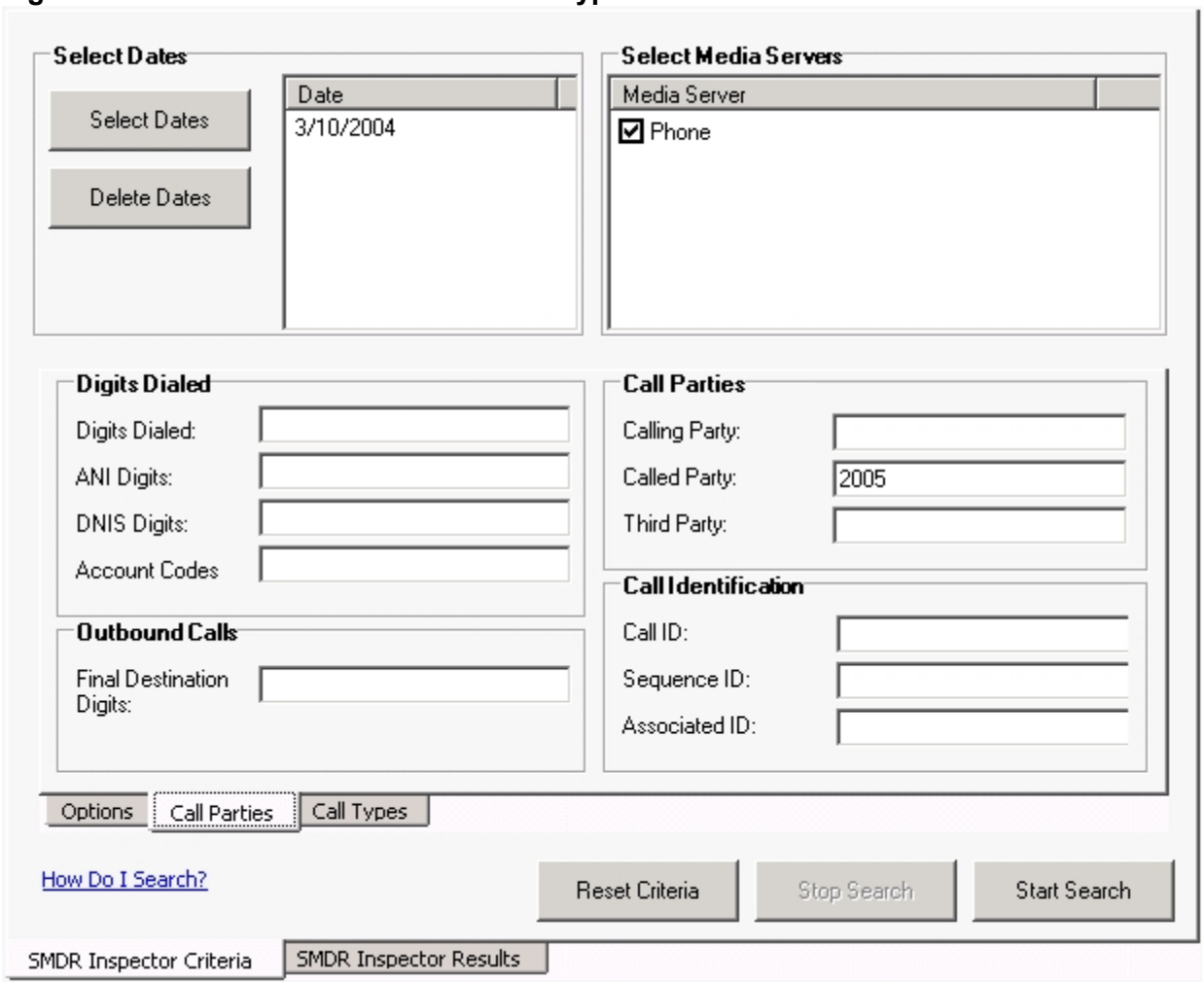
Speed call/Forward

The *Speed call/Forward* check boxes search for call records involving a speed dial and/or conference function. When the Blank check box is selected, the search output contains records where there is nothing recorded in the Speed or Fwd check boxes.

System ID

The *System ID* check box searches for call records that pertain to a specific telephone system. In a multi-site enterprise, you program each telephone system with a 3-digit system ID number. You can distinguish records by their system ID number. The telephone system appends it to all of the SMDR records.

Figure 10 - 11 SMDR search criteria - Call types tab



Options criteria for searches

When you click Tools=>Inspectors=>SMDR Inspector, the Options tab opens. The Option criteria work in conjunction with the Call parties criteria and the Call types criteria to narrow down the search. (See Figure 10 - 12.)

The Options tab search options are as follows.

Time ranges

The Time ranges boxes specify the time interval used for the search.

Call duration

The Call duration boxes specify a range of values for the Call duration statistic used in the search.

Time to answer

The Time to answer boxes specify a range of values for the Time to answer statistic used in the search. For example, if you select a time to answer of 240 to 999 seconds, the search records include calls that were answered by an agent after waiting at least 240 seconds to be answered.

Exception records

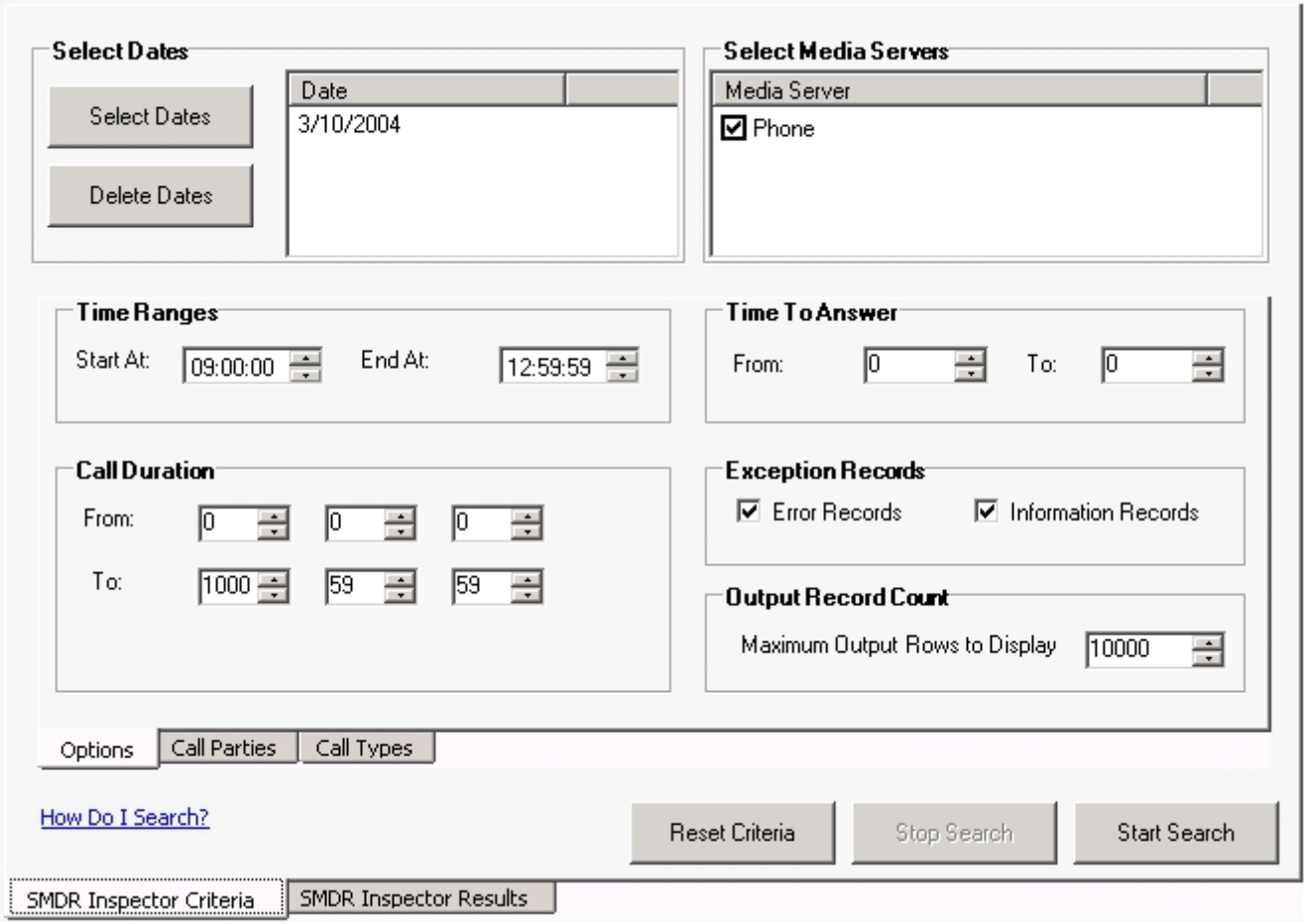
The Collector Service tags telephone system records that contain errors with an *E* (telephone system 1) or *e* (telephone system 2). You select the Error records check box to include these records in the search output. The Collector Service writes a log record to the data stream upon start up. It tags the log record with an *I* to indicate it is an information record. You select the Information records check box to include log records in the search output. ACD Inspector displays the error and information search result records on the Exception Records tab.

In contact centers that have two telephone systems, the Collector Service tags records from the second telephone system with an *S*. You specify the Com ports used by your telephone systems on the Data collection tab in YourSite Configuration.

Output record count

The Output record count specifies the maximum number of rows of records to display.

Figure 10 - 12 SMDR search criteria - Options tab



SMDR search results information

The SMDR Search results tab shows the search results for Call parties, Call types, and Options searches. Table 10 - 5 describes the SMDR information provided by the SMDR Search results tab.

Table 10 - 5 SMDR search results information

Column heading	Description
Media server	The Media server box identifies the telephone system (with or without MiTAI) that produced the event record.
Start time	The Start time of a call is reported in hours and minutes in either a 12- or 24-hour format. If a 12-hour clock is used, the letter *P* indicates P.M. (hh:mmp)
Date	The Date box displays the date of the event record (month/day/year).
Total duration	The duration of a call is reported in hours, minutes and seconds (hh:mm:ss). Leading zeros are output (Maximum time = 99 hours, 59 minutes, 59 seconds). If the call duration exceeds 100 hours, a call duration of 99 hours, 99 minutes, 99 seconds will be recorded.
Calling party	The Calling party is the identity of the party that/who originated the call. It may be a station, an attendant, or an incoming trunk, as described below: (a) Station number as Calling party (cccc). A station number (extension number or agent ID) may be one to four digits (0-9, *, #) which are left-justified (that is, no leading zeros). (b) Attendant as Calling party (ATTm). Calls originated by an attendant that do not involve a third party are reported as a calling party by ATT, followed by the console number. When the console number is in the range of 10 through 99, the format is modified to be ATmm. If an attendant calls an outside party on behalf of a station or trunk, that station or trunk is reported as the caller but the attendant flag symbol [*] is shown in the Attendant was Involved box. (c) Trunk number as Calling party (Tnnn or Xnnn). When the originating party is an incoming CO trunk, *Tnnn* is shown on the record, where *nnn* is the number of the trunk. If the trunk number is less than three digits long, it is left-padded with zeros. If the extended digit length option is enabled, the trunk number *nnnn* may be up to four digits long, left-justified and without leading zeros. When the originating party is an incoming non-CO trunk, *Xnnn* is shown in the trunks record. The *T* or *X* ensures that CO trunks and CO Attendant trunks can be distinguished from tie trunks. The trunk number is the trunk ID specified during customer data entry in the Trunk Assignment form.
Attendant flag	This 1-digit box contains an asterisk [*] when a call is assisted by, or initially answered by, an attendant. This flag will not be shown if a call is transferred to an attendant.
Time to answer (Time to Ans)	This is the number of seconds from the time an incoming external call rings the destination until the call is answered. If a call is never answered, this box displays three asterisk [***]. Leading zeros are output and the box remains at 999 when an overflow is reached. If the

Column heading	Description
	Call Distribution (MCD) feature package is installed, and the MCD report transfers option is enabled, this box contains the total time to answer regardless of the number of times the call is rerouted. This box does not apply to Internal SMDR. **NOTE:** Time to answer does not include the duration the request waits in queue outside of regular business hours.
Digits dialed	External SMDR External SMDR records the digits dialed on the outgoing trunk. A maximum of 26 digits is recorded. This number is reduced to 20 when the Report Meter Pulses option is selected in CDE. This box does not include the trunk group access code on outgoing calls. The digits recorded are the actual digits outpulsed on the trunk after digit modification has been performed. On incoming calls, the digits dialed in on the trunk are recorded. The digits dialed field contains the digits the telephone system used to route the call. For an incoming call this could be the extension or the path to which the call is being routed. For outgoing calls this is the number the caller dialed. When more than 26/20 digits are dialed, the remaining digits are ignored. If the MCD option is enabled, each device is listed whenever the call is rerouted, rather than the last device as in non-MCD loads. To reflect the MCD option, the Digits dialed on the Trunk box displays dd1 ddd2 ddd3. Internal SMDR Internal SMDR records the digits dialed on an internal line. Up to 26 digits are recorded.

Column heading	Description
Call completion flag	External SMDR (Outgoing calls) This reports the completion status of an outgoing call in so far as the telephone system is able to determine it. When an outgoing call fails toll-deny checking and is dropped, this box contains a *T*. When the trunk group is programmed to receive *Answer Supervision* and a supervision is received, an *A* is reported. When the trunk group is programmed for *Toll Reversal* and a supervision is received, a *T* is reported. External SMDR (Incoming calls) The telephone system can monitor the outcome of a call and can provide a comprehensive report on call completion. When the station or hunt group to which a call is directed is busy, a *B* is recorded. When an incoming trunk accesses an invalid number and receives reorder tone, an *E* is reported. An *E* is also reported for incomplete calls. A *T* is reported if the incoming trunk is answered with Trunk Answer From Any Station (TAFAS) and if an outgoing trunk call is toll denied, or if the call is Pickup answered. When an incoming call is forwarded by an attendant to a busy station, a *B* is shown in the call completion status box, the number called is shown as the third party, and the Attendant is shown as the called party. Internal SMDR An *I* indicates that an internal call was completed. Speed Call or Call forward flags (S or F) This box contains an *S* when the number is speed dialed, and an *F* when an external call is forwarded through the external call forward feature. If Internal SMDR is enabled, an *F* is also recorded when an internal call is forwarded through the call forward feature. However, for internal calls the Third Party box does not contain the number of the station that initiated the call forward feature. The Third Party box is left blank because the Digit dialed box identifies the station that has call forward enabled.
Speed call forward	The Speed call/Forward check boxes search for call records involving a speed dial and/or conference function. When the Blank check box is selected, the search output contains records where there is nothing recorded in the Speed or Fwd check boxes.
Called party	A Called party can be a station number, an attendant, or for outgoing calls, the outgoing trunk number. The Called party output format is identical to that used for the Calling party. See *Calling party*. For incoming calls to an attendant, the called party is recorded as the attendant unless the attendant transfers a call to a station. For direct-in-lines, it would be the station number. On outgoing calls handled by an attendant, the called party would be the outgoing trunk's ID.
Transfer/Conference call (Trans Conf)	This box identifies calls involving three or more parties. It contains a *T* for supervised transfers, *X* for unsupervised transfers (that is, transfer in to busy reports a *T*, transfer in to ringing reports an *X*), and a *C* for 3-way conversations or conferences.
Third party	The Third party box contains the number of the station to which a trunk call has been transferred. When several transfers take place during a trunk call, the first party is the only one reported, as long as MCD Report transfers = *No*, and Record transfers = *No*. If an external call is made to a station whose call forwarding is set to an external number,

Column heading	Description
	the Third party box contains the number of the station that initiated the call forward feature. For internal calls, the Third Party box is left blank because the Digit dialed box identifies the station that has external call forward enabled.
Account Code	Enabling the report Account Codes option in the SMDR Options Assignment form allows an Account Code of two to 12 digits to be recorded here, if one is used to make a call. Leading zeros are reported if they are entered.
Route optimization flag	At the starting and end nodes of a network call a flag will be shown in this box if route optimization has taken place. A route optimized call involves two trunks to the same party: the pre-optimization trunk and the post-optimization trunk. An SMDR record will be produced for both trunks, which will be distinguished by a lower case *r* for the pre-optimization trunk, and an upper case *R* for the post-optimization trunk. Route optimization is available with the MSDN/DPNSS Voice IV feature package only.
ANI/DNIS	ANI/DNIS digits are recorded in this box. ANI and DINS numbers can be up to 10 digits in length, and are recorded for incoming calls on ANI/DNIS trunks. COS option ANI/DNIS reporting must be enabled.
System identifier	This optional 3-digit box may contain values from *000* to *999. 000* indicates that no identifier has been entered. In the absence of a System identifier, a Node identifier is printed (when programmed). When more than one node identifier exists, the first one on the programmed list is printed. When both a System ID and a Node ID are programmed, the System ID takes precedence. Programming of System Identifiers and Node Identifiers is described in the Customer data entry volume.
Call ID	The Call ID box specifies the call number to which the record relates.
Call ID seq	The Sequence ID box specifies the sequence number assigned to the call record.
Assoc call ID	The Associated ID box specifies the number attached to associated data records of the call.
System ID	This optional 3-digit box may contain values from *000* to *999. 000* indicates that no identifier has been entered. In the absence of a System identifier, a Node identifier is printed (when programmed). When more than one node identifier exists, the first one on the programmed list is printed. When both a System ID and a Node ID are programmed, the System ID takes precedence. Programming of System Identifiers and Node Identifiers is described in the Customer data entry volume.
Record	See "SMDR record boxes" on page 330.

SMDR record boxes

This section describes the SMDR search output records available.

The telephone system records SMDR data in table format. Table 10 - 6 provides information used to interpret the SMDR Inspector search output. It summarizes the SMDR record boxes and provides the meaning of the symbols used.

Table 10 - 6 Summary of boxes in SMDR records

Name	Format	Definition	Notes
Date	mm/dd	mm = Month dd = Day	mm = 01 - 12 dd = 01 - 31
Start time	hh:mmp	hh = Hours mm = Minutes p = pm	hh = 00 - 12 or 00 - 23 mm = 00 - 59 p = P.M. (12-hour clock)
Duration of call	hh:mm:ss hhhh:mm:ss	hh:mm:ss = duration in hours:minutes:seconds hhhh:mm:ss = duration in hours:minutes: seconds	hh = 00 - 99 mm = 00 - 99 ss = 00 - 99 hhhh = 0000 - 9999 mm = 00 - 99 ss = 00 - 99
Calling party	pppp ppppppp	cccc = Extension # Tnnn = Trunk # (CO) Xnnn = Trunk # (non-CO) ATTm = Attendant ccccccc = Extension # Tnnnn = Trunk # (CO) Xnnnn = Trunk # (non-CO) ATTmm = Attendant	c = 0 - 9, *, # nnn = 000 - 999 m = Console # (ATmm for Attendant 00 - 99) c = 0 - 9, *, # nnnn = 0000 - 9999 mm = Console #
Attendant	f	* = Attendant -- = Attendant not involved	Attendant answered or initiated the call, then transferred it to an extension
Time to answer	ttt	ttt = time in seconds (000 - 999) *** = Call unanswered	Leading zeros output. Incoming calls only.
Digits dialed on the trunk	xx...x x...x y...y or Tx...x y...y (Network Format)	Up to 26 (20 if metering) digits dialed on the trunk Network Format: up to 26 digits (20 if metering) in total	x = 0 - 9, *, # y = 0 - 9, *, # x...x = Node ID & Extension # (up to 14 digits) y...y = actual digits dialed Tx...x = Node ID & Trunk #

Name	Format	Definition	Notes
Call completion status	h	A = Answer supervision B = Called party busy E = Caller error I = Internal call T = Toll-denied, TAFAS answered, or Pickup answered	Outgoing Incoming Direct/Dial-in Incoming/Dial-in incoming Incoming/Outgoing
Speed call or Call fwd flags	S or F	S = Number was Speed called F = External call forwarded through External call fwd feature or internal call forwarded through Call forward feature	Outgoing
Called party	qqqq qqqqqqq	cccc = Extension # Tnnn = Trunk # (CO) Xnnn = Trunk # (non-CO) ATTm = Attendant ccccccc = Extension # Tnnnn = Trunk # (CO) Xnnnn = Trunk # (non-CO) ATTmm = Attendant	c = 0 - 9, *, # nnn = Range specified in telephone system form programming m = Console # (ATmm for Attendant 00 - 99) c = 0 - 9, *, # nnnn = 0000 - 9999 mm = Console #
Transfer/ Conference call	K	T = Supervised transfer X = Unsupervised transfer C = 3-Way or Conference R = re-queue call U = Path unavailable I = Interflow	U and I only apply to ACD TELEMARKETER® 2000.
Third party	rrrr rrrrrrr	cccc = Extension # cccccccc = Extension #	c = 0 - 9, *, # c = 0 - 9, *, #
Account Code (opt.)	aa....a	Length of 2 to 12 digits	a = 0 - 9, space-filled
Route optimization flag (opt.)	s	r = pre-optimization trunk R = post-optimization trunk - = Space (no route optimization)	
System identifier (optional)	iii	Entered by System ID	i = 0 - 9 iii = 000 - 999 000 = No code entered In the absence of a System ID, a Node ID is printed (if programmed). When both System ID and Node ID are

Name	Format	Definition	Notes
			programmed, System ID takes precedence.
ANI/DNIS	xx...xxxxxxx	Format -aaaaaaaaaa-ddddddddd - = blank a = ANIS digit d = DNIS digit Extended digit length format -aaaaaaaaaa-ddddddd	For Extended digit length format only the 7 right most DNIS digits are recorded.

Running call parties searches

You can run a Call party search to find out who called agent 2005 on March 10, 2004.

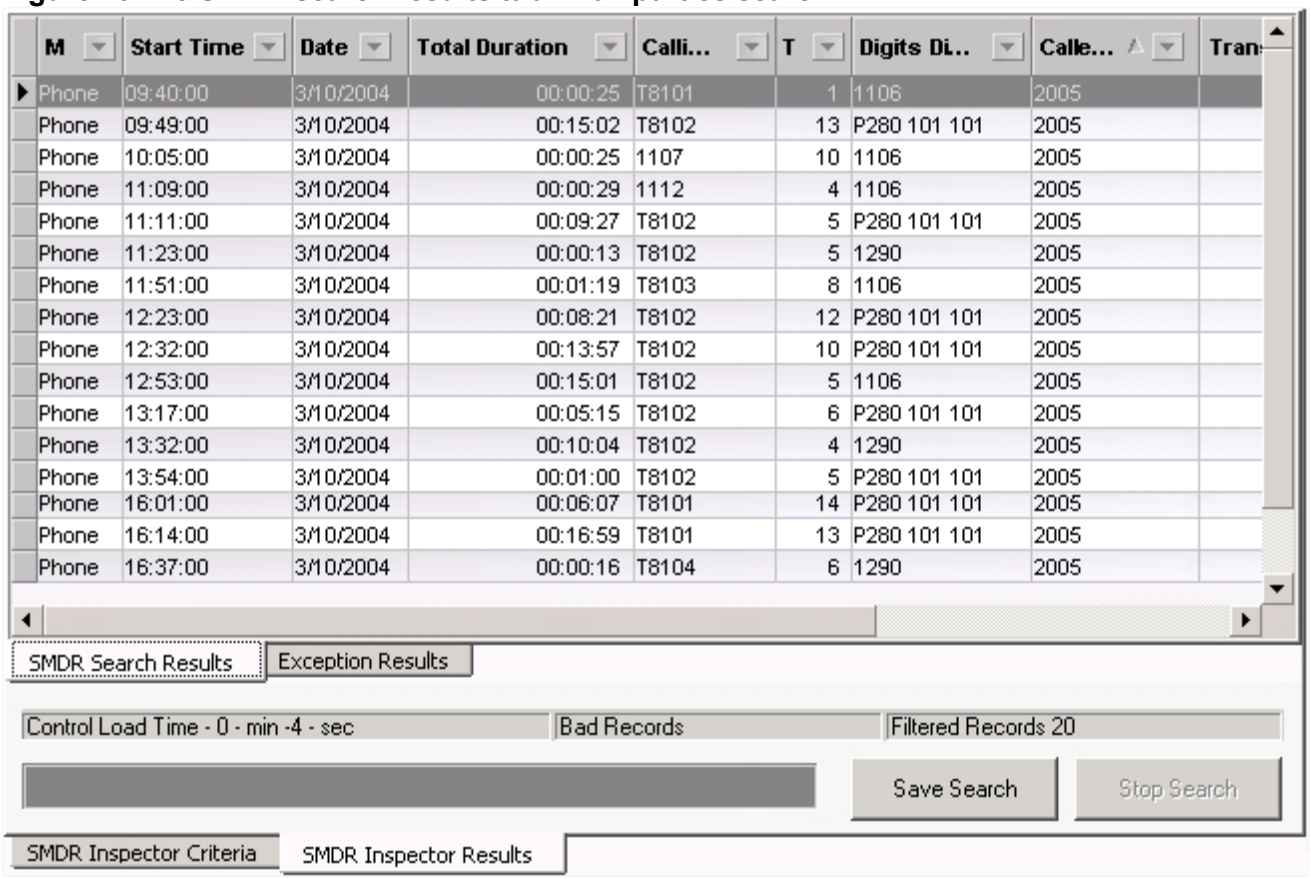
To run a Call parties search

1. Click the **SMDR Inspector criteria** tab.
   The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.
6. Click **Start search**.
   The SMDR Inspector results - SMDR Search results window opens.

Call parties search results

The SMDR Search results tab displays the results of who called agent 2005. The agent's extension is 1106. He answers calls that come to queue 280 and dial zeros (which is extension 1290). On line one of the results, an outside call dialed the agent's extension. On line two, the agent answered a call from his queue (P280). On line three, we see that extension 1107 called the agent. On line four, we see that extension 1112 called his extension. (See Figure 10 - 13.)

Figure 10 - 13 SMDR search results tab - Call parties search



M	Start Time	Date	Total Duration	Calli...	T	Digits Di..	Calle...	Tran
Phone	09:40:00	3/10/2004	00:00:25	T8101	1	1106	2005	
Phone	09:49:00	3/10/2004	00:15:02	T8102	13	P280 101 101	2005	
Phone	10:05:00	3/10/2004	00:00:25	1107	10	1106	2005	
Phone	11:09:00	3/10/2004	00:00:29	1112	4	1106	2005	
Phone	11:11:00	3/10/2004	00:09:27	T8102	5	P280 101 101	2005	
Phone	11:23:00	3/10/2004	00:00:13	T8102	5	1290	2005	
Phone	11:51:00	3/10/2004	00:01:19	T8103	8	1106	2005	
Phone	12:23:00	3/10/2004	00:08:21	T8102	12	P280 101 101	2005	
Phone	12:32:00	3/10/2004	00:13:57	T8102	10	P280 101 101	2005	
Phone	12:53:00	3/10/2004	00:15:01	T8102	5	1106	2005	
Phone	13:17:00	3/10/2004	00:05:15	T8102	6	P280 101 101	2005	
Phone	13:32:00	3/10/2004	00:10:04	T8102	4	1290	2005	
Phone	13:54:00	3/10/2004	00:01:00	T8102	5	P280 101 101	2005	
Phone	16:01:00	3/10/2004	00:06:07	T8101	14	P280 101 101	2005	
Phone	16:14:00	3/10/2004	00:16:59	T8101	13	P280 101 101	2005	
Phone	16:37:00	3/10/2004	00:00:16	T8104	6	1290	2005	

Running call types searches

You run a Call types search when you want to narrow down the Call parties search. Previously, you have completed a Call parties search for agent 2005 (Call parties tab). Now you want to narrow the search to include only Answer non-ACD call types.

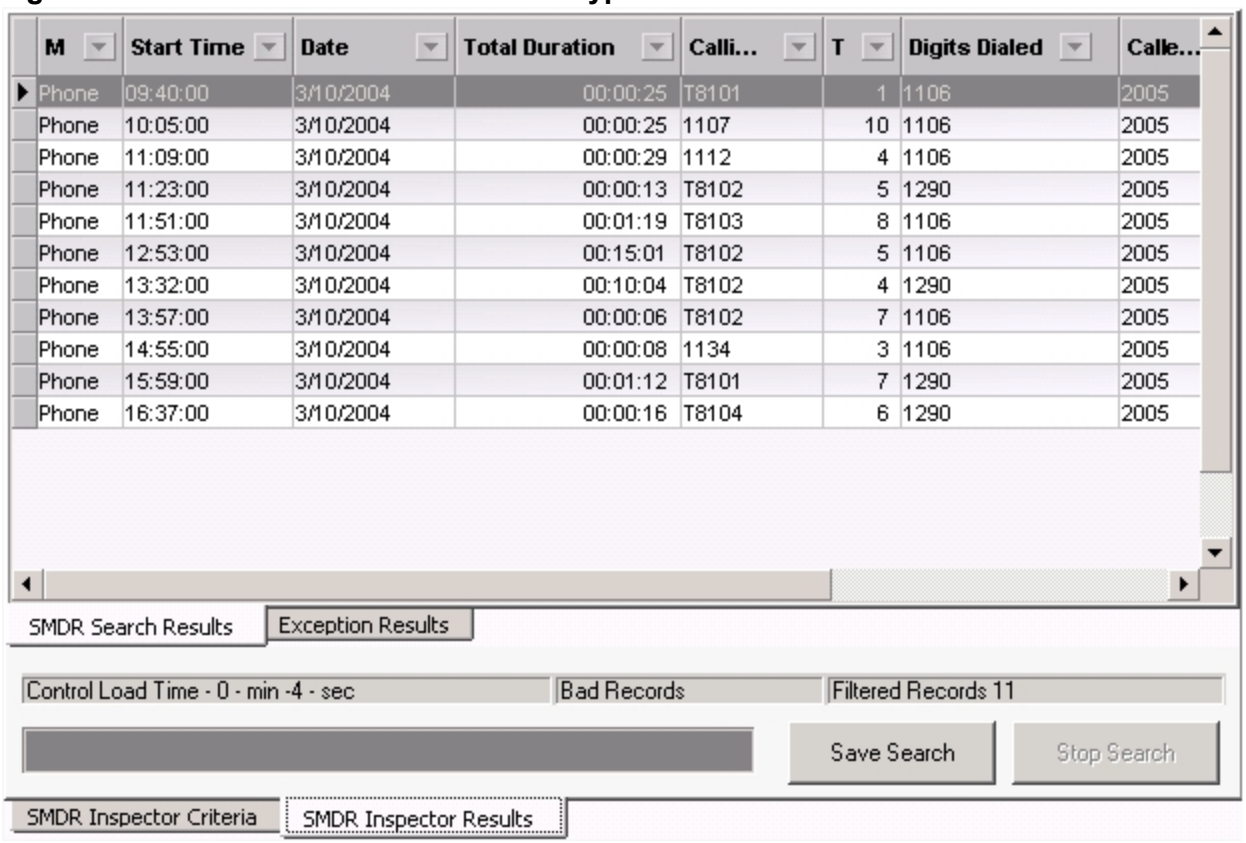
To run a Call types search

1. Click the **SMDR Inspector criteria** tab.
   The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.
6. Click the **Call types** tab.
7. Under **Call types**, clear the check boxes for all of the criteria but Answer non ACD **.**
8. Click **Start search**.
   The SMDR Inspector results - SMDR Search results window opens.

Call types search results

The SMDR search results tab displays the call parties/call type results. All of the non-ACD calls received by agent 2005 on March 10, 2004 are displayed. They included external and internal calls where the caller dialed the agent's extension (1106), and all of the dial zero calls. (ACD calls are calls that are sent through the queue.) (See Figure 10 - 14.)

Figure 10 - 14 SMDR search results - Call types search



Running option searches

You run Option searches to narrow down further, Call types and Call parties searches. Previously, you ran a Call parties search for agent 2005, and then a Call types search to include only Answer non-ACD calls. Now you want to search for Answer non-ACD calls for agent 2005 that occurred between 9:00 A.M. and 1:00 P.M.

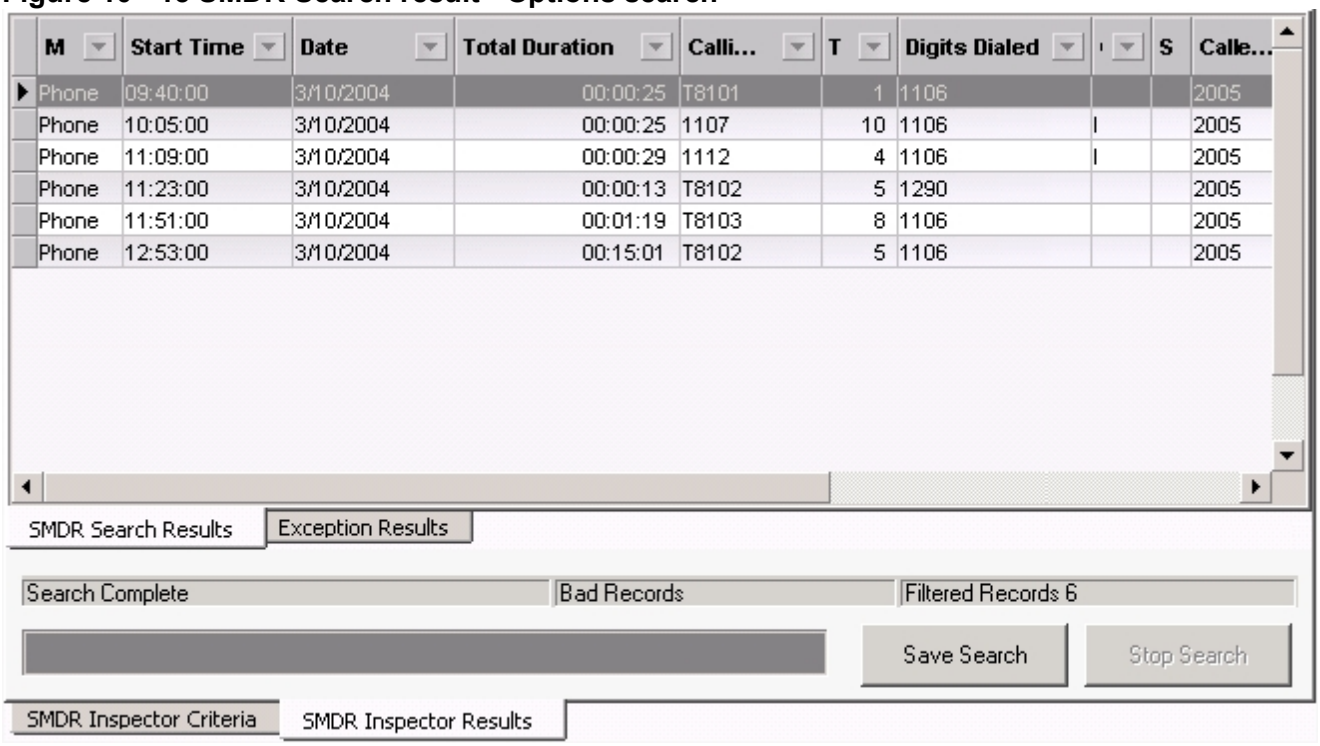
To run an Options search

1. Click the **SMDR Inspector criteria** tab.
   The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.
6. Click the **Call types** tab.
7. Under **Call types**, clear the check boxes for all of the criteria but Answer non ACD**.**
8. Click the **Options** tab.
9. Under **Time ranges**, after the Start At time, type 9:00:00.
10. Under **Time ranges**, after the End At time, type 12:59:59.
11. Click **Start search**.
    The SMDR Inspector results - SMDR Search results window opens.

Options search results

The SMDR search results tab displays the call parties/call type/options results. All of the non-ACD calls received by agent 2005 on March 10, 2004 between 9:00 A.M. and 1:00 P.M. are displayed. They included external and internal calls where the caller dialed the agent's extension (1106), and all of the dial zero calls. (ACD calls are calls that are sent through the queue.) (See Figure 10 - 15.)

Figure 10 - 15 SMDR Search result - Options search



Running searches for error and information records

Using the Option tab you can run a search for error and information records. The error messages are records of sequence errors. The information records are records of when the Collector restarts.

Previously, you ran a Call parties search for agent 2005, and then a Call types to include Answer non ACD that occurred between 9:00 A.M. and 1:00 P.M.

To run an Exception event search

1. Click the **SMDR Inspector criteria** tab.
   The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.
6. Click the **Call types** tab.
7. Under **Call types**, clear the check boxes for all of the criteria but Answer non ACD**.**
8. Click the **Options** tab.
9. Under **Time ranges**, after the Start At time, type 9:00:00.

10. Under **Time ranges**, after the End At time, type 12:59:59.
11. Under **Exceptions**, select the **Error records** and **Information records** check boxes.
12. Click **Start search**.
    The SMDR Inspector results - SMDR Search results window opens.

Exception search results

There was an information record produced every five minutes. Either the alarm is set incorrectly (the system thinks it should be receiving data because the business hours indicate the business is open), or the connection has died. The Exception results tab displays error and information records. (See Figure 10 - 16.)

The Exception search has the following results information:

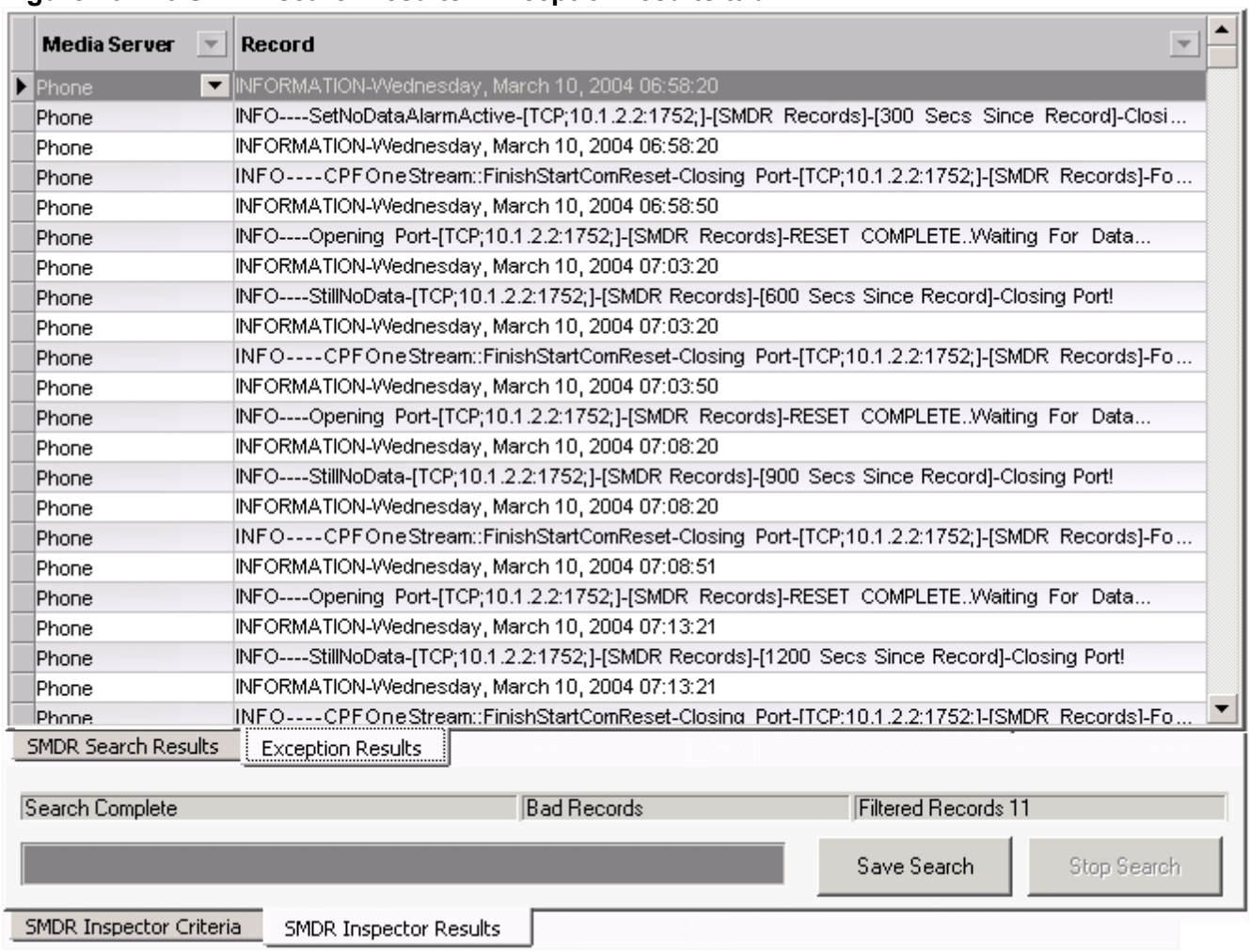
Media server

The Media server box identifies the telephone system (with or without MiTAI) that produced the event record.

Record

The Data record box displays detailed information on the exception record.

Figure 10 - 16 SMDR search results - Exception results tab



Wild card searches

NOTE:

- To search for a string of numbers within a digits dialed string, enclose the string of numbers in parenthesis, such as “8905”. The search will produce records that include *8905* only in the digits dialed string.
- To search for records where the calling, called or third party involved a trunk (BOTH T and X in one search), put a C in the calling, called or third party box.

When performing searches on the Queue Events tab, you can enter a *P800* under Queue information and the search will produce records involving Queue 800 only. Alternatively, you can run wild card searches. When you perform wild card searches, you use * to represent the wild card. For example, if you enter “*00” under Queue information on the Queue events tab, the search will produce records for all of the Queues or Agent groups that end in “00” (for example, 200, 300).

Exporting search results

You can save the ACD Inspector and SMDR Inspector search results in the following formats:

- HTML
- Microsoft Excel
- Microsoft Access
- XML
- Text

To export the search results

1. Click **Save search**.
   The Inspector Search Results Export window opens.
2. Select the format in which you want the search results saved: **HTML**, **Microsoft Excel**, **Microsoft Access**, **XML**, or **Text**.
3. Click **Next**.
4. Click the ellipses to select the location where you want to save the file.
5. After **File name**, type the file name.
6. Click **Save**.
7. Click **Next**.
8. Click **Next** to confirm the format in which you want to save the file and the location of the file.
   A window opens with the message “Inspector Search Results export to [export type] complete.”
9. Click **OK**.
10. Click **Finish**.
    A window opens with the message “Would you like to view/open this file now?”
11. If you want to view the file immediately, click **Yes**.
    The file opens.

Auditor

Using Contact Center Auditor you can view historical, multimedia real-time events, at your own pace. Auditor makes it easy for you to analyze when and why past service problems occurred. You can see a series of events that led to a problem and analyze when and why it occurred. In the future, you will be able to recognize when another problem is about to occur.

For example, you notice that on July 15 you have 12 contacts abandon between 10:00 AM and 10:15 AM. You can review the contacts and the agents' actions on that date for that time period with Auditor. Did all of the contacts arrive at the same time? Did all of the agents go on break at the same time? If all of the contacts arrived at once, you need to schedule more people. If all of the agents went on break at the same time, you need to adjust their break schedule.

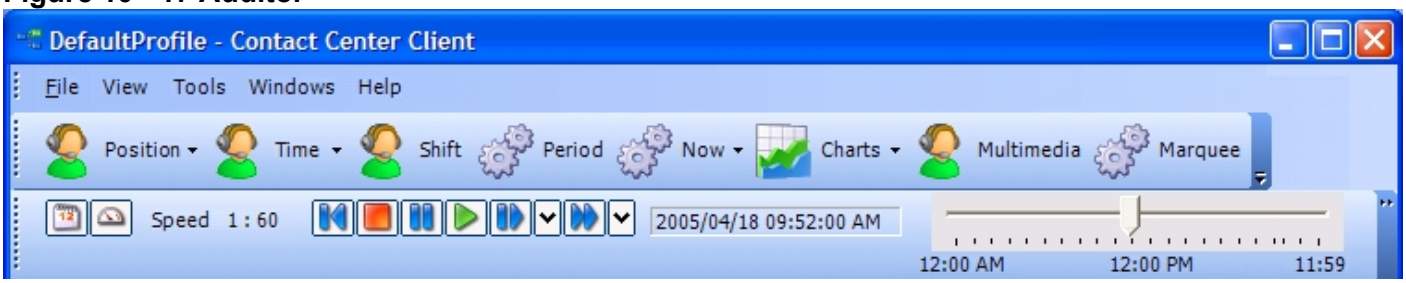
Using Auditor you can also track when employees log on and log off the system. It is easy to determine if any of the employees consistently start late or finish early.

With Auditor, you can use existing profiles, including alarm thresholds, when viewing past days run in real-time.

In order to access Auditor, your security role must have the "May manage Auditor" option enabled.

The first tool bar consists of real-time monitors that provide information on agent availability, queue statistics, and graphic displays on queues. (See Figure 10 - 17.)

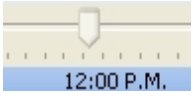
Figure 10 - 17 Auditor



Auditor icons

Using Auditor's second toolbar you select the date of the historical real-time events that you want to view and the speed at which to play the events. The icons are described in Table 10 - 7.

Table 10 - 7 Auditor Icons

Icon	Term	Meaning
	Calendar	You can select the date of the historical real-time events that you want to view by clicking the calendar.
	Speed of audit	The Speed of audit is expressed as a ratio of real-time to play speed. You can select the speed from a list of ratios that opens when you click the clock: 1:1, 1:2, 1:5, 1:10, 1:30, 1:60, and 1:120. If you select the ratio1:1, it will take you one second to view one second of the past day. If you select 1:60, it will take you one second to view one minute of the past day.
	Rewind	If you click Rewind when the play is stopped, you jump back to the beginning of the day.
	Stop	You can stop the real-time historical events from playing, and jump back to the beginning of the day, by clicking Stop.
	Pause	You can pause the real-time historical events by clicking Pause.
	Play	You can play the real-time historical events by clicking Play.
	Step forward	You can select the increment (in seconds) you will advance from a list that opens when you click the down arrow to the right of Step forward: 1 sec, 2 sec, 5 sec, 10 sec, 15 sec, 30 sec, and 45 sec. If you select 30 seconds, then when the play is stopped, you can step forward in 30 second increments each time you click Step forward. When you reach the end of data for that day, you will automatically jump to the end of the day.
	Jump forward	You can select the increment (in minutes) you will advance from a list that opens when you click the down arrow to the right of Jump forward: 1 min, 2 min, 5 min, 10 min, 15 min, 30 min, and 60 min. If you select 10 minutes, then when the play is stopped, you can jump forward in 10 minute increments each time you click Jump forward. When you reach the end of data for that day, you will automatically jump to the end of the day.
	Slider	As you view the events of the day, the slider indicates the time at which the events occurred. The length of the slider represents the length of the day for which you are viewing historical real-time events.

Viewing historical real-time events

You start Contact Center Client to gain access to Auditor functionality. For more information on Contact Center Client real-time monitoring, see "Contact Center Client" on page 188.

To view historical real-time events, you must

1. Start Contact Center Client.
2. Open the grids in which you want to view historical events.
3. Start Auditor.

Starting Contact Center Client

You must start Contact Center Client before you can view Auditor.
To start Contact Center Client

1. Open **Contact Center Client**.
2. Type your user name and password.
3. Click OK.

Opening monitors

NOTE: You cannot view the Contact Center Client marquee, Network Monitor, Interactive Visual Queue, Contact Center PhoneSet Manager, or Contact Center Softphone applications (which function in real time only) in Auditor.

You must open the monitors in which you want to view historical events with Auditor. In the following example we will open the Agent State by Position monitor.

To open a monitor in which to view historical events with Auditor

1. In the Contact Center Client ribbon, click **Real Time**.
2. Click **Agent** in the **State by Position** column in the ribbon.
   The Add/Remove device IDs window opens.
3. Select the agents or agent groups you want to monitor.
4. Click **OK**.

Starting and using Auditor

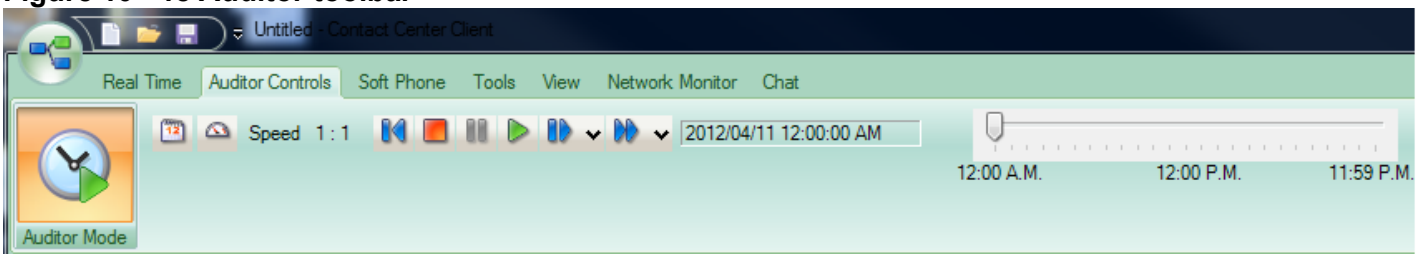
NOTE: If you are using the Contact Center Client marquee, Network Monitor, Interactive Visual Queue, Contact Center PhoneSet Manager, or Contact Center Softphone applications (which function in real time only), open Auditor in another instance of Contact Center Client.

To start and use Auditor

1. In the Contact Center Client ribbon, click **Auditor Controls**.
2. Click **Auditor Mode** in the toolbar ribbon.
   The Auditor toolbar displays.
   See Figure 10 - 18.
3. Click the calendar icon and select a date.
   The date displays on the left of the slider.
4. Click the speed icon and select the speed of the audit.
   The speed of the audit, expressed as a ratio of real time to play speed, displays on the right of the speed icon.
5. Move the slider to select the time of day at which you want to start monitoring.

6. Click the play button to play the real-time events of the selected date.
   The historical real-time events play at the speed you selected.

Figure 10 - 18 Auditor toolbar



Chapter 11

Data Collection

Network Monitor

Troubleshooting data collection issues

Data Collection

The telephone system generates real-time and historical data used to manage your contact center. You use real-time data to monitor the current Call Load and agent availability, and make minute-to-minute adjustments. You use historical information for forecasting, staffing, and scheduling.

NOTE:

- Real time synchronization between the remote nodes and 5000/Axxess media servers is not supported. All synchronization with remote 5000/Axxess telephone systems must be performed using Synchronization in YourSite Explorer or manually.
- A single collection point can collect ACD/SMDR data from up to 65 voice media servers. If you are attempting to collect data from more than 65 PBXs with a single collection point, you must contact prairieFyre Technical Support at 613-599-0045 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia pacific) for guidance.

The Enterprise Server Collector Service writes SMDR and ACD data to text files. The text files are located on the Enterprise Server in C:\Program Files\prairieFyre Software Inc\CCM\DataDirectory\Node_x

Network Monitor

The Network Monitor application resides in Contact Center Client. Network Monitor provides information on the status of media server real-time data collection. You can verify if alarms are enabled for your media servers and if the media servers are reporting any alarms.

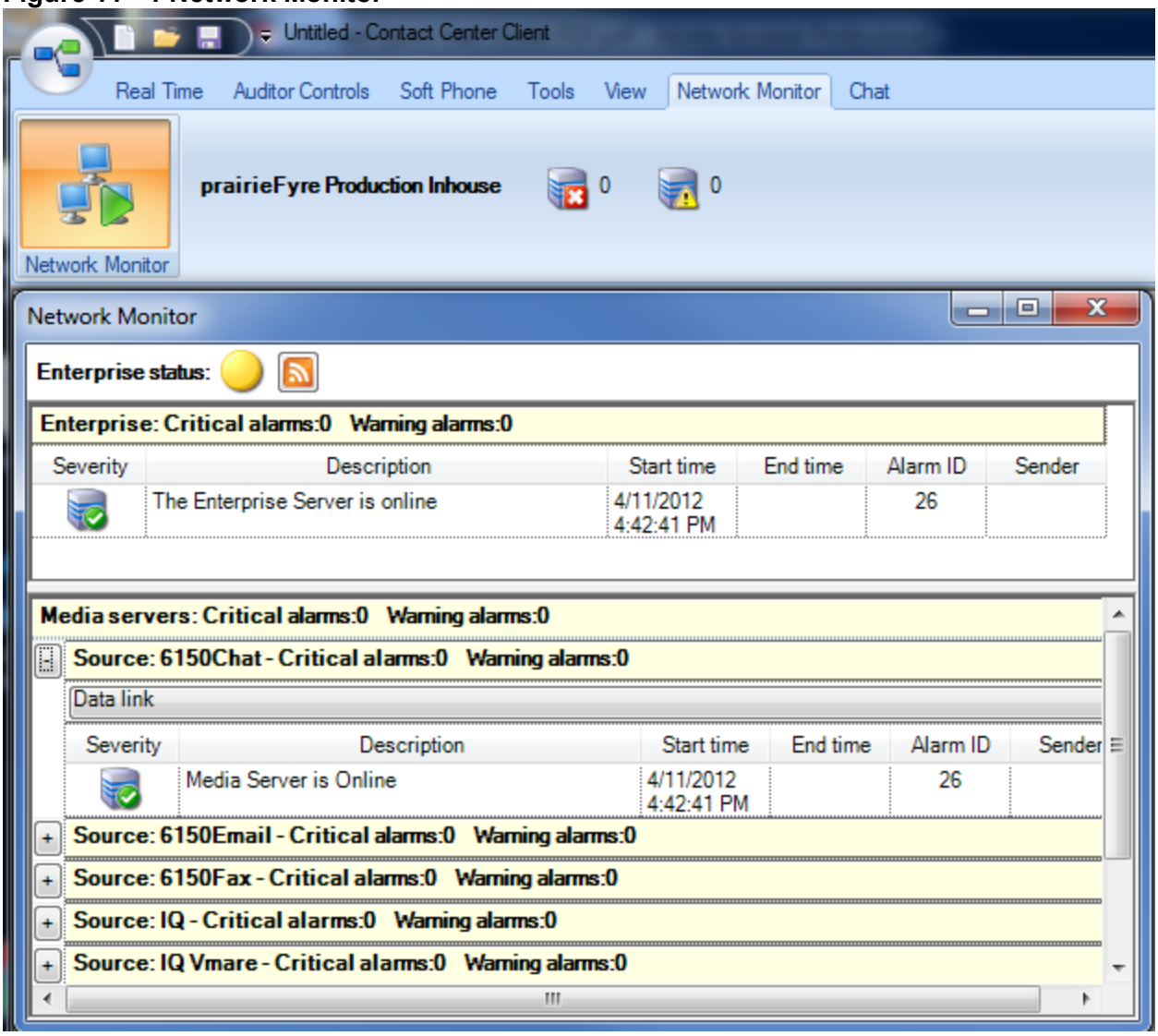
Viewing Network Monitor

NOTE: When you open Contact Center Client, it automatically points Network Monitor to the Enterprise Server default IP address. If you have more than one server at your site, ensure that Contact Center Client is pointing to the correct server.

Network Monitor is available to users whose security permissions permit them to use Network Monitor.
To view Network Monitor

1. Open Contact Center Client.
2. If prompted, type your user name and password.
3. Verify the Enterprise Server IP address.
4. Click **Log on.**
   The Contact Center Client window opens.
5. Click **Network Monitor** in the Contact Center Client ribbon.
6. Click the Network Monitor icon that opens in the toolbar.
   When active, a green arrow displays.
   The Network Monitor displays.
   See Figure 11 - 1.

Figure 11 - 1 Network Monitor



After you open Network Monitor, you can minimize it or close it. When you close Network Monitor, it resides in the Network Monitor toolbar.

Opening the Network Monitor

After you view Network Monitor, you can minimize or close it. When you close Network Monitor, it resides in the Network Monitor toolbar.

To open Network Monitor from the toolbar

- Double-click the Network Monitor toolbar.
  Network Monitor opens.

Viewing alarms

In Network Monitor, the Enterprise and Media server windows display critical alarms and warning alarms. Critical alarms are activated when Collector Service is not receiving data, the Enterprise Server disk space is low, and in other instances where the Enterprise Server is prevented from functioning optimally. When there is a critical alarm, Network Monitor displays the alarm and you are emailed a notification. Warning alarms are activated when license violations occur, duplicate records are created, and for other non-critical issues. When there is a warning alarm, the Network Monitor icon in the System Tray blinks.

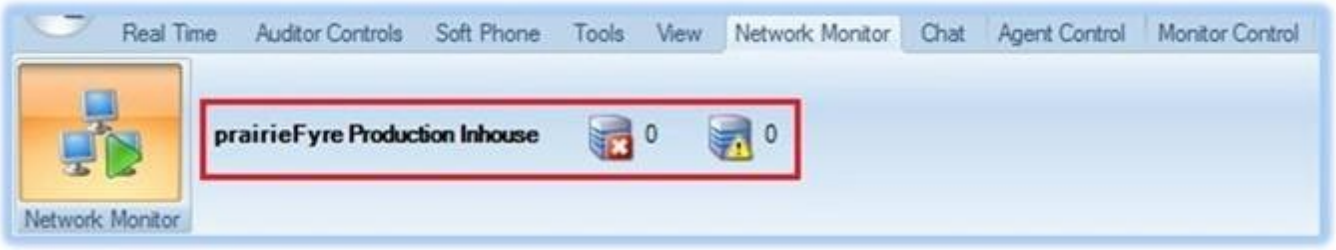
The overall alarming state is displayed in Network Monitor with a circular, colored status indicator. The color indicates the highest level of severity for all alarms currently alerting (Normal = Green, Minor = Yellow, Major = Orange, Critical = Red, Unknown = Gray). If needed, you can click on the RSS Feeds link for more specific alarm details.

NOTE: You must configure settings for your SMTP mail server in YourSite Explorer in order to receive alarm notifications by email.

In YourSite Explorer, you can configure alarms to notify you if Collector Service is not receiving data or if the server disk space is low. See "Configuring media server alarms" on page 95.)

The current alarm status displays in the Network Monitor ribbon, as illustrated in Figure 11 - 2.

Figure 11 - 2 Network Monitor - Current alarm status



To open Network Monitor from the toolbar

- Double-click the Network Monitor toolbar.

To view a summary of alarms and the status of the Enterprise Server

- In the Enterprise window, under **Description**, view if there are any critical alarms and if the Enterprise Server is online.

To view the status of the alarms

- In the Media servers window, view any Critical alarms and Warning alarms.
  The Media Servers window displays all critical and non-critical alarms for the media servers installed on the Enterprise Server and Remote Servers.

To view data and system alarms with Administrative tools

- On the Enterprise Server, in Windows, navigate to the **Event Viewer** to see more information on the error.

Verifying media servers are receiving telephone system data

The Data link window displays the following information:

- *SMDR/ACD* displays SMDR/ACD records as they arrive from the telephone system.
- *Records today* displays the total number of SMDR/ACD records received by Collector Service for the day that were valid SMDR or ACD records.
- *Last received* displays the date and time Collector Service received the SMDR/ACD record last sent.
- *Clear records* clears the records displayed on the Data links window.
- *Reset SMDR link/Reset ACD link* button resets the SMDR/ACD data link from the telephone system to Collector Service when SMDR data stream/ACD data stream shows no data is streaming. If you attempt to reset the link and data does not start streaming, check your cabling connections from the telephone system to the TCP/IP sockets of the server.

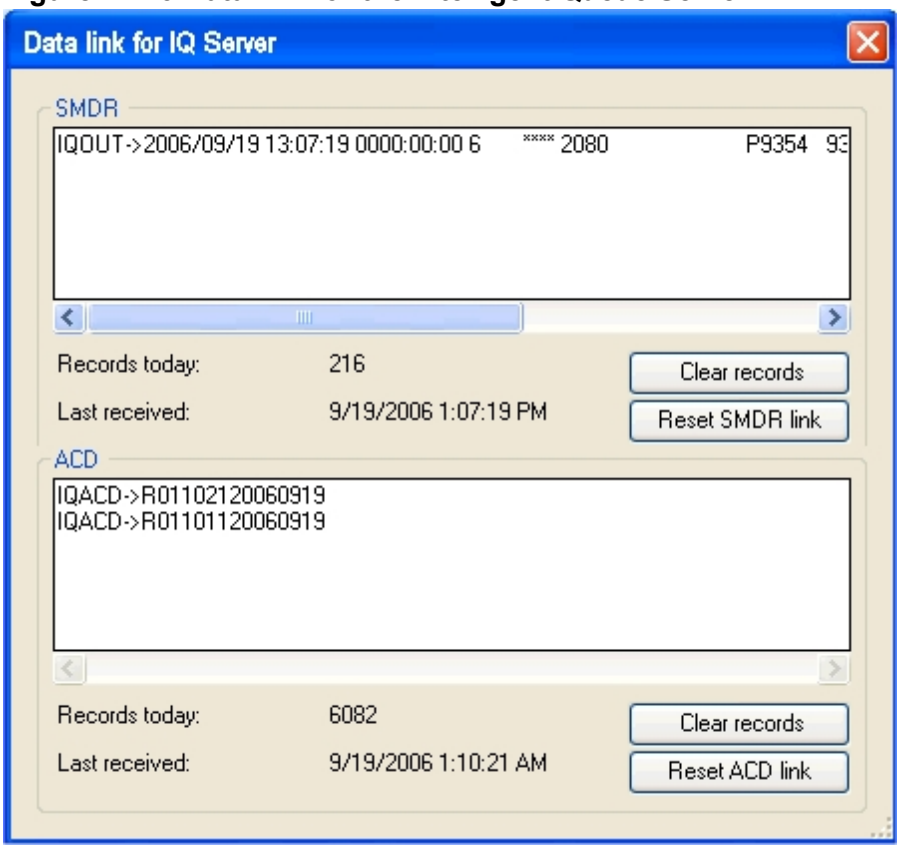
To verify a media server is receiving telephone system data

- In the Media Servers window, under the media server, click **Data link**.
  The Data link window opens.
  See Figure 11 - 3.

To reset the data links

1. In the Media Servers window, under the media server, click **Data link**.
   The Data link window opens.
2. If no data is streaming in the SMDR or ACD panes, click **Reset SMDR/ACD link**.

Figure 11 - 3 Data link for the Intelligent Queue Server



Configuring enterprise and media server alarm notifications

You can define alarms notifications that alert you when the Enterprise Server and media servers are not functioning optimally. You can specify the severity of, and performance thresholds for each server malfunction.

Client notifications are specific to each computer. You can be notified of enterprise and media server alarms in several ways:

- A pop-up notification opens on your desktop.
- A sound prompt, such as a beep or .wav file, plays.
- You are notified by email.
- Contact Center Client opens on top of all open applications.

To configure notifications

1. Add alarm thresholds.
2. Specify threshold colors.
3. Specify threshold notification.

Adding alarm thresholds

When configuring thresholds for alarms, you must specify the following alarms as *warnings* rather than *critical* alarms (because these alarms will always be warnings when they are active):

- No alarms configured
- PBX PC time drift
- ACD sequence number error
- Alarm outside of business hours
- Maintenance
- Intelligent Queue Watchdog Service is down
- Intelligent Queue low disk space
- Intelligent Queue has detected a MiTAI error

You configure all other alarms as *critical* because they will have a severity of critical when they are triggered.

In addition to configuring an alarm threshold with a severity of warning or critical (for a specific alarm), you can configuring an alarm threshold with a severity of *normal*. Network Monitor then notifies you when the alarm is cleared.

To add performance thresholds for enterprise and media server alarms

1. In Network Monitor, right-click the Enterprise window (to configure enterprise alarm notifications) or the Media server window (to configure media server alarm notifications) and select **Set enterprise notifications** or **Set media server notifications**.
   The Set alarms window opens.
2. Under **Devices**, select the enterprise server or one or more servers/media servers or select the **Select all** check box to select all servers/media servers.
3. In the **Performance variables** list, select an alarm type.
4. Under **Alarm Thresholds**, click **Add value**.
5. Under Severity select **Normal**, **Warning**, or **Critical**.
6. Click **OK**.

Specifying threshold colors

To configure performance threshold colors

1. For the alarm threshold for which you want to specify colors, under **Background**, click the arrow.
   A color palate opens.
2. Select a color.
3. Under **Font color**, click the arrow.
   A color palate opens.
4. Select the font color for the alarm threshold.
5. Click **OK**.

Specifying threshold notification

To configure performance threshold sound notification

1. For the alarm threshold for which you want to be notified by a sound, under **Sound**, select the check box.
   The Sound window opens.
2. Specify the alarm triggering properties.
3. Specify the sound you want played when the alarm is triggered.
4. Click **Save**.

To configure performance threshold pop-up window notification

1. For the alarm threshold for which you want to be notified by a pop-up window, under **Pop-up**, select the check box.
   The Pop-up window opens.
2. After **Duration**, type the number of seconds you want the pop-up alarm to be displayed when threshold conditions are satisfied.
3. If you want to display the pop-up alarm on top of all of the other applications, select the **Keep this message visible on mouse over** check box.
4. Optionally, click the **Format font** button to specify font attributes for the pop-up alarm message.
5. In the text box, type the message for the performance threshold and click the **Add variable** button to insert performance variables. (for example, type CW P001 = <calls waiting variable>).
6. Click **Save**.

To specify that Contact Center Client opens on top of all other applications when a performance threshold is satisfied

- For the alarm threshold for which you want to be notified, under **Bring to front**, select the check box.

To configure performance threshold email notification

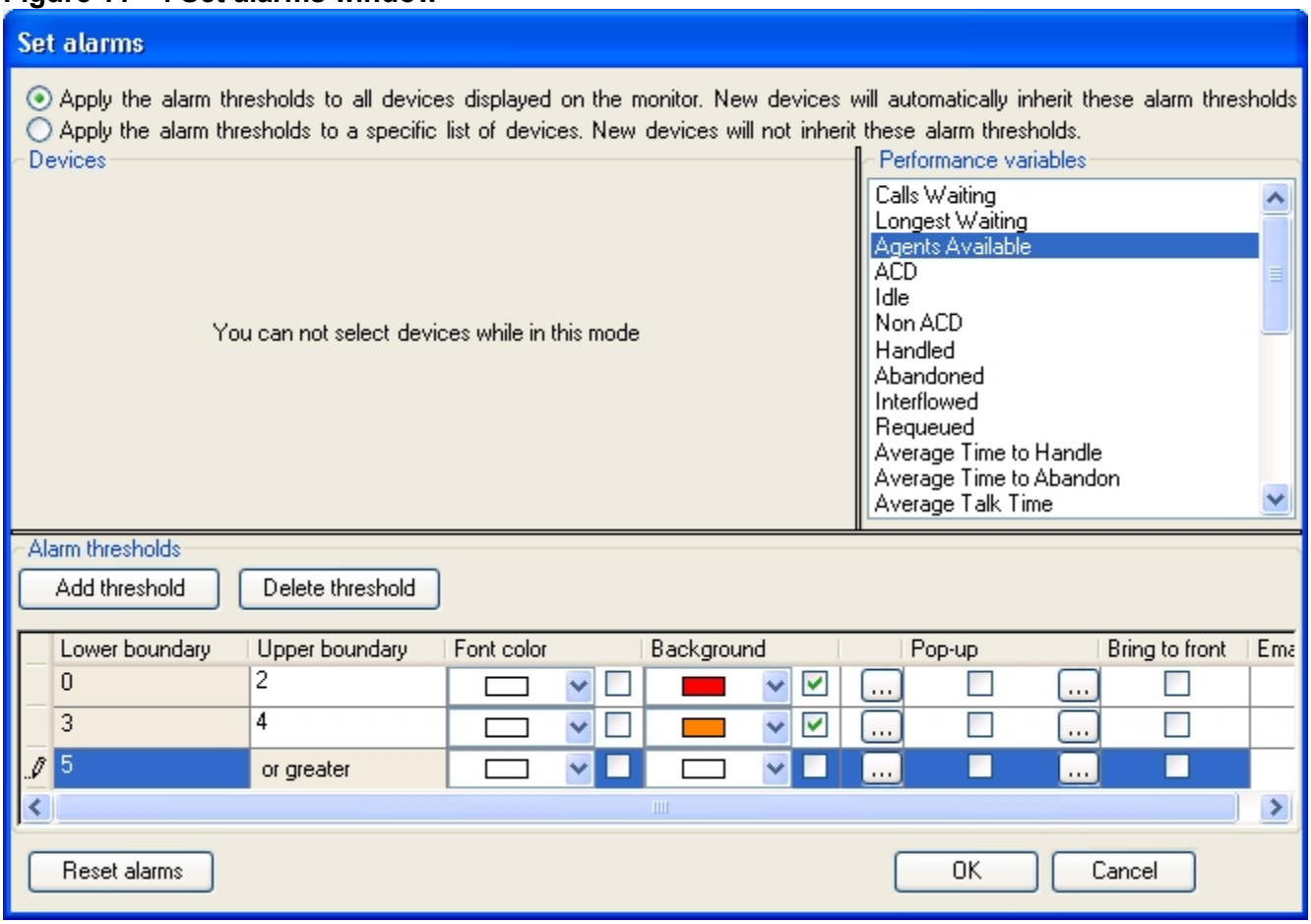
1. For the alarm threshold for which you want to be notified, or notify others by email, under **Email**, select the check box.
   The Email window opens.
2. After **Distribution**, specify which contacts are to be notified by email when threshold conditions are satisfied.
   See "Emailing reports" on page 282.
3. After **Subject**, type the subject of the email to be sent (for example, type Calls Wtg in Sales Queue 1 >10!).
4. In the message box, type the body of the email.
5. Click **Save**.

Consider the threshold programming in Figure 11 - 4. When the number of agents available in the technical support queue is between 0 and 2, the cell housing the Agents Available statistic is red. When the number of agents available is between 3 and 4, the cell turns orange. When the number of agents available is 5 or greater, the cell turns white. In addition, audible alarms and pop-up alarms display.

To clear any current client alarms in Contact Center Client

- Right-click the monitor and click Clear alarms.

Figure 11 - 4 Set alarms window



Troubleshooting data collection issues

If data is not being collected for a particular voice media server (has “timed out”), Network Monitor will display the SMDR/ACD data collection timeout alarm.

There are several possible reasons why data does not stream. The following solutions address the most common streaming problems:

SMDR data is not streaming

SMDR data records are generated at the end of calls. If SMDR data is not flowing through the TCP/IP sockets, then the telephone system is not producing data records, your Class of Service and/or SMDR Options Assignment forms are not configured correctly, or something is wrong with the TCP/IP sockets.

If SMDR data is not streaming

1. On a client computer or on the Enterprise Server, in Network Monitor, on the Data link window of the telephone system media server, click **Reset SMDR Link** to restore the connection.
2. Wait 60 seconds.
3. If you have an ethernet connection, verify it is up and running.
4. If SMDR data is still not flowing, on the Enterprise Server, verify the SMDR Options and Class of Service Options Assignment forms are configured correctly on the telephone system. See the *Contact Center Management Installation Guide*.
5. If SMDR data is still not flowing, on the Enterprise Server, use a hyperterminal session to verify data is flowing through the TCP/IP sockets.
6. Restart Collector Service.
7. If SMDR data is still not flowing, call prairieFyre software at 613-599-0045, option 3 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).

ACD data is not streaming

ACD data records are generated with each agent event and with periodic refresh events produced by the telephone system. If ACD data is not flowing through the TCP/IP sockets, then the telephone system is not producing data records or something is wrong with the TCP/IP sockets.

If ACD data is not streaming

1. On a client computer or on the Enterprise Server, in Network Monitor, on the Data link window of the telephone system media server, click **Reset ACD Link** to restore the connection.
2. Wait 60 seconds.
3. If you have an ethernet connection, verify it is up and running.
4. If ACD data is still not flowing, on the Enterprise Server, use a hyperterminal session to verify data is flowing through the TCP/IP sockets.
5. Restart Collector Service.
6. If ACD data is still not flowing, please call prairieFyre software at 613-599-0045, option 3 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).

Viewing the data collection TCP/IP ports with Hyperterminal

You can use Hyperterminal to verify if data is flowing from the TCP/IP sockets.

To view the TCP/IP sockets with Hyperterminal

1. On the Enterprise Server, stop Collector Service.
2. Click **Start=>Programs=>Accessories=>Communications=>HyperTerminal**.
3. Create a session (using the TCP/IP address displayed on the Data link window in Network Monitor) and verify data is flowing through the TCP/IP sockets.

Restarting Collector Service

You must restart Collector Service after you view the TCP/IP sockets with Hyperterminal.

To stop Collector Service

1. On the Enterprise Server, in Windows, navigate to **Services**.
2. Right-click **prairieFyre Collector Service (v5)** and click **Restart**.

Chapter 12

Interactive Contact Center

Using Interactive Contact Center

Interactive Contact Center

Interactive Contact Center is an optional application that enables supervisors who have a 3300 ICP, 5000, or Axxess telephone system to control the availability of agents and ACD queues. Agents can control their own availability: they can log themselves on or off, and place themselves in or remove themselves from Make Busy or Do Not Disturb.

Using Interactive Contact Center

Interactive Contact Center is designed for agents and supervisors.

Supervisors and Interactive Contact Center

Using Interactive Contact Center, supervisors can

- Control the availability of agents and ACD queues
- Log agents on and off of the telephone system
- Remove agents from agent groups and place them into other agent groups. Agent groups are assigned to queues so, in this way, agents can be moved from one queue to another as needed
- Place agents in Make Busy
- Place agents in Do Not Disturb
- Place queues in Do Not Disturb

If an agent has multiple voice agent IDs, the agent can answer calls for multiple queues. In order to move the agent from one queue to another queue, the supervisor logs off the agent and then logs on the agent using a different agent ID.

You create associations between agents and queues in YourSite Explorer.

You can restrict individual supervisors from managing particular monitors and devices in Contact Center Management, YourSite=>Security.

Agents and Interactive Contact Center

Using Interactive Contact Center, agents can

- Log themselves on and off of the telephone system
- Remove themselves from agent groups and place themselves into other agent groups. Agent groups are assigned to queues so, in this way, agents can move themselves from one queue to another as needed
- Place themselves in Make Busy
- Place themselves in Do Not Disturb

You can restrict individual agents from managing particular monitors and devices in Contact Center Management using YourSite Security.

Every time agents leave their desks they must set Make Busy or Do Not Disturb. There are many reasons why agents leave their desks. You assign each of these reasons a Make Busy or Do Not Disturb Reason Code and then agents can apply the codes. When you run an Agent Performance by Make Busy / DND Code report, the report clearly indicates when an agent went in Make Busy or Do Not Disturb, and why (which code the agent selected each time).

Starting Contact Center Client

You start Contact Center Client to access real-time functionality. Supervisors and agents can view real-time voice statistics. In contact centers that have the optional Multimedia Contact Center application, supervisors and agents can view real-time voice, email, chat, and fax statistics. After starting Contact Center Client, you can choose to minimize it to either the system tray or the taskbar, depending on your operating system.

To start Contact Center Client

1. Open **Contact Center Client**.
   CAUTION: Do not select “Remember my credentials” if you intend to work both at the office and from home.
2. If you use Secure Socket Layer, select **SSL** and click **OK**.

Agent control

Using Interactive Contact Center and Contact Center Client, you can control agents on the following monitors:

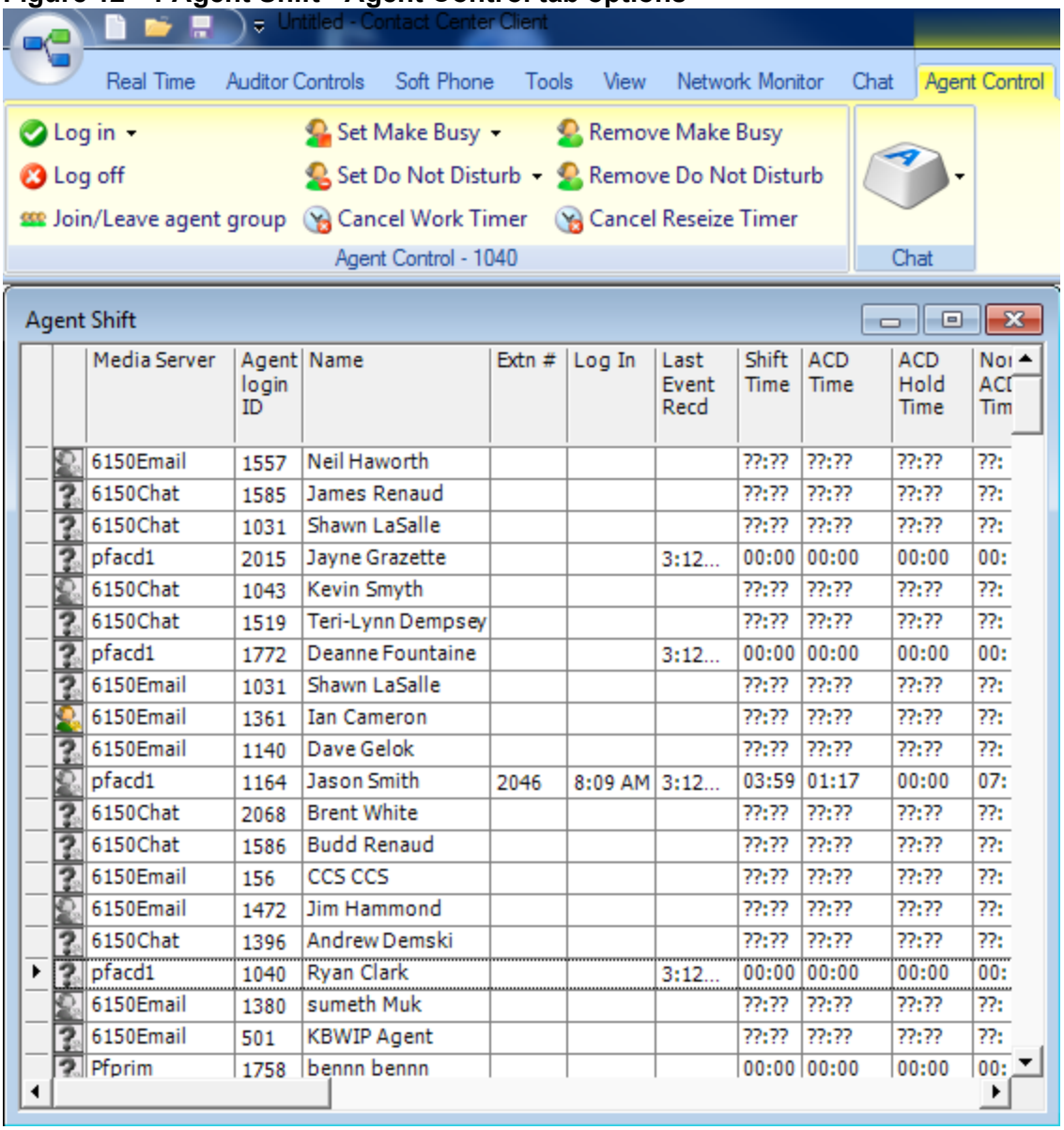
- Agent State by Position and Employee State by Position
- Agent State by Time and Employee State by Time
- Agent Shift

Agent control gives you control over individual agents. Monitor control gives you control over all of the agents on a monitor. All of the agents on the monitor are affected simultaneously by the action you take.

If you have Context Sensitivity enabled for monitors, the Agent Control and Monitor Control tabs display in the Contact Center Client ribbon when you have any of the above monitors open. You can perform actions using either a right-click and select method within the monitor or by selecting an agent or an empty cell (monitor control) and accessing the action menu in the Agent or Monitor Control tab views. (See Figure 12 - 1.)

NOTE: Monitor control is available only if you configure extensions for your employees.

Figure 12 - 1 Agent Shift - Agent Control tab options



Hiding the Monitor control option

When you right-click a device on a real-time monitor a menu is displayed. If you have Interactive Contact Center and you are permitted to use agent and queue control, you will see a Monitor control option on this menu. If you do not use Monitor control, you can hide this option so it is not displayed on the menu.

To hide the Monitor control option

1. In Contact Center Client, click the **Contact Center Client button=>Options**.
2. Under **Device control**, clear the **Display monitor device control option** check box.
3. Click **OK**.

Logging on an agent

NOTE:

- An ACD hot desking agent must enter an extension number each time the agents logs on to the telephone system using Interactive Contact Center. The agent cannot rely on the extension number last used when logging on. This is because the ACD data stream unifies the agent ID and the extension. After a hot desking agent logs on or off of the telephone system using Interactive Contact Center, sometimes the Interactive Contact Center agent controls are not available to the agent for two to five minutes.
- Mitel 5000/Axxess agents that are logged on to all available queues are set to work timer. If they are logged on to a single queue, they are set to idle.
- You will be unable to log in an agent to the ACD if there are no available 3300 ICP user licenses.
- If your contact center participates in the use of PINs, supervisors with the correct Class of Service do not require an agent's PIN to interactively log in a hot desking agent.
- Supervisors marked as Advanced supervisor or System Administrator will not be prompted to enter a PIN when logging into Interactive Contact Center, Softphone, or PhoneSet Manager provided third party call control is configured under security in the Contact Center Management website and on the telephone switch.

In the following example we will use the Agent State by Position monitor to illustrate Agent control.

To log on an agent

1. In Contact Center Client, click **View=>Real time** to view the supervisor monitor icons.
2. Click the **Position** icon and click **Agent State by Position**.
3. Select agents to monitor.
4. Click **OK**.
   Contact Center Client displays the devices across the monitor in the order you specified.
   NOTE: The first time you log on an agent, you must click By extension and specify the agent's extension number so Interactive Contact Center knows to which phone the agent is logged on.
5. Right-click the cell of an agent who is logged off and click **Agent control=>Log on=>By extension**.
   NOTE: If the agent being logged on is an external hot desking agent, click either the agent ID, the agent's external number, or by extension.
6. After **Agent ID**, select one of the agent's agent login IDs.
7. After **Agent's extension**, type the agent's extension number.
8. Click **OK**.

Logging off an agent

To log off an agent

- Right-click the cell of an agent who is logged on and click **Agent control=>Log off**. Alternatively, select the agent cell in an open monitor and click **Log off** from the Agent Control tab on the Contact Center Client ribbon.

Logging off all of the agents on a monitor

To log off all of the agents

- Right-click the monitor and click **Monitor control=>Log off**. Alternatively, select an empty cell in the monitor and click **Log off** from the Monitor Control tab of the Contact Center Client ribbon.

Logging an agent out of one queue and into another queue

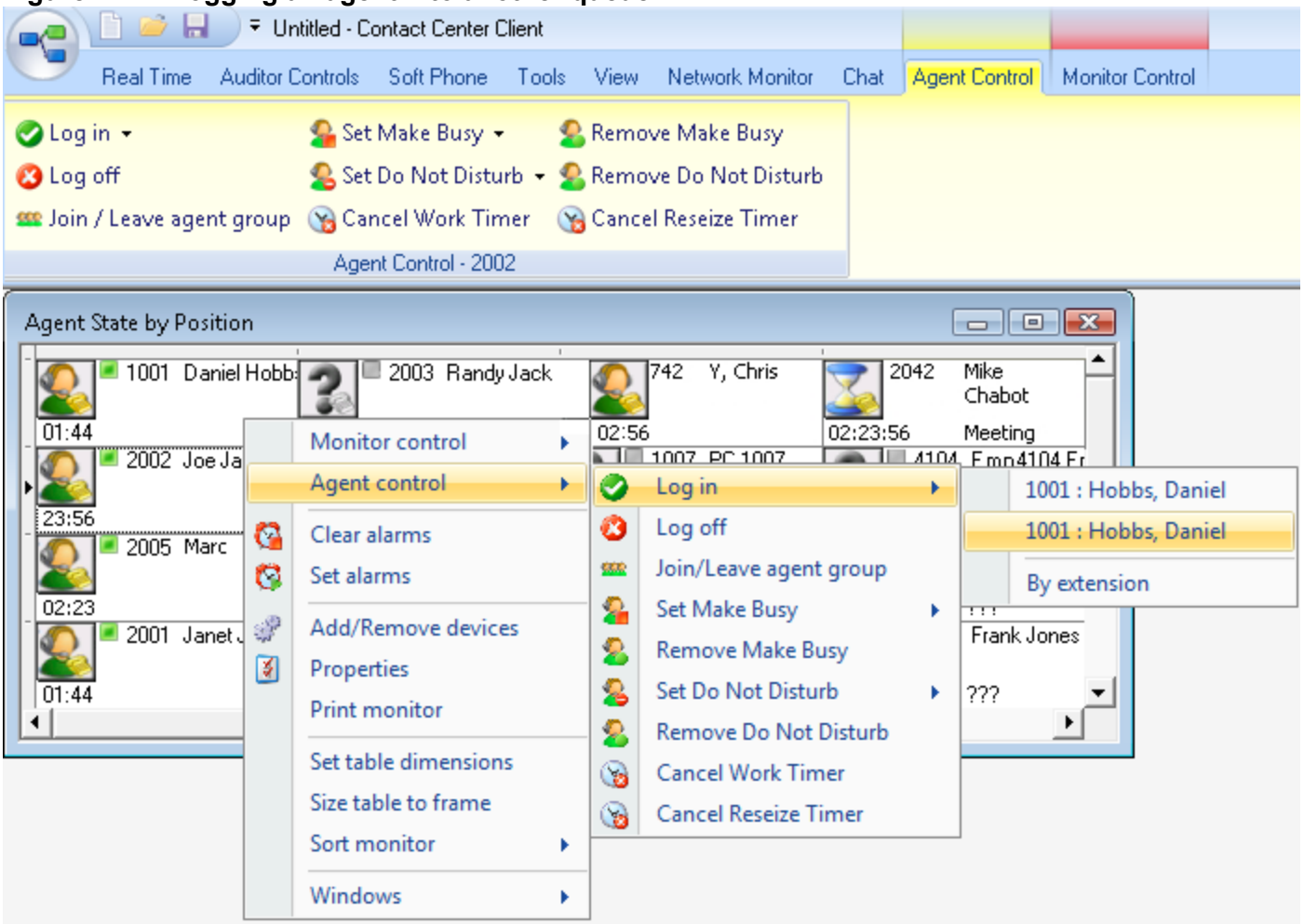
Employees can log out of one answer point and into another answer point if they have multiple agent login IDs that are associated with different answer points.

For example, Daniel Hobbs. has three Agent login IDs: 999, 1000, and 1001. They are associated with Queues P007, P003, and P001 respectively. Queue P007 is associated with Spanish calls. Queue P003 is associated with French calls. Queue P001 is associated with English calls. When the English call volume increases, Daniel can log out of the Spanish Queue and into the English Queue. Figure 12 - 2 shows Daniel logged in using Agent ID 1001.

To log Danielout of P007 and into P001

1. Right-click the monitor.
2. Click **Agent control=>Log on**. Alternatively, select the agent cell in an open monitor and click **Log in** from the Contact Center Client ribbon.
   A list of available agent login IDs opens.
3. Select 1001: Daniel Hobbs from the list.
   Daniel is now handling English calls.

Figure 12 - 2 Logging an agent into another queue



Agent Group Presence

If you have a Mitel 3300 ICP (MCD 4.0 SP2 and 4.1 or greater) or 5000/Axxess telephone system, you can add agents to and remove agents from one or more agent groups using Interactive Contact Center.

The Mitel 3300 ICP (MCD 4.0 SP2 and 4.1 or greater) enables agents to be placed in or removed from multiple agent groups (up to 16 on the Mitel 3300 MXe II Controller and up to 30 on the Mitel 3300 MXe server). Agents can be added and removed from agent groups using Feature Access Codes (FAC), a Feature Access Key (FAK) programmed on their set, or using Interactive Contact Center.

The agent group presence option is controlled by Class of Service. Once the appropriate Class of Service has been set, the agent group presence status can be changed in the following ways.

- Feature access keys can be programmed on a Mitel multiline phone set. One button would be used to join or leave each agent group to which the agent is a member.
- Supervisors and agents can dial a feature access code followed by the group number to change their status for that group or to change their status for all groups to which they are a member.
- The desktop tool in the embedded system management can be used to make status changes.
- MiTAI controls are also available to make status changes.

Agent Group Presence has several licensing and configuration prerequisites:

- You must have purchased a Contact Center Standard Starter Pack license or greater to use Interactive Contact Center. For more information on Contact Center Starter Packs, see the *Contact Center Solutions and Call Accounting System Engineering Guide*.
- For agents to use Agent Group Presence, Group Presence Control must be enabled for all agents on the Class of Service Options Assignment form on the Mitel 3300 ICP.
- For supervisors or system administrators to use Agent Group Presence, they must log into Contact Center Client as a non-administrative user. They also require a valid employee license and an associated device with Group Presence Control and Group Presence Third Party Control enabled on the Class of Service Options Assignment form on the Mitel 3300 ICP.
- Real-time monitoring must be enabled in YourSite Explorer for all agents. For supervisors to control agent group presence in Interactive Contact Center, the agent and at least one of the agent's dialable numbers must be enabled for Real-time monitoring. See "Adding agents" on page 131.

Agent Group Presence also requires that specific security roles be enabled:

- To control agent presence status in Interactive Contact Center, you must enable “May change the real-time presence states of agents in Interactive Contact Center”.
- To control supervisor presence status in Interactive Contact Center, you must enable “May control my real-time presence status in Interactive Contact Center”.

For more information, see "Configuring security roles" on page 181.

If the ACD Logout Agent No Answer Timer Class of Service option is enabled on your Mitel 3300 telephone system, when an agent in an agent group fails to answer a call offered to them after the logout time expires, the agent is logged out of their agent group. In an environment using MCD 5.0 SP2 or greater, however, agents who fail to answer an offered call before the logout time expires are removed by the telephone system from their agent group.

Agent group presence best practices

It is important to note that agents may join or leave agent groups but not queues. Agents become absent from a queue indirectly if they leave all agent groups associated with that queue. An agent who is present in an agent group which is associated to all queues would be disassociated from all queues simultaneously if they became absent in their agent group. Since the goal of agent group presence is to provide a dynamic response to varying queue activity, allowing agents to become absent from all queues simultaneously is counterproductive.

As a best practice, we recommend you associate agent groups to queues based on business groups within your organization. A unique agent group to business group queue(s) association allows agents who leave an agent group associated to a particular business group to remain present in an agent group(s) associated to other business group(s).

Adding agents to and removing agents from agent groups

After logging into Contact Center Client, agents use Interactive Contact Center to control their presence status in agent groups. Optionally, supervisors can use Interactive Contact Center to control the presence status of agents in specific agent groups.

NOTE:

- Agents must be Standard or higher to control their own Agent Group Presence. Basic Agents cannot control their own Agent Group Presence.
- An agent's ACD hot desk line remains in service while they are logged in as an ACD hot desk user even if they are not present in any ACD groups and not receiving ACD calls.
- For information on the configuration, licensing, and security role prerequisites that must be met in order to use Agent Group Presence, see "Agent Group Presence" on page 357.

To add an agent to or remove an agent from an agent group

1. Right-click the cell of an agent who is logged on and click **Agent control=>Join/Leave agent group**. Alternatively, select the cell of an agent and click **Join/Leave agent group** from the Agent Control tab in the Contact Center Client ribbon.
2. Select the agent group(s) to which you want to add the agent or from which you want to remove the agent.
3. Click **OK**.

Placing agents in Make Busy

To place an agent on a monitor in Make Busy

- Right-click the cell of an agent who is logged on and click **Agent control=>Set Make Busy=>**reason code.Alternatively, select the agent cell in an open monitor and click **Set Make Busy** from the Agent Control tab in the Contact Center Client ribbon.

To place all of the agents on a monitor in Make Busy

- Right-click the monitor and click **Monitor control=>Set Make Busy=>**reason code.

Removing agents from Make Busy

To remove an agent from Make Busy

- Right-click the cell of an agent who is in Make Busy and click **Agent control=>Remove Make Busy**. Alternatively, select the agent cell in an open monitor and click **Remove Make Busy** from the Agent Control tab in the Contact Center Client ribbon.

To remove all of the agents on a monitor from Make Busy

- Right-click the monitor and click **Monitor control=>Remove Make Busy**. Alternatively, select an empty cell in an open monitor and click **Remove Make Busy** from the Monitor Control tab in the Contact Center Client ribbon.

Placing agents in Do Not Disturb

NOTE:

- For the 5000/Axxess, Synchronization must be performed before Do Not Disturb with Reason codes can be used by agents and supervisors.
- For the 5000/Axxess, if you set an agent to Do Not Disturb and do not enter any notes, clicking Cancel on the Do Not Disturb Notes dialog box will place the agent in Do Not Disturb with no notes, without canceling the Do Not Disturb state.
- If an agent in Make Busy sets and later removes Do Not Disturb on their extension, work timer will not work until the agent either logs off the telephone system or until calls remove Make Busy on the extension (even though the agent state is set to idle).

To place an agent in Do Not Disturb

- Right-click the cell of an agent who is logged on and click **Agent control=>Set Do Not Disturb**=>reason code. Alternatively, select the agent cell in an open monitor and click **Set Do Not Disturb** from the Agent Control tab in the Contact Center Client ribbon.

To place all of the agents on a monitor in Do Not Disturb

- Right-click the monitor and click **Monitor control=>Set Do Not Disturb**=>reason code. Alternatively,select an empty cell in an open monitor and click **Set Do Not Disturb** from the Monitor Control tab in the Contact Center Client ribbon.

Removing agents from Do Not Disturb

To remove an agent from Do Not Disturb

- Right-click the cell of an agent who is in Do Not Disturb and click **Agent control=>Remove Do Not Disturb**. Alternatively, select the agent cell in an open monitor and click **Remove Do Not Disturb** from the Agent Control tab in the Contact Center Client ribbon.

To remove all of the agents on a monitor from Do Not Disturb

- Right-click the monitor and click **Monitor control=>Remove Do Not Disturb**. Alternatively, select an empty cell in an open monitor and click **Remove Do Not Disturb** from the Monitor Control tab in the Contact Center Client ribbon.

Cancelling agents in Work Timer

To cancel an agent in Work Timer

- Right-click the cell of an agent who is in Work Timer and click **Agent control=>Cancel Work Timer**. Alternatively, select the agent cell in an open monitor and click **Cancel Work Timer** from the Agent Control tab in the Contact Center Client ribbon.

To cancel all of the agents on a monitor in Work Timer

- Right-click the monitor and click **Monitor control=>Cancel Work Timer**. Alternatively, select an empty cell in an open monitor and click **Cancel Work Timer** from the Monitor Control tab in the Contact Center Client ribbon.

Canceling the Reseize Timer for external hot desk agents

If an external hot desk user is unavailable (they are in a non-ACD call or off hook) and the ACD path attempts to deliver a call to them the telephone system will initiate the Reseize Timer, preventing further ACD call delivery attempts until the timer expires or is canceled by the agent or supervisor. Value settings for reseize timers are a minimum of four seconds, a default of 180 seconds, and a maximum of 60 minutes. These values are configured on the telephone system. When an agent is in the Reseize Timer state, the applicable real-time monitors in Contact Center Client display the Make Busy icon as well as text denoting the agent's current state as "Reseize Timer".

To cancel an agent in the Reseize Timer state

- Right-click an agent that is in the Reseize Timer state and click **Agent control=>Cancel Reseize Timer**. Alternatively, select the agent cell in an open monitor and click **Cancel Reseize Timer** from the Agent Control tab in the Contact Center Client ribbon.

To cancel all of the agents on a monitor in the Reseize Timer state

- Right-click the monitor and click **Monitor control=>Cancel Reseize Timer**. Alternatively, select an empty cell in an open monitor and click **Cancel Reseize Timer** from the Monitor Control tab in the Contact Center Client ribbon.

Queue Control

Using Interactive Contact Center and Contact Center Client, you can control queues on the Queue Now monitor.

You can control queues

- Manually
- Using a schedule
- Using a Queue control plan

Manually controlling queues

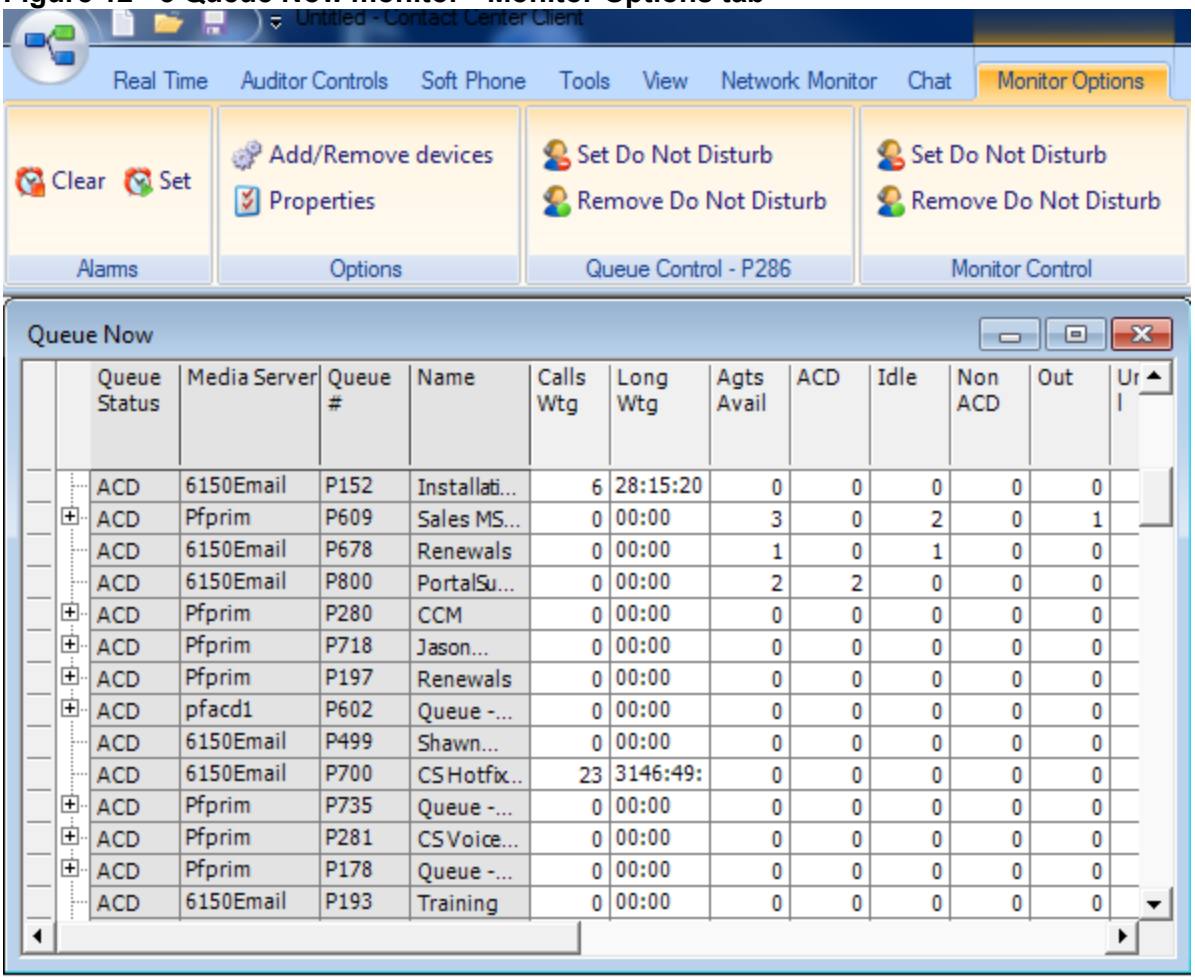
NOTE:

- You can see queue statistics during business hours as long as the business schedule you configure in YourSite=>Schedule or YourSite Explorer=>Schedules is consistent with your company's hours of operation. You assign business-hours schedules to queues in YourSite=>Configuration=>Queue=>Queue or in YourSite Explorer=>Queues=>Business Hours.
- Manual queue control overrides queue schedules and queue control plans.

Interactive Contact Center Queue control enables you to control individual queues. Monitor control enables you to control all of the queues on a monitor.

The Monitor Options tab displays in the ribbon for the Queue Now monitor. You can perform actions using either a right-click and select method in the open monitor or by accessing the action menu in the Monitor Options ribbon. (See Figure 12 - 3.)

Figure 12 - 3 Queue Now monitor - Monitor Options tab



Hiding the Monitor control option

When you right-click a device on a real-time monitor a menu is displayed. If you have Interactive Contact Center and you are permitted to use agent and queue control, you will see a Monitor control option on this menu. If you do not use Monitor control, you can hide this option so it is not displayed on the menu.

To hide the Monitor control option

1. In Contact Center Client, click the **Contact Center Client button=>Options**.
2. Under **Device control**, clear the **Display monitor device control option** check box.
3. Click **OK**.

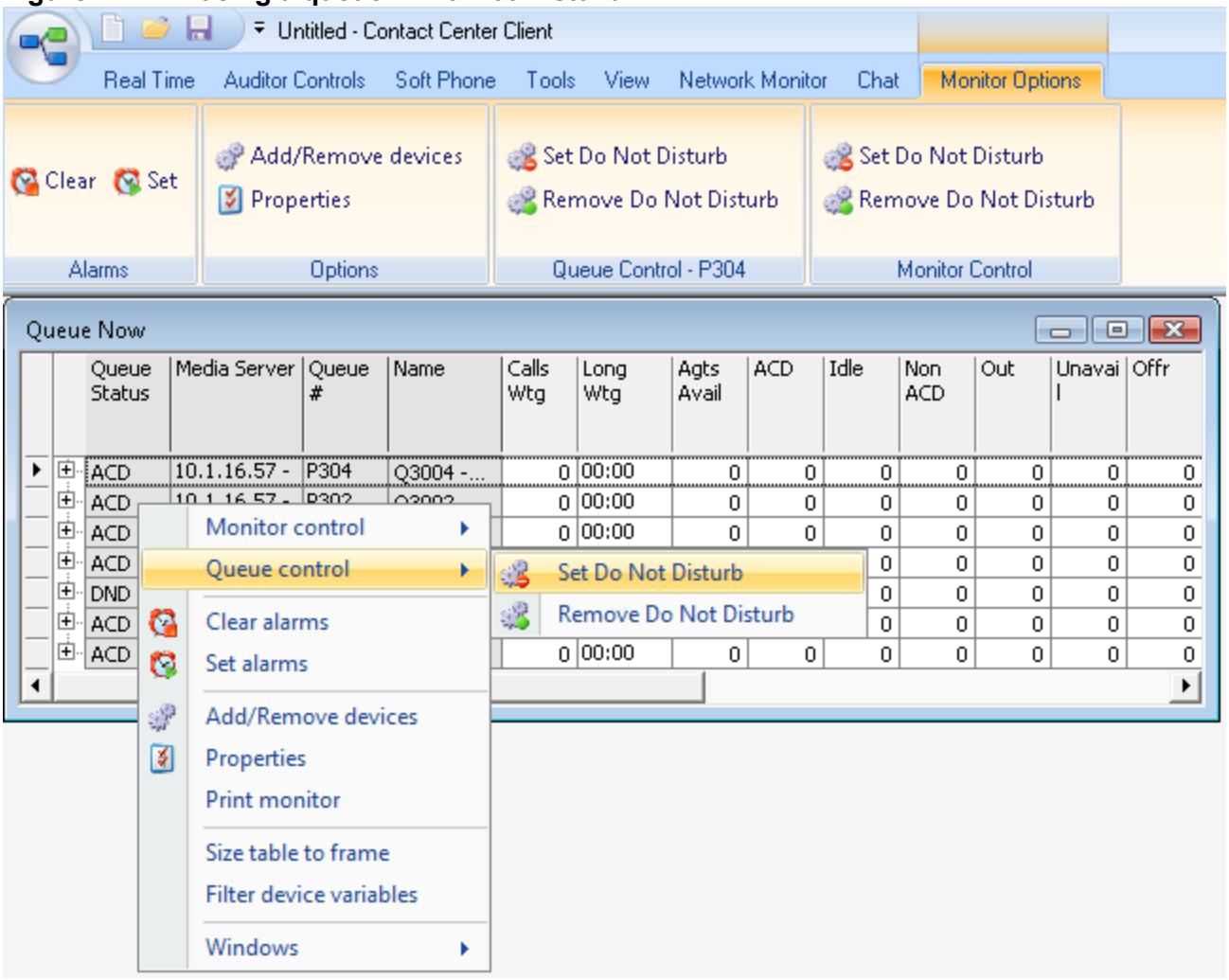
Placing queues in Do Not Disturb

Using manual queue control, you can place queues in and remove queues from Do Not Disturb on the Queue Now monitor. A call will not enter a queue that is in Do Not Disturb. The call is sent to an unavailable answer point programmed in the telephone system.

To place a queue in Do Not Disturb

- Right-click the cell of an active queue and click **Queue control=>Set Do Not Disturb**. Alternatively, select the queue in an open Queue Now monitor and click **Set Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon.
  See Figure 12 - 4.

Figure 12 - 4 Placing a queue in Do Not Disturb



To place all of the queues on a monitor in Do Not Disturb

- Right-click the monitor and click **Monitor control=>Set Do Not Disturb**. Alternatively, select an open Queue Now monitor and click **Set Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon.

Removing queues from Do Not Disturb

To remove a queue from Do Not Disturb

- Right-click the cell of a queue that is in Do Not Disturb and click **Queue control=>Remove Do Not Disturb**. Alternatively,select the queue in an open Queue Now monitor and click **Remove Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon.

To remove all of the queues on a monitor from Do Not Disturb

- Right-click the monitor and click **Monitor control=>Remove Do Not Disturb**. Alternatively, select an open Queue Now monitor and click **Remove Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon.

Controlling queues using a schedule

A Queue control schedule opens queues during business hours and closes queues after business hours.

Scheduling queues to enter or leave Do Not Disturb

Using a schedule, you can place queues in and remove queues from Do Not Disturb on the Queue Now monitor.

To schedule a queue to enter or leave Do Not Disturb

1. Click **YourSite=>Configuration**.
2. On the **Configuration menu**, click **Queue=>Queue**.
3. Across from a 3300 ICP/5000/Axxess queue, click **Edit**.
4. On the **Interactive Contact Center Queue control** tab, after **Interactive Contact Center Queue control schedule**, select a schedule.
5. Click **Manage schedule**.
6. Click **Edit schedule** or **Create a new schedule**.
   You can edit the default 24/7 schedule or you can click Create new schedule to create a new schedule.
7. If you are creating a new schedule, after **Name**, type the name of the schedule.
8. Specify the time you want the queue to enter and leave Do Not Disturb.
   For example, your business opens on Monday at 9:00 A.M. and closes on Friday at 5:00 P.M. You select a start time of 9:00 A.M for the days Monday to Friday. You select an end time of 5:00 P.M for the days Monday to Friday. For Saturday and Sunday you select Disable for day. Your queues will be in Do Not Disturb at all times except for Monday to Friday, from 9:00 A.M. to 5:00 P.M.
9. Click **Apply schedule**.

Controlling queues using Queue control plans

NOTE: You must install Interactive Contact Center before you can use Interactive Contact Center Queue control.

If you have a 3300 ICP/5000/Axxess, using Queue control plans, you can place queues in and remove queues from Do Not Disturb automatically based on predefined criteria. Each queue control plan monitors one queue, and based on the activity of the queue, either places a queue in or removes a queue from Do Not Disturb.

Creating Queue control plans

Queue control plans open and close queues based on plan parameters only during business hours. Each queue is controlled by only one queue control plan at a time. You can apply the same queue control plan to several queues. For information on how to create queue control plans, see "Managing a queue control plan (3300 ICP)" on page 140.

Chapter 13

Interactive Visual Queue

Using Interactive Visual Queue

Interactive Visual Queue

Interactive Visual Queue is a Contact Center Client real-time monitor that works in conjunction with Contact Center Management and Interactive Contact Center. Interactive Visual Queue comprises a Queued calls grid and an Abandoned calls grid. In the Queued calls grid, supervisors and agents can view calls within queues and then use a drag-and-drop operation to move calls from busy queues to less active queues. In the Abandoned calls grid, supervisors can view abandoned call information, including the caller name, phone number, and time of the abandoned call. Agents can use the Abandoned calls grid to call back abandoned callers.

Using Interactive Visual Queue

Interactive Visual Queue works in conjunction with Contact Center Management. Before you use Interactive Visual Queue you must configure options in Contact Center Management so they mirror those of the 3300 ICP, 5000, or Axxess telephone system.

NOTE: In order to use Interactive Visual Queue, you must enable all HCI options on Class of Service Assignment form 1 (COS 1).

Configuring options in Contact Center Management

In YourSite Configuration, for each queue you want to monitor, you must configure the priority level and the method for handling interflowed calls. The values you configure must match the values specified on the Path Assignment form of your telephone system.

NOTE: The YourSite Configuration settings for Interactive Visual Queue monitors do not affect call flow activity on the actual queues. These settings only affect the way Interactive Visual Queue displays the queue monitors in Contact Center Client. If you want to modify call flow on the actual queues, you must change the telephone system settings.

If the telephone system settings and Interactive Visual Queue settings do not match, Interactive Visual Queue will not display the correct call activity. For example, if Queue 1 is set to a priority of 10 on the telephone system and a priority of 20 in YourSite Configuration, Interactive Visual Queue will display calls in Queue 1 as priority 20. However, the actual queue will handle the calls as priority 10.

Starting Contact Center Client

Interactive Visual Queue resides in Contact Center Client.

To start Contact Center Client

1. Open **Contact Center Client**.
2. Type your user name and password and verify the Enterprise Server IP address.
3. If you use Secure Socket Layer, select **SSL**.
   CAUTION: Do not select “Remember my credentials” if you intend to work both at the office and from home.
4. Click **Log on.**

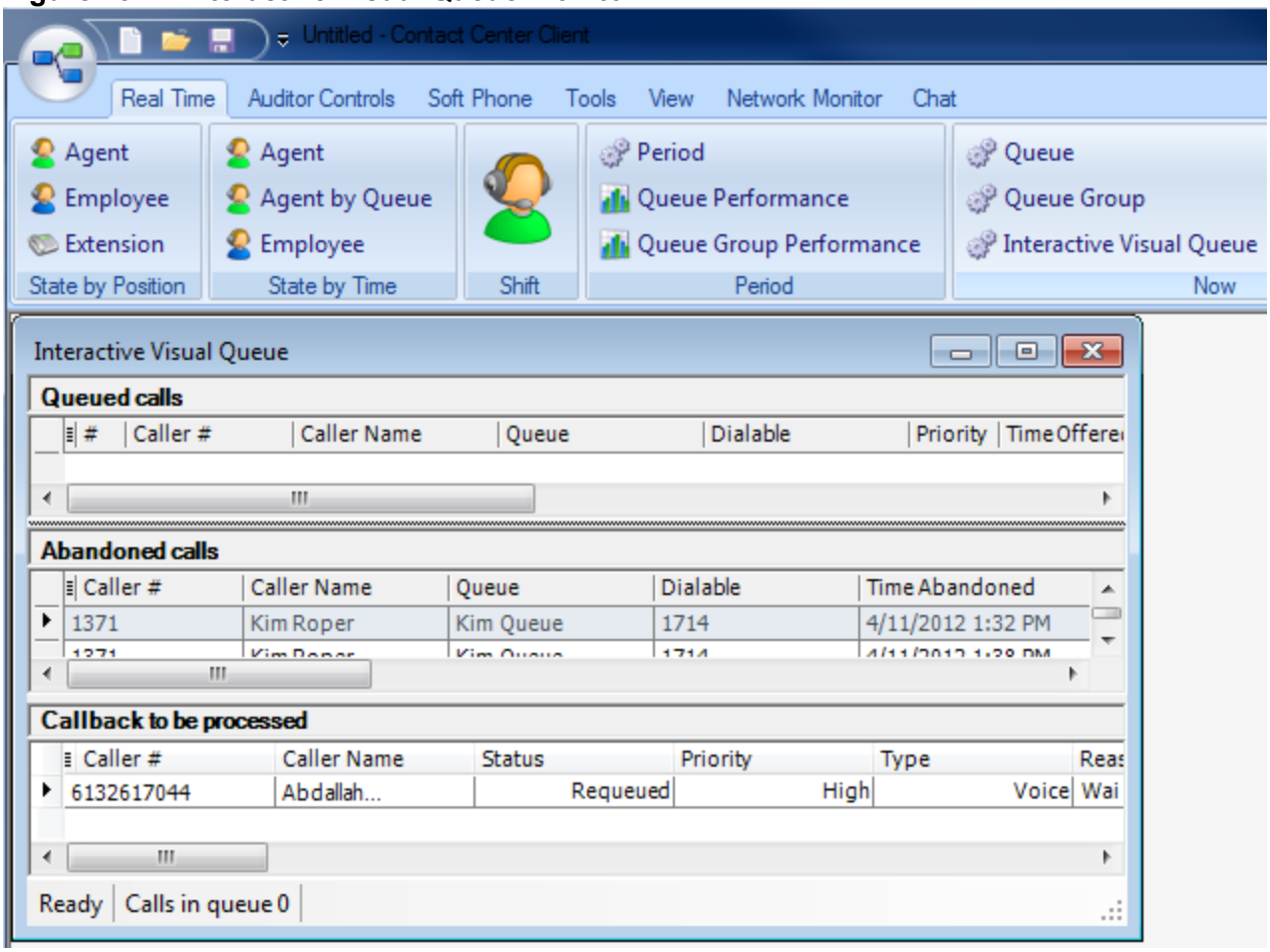
Opening Interactive Visual Queue

You access Interactive Visual Queue by logging on to Contact Center Client and then opening the Real-time toolbar.

To open an Interactive Visual Queue monitor

1. Log on to Contact Center Client.
2. In the Contact Center Client ribbon, click **Real time**.
3. Click **Interactive Visual Queue**.
   The Add/Remove device IDs window opens.
4. Select a queue from the Queues list and click **OK**.
   See Figure 13 - 1.
   NOTE:
   - Virtual queue groups are shown in the Queue groups list.
   - To use Interactive Visual Queue effectively, you should open two or more queue monitors.

Figure 13 - 1 Interactive Visual Queue monitor



Interactive Visual Queue monitor grids

The Interactive Visual Queue monitor comprises the Queued calls grid and the Abandoned calls grid. The Queued calls grid lists the calls that are currently in the selected queue. The Abandoned calls grid lists abandoned calls.The calls are listed in order of priority, and the columns cannot be sorted. You can configure the column headings and specify which columns are displayed.

NOTE: The abandoned calls column in the Interactive Visual Queue monitor displays all abandoned calls, whereas, the abandoned column in the Queue Now monitor does not peg short abandons as abandoned calls. Because of this difference, you may notice discrepancies between the abandoned call information in these two monitors.

The following list provides descriptions of the column headings available in the Queued calls grid:

- *Position (#)* displays the answer position relative to other calls in the queue
- *Caller Number* is the originating phone number of the call
- *Caller Name* is the name associated with the phone number (if available)
- *Priority* is the priority of the call in the queue (the lower the number, the higher the priority)
- *Time Offered to Queue* is the time the call entered the current queue
- *Time in Queue* is the call's total time in the current queue
- *Time Offered to System* is the time the call first entered the system
- *Time in System* is the call's total time in the system
- *Queue Hops* is the number of times a call has changed queues
- *Call ID* is a unique identification number that is assigned to the call by the telephone system
- *DNIS Number* displays the DNIS identification number associated with the digits dialed by the customer, as configured in Contact Center Management
- *DNIS Name* displays the name you have configured in Contact Center Management for the associated DNIS number
- *Collected Digits* displays the customer-entered digits provided by Intelligent Queue. Collected digits requires Intelligent Queue and Collect Caller-entered Digits or Verified Collected Digits and, optionally, Remote Database Verification or CTI Developer Toolkit
- *Collected Information* displays the single or series of collected results provided by Intelligent Queue. Collected information requires Intelligent Queue and Verified Collected Digits and, optionally, Remote Database Verification or CTI Developer Toolkit

The following list provides descriptions of the column headings available in the Abandoned calls grid:

- *Caller Number* is the originating phone number of the call
- *Caller Name* is the name associated with the phone number (if available)
- *Time Abandoned* is the time at which the caller abandoned the queue
- *Time Since Abandoned* is the elapsed time since the caller abandoned the queue
- *Last Callback Employee* is the employee name and employee ID associated with the most recent callback attempt
- *Last Callback Time* is the time at which the most recent callback was attempted
- *Time Since Last Callback* is the elapsed time since the most recent callback attempt
- *Time Offered to Queue* is the time the call entered the queue
- *Time in Queue* is the call's total time in the queue
- *Time Offered to System* is the time the call first entered the system
- *Time in System* is the call's total time in the system
- *Queue Hops* is the number of times a call has changed queues
- *Call ID* is a unique identification number that is assigned to the call by the telephone system
- *DNIS Number* displays the DNIS identification number associated with the digits dialed by the customer, as configured in Contact Center Management

- *DNIS Name* displays the name you have configured in Contact Center Management for the associated DNIS number
- *Collected Digits* displays the customer-entered digits provided by Intelligent Queue. Collected digits requires Intelligent Queue and Collect Caller-entered Digits or Verified Collected Digits and, optionally, Remote Database Verification or CTI Developer Toolkit
- *Collected Information* displays the single or series of collected results provided by Intelligent Queue. Collected information requires Intelligent Queue and Verified Collected Digits and, optionally, Remote Database Verification or CTI Developer Toolkit

Redirecting calls

A call can move between queues automatically (interflow) or manually (redirection).

Interflow

You can configure queue settings on the telephone system to automatically move a call from one queue to another after a specific duration. For example, you can configure your system to move a call from Queue 1 to Queue 2 if the call has not been answered within 30 seconds. Interflow occurs without any user interaction.

Redirection

Using Interactive Visual Queue, you can manually redirect a call from a queue to another queue or a dialable number.

There are two ways a call can be removed from the system. If a call is moved more than 10 times, either by redirection or by interflow, the call is dropped from the system. You can see the current number of times a call has moved between queues in the Queue Hops column. A call will also be automatically removed from the system if its total time in the system exceeds 24 hours. The Total Time column lists the call's duration in the system.

You can manually redirect a call in the Queued calls grid using the following methods:

- Drag and drop a call between queues.
- Use the right-click menu to move a call between queues.
- Use the right-click menu to send a call to a specific dialable number (for example, an extension, callback port, or voice mail port).

You may notice that the first two methods perform the same action. However, the second method is convenient when queue monitor is maximized and you want to move a call without having to resize one or more monitors.

NOTE: If you right-click a call and redirect it to a specific extension, the call will no longer be considered an ACD call for reporting purposes. If you redirect a call using either of the other two methods, the call remains an ACD call.

When you manually redirect (drag and drop) a call in Interactive Visual Queue, Contact Center Management changes the way the call is pegged on the Queue Performance reports. If you redirect a call before the short abandon time set for the queue, the call is pegged as *Unavailable*. If you redirect a call after the short abandon time set for the queue, the call is pegged as *Interflowed*. An internal ACD call is pegged as *Abandoned* if the call is redirected at any time.

Redirecting calls between queues

To redirect a call from one queue to another queue using a drag-and-drop operation

1. In the Queued calls grid, click anywhere in the row of the call you want to move.
2. Use a drag-and-drop operation to move the call from its original queue monitor to a new queue monitor.

To redirect a call from one queue to another queue using the menu

1. In the Queued calls grid, right-click the row of the call you want to redirect and click **Send to**.
   A list of available queues appears.
   NOTE: You can select multiple rows to move multiple calls to a new queue.
2. Click the name of the queue to which you want to move the call.

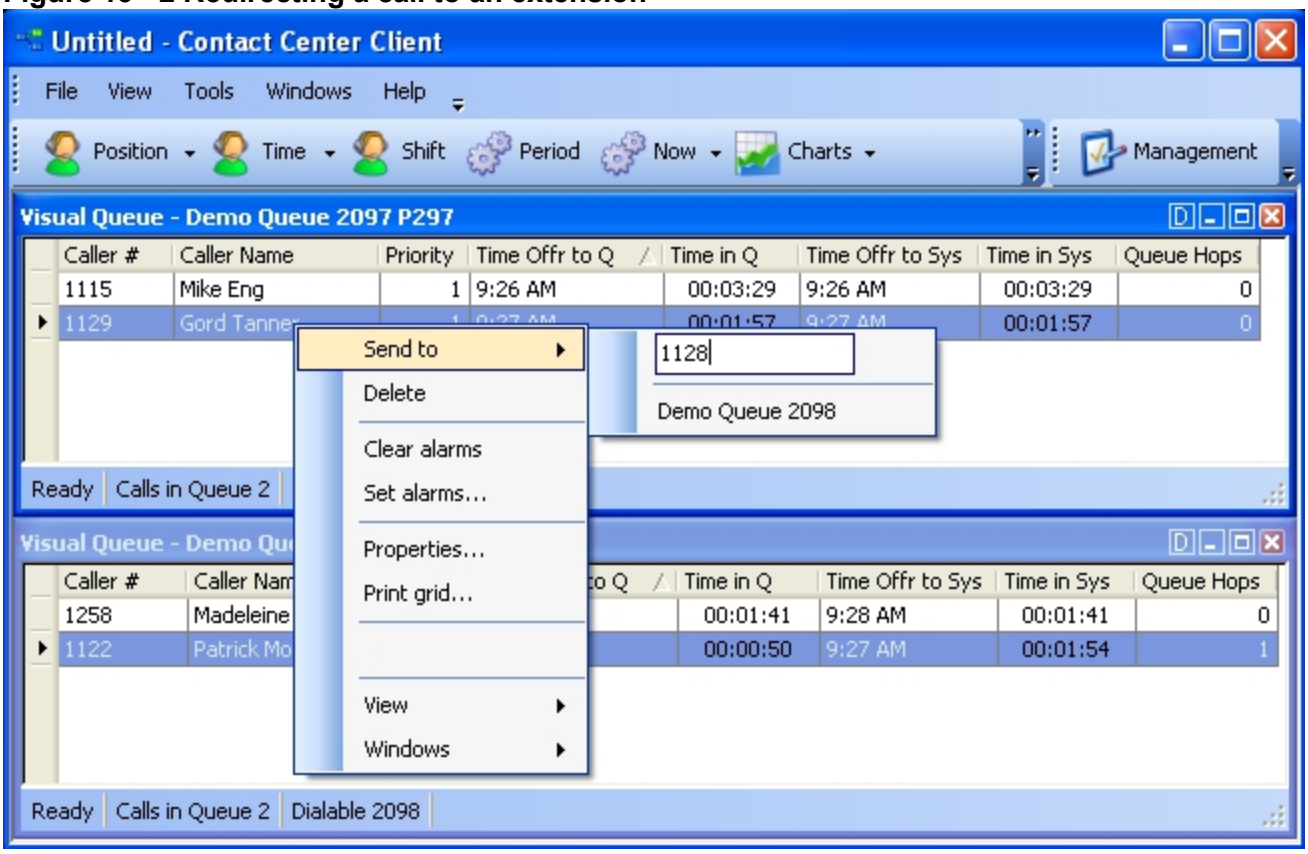
Redirecting calls to specific numbers

Using the Send to menu option, you can redirect calls in Interactive Visual Queue to any extension. In addition, if you have Contact Center Softphone installed, you can send a call directly to your own extension by selecting Send to=>Me.

To redirect a call to a dialable number

1. In the Queued calls grid, right-click the row of the call you want to redirect and click **Send to=>[Extension]**.
   When you click [Extension], it changes to a text box.
2. Type a number in the text box and press **Enter**.
   See Figure 13 - 2.
   NOTE: You cannot use the Extension option if you have multiple calls selected. Only one call can be sent to a dialable number at a time.

Figure 13 - 2 Redirecting a call to an extension



To redirect a call to your extension

1. In the Queued calls grid, right-click the row of the call you want to redirect.
2. Click **Send to=>Me**
   NOTE: This option is not available unless you have Contact Center Softphone installed and configured on your computer.

Removing calls

To remove a call from Interactive Visual Queue

1. Right-click the row of the call you want to remove.
2. Click **Delete**.
   The call is removed from Interactive Visual Queue.

NOTE: Deleting a call from an Interactive Visual Queue monitor will not remove it from the actual queue. This will just cause Interactive Visual Queue to stop tracking the call.

Calling back abandoned callers

The Abandoned calls grid displays abandoned call information and enables agents to call back abandoned callers.

NOTE:

- If you want Interactive Visual Queue to automatically insert 1 when calling back long distance phone numbers, you must program your telephone system ARS accordingly. For more information, see the *Mitel 3300 ICP System Administration Tool Help*.
- Abandoned call information is automatically deleted from the Abandoned calls grid after 24 hours.
- Abandoned calls can not be transferred to agents.

To call back an abandoned caller

1. Right-click the row of the abandoned call you want to call back, and select **Call** to automatically dial the abandoned caller.
   NOTE: Each time an agent attempts to call back an abandoned caller, their name and ID are attached to the call record and display in the Last callback employee column of the Abandoned calls grid.
2. After you have contacted the abandoned caller, right-click the row associated with that call, and select **Delete** to remove the abandoned call record from the Abandoned calls grid.

Configuring alarms

You set alarms on Interactive Visual Queue monitors similar to the way you set alarms on Contact Center Client monitors. The main difference is that some of the variables you can monitor, Caller Number, Caller Name, DNIS Number, DNIS Name, Collected Digits, and Collected Information, use a string for their value as opposed to a threshold boundary. For example, you can set an alarm that is triggered when a specific name appears in the Caller Name column.

The value you type for Caller Number or Caller Name alarms is a wildcard, which means the alarm will trigger if that value appears in any form. For example, if you configure a Caller Name alarm for the value *John*, the alarm will trigger for the values *John Smith*, *Johnathan*, *longjohn*, and so on.

To configure alarms:

1. Right-click an Interactive Visual Queue monitor and click **Set alarms**.
   The Set Alarms window appears.
2. Under **Performance variables**, select the variable you want to monitor.
3. Under **Alarm thresholds**, click **Add value** and select a boundary (or value) for the variable you selected as well as the alarm type(s) that will indicate when the variable exceeds those boundaries.
   For more information on configuring monitor alarms, see "Setting alarms" on page 236.
4. If you want to add further alarms for the variable, repeat step 3.
5. Click **OK** to save the alarms.

Understanding call priority

Each queue has a default priority level. When a call enters the system for the first time, the call adopts the default priority of whichever queue it enters. If all calls in a queue have the same priority, the position of the calls are based on each call's total time in the current queue. If a queue contains calls that have multiple priority levels, higher priority calls will have a higher position in the queue than lower priority calls.

As long as a call remains in a queue, it maintains its priority. However, if a call moves from one queue to another queue, the call's priority may change, based on the method used to move the call.

When you redirect a call manually, the call always adopts the default priority level of the destination queue. For example, suppose Queue 1 has a priority of 1 and Queue 2 has a priority of 15. When a call first enters Queue 1, it has a priority of 1. However, if you manually move that call to Queue 2, using either a drag-and-drop operation or the right-click menu, the call priority lowers to 15. The rules work the same in reverse. If you manually move a priority 15 call from Queue 2 to Queue 1, the call priority increases to 1 when it enters Queue 1.

Calls interflowed automatically retain the original call priority, or adopt the priority of the new queue based on telephone system settings. The interflow options you specify for a queue in YourSite Explorer must be identical to those of the telephone system. For more information on configuring interflowed calls, see "Adding queues" on page 135.

Chapter 14

Contact Center PhoneSet Manager and Contact Center Softphone

Using Contact Center PhoneSet Manager and Contact Center Softphone

Contact Center PhoneSet Manager and Contact Center Softphone

The Contact Center PhoneSet Manager and Contact Center Softphone applications are designed for the 3300 ICP telephone system. They provide ACD agent functions and enable agents to use their desktop computers as IP-based phones.

NOTE:
- Soft phone is not supported on the Enterprise Server.
- Interactive Contact Center is required to control the availability of agents and ACD queues. See "Interactive Contact Center" on page 352.
- External hot desking agents are supported for use with Contact Center PhoneSet Manager only.

Using Contact Center PhoneSet Manager and Contact Center Softphone

Contact Center PhoneSet Manager and Contact Center Softphone enable agents to use their desktop computers as IP-based phones. Contact Center PhoneSet Manager automates Mitel IP phone sets from the computer desktop. An agent who uses Contact Center PhoneSet Manager has a headset connected to a desk phone. Contact Center Softphone provides complete phone set functionality from the computer desktop. A computer and wired or wireless USB headset deliver calls to the agent.

Starting Contact Center Client

Contact Center Softphone and Contact Center PhoneSet Manager reside in Contact Center Client.

Tested headsets

We have tested the following headsets to confirm they work with Contact Center PhoneSet Manager:
- GN Netcom GN 6120 Bluetooth office headset—wireless (part number GN 6120)
- Plantronics SupraPlus Noise-Canceling—monaural (part number H251N)
- Plantronics SupraPlus Noise-Canceling—binaural (part number H261N)
- GN Netcom Monaural over-the-head, SoundTube clarity (part number GN 2110 ST)
- GN Netcom Binaural over-the-head, SoundTube (part number GN 2115 ST)

NOTE: In order for the Plantronics and GN Netcom headsets to work with Contact Center PhoneSet Manager you must have the correct amplifier adaptor for the Mitel phones.

We have tested the following headsets to confirm they work with Contact Center Softphone:
- Plantronics DSP PC 500—binaural (part number DSP 500)
- Plantronics CS50 Wireless Office Headset System (part number CS50)
- Plantronics SupraPlus Noise-Canceling—monaural (part number H251N)
- Plantronics SupraPlus Noise-Canceling—binaural (part number H261N)
- GN Netcom Monaural over-the-head, SoundTube clarity (part number GN 2110 ST)
- GN Netcom Binaural over-the-head, SoundTube (part number GN 2115 ST)

NOTE: In order for the Plantronics and GN Netcom headsets to work with Contact Center Softphone you must have the correct USB adaptor.

USB-to-headset adaptors

For Contact Center Softphone, the Plantronics H251N and H261N and the GN Netcom GN 2110 ST and GN 2115 ST headsets must be connected to your computer by a USB-to-headset adaptor. We have tested the following USB-to-headset adaptors to confirm they work with Contact Center Softphone:

- Plantronics DA60 USB-to-Headset Adaptor (part number DA60)
- GN Netcom USB-to-headset adaptor (part number GN 8110)
- GN Netcom USB-to-headset adaptor (part number GN8120)

You can integrate the GN 8120 with Contact Center Softphone and use the three different function buttons on the GN 8120 to perform specific functions in Contact Center Soft phone. Table 14 - 1 shows the GN 8120 button functions.

Table 14 - 1 GN 8120 button functions

Button	State	Action
Blue volume control	Any state	Increases or decreases the headset speaker volume, which controls the volume at which you can hear a caller
White button	Any state	Turns the mute function on or off
Green button	Incoming call is ringing on one of your line appearances	Answers a call
	You are currently talking to someone and you do not have anyone on consultation hold	Hangs up a call
	You are currently talking to someone and you have someone on consultation hold	Performs a swap with the party on hold
Red button	You are currently talking to someone, and you do not have anyone on consultation hold	Places the current call on hold
	You currently have someone on hold	Retrieves the call on hold
	You are currently talking to someone and you have someone on consultation hold	Cancels the current call and returns you to the party on hold

Table 14 - 2 shows situations where the LEDs will be lit or flashing based on the state of Contact Center Softphone.

Table 14 - 2 GN 8120 LED displays

What you are doing	GN 8120 LED displays
All lines are idle, and the mute function is off	All LEDs are off
The mute function is on	Blue LED above the white button is on
A call is ringing	Green LED above green button is flashing
You are currently dialing, waiting for an answer, or talking to someone, and you do not have anyone on hold	Green LED above green button is on
You are currently talking to someone, and he has put you on hold	Green LED above green button is flashing
You put someone on hold	Red LED above red button is on
You are currently talking to someone, and you have someone on consultation hold	Green LED above green button is on Red LED above red button is flashing

Integrating the GN 8120 with Contact Center Softphone

To integrate the GN 8120 with Contact Center Softphone

1. Log on to Contact Center Client.
2. On the main menu, click **View=>Soft phone**.
3. Click **Soft phone**.
4. After **Input audio device**, choose the GN 8120.
5. After **Output audio device**, choose the GN 8120.
6. Click **OK**.

For more information about the GN 8120, visit the product page on GN Netcom's website at http://www.gnnetcom.com/US/EN/MainMenu/Products/Computer-VoIP/GN8120USB.htm.

Setting up the soft phone

The functionality of Contact Center PhoneSet Manager and Contact Center Softphone is similar. For simplicity, we will use *soft phone* when referring to features and functionality common to both applications.

NOTE:

- Before you set up the soft phone on your client computer, ensure your network administrator has configured your soft phone as a 5020 IP phone on the telephone system.
- Users who are upgrading to Contact Center Management Version 6.0 or greater must uninstall MiAUDIO Desktop Edition before they use Contact Center Softphone. MiAUDIO is now bundled in the Contact Center Management software and no longer runs as the IP Phone Emulation Service.
- Although Inter-Tel users can log in to multiple extensions simultaneously, this functionality is not currently supported by Contact Center Solutions applications.

To set up a client computer to use the soft phone

1. Consult your network administrator to confirm your soft phone extension number.
2. Ensure your headphone is connected.
3. Configure sound and audio device properties.
   See "Configuring sound and audio device properties" on page 378.
4. Run Client Component Pack.
   See "Installing the latest version of Client Component Pack" on page 37.

Configuring sound and audio device properties

To configure sound and audio device properties for Windows XP and Vista operating systems, you must set the PC speakers as the default audio device and adjust the volume of the PC speakers, headset speakers, and headset microphone.

Configuring sound and audio device properties for Windows Vista

The following procedures describe how to configure sound and audio device properties for Windows Vista.

To set the PC speakers as the default audio device

1. In Control Panel, double-click **Sound** to open the Sound dialog box.
2. Select the **Playback** tab.
3. Click the **Speakers** icon.
4. Click the **Set Default** button.
5. Click **OK** to save the Speakers as your default device.
   This enables your PC speakers to be used as the default audio device, so when you receive calls on the soft phone, the ring tone plays through your headset and your PC speakers.

To adjust the PC speaker volume

1. In Control Panel, double-click **Sound** to open the Sound dialog box.
2. Select the **Playback** tab and double-click the **Digital Output Device** icon.
3. Select the **Levels** tab and adjust the PC speaker volume by moving the **Digital Output Device** volume slider from left to right.
4. Click **OK** to save your volume setting.
5. Click **OK** to close the Sound dialog box.

To adjust the headset speaker volume

1. In Control Panel, double-click **Sound** to open the Sound dialog box.
2. Select the **Playback** tab and double-click the **Speakers** icon.
3. Select the **Levels** tab and adjust the headset speaker volume by moving the **Audio output** volume slider from left to right.
4. Click **OK** to save your volume setting.
5. Click **OK** to close the Sound dialog box.

To adjust the headset microphone volume

1. In Control Panel, double-click **Sound** to open the Sound dialog box.
2. Select the **Recording** tab and double-click the **Microphone** icon.
3. Select the **Levels** tab and adjust the headset microphone volume by moving the **Microphone** volume slider from left to right.
4. Click **OK** to save your volume setting.
5. Click **OK** to close the Sound dialog box.

Configuring sound and audio device properties for Windows XP

The following procedures describe how to configure sound and audio device properties for Windows XP.

To set the PC speakers as the default audio device

1. In Control Panel, double-click **Sounds and Audio Devices**.
2. Select the **Audio** tab and select your sound card device from the **Default device** drop-down under **Sound playback**.
   This enables your PC speakers to be used as the default audio device, so when you receive calls on the soft phone, the ring tone plays through your headset and your PC speakers.
3. Click **OK** to save your settings.

To adjust the PC speaker volume

1. In Control Panel, double-click **Sounds and Audio Devices**.
2. Select the **Volume** tab and adjust the PC speaker volume by moving the **Device volume** slider from left to right.
3. Click **OK** to save your settings.

To adjust the headset speaker volume

1. In Control Panel, double-click **Sounds and Audio Devices**.
2. Select the **Voice** tab and select your headset device from the **Default device** drop-down list under **Voice playback**.
3. Click the **Volume** button, located under **Voice Playback**.
4. Adjust the headset speaker volume by moving the **Volume** slider, located under **Speaker**, up or down.
5. Click **OK** to save your settings.

To adjust the headset microphone volume

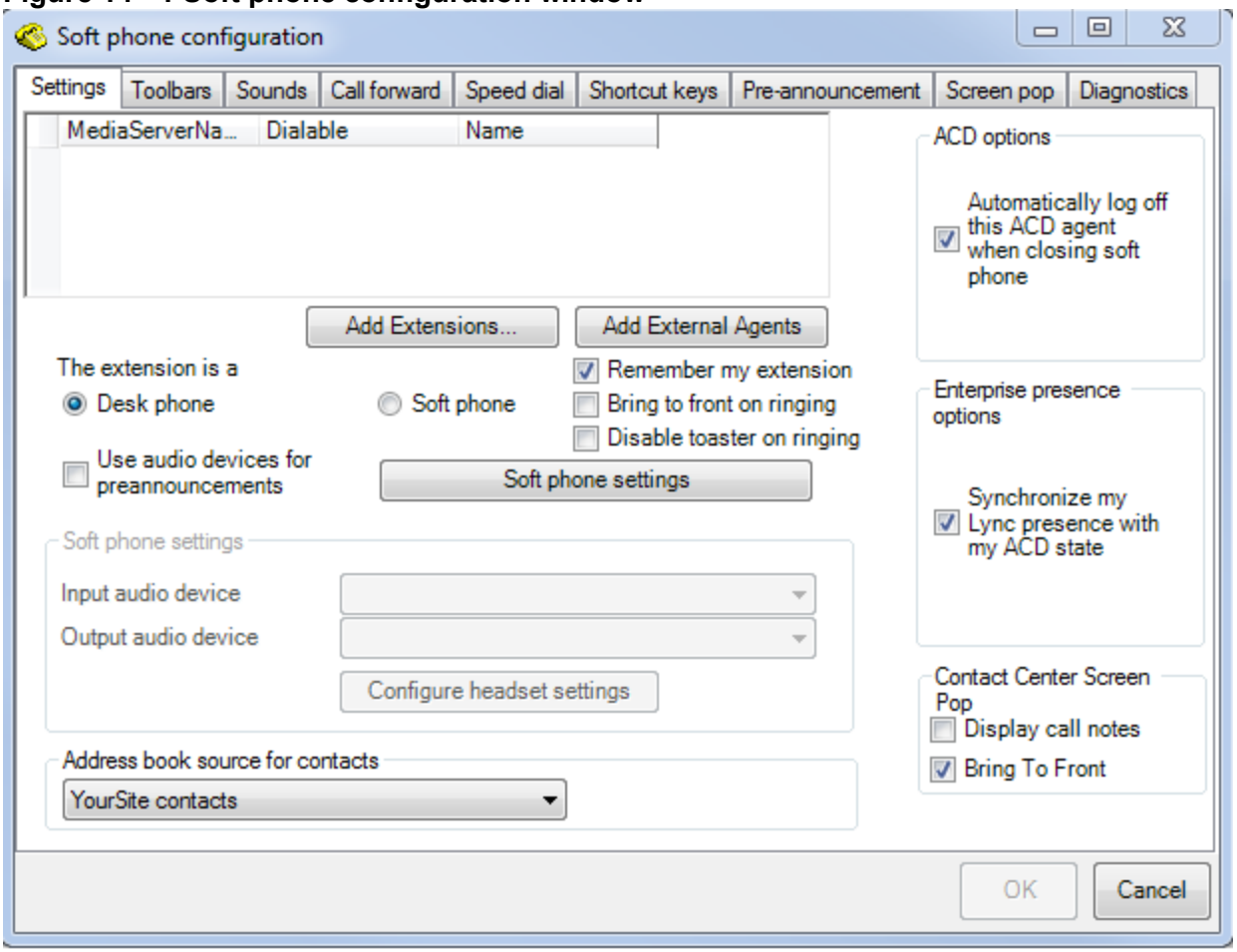
1. In Control Panel, double-click **Sounds and Audio Devices**.
2. Select the **Audio** tab and select your headset device from the **Default device** drop-down list under **Sound recording**.
3. Click the **Volume** button, located under **Sound recording**.
4. Adjust the headset microphone volume by moving the **Volume** slider up or down.
5. Click **OK** to save your settings.

Opening the soft phone

To open the soft phone

1. In the Contact Center Client ribbon, click **Soft Phone**
2. Click the **Soft Phone** icon in the toolbar ribbon.
   The Soft phone configuration window opens.
   See Figure 14 - 1.

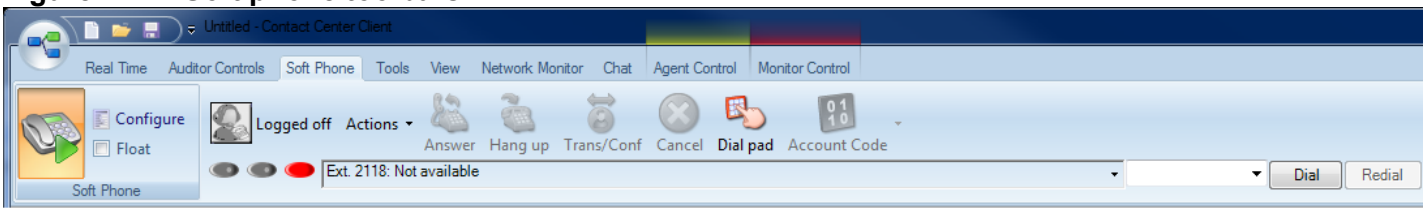
Figure 14 - 1 Soft phone configuration window



3. Click **Add Extensions** to search and select from all internal standard extensions, hot desk extensions, and external hot desk user extensions.
4. Click **Add External Agents** to search and select from all external hot desk agent extensions.
5. Select your phone extension from the list of extensions.
   NOTE: Although Inter-Tel users can log in to multiple extensions simultaneously, this functionality is not currently supported by Contact Center Solutions applications.
6. If you have Contact Center PhoneSet Manager, click **Desk phone**. If you have Contact Center Softphone, click **Soft phone**.
7. If you want to log on automatically to the soft phone with your phone extension the next time you open the current profile, select the **Remember my extension** check box.
   You must save the current profile before you quit the soft phone for this option to work.
   If you are a hot desk user who participates in the use of PINs, the PIN login dialog box opens. If you are a hot desk user who does not participate in the use of PINs, go to step 10.
   NOTE: When logging in as an external hot desking agent or a hot desking user who is not set up to use a PIN login, if the PIN entry window displays, do not enter a PIN; just click **Login**.
8. Type your **Login PIN**.
   If you want Contact Center Client to remember your Login PIN, select the Remember your credentials check box. This option is not available if your Contact Center Client profile is shared.

9. Click **Login**.
   NOTES:
   - If the Login PIN you entered is invalid the login will fail and you will be asked to enter a valid Login PIN.
   - Advanced supervisor or System Administrator will not be prompted to enter a PIN provided third party call control is configured under security in the Contact Center Management website and on the telephone switch.
10. If you want Contact Center Client to be the top-most window on ringing, select the **Bring to front on ringing** check box.
11. If you want Contact Center Client to not display the screen pop window when calls are ringing on the desktop, enable the **Disable toaster on ringing** check box.
12. If you selected Soft phone in step 6, under **Soft phone settings**, configure soft phone options.
13. After **Address book source for contacts**, select **YourSite contacts** or **Outlook contacts**.
    Contact Center PhoneSet Manager and Contact Center Softphone users can access YourSite database phone extensions or Outlook Personal Contact or Global Address List phone numbers when they handle calls.
14. To automatically log off the agent from the telephone system when closing the soft phone, select the **Automatically log off this ACD agent when closing the soft phone** check box.
15. If you want to synchronize online presence indicators with ACD agent states in real-time monitors, select the **Synchronize my Lync presence with my ACDstate** check box.
16. If you want to display call notes on the soft phone display and on the Call Notes monitor, ensure the **Display call notes** check box is selected.
17. Click **OK**.
    The Contact Center Client window displays the soft phone, Phone and Functions toolbars. See Figure 14 - 2.

Figure 14 - 2 Soft phone toolbars

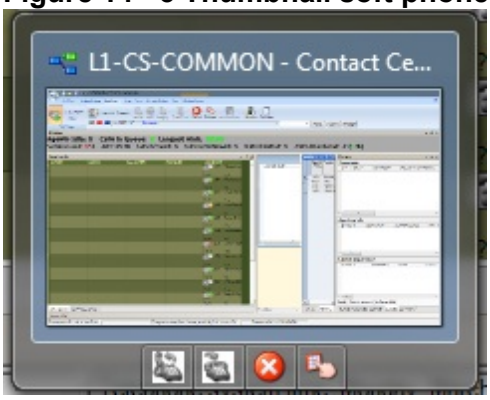


18. If you want to be able to position the soft phone toolbar elsewhere on your desktop, enable the **Float** check box.
19. To move the soft phone toolbar, hover the mouse over the perforated line on the left-side of the toolbar until the four-headed arrow displays. Then click, drag, and drop it to the desired position on your desktop. To reanchor the toolbar to the ribbon, drag and drop it into position under the ribbon.
20. If you want to modify the soft phone configuration, click the **Configuration** icon in the toolbar to reopen the Soft phone configuration window.

Thumbnail soft phone toolbar

The thumbnail soft phone toolbar enables agents to quickly perform soft phone actions when other applications are open on the desktop. The thumbnail toolbar gives agents access to Answer, Hang up, Cancel, and Dial functions and is particularly helpful when the Contact Center Client application is minimized and you want to perform a quick soft phone action. To see the toolbar options, hover over it with your mouse. (Figure 14 - 3.)

Figure 14 - 3 Thumbnail soft phone toolbar



NOTE:

- The thumbnail soft phone toolbar is supported with Windows 7 or Windows 2008 operating systems only.
- Because of Windows limitations, this toolbar may not always display when Contact Center Client has focus on the desktop.

Logging on to the ACD

Agents can log on to the ACD a number of ways, such as selecting the Superkey button in Contact Center Softphone, or using the agent control function in Interactive Contact Center. See "Contact Center PhoneSet Manager and Contact Center Softphone" on page 375.

We recommend that soft phone users who are hot desking agents log on to the ACD using the soft phone Actions menu. This enables the soft phone to identify agents.

NOTE: If you are an external hot desking agent or a hot desking user who logged in internally, logged out, and then chose to log back in externally, you will not be able to log on with the soft phone Actions menu. In order to access this functionality, you must first close and reopen the soft phone toolbar (View=>Deselect and reselect the soft phone option).

To log a standard agent onto ACD

- On the soft phone Functions toolbar, click **Actions=>Log on** and select an agent ID.

To log an external hot desking user onto ACD

- On the soft phone Functions toolbar, click **Actions=>Log on=>Hot Desking Users**.

To log an external hot desking agent on to ACD

- On the soft phone Functions toolbar, click **Actions=>Log on=>Agent ID**.

NOTE: When a hot desk agent logs in to the ACD a 3300 ICP user license is taken from the available licensing pool and when the agent logs out the license is released back to the licensing pool. Agents are notified upon login attempt if the number of concurrent logins exceeds the number of available user licenses. If there are no available user licenses the login attempt will fail.

Phone and Functions toolbars

The Phone toolbar displays your

- Extensions (grey oval buttons)
- Hold button (red oval button)
- Superkey button (blue oval button, for Contact Center Softphone only)
- Current phone state (Idle, Dialing, Talking) box with a down arrow that displays a call details window
- Dial box (field for dialing extensions or phone numbers)
- Dial button (Contact Center PhoneSet Manager only)
- Redial button (Contact Center Softphone only)
- Cancel button (Contact Center Softphone only)
- Message button (for retrieving voice mail messages, Contact Center Softphone only)

The Functions toolbar displays

- Your current ACD state (Logged On/Off, in Make Busy, in Do Not Disturb)
- The ACD actions currently available
- Telephony buttons
  See "Displaying, hiding, and retiring toolbar buttons" on page 386.

Phone functions

You can readily answer calls or forward them to extensions or phone numbers using the soft phone. You can select people from contact and speed dial lists, and perform the following actions: Redial (Contact Center Soft phone only), Transfer, Conference, Mute, Forward, Request help, Hold, Retrieve, Split, Swap, Camp on, Leave a message, Retrieve a message, Call me back, Hang up, and Cancel.

NOTE: External hot desk agents access the "Answer" and "Hang up" functions using their external device and not the soft phone toolbar.

Table 14 - 3 lists the soft phone telephony options and their corresponding meanings.

Table 14 - 3 Agent actions

Icon		Meaning
	Account Code	tags a call with an Account Code
	Answer	answers a ringing call
	Auto answer	if enabled, answers a ringing call without you having to click Answer
	Call me back	notifies you as soon as the extension number you are trying to call is available
	Camp on	notifies an employee you are attempting to call with a series of audible beeps
	Cancel	terminates your connection to a caller
	Conference	connects three or more people together for a conversation
	Dial pad	enables you to dial a number using a keypad
	Forward	forwards a call to a phone number or extension
	Hang up	terminates a call

	Hold	places the current call on hold
	Leave a message	leaves a message waiting notification on an employee's extension
	Mute	if you have Contact Center Softphone, disables your microphone so you can consult privately with another employee while on a call
	Request help	calls an employee who can click Answer and listen to an in-progress call without the caller knowing
	Retrieve	picks up a call that is held or camped on to your extension
	Speed dial	enables you to make a call to a specified number with one mouse click
	Split	disconnects one person from a conference call
	Swap	swaps between the current and the held party
	Transfer	forwards an in-progress call to another answer point
	Transfer/Conference	places a caller on hold and makes a consultation call
	Volume	if you have Contact Center Softphone, adjusts the volume of your speakers and/or microphone

	Call Notes	enables you to view the notes associated with the current call and add notes

Customizing the soft phone

You can enhance productivity by configuring the following time-saving options in the soft phone:

- Toolbar customization
- Sounds and notifications
- Call forward destinations
- Speed dial contacts
- Shortcut keys
- Pre-announcement messages

Configuring soft phone settings

To specify soft phone settings

1. Right-click the Phone toolbar and click **Configure**.
2. After **Input audio device**, select an audio device for your microphone.
3. After **Output audio device**, select an audio device for your speakers or headset.
4. Click **OK**.

Specifying the address book source for contacts

To specify the address book the soft phone uses for contacts (Microsoft Outlook or the Contact Center Management YourSite database)

1. Right-click the Phone toolbar and click **Configure**.
2. After **Address book source for contacts**, select **YourSite contacts** or **Outlook contacts**.
3. Click **OK**.

Resizing toolbar buttons

To resize toolbar buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. After **Functions toolbar**, select a size for displaying the Functions toolbar buttons.
4. After **Phone toolbar**, select a size for displaying the Phone toolbar buttons.
5. Click **OK**.

Displaying, hiding, and retiring toolbar buttons

You can display telephony buttons, hide them so they appear on the Functions toolbar only when required, and retire them for actions you rarely perform, such as Camp on and Request help.

To display telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, select the check boxes of the telephony buttons you want to display.
4. Click **OK**.

To hide telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, clear the check boxes of the telephony buttons you want to hide from view.
4. Click **OK**.

To retire telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, select the telephony buttons you want to retire and click the left arrow to add these buttons to the Available buttons list.
4. Click **OK**.

To restore telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Available buttons**, select the telephony buttons you want to restore and click the right arrow to add these buttons to the Selected buttons list.
4. Click **OK**.

Repositioning toolbar buttons

To specify the order in which telephony buttons appear

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, select a telephony button.
4. Click the up or down arrow to change the position of the button relative to other buttons on the Functions toolbar.
5. Click **OK**.

Configuring sounds and notifications

You can configure sounds for individual phone events for incoming calls, secondary incoming calls, and/or the digits dialed on your primary extension, or on all extensions. A primary incoming call is a call you receive while you are in the idle state and are available to take the call. A secondary incoming call is a call you receive while you are on a call on another extension and are not available to take the call.

Every time you receive a call a pop-up window notifies you the call has arrived. You can disable the pop-up notification.

To configure a sound for a phone event

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Select the **Incoming calls**, **Secondary incoming calls**, and/or **Play sounds when dialing digits** check boxes.
4. After **Phone events**, select a phone event.
5. After **Sound file name**, click **Browse** and select a sound file.
6. If you want to play the sound file when the phone event occurs on any of your extensions, click **Apply to all lines**.
7. Click **OK**.

To disable the call arrival pop-up notification

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Under **Phone events**, click a phone line.
4. Clear the **Display pop-up notification for incoming calls** check box.
5. Click **OK**.

Making calls ring through your computer speakers

You can make calls ring through your computer speakers instead of your headset.

To make calls ring through your computer speakers

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. After **Play the rings sounds on** select the sound output device for your computer speakers.

Adjusting the volume of your speakers and microphone

If you have Contact Center Softphone, you can adjust the volume of your speakers and microphone.

To adjust the volume of your speakers

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Adjust the volume by moving the speaker slider.

To adjust the volume of your microphone

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Adjust the volume by moving the microphone slider.

Configuring call forward destinations

You can forward calls manually to pre-configured call forward destinations. In addition, you can configure and enable call forwarding so the telephone systems forwards calls to other answer points when you are temporarily unavailable or away from the office. For example, you could specify all External call busy calls you receive be forwarded to a co-worker's extension. Rather than directing these call to voice mail, the telephone system would forward these calls to your co-worker.

To configure call forward destinations for calls you will forward manually

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Call forward** tab.
3. Under **Name**, type the name of the person to whom you will forward calls.
4. Under **Number,** type an extension or phone number (preceded by a number you dial to access an outside line).
5. Click **OK**.

To configure and enable call forward destinations for calls the telephone system will forward

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Call forward** tab.
3. Specify the source for call forwarding.
4. Specify destinations for the following call types:
   - All calls (all calls you receive)
   - External call busy (external calls to your extension when you are unavailable)
   - External call no answer (external calls to your extension that you do not answer)
   - Internal call busy (internal calls to your extension when you are unavailable)
   - Internal call no answer (internal calls to your extension that you do not answer)
5. If you want to activate the call forwarding rules immediately, select the **Enabled** check boxes of the call forwarding types to be activated.
6. Click **OK**.

Configuring speed dial numbers

When you pre-configure speed dial numbers in Contact Center Softphone, these contacts are available in drop-down lists adjacent to the Speed dial, Trans/Conf, and Request help buttons on the Functions toolbar.

You can display a button for each speed dial number or display one button with a down arrow that lists all of the speed dial numbers you have configured. You can speed dial calls manually to pre-configured extensions and phone numbers.

To configure a speed dial number

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Speed dial** tab.
3. Under **Name**, type the name of the person to whom you will speed dial calls.
4. Under **Number,** type an extension or phone number (preceded by a number you dial to access an outside line).
5. Click **OK**.

Configuring shortcut keys

You can assign a shortcut key to a telephony function to perform it with a simple keystroke. This enables you to perform telephony functions while the soft phone is minimized or another application is currently selected.

To configure a shortcut key for a telephony function

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Shortcut keys** tab.
3. Under **Shortcut key**, select a telephony function.
4. Click the down arrow, select **Ctrl**, **Alt**, **Shift**, or **Win**, and select a keyboard number, letter, or function from the list.
5. Click **OK**.

Configuring pre-announcement messages

NOTE: For hardware and software specifications related to pre-announcement messages, see the *Contact Center Solutions and Call Accounting System Engineering Guide*.

Agents who have Contact Center PhoneSet Manager or Contact Center Softphone can record introductions that are played to callers (for example, “Hi. This is Paul Jones in Customer Support. Could you please tell me your customer site key?”) The introduction that is played is based on the queue the call arrives on and the time of day it is received. The recorded introduction provides customers with a consistent greeting and gives the agent extra time to retrieve customer information. You can stop pre-announcement messages at any time.

You can configure more than one pre-announcement rule. For each rule, you specify the conditions in which the soft phone will play a particular pre-announcement message. If one or more conditions is satisfied for a particular rule, the soft phone will play the associated pre-announcement message. You can order the rules on the Pre-announcement rules table to establish their priority. Pre-announcement rules are evaluated in the order shown in the table. If one pre-announcement rule is satisfied, the associated sound file is played and no other rules are evaluated.

NOTE: To use pre-announcement messages with Contact Center PhoneSet Manager, you must have a Mitel ACD desk phone (for example, 5212) and a PCTI adaptor. The PCTI adaptor enables the audio being played from the agent PC and the audio from the agent desk phone to be mixed.

To connect a PCTI adapter to your computer for use with Contact Center PhoneSet Manager

1. Set the PCTI switch to **Both**.
2. Set the PCTI switch to **HeadSet**.
3. Plug the Mic/Audio cable of the headset into the appropriate Mic/Audio inputs on the PCTI adapter.
4. Unplug the handset from the deskphone and plug it into the handset plug on the PCTI adapter.
5. Plug the telephone input cable of the PCTI adapter into the telephone base.
6. Plug the computer input of the PCTI adapter into the appropriate Mic/Speaker inputs on the PC.
   NOTE: Ensure the headset is turned on, on the deskphone base.

To configure a pre-announcement rule for Contact Center PhoneSet Manager

1. Right-click the Phone toolbar and click **Configure**.
2. Under **This extension is a**, select **Desk phone**.
3. To use audio devices for pre-announcements, select **Use audio devices for pre-announcements** and specify the input and output audio device.
4. Click the **Pre-announcement** tab.
5. Click **Add rule**.
   The Add / Edit pre-announcement rule window opens.
6. Select the conditions that determine when the pre-announcement message will play.
7. Specify parameters for each condition.
8. Select or record a wave file to play when the above conditions are met.
9. Type a name for the pre-announcement rule.
10. If you want to hear ringing on your desk phone, select Enable ringing sound in desk phone.
11. Click **OK**.

To configure a pre-announcement rule for Contact Center Softphone

1. Right-click the Phone toolbar and click **Configure**.
2. Under **This extension is a**, select **Soft phone**.
3. Click the **Pre-announcement** tab.
4. Click **Add rule**.
   The Add / Edit pre-announcement rule window opens.
5. Select the conditions that determine when the pre-announcement message will play.
6. Specify parameters for each condition.
7. Select or record a wave file to play when the above conditions are met.
8. Type a name for the pre-announcement rule.
9. Click **OK**.

To re-order pre-announcement rules

1. Select a rule.
2. Click the up or down arrow to change the priority of the rule.
3. Click **OK**.

Making and terminating calls using Contact Center Phoneset Manager

When you make calls, on the Functions toolbar you can readily select contacts you pre-configure in Microsoft Outlook, or speed dial numbers you configure in Contact Center PhoneSet Manager. See "Configuring speed dial numbers" on page 389 and "Displaying, hiding, and retiring toolbar buttons" on page 386.

You can dial any extension number or phone number. Contact Center PhoneSet Manager typically uses your primary extension to make calls. You can optionally select a different extension on the Phone toolbar to make calls.

Making calls

To dial by phone number or extension number using Contact Center PhoneSet Manager

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the dial box and type a number or extension on the dial pad.
2. Click **Dial**.
3. If you want to view the call details window, click the down arrow adjacent to the box that displays your current phone state.
   See Figure 14 - 4.

To dial internally from a real-time monitor using Contact Center PhoneSet Manager

- From any real-time monitor, right-click an agent, employee, or extension cell and click **Call**.

Figure 14 - 4 Making a call

Making calls to your contacts

To make a call to an extension in your contact list

1. Click the arrow adjacent to the dial box and click the **Contacts** tab.
2. Select a contact in the list.
3. Click **Dial**.

Making calls using speed dial

To dial using speed dial

- Click **Speed dial** and select a name in the list.

Terminating calls

To terminate a call

- Click **Hang up**.

Forwarding and answering calls using Contact Center Phoneset Manager

You can forward calls manually to pre-configured call forward destinations without having to speak to the caller first. In addition, you can configure and enable call forwarding so the telephone system forwards calls to other answer points when you are temporarily unavailable or away from the office. See "Configuring call forward destinations" on page 388.

If a call is ringing on your extension and you click the Forward button, the call will be forwarded to the default call forward destination configured in the telephone system. If you click the down arrow adjacent to the Forward button, you can select an extension or phone number for call forwarding.

Forwarding calls

When a call is ringing on your extension, to forward the call using Contact Center PhoneSet Manager

1. Click **Forward**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Forward button and select a contact.
3. Click **Dial**.

Answering calls

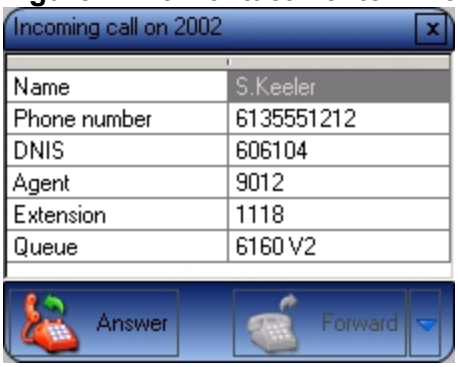
When an agent receives a call with Contact Center PhoneSet Manager detailed caller information is displayed on the desktop. (See Figure 14 - 5.) Agents can choose to answer the call or forward it to another agent.Additionally, the display can provide access to call notes, which are notes an agent adds to the call before transferring it. See "Adding call notes to a call" on page 394.

If configured and available the following information is provided in the soft phone display

- **Caller name**—name of the caller
- **ANI**—telephone number of the caller
- **DNIS**—telephone number the caller dials
- **DNIS name**—the name associated to the DNIS number in YourSite database
- **Agent ID**— agent who transferred the call
- **Extension**—extension from which the call was transferred
- **Queue**—queue from which the call originated
- **Collect Caller Entered Digits**—digits the caller enters for identification purposes, such as a customer site key (Intelligent Queue required)
- **Customer Collected Information**—information collected from a third party OBDC database. Customer Collected Information requires Intelligent Queue and Verified Collected Digits, and optionally, Remote Database Verification or CTI Developer Toolkit
- **Call notes**—notes added by an agent

You can answer calls by right-clicking the Contact Center PhoneSet Manager system tray icon and selecting Answer, or by clicking the Answer toolbar button.

Figure 14 - 5 Contact Center PhoneSet Manager display



To answer a call using Contact Center PhoneSet Manager

- Click **Answer**.

Handling calls using Contact Center PhoneSet Manager

You can handle calls by right-clicking the Contact Center PhoneSet Manager system tray icon and selecting telephony functions, or by selecting telephony buttons on the Functions toolbar. The telephony buttons available depend on the action you last performed. You can configure the toolbar buttons so they are always visible, or visible only when required. See "Displaying, hiding, and retiring toolbar buttons" on page 386.

When you pre-configure speed dial numbers in Contact Center PhoneSet Manager, these contacts are available in drop-down lists adjacent to the Speed dial, Trans/Conf, and Request help buttons on the Functions toolbar. See "Configuring speed dial numbers" on page 389.

Placing calls on hold

To place a call on hold

- Click **Hold** (red oval button).

Retrieving calls

You can retrieve a held call, or retrieve a call when a call is camped on to your extension.

To retrieve a call

- Click **Retrieve**.

Adding call notes to a call

When agents are speaking with customers, they can add notes to calls to share with other contact center employees involved in the call. This ensures agents and supervisors have context on calls and know what information has been provided to customers upon call transfer.

When a call is being transferred to an agent or supervisor, the soft phone display shows the most recent note associated with the call. When the agent answers the call, Contact Center Client appears on top of all other open applications and displays the Call Notes monitor. The monitor includes all of the call notes associated with the current call.

Agents can add notes each time a call is transferred, and agents on conference calls can add notes simultaneously. Each set of notes includes the agent's name and a date/time stamp. When an agent completes a call and answers a new call or closes the Call Notes monitor, all call note information is saved and appended to the Lifecycle reports.

NOTE:

- On the Soft phone configuration window, you can clear the Enable call notes check box to hide the Call Notes monitor and prevent call notes from being displayed.Optionally, you can enable the Bring to front check box to ensure call notes display on top of all other windows when calls are received.
- You must have Contact Center PhoneSet Manager or Contact Center Softphone open in order to view or add call notes.
- For 5000/Axxess configurations that use CT Gateway, time stamps are based on the Enterprise Server's PC clock. If the 5000/Axxess configuration includes Remote Servers, then time stamps are based on the Remote Server's PC clock. For the 3300 ICP, time stamps are based on the telephone system clock.

To add a call note

1. As a call is ringing on your extension, on the soft phone display click **Answer** to answer the call.
   Contact Center Client appears on top of all open applications and displays the Call Notes monitor.
2. After **Enter a new call note**, type a note.
   Call notes can include a maximum of 100 characters.
3. Click **Add**.
   The call note is added to the Call notes text box and is included in the soft phone display upon call transfer.

Transferring calls

You can perform a blind transfer or a supervised transfer.

To perform a blind transfer using Contact Center PhoneSet Manager

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line if required). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Dial**.
4. Click **Hang up**.

To perform a supervised transfer

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Dial**.
   The system places the caller on Hold.
4. Wait for the called party to answer. If you receive a busy signal or a voice mail greeting, click **Cancel** to return to the initial party. Otherwise, speak to the agent and identify the caller.
5. Click **Transfer** to transfer the call.

Conferencing calls

You can include up to eight people in a conference call. The following example illustrates a three-way conference call.

To set up a conference call

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line).
2. Click **Dial**.
3. After you speak with the person who answers, click **Trans/Conf** to add a person to an in-progress call.
   The system places the person on Hold.
4. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
5. Click **Dial**.
6. Speak to the person who answers.
7. Click **Conference** to initiate a three-way conference call.

To split a conference call

- Click **Split**.
  The last person you added to the conference call is placed on hold, and you can speak privately with the first person.

Consulting with people while on calls

To consult with a person while on a call using Contact Center PhoneSet Manager

1. Click **Trans/Conf** to conference in the person.
   The system places the initial party on Hold.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Dial**.
4. After you consult with the person, either click **Conference** to conference in the person, click **Cancel** to hang up on the person, click **Transfer** to transfer the call to the person, or click **Swap** to talk to the initial party.

Requesting help while on calls

To request help while on a call using Contact Center PhoneSet Manager

1. Click **Request help**.
2. On the dial pad, type the extension number of the employee you want to call. Otherwise, click the down arrow adjacent to the Request help button and select a contact.
3. Click **Dial**.
   The system calls the employee. The employee can click Answer and listen in on the call without the caller knowing and can click Conference to join the conversation at any time.

Using Camp on

The Camp on feature is available when you make a call to an extension and receive a busy signal because the employee is already on a call. Camp on notifies the employee you are attempting to call with a series of audible beeps.

NOTE:

- Callers cannot camp on to your extension if you have call forwarding or voice mail configured on the extension.
- You cannot camp on to an extension that is in Make Busy or Do Not Disturb.

To camp on to an extension

1. In the dial box, type an extension number.
2. Click **Dial**.
3. If you receive a busy signal, click **Camp on**.
   The employee you called will hear a series of beeps and can click Retrieve to place the caller on hold and speak with you. After speaking with you, the employee can click Swap to return to the caller.

Leaving and retrieving messages

The Leave a message feature is available when you make a call to an extension that is idle or on a call. You must use the dial pad to type a number when you are retrieving a message.

To leave a message

1. In the dial box, type an extension number.
2. Click **Dial**.
3. If the employee does not answer, click **Leave a message**.
   The telephone system leaves a message waiting notification on the employee's extension and the Contact Center Client icon flashes red and white in the employee's system tray.

To retrieve a message

1. Click **Dial pad** and type the number configured in the telephone system for message retrieval.
2. Press **Enter**.
   The automated attendant will ask you for your password.
3. Type your password on the dial pad.
4. Follow the instructions provided by the automated attendant to retrieve the message.

NOTE: If agents leave Call me back messages you must use your physical phone set to retrieve the messages.

Using Call me back

The Call me back feature is available when you make a call to an extension that is idle or on a call. When you select the Call me back button, the telephone system monitors the called employee's other extension. When the employee's other extension returns to idle, your phone rings. If you pick up the call, the employee's phone will ring. If you do not pick up the call, the callback will expire.

To leave a callback message

1. In the dial box, type an extension number.
2. Click **Dial**.
3. If the employee does not answer, click **Call me back**.
   The telephone system monitors the called employee's extension. Your phone will rings when the called employee's other extension returns to the idle state.
4. When your phone rings, click **Answer** to pick up the call and speak with the employee.

Tagging calls with Account Codes

You can tag calls with Account Codes you pre-configure in Contact Center Client.

To tag an in-progress call with an Account Code or a Classification Account Code

- Click the down arrow adjacent to the Account Code button and select a traditional Account Code or a Classification Account Code.

After hanging up, while in work timer mode, you can tag calls with Classification Account Codes.

To tag a call, after hanging up, with a Classification Account Code

1. Click the down arrow adjacent to the **Account Code** button.
2. Select **After Call Classification** and select the appropriate Classification Account Code from the drop-down list.

Making and terminating calls using Contact Center Softphone

When you make calls, on the Functions toolbar you can readily select from contacts you pre-configure in Microsoft Outlook, or speed dial numbers you configure in Contact Center Softphone. See "Configuring speed dial numbers" on page 389 and "Displaying, hiding, and retiring toolbar buttons" on page 386.

You can dial any extension number or phone number. Contact Center Softphone typically uses your primary extension to make calls. You can optionally select a different extension on the Phone toolbar to make calls.

For information on how to use the superkey and phone book functionality of Contact Center Softphone, refer to the *5220 IP Phone User Guide* at http://edocs.mitel.com/UG/Index.html.

Making calls

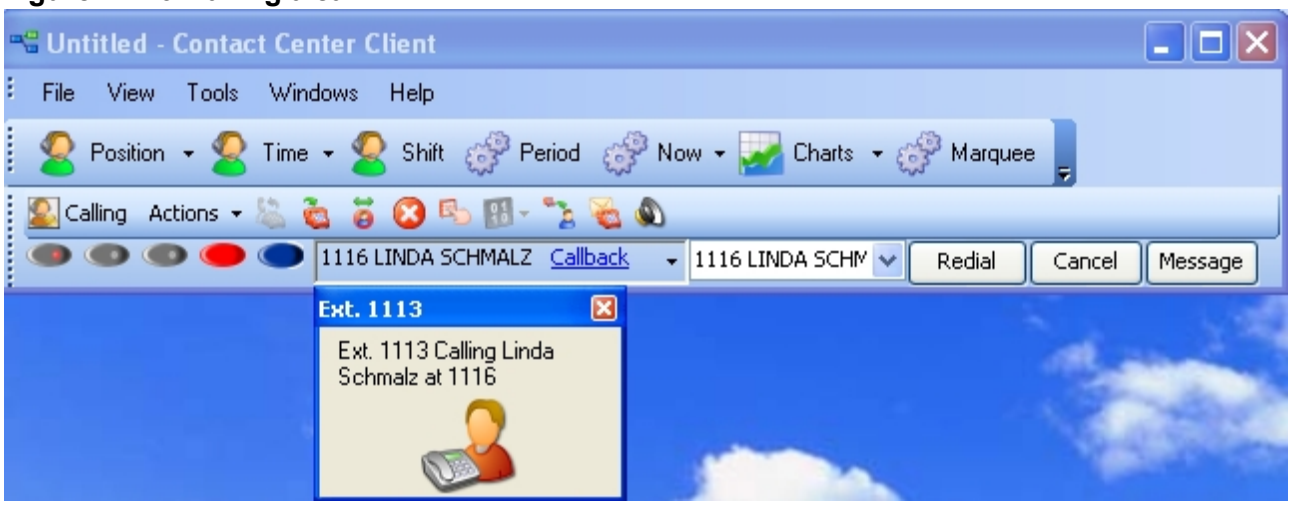
To dial by phone number or extension number using Contact Center Softphone

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the dial box and type a number or extension on the dial pad.
2. If you want to view the call details window, click the down arrow adjacent to the box that displays your current phone state.
   See Figure 14 - 6.

To dial internally from a real-time monitor using Contact Center Softphone

- From any real-time monitor, right-click an agent, employee, or extension cell and click **Call**.

Figure 14 - 6 Making a call



Making calls to your contacts

To make a call to an extension in your contact list

1. Click the arrow adjacent to the dial box and click the **Contacts** tab.
2. Double-click a contact in the list.

Making calls to contacts who have called you recently

To make a call to a contact who has called you recently

1. Click the arrow adjacent to the dial box and click the **Recent** tab.
2. Double-click a contact in the list.

Making calls using speed dial

To dial using speed dial

- Click **Speed dial** and select a name in the list.

Redialing numbers

To dial the contact who last called you

- Click **Speed dial** and select a name in the list.

Terminating calls

To terminate a call

- Click **Hang up**.
  Alternatively, on the Phone toolbar, click **Cancel**.

Forwarding and answering calls using Contact Center Softphone

You can forward calls manually to pre-configured call forward destinations without having to speak to the caller first. In addition, you can configure and enable call forwarding so the telephone system forwards calls to other answer points when you are temporarily unavailable or away from the office. See "Configuring call forward destinations" on page 388.

If a call is ringing on your extension and you click the Forward button, the call will be forwarded to the default call forward destination configured in the telephone system. If you click the down arrow adjacent to the Forward button, you can select an extension or phone number for call forwarding.

Forwarding calls

When a call is ringing on your extension, to forward the call using Contact Center Softphone

1. Click **Forward**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Forward button and select a contact.

Answering calls

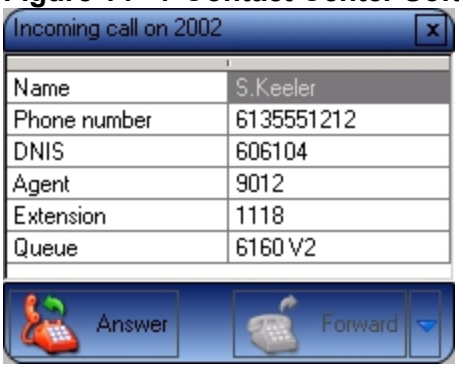
When an agent receives a call with Contact Center Softphone detailed caller information is displayed on the desktop. (See Figure 14 - 7.) Agents can choose to answer the call or forward it to another agent.Additionally, the display can provide access to call notes, which are notes an employee adds to the call before transferring it. See "Adding call notes to a call" on page 394.

If configured and available the following information is provided in the soft phone display

- **Caller name**—name of the caller
- **ANI**—telephone number of the caller
- **DNIS**—telephone number the caller dials
- **DNIS name**—the name associated to the DNIS number in YourSite database
- **Agent ID**— agent who transferred the call
- **Extension**—extension from which the call was transferred
- **Queue**—queue from which the call originated
- **Collect Caller Entered Digits**—digits the caller enters for identification purposes, such as a customer site key (Intelligent Queue required)
- **Customer Collected Information**—information collected from a third party OBDC database. Customer Collected Information requires Intelligent Queue and Verified Collected Digits, and optionally, Remote Database Verification or CTI Developer Toolkit
- **Call notes**—notes added by an agent

You can answer calls by right-clicking the Contact Center Softphone system tray icon and selecting Answer, or by clicking the Answer toolbar button.

Figure 14 - 7 Contact Center Softphone display



To answer a call using Contact Center Softphone

- Click **Answer**.

Handling calls using Contact Center Softphone

You can handle calls by right-clicking the Contact Center Softphone system tray icon and selecting telephony functions, or by selecting telephony buttons on the Functions toolbar. The telephony buttons available depend on the action you last performed. You can configure the toolbar buttons so they are always visible, or visible only when required. See "Displaying, hiding, and retiring toolbar buttons" on page 386.

When you pre-configure speed dial numbers in Contact Center Softphone, these contacts are available in drop-down lists adjacent to the Speed dial, Trans/Conf, and Request help buttons on the Functions toolbar. See "Configuring speed dial numbers" on page 389.

Placing calls on hold

To place a call on hold

- Click **Hold** (red oval button).

Retrieving calls

You can retrieve a held call, or retrieve a call when a call is camped on to your extension.

To retrieve a call

- Click **Retrieve**.

Using Mute

To use Mute

1. Click **Mute**.
   The system disables your microphone so you can consult privately with another employee.
2. To restore your microphone, click **Resume**.

Transferring calls

You can perform a blind transfer or a supervised transfer.

To perform a blind transfer using Contact Center Softphone

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Hang up**.

To perform a supervised transfer

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
   The system places the caller on Hold.
3. Wait for the called party to answer. If you receive a busy signal or a voice mail greeting, click **Cancel** to return to the initial party. Otherwise, speak to the agent and identify the caller.
4. Click **Transfer** to transfer the call.

Conferencing calls

You can include up to eight people in a conference call. The following example illustrates a three-way conference call.

To set up a conference call

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line).
2. After you speak with the person who answers, click **Trans/Conf** to add a person to an in-progress call. The system places the person on Hold.
3. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
4. Speak to the person who answers.
5. Click **Conference** to initiate a three-way conference call.

To split a conference call

- Click **Split**.
  The last person you added to the conference call is placed on hold, and you can speak privately with the first person.

Consulting with people while on calls

To consult with a person while on a call using Contact Center Softphone

1. Click **Trans/Conf** to conference in the person.
   The system places the initial party on Hold.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. After you consult with the person, either click **Conference** to conference in the person, click **Cancel** to hang up on the person, click **Transfer** to transfer the call to the person, or click **Swap** to talk to the initial party.

Requesting help while on calls

To request help while on a call using Contact Center Softphone

1. Click **Request help**.
2. On the dial pad, type the extension number of the employee you want to call. Otherwise, click the down arrow adjacent to the Request Help button and select an employee.
   The system calls the employee. The employee can click Answer and listen in on the call without the caller knowing and can click Conference to join the conversation at any time.

Using Camp on

The Camp on feature is available when you make a call to an extension and receive a busy signal because the employee is already on a call. Camp on notifies the employee you are attempting to call with a series of audible beeps.

NOTE:

- Callers cannot camp on to your extension if you have call forwarding or voice mail configured on the extension.
- You cannot camp on to an extension that is in Make Busy or Do Not Disturb.

To camp on to an extension

1. In the dial box, type an extension number.
2. If you receive a busy signal, click **Camp on**.
   The employee you called will hear a series of beeps and can click Retrieve to place the caller on hold and speak with you. After speaking with you, the employee can click Swap to return to the caller.

Leaving and retrieving messages

The Leave a message feature is available when you make a call to an extension that is idle or on a call.

To leave a message

1. In the dial box, type an extension number.
2. If the employee does not answer, click **Leave a message**.
   The telephone system leaves a message waiting notification on the employee's extension and the Contact Center Client icon flashes red and white in the employee's system tray

To retrieve a message

1. In the dial box, type your voice mail access number.
   The automated attendant will ask you for your password.
2. In the daily box, type your password.
3. Follow the instructions provided by the automated attendant to retrieve the message.

NOTE: If agents leave Call me back messages for you to check your messages, your Contact Center Client tray icon will not clear the messages once you have checked your messages.

To clear a message

1. On the Phone toolbar, click **Message**.
2. After **CALL ME BACK?**, click **Yes**.
3. Click **Erase**.
   The telephone image displays **NO MORE MESSAGES**.

Using Call me back

The Call me back feature is available when you make a call to an extension that is idle or on a call. When you select the Call me back button, the telephone system monitors the called employee's other extension. When the employee's other extension returns to idle, your phone rings. If you pick up the call, the employee's phone will ring. If you do not pick up the call, the callback will expire.

To leave a callback message

1. In the dial box, type an extension number.
2. If the employee does not answer, click **Call me back**.
   The telephone system monitors the called employee's extension. Your phone will rings when the called employee's other extension returns to the idle state.
3. When your phone rings, click **Answer** to pick up the call and speak with the employee.

Tagging calls with Account Codes

You can tag calls with Account Codes you pre-configure in Contact Center Client.

To tag an in-progress call with an Account Code or a Classification Account Code

- Click the down arrow adjacent to the Account Code button and select a traditional Account Code or a Classification Account Code.

After hanging up, while in work timer mode, you can tag calls with Classification Account Codes.

To tag a call, after hanging up, with a Classification Account Code

1. Click the down arrow adjacent to the **Account Code** button.
2. Select **After Call Classification** and select the appropriate Classification Account Code from the drop-down list.

Controlling your availability

You can log yourself on or off, cancel Work Timer, cancel Reseize Timer, and place yourself in or remove yourself from Make Busy with reason or Do Not Disturb with reason using the soft phone.

To log on to the ACD

- Click **Actions=>Log on** and select an agent ID.

To log off of the ACD

- Click **Actions=>Log off**.

To set Make Busy with reason

- Click **Actions=>Set Make Busy** and select a Make Busy Reason Code.

To remove Make Busy with reason

- Click **Actions=>Remove Make Busy**.

To set Do Not Disturb with reason

- Click **Actions=>Set Do Not Disturb** and select a Do Not Disturb Reason Code.

To remove Do Not Disturb

- Click **Actions=>Remove Do Not Disturb**.

To cancel Work Timer

- Click **Actions=>Cancel Work Timer**.

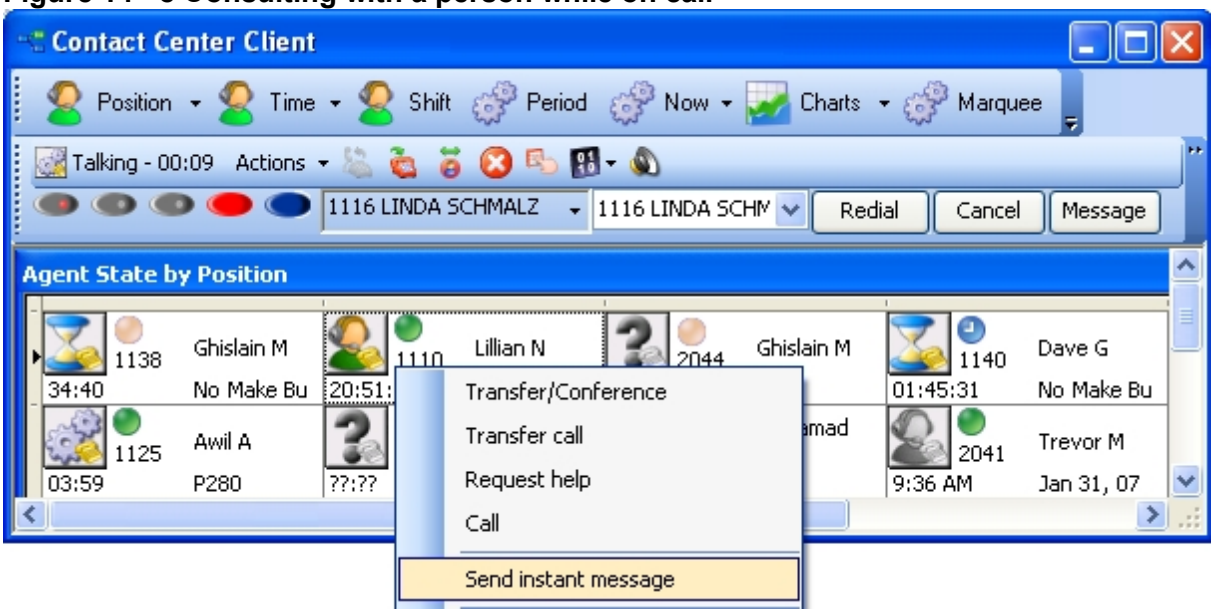
To cancel Reseize Timer

- Click **Actions=>Cancel Reseize Timer**.

Making and handling calls using Contact Center Client

You can open an agent, employee or extension monitor, or the Queue Now monitor and either right-click an agent and select telephony functions or access telephony functions by selecting an agent and accessing the options in the Contact Center Client ribbon. For example, when you are on a call you can consult with an idle employee by right-clicking the employee's cell and clicking Transfer/Conference, or by sending the employee an instant message. (See Figure 14 - 8.)

Figure 14 - 8 Consulting with a person while on call



Making calls

To call an agent using Contact Center Client

- Right-click the cell of an idle agent and click **Call**.

Alternatively:

1. Select anidle agentin an open monitor.
2. Click the **Softphone** button under the **Agent Control** tab in the Contact Center Client **Real Time** ribbon.
3. Choose the **Call** menu item.

Forwarding calls

If a call is ringing on your extension, to forward the call using Contact Center Client

- Right-click the cell of an idle agent and click **Forward**.

Answering calls

If a call is ringing on another agent's extension, to pick up the call using Contact Center Client

- Right-click the cell of the agent and click **Pick up**.

Adding call notes

When agents are speaking with customers, they can add notes to calls to share with other contact center employees involved in the call. This ensures agents and supervisors have context on calls and know what information has been provided to customers upon call transfer. If the call is transferred or parked, call notes are preserved. See "Adding call notes to a call" on page 394.

NOTE: Before adding call notes, ensure the "Display call notes" option is enabled in the Softphone configuration window. This option is disabled by default.

To add a call note

1. As a call is ringing on your extension, on the soft phone display click **Answer** to answer the call.
   Contact Center Client appears on top of all open applications and displays the Call Notes monitor.
2. After **Enter a new call note**, type a note.
   Call notes can include a maximum of 100 characters.
3. Click **Add**.
   The call note is added to the Call notes text box and is included in the soft phone display upon call transfer.

Recording calls

There are occasions when an agent wants to temporarily stop recording a call for confidentiality reasons, or, if the call is not currently being recorded, the agent may want to start recording if the conversation becomes hostile or sensitive in nature and a call record may be required. On the Agent State by Time, Agent State by Position, and Agent State by Queue by Time monitors, the Call recording option enables you to start, stop, and restart call recording at any time during a call, using OAISYS call recording functionality. Requirements for this on-demand call recording feature are Contact Center Management, Contact Center PhoneSet Manager or Contact Center Softphone, Interactive Contact Center, and the OAISYS call recording connector.

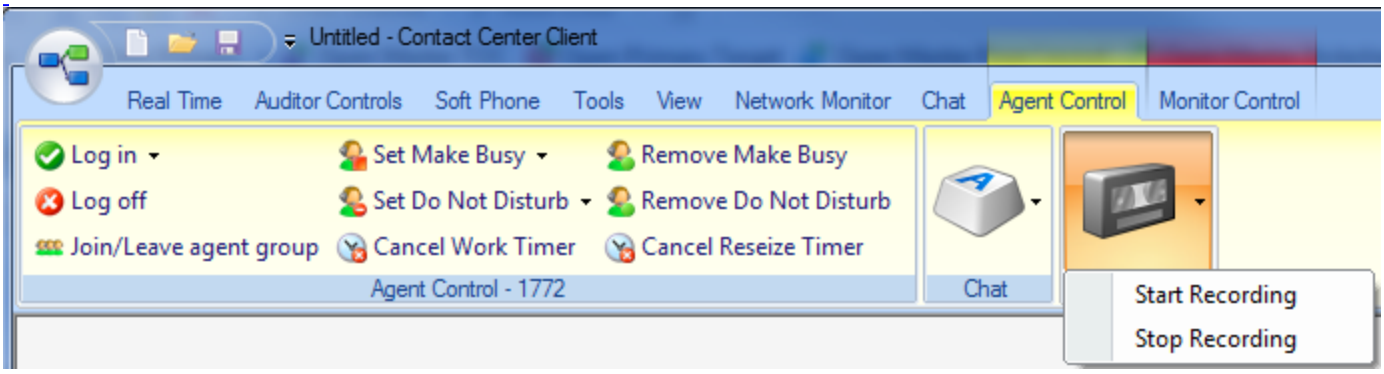
To record a call

1. Right-click the associated cell of an agent and select **Call Recording=>Start Recording**.
2. To stop recording, right-click the cell and select **Call Recording=>Stop Recording**.

Alternatively:

1. Select the cell of an agent in a monitor whose call you want to record.
2. In the Contact Center Client **Real Time** ribbon, under the **Agent Control** tab, select **Start Recording** from the drop-down list in the **Call Recording** column.
3. To stop recording, select **Stop Recording** from the drop-down list in the **Call Recording** column.
   See Figure 14 - 9.

Figure 14 - 9 Call recording



Silent monitoring calls

Silent monitoring is the process of listening to the voice conversations of internal or external calls between agents and callers. Silent monitoring enables you to track call handling techniques and determine where improvements can be made in individual performance. Silent monitoring is supported for the 3300 ICP telephone system and requires Contact Center Management, Contact Center PhoneSet Manager or Contact Center Softphone, and Interactive Contact Center.

NOTE:

- The monitoring extension and the extension being monitored must coexist on the same telephone system.
- The monitoring extension must be permitted by security role to interactively control other agents.
- The monitoring extension's soft phone tool bar must be open.

To silent monitor a call using Contact Center Client

- Right-click the associated cell of an agent and select **Silent Monitor**.

Alternatively:

1. Select the cell of an agent in a monitor whose call you want to silent monitor.
2. In the Contact Center Client **Real Time** ribbon, under the **Agent Control** tab, click the **Softphone** button and click **Silent Monitor**.

NOTE: If the telephone system settings are incorrect or the monitoring extension and the extension being monitored are on separate telephone systems, you will be unable to Silent monitor and will instead see "Not Allowed" when you right-click the cell. See the *Contact Center Management Installation Guide* for more information. If the extension you want to monitor is not currently on a call, you will see "Waiting" when you right-click the cell.

Transferring calls

To perform a blind transfer using Contact Center Client

- While on a call, right-click the cell of an idle agent and click **Transfer call**.

Alternatively:

1. Select the cell of anidle agentin a monitor.
2. In the Contact Center Client **Real Time**ribbon, under the **Agent Control** tab, click the **Softphone** button and click **Transfer call**.

Consulting with employees while on calls

To consult with an employee while on a call using Contact Center Client

1. Right-click the cell of an idle agent and click **Transfer/Conference**.
   The system places the initial party on hold.
2. In the dial box, type an extension or phone number. Otherwise, click the down arrow adjacent to the Transfer/Conference button and select a contact.
3. Click **Dial**.
4. After you consult with the employee, either click **Conference** to conference in that person, click **Transfer** to transfer the call to the employee, click **Swap** to talk to the other party, or click **Cancel** to end the consultation call.

Requesting help while on calls

To request help while on a call using Contact Center Client

- Right-click the cell of an idle agent and click **Request help**.
  The system calls the employee. The employee can click Answer in the soft phone and listen in on the call without the caller knowing. The employee can click Conference in the soft phone to join the conversation at any time.

Chapter 15

Contact Center Screen Pop

Using Contact Center Screen Pop

Contact Center Screen Pop

Contact Center Screen Pop is an optional application that requires Contact Center Management, and Contact Center Softphone or Contact Center PhoneSet Manager. Optionally, if you want to screen pop based on caller entered digits, you require Intelligent Queue with the Collect Caller Entered Digits options.

Contact Center Screen Pop launches applications or Web pages. In addition, it enables agents to automatically receive caller and account information via pop-ups on their computer monitors every time they receive calls. Contact Center Screen Pop provides agents with the caller name, caller phone number (ANI), called number (DNIS), and the queue used in the call. Optionally, if you have the Intelligent Queue Collect Caller Entered Digits option, Contact Center Screen Pop displays the digits the customer entered.

Using Contact Center Screen Pop

When an agent receives a call, Contact Center Screen Pop can launch an application or Web page. For example, when integrated with a Customer Relationship Management (CRM) database, Contact Center Screen Pop can launch a customer account page from the CRM database based on call information.
For contact centers that have Contact Center Screen Pop, the pop-up provides

- **Caller name**—name of the caller
- **ANI**—telephone number of the caller
- **DNIS**—telephone number the caller dials
- **DNIS name**—the name associated to the DNIS number in YourSite database
- **Agent ID**— agentwho transferred the call
- **Extension**—extension from which the call was transferred
- **Queue**—queue from which the call originated
- **Collect Caller Entered Digits**—digits the caller enters for identification purposes, such as a customer site key (Intelligent Queue required)
- **Customer Collected Information**—information collected from a third party OBDC database. Customer Collected Information requires Intelligent Queue and Verified Collected Digits, and, optionally, Remote Database Verification or CTI Developer Toolkit.
- **Call notes**—notes added by an agent

Configuring options in YourSite Explorer

You configure Contact Center Screen Pop options in YourSite Explorer. You can specify which information fields the pop-up displays and whether an application or Web page is launched when an agent receives a call.
See "Configuring Contact Center Screen Pop options" on page 411.

Enabling Contact Center Screen Pop

To enable Contact Center Screen Pop

1. Start Contact Center Client.
   See "Starting Contact Center Client" on page 191.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Select the **Display Contact Center Screen Pop** check box.
5. Click **OK**.

Configuring Contact Center Screen Pop options

If you are licensed for ANI, DNIS, and/or Collect Caller Entered Digits and want to display these in the pop-up you must configure the options for Contact Center Screen Pop in YourSite Explorer.

To configure Contact Center Screen Pop options

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Click the **Screen pop** tab.
3. Ensure the **Display Intelligent Queue licensed options (ANI, DNIS, and Collect Caller Entered Digits) on the soft phone pop-up** check box is selected.
4. To launch an application or Web page when agents answer a call, select the **Launch an application or Web page when agents answer ACD calls** check box.
    - If you want to launch Outlook contact information for callers and create a journal entry for each caller, select **Display caller-specific Microsoft Outlook Contact Information and create Journal entries**. This is the default option. Microsoft Outlook will display the contact information of that caller, using the name and/or number of the caller to find their file in the Personal Address Book. A journal entry will also be created for the call. If you select this option, ensure that you complete "Configuring Contact Center Screen Pop Outlook options for journal entries" on page 417 and "Configuring Contact Center Screen Pop to display Outlook contacts" on page 417. A default path or URL is automatically entered in the Contact Center Screen Pop tab. Contact Center Screen Pop will launch this application or Web page box when it is used.
    - If you want to display call statistics for incoming ACD calls, select **Display the caller-specific Inbound trace report Web page**. The Inbound Trace report tells you the number of times the caller has called in the last seven days and contains the following fields: Call Start Time, Call Duration, DNIS name, Agent name, Extension, and Account Code. (See Figure 15 - 1.)
    - A default path or URL is automatically entered in the Contact Center Screen Pop tab. Contact Center Screen Pop will launch this application or Web page box when it is used.
    - If you have created a Web page or an application to launch when agents answer calls, select **Display a specific application or Web page** and type the path for the executable file or the URL of the Web page. Click **How do I enter this value?** for instructions. See "Configuring Contact Center Screen Pop display variables" on page 412.
      If you have typed text into the **Contact Center Screen Pop will launch this application or Web page** box, **Display a specific application or Web page** is automatically selected.
    - If prairieFyre Professional Services has provided you with an integrated custom screen pop select **Display this Professional Services custom executable file or Web page**. Click **Manage** to review the Professional Services custom screen pop options.
5. If you want to enable screen pop on non-ACD calls select the **Screen pop on non-ACD calls** check box.
6. Click **Save**.

Figure 15 - 1 Inbound Customer Trace Report

Inbound Customer Trace

Call start time7/27/2007 9:20:50 AM

Patrick M has called our company **43** times in the last 7 days
Phone Number:6135990045

Call Start time (date and time)	Call duration	DNIS name	Agent name	Extension	Account Code
7/23/2007 4:15:24 PM	00:00:06	7777	2068	1278	
7/23/2007 4:14:59 PM	00:00:20	7777		6165	
7/23/2007 4:06:40 PM	00:00:19	7777	2030	1261	

Configuring Contact Center Screen Pop display variables

The variables described in Table 15 - 1 are used by Contact Center Screen Pop to determine the application area or Web page that launches when an agent answers an ACD call. Ensure the required Intelligent Queue options are enabled to use these variables.

NOTE: The variable names are case-sensitive.

Table 15 - 1 Contact Center Screen Pop display variables

Variable	Intelligent Queue feature required	Description
%PFCALLERNAME%	ANI/DNIS routing option, enabled	Caller name as provided by the telephone carrier. For example, "John Smith"
%PFANI%	ANI/DNIS routing option, enabled	Caller number (ANI), the telephone number of the calling party. For example, "6135990045"
%PFDNIS%	ANI/DNIS routing option, enabled	Dialed Number Identification Service (DNIS), numbers passed from the public telephone network to identify what phone number the caller dialed. This is typically used to identify different 1-800 or 1-900 numbers. For example, "9875"
%PFVERIFIEDCOLLECTEDDIGITS%	Collect Caller Entered Digits option, enabled and configured	The digits entered by the user during the call. For example, account number "78831"
%Queue%	ANI/DNIS routing option, enabled	Name of the queue from which the call is answered. For example, "Sales"
%ReceivingAgent%	N/A	Contains the Agent ID for the agent receiving the current call
%ReceivingExtension%	N/A	Contains the Extension ID for the extension receiving the current call
%SendingAgent%	N/A	Contains the Agent ID for the agent sending or transferring the call to the current recipient
%SendingExtension%	N/A	Contains the Extension ID for the extension sending or transferring the call to the current recipient

To launch an application

- Type the URL of the executable file followed by the required variables.
  For example, C:\MyProgram\CustomerManagement.exe "%PFCALLERNAME%" "%PFANI%""%PFDNIS%""%PFVERIFIEDCOLLECTEDDIGITS%""%Queue%"
  NOTE: Variables must be in quotes and be separated by a space.

If John Smith calls 1-800-266-9875 from 613-599-0045, is prompted to enter his account number (78831), and is then routed to the Sales queue, the executable file will use the actual values of the call, for example, C:\MyProgram\CustomerManagement.exe "John Smith""6135990045""9875""78831""Sales".

To launch a Web page

- Type the URL of the Web page followed by the required variables, as per standard HTTP protocol. For example, http://myintranetsite.business.com?CALLERNAME=%PFCALLERNAME%&ANI=%PFANI%&DNIS=%PFDNIS%&CO-LLECT-EDDIGITS=%PFVERIFIEDCOLLECTEDDIGITS%=%PFVERIFIEDCOLLECTEDDIGITS%&QUEUE=%Queue%

If John Smith calls 1-800-266-9875 from 613-599-0045, is prompted to enter his account number (78831), and is then routed to the Sales queue, the Web page will use the actual values of the call, for example, http://myintranetsite.business.com?CALLERNAME=John%20Smith&ANI=6135990045&DNIS=9875&COLLECTEDDIGITS=78831&QUEUE=Sales.

Enabling MiTAI event logging

The prairieFyre Enterprise service receives MiTAI events from the Collector Service and stores these events in a log file located in the DataDirectory\ CallControlEventLog sub-folder under the main installation directory. The Enterprise service logs all events across all nodes in one file and time stamps events based on arrival time, providing insight when troubleshooting MiTAI linking issues. Additionally, ANI, DNIS, Verified Collected Digits, and other custom field call details arriving from Intelligent Queue are logged.

Incorrectly configured devices and monitors will result in missing MiTAI events and Intelligent Queue port events, causing lost data and screen pop failures.

To enable MiTAI event logging

1. Browse to **<drive>:\program files\prairiefyre software inc\CCM\Services\EnterpriseServer**.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter **LogCallTrackingMiTAIEvents** and click **Find Next**.
   NOTE: If the LogCallTrackingMiTAIEvents key does not exist, you must create one. Enter <add key=" LogCallTrackingMiTAIEvents " value="true" />
5. Save the file.
6. Browse to the **DataDirectory\CallControlEventLog** folder.
7. Verify that **MiTAIEvents*.txt** is present in the folder.
8. Open **MiTAIEvents*.txt** and verify that the file contains MiTAI events. (See Figure 15 - 2.)

Figure 15 - 2 MiTAI events example

```
Node 1  | 09:23:28.991 | 09:23:29| IQ_CallDetails       | --w092329537    2243   <?xml version="1.0" encoding=
Node 1  | 09:23:28.991 | 09:23:29| IQ_CallDetails       | --w092329537    2243   <?xml version="1.0" encoding=
Node 1  | 09:23:28.991 | 09:23:29| IQ_CallDetails       | --w092329537    2243   <?xml version="1.0" encoding=
Node 1  | 09:23:45.241 | 09:23:45| IQ_CallDetails       | --w092345537    2243   <?xml version="1.0" encoding=
Node 1  | 09:23:45.741 09:23:44  | PathRequestEvent     | --y092344|36|4|50|1297-|266293164|3030|357|10|539|0|
Node 1  | 09:23:45.991 09:23:44  | PathCallDelivered    | --y092344|37|4|53|1297-|266293164|3030|293|6|539|0|7
Node 7  | 09:23:46.991 09:23:45  | CallReceivedEvent    | --y092345|02|1|49|1303-|291656852|3010|197|10|128|10
Node 7  | 09:23:47.741 09:23:45  | CallReceivedEvent    | --y092345|03|1|49|1303-|291656852|3010|217|10|128|10
Node 7  | 09:23:53.741 09:23:52  | CallEstablishedEvent | --y092352|04|1|49|1303-|291656852|3005|78|2|128|10|9
```

Additionally, you must ensure that

- All relevant devices including queues and extensions (or hot desking agents in a hot desking resilient environment) have been synchronized or manually programmed successfully.
- The Advanced Real time option is turned on.
- The prairieFyre Collector Service log monitors were correctly set and there are no MiTAI errors (MiTAI errors will be shown as SXERR_*).
- Intelligent Queue ports are configured and monitored correctly.
  Intelligent Queue monitoring problems are demonstrated by call flow failure.
- Intelligent Queue ports are not programmed as regular voice extensions.
  The Intelligent Queue messaging service automatically writes Intelligent Queue ports into the Contact Center Management database. If the Intelligent Queue ports have been manually programmed using YourSite Explorer or the Contact Center Management website and enabled for real-time and advanced real-time monitoring, screen pop will not display correct results.

Ignoring MiTAI events on UPiQ and callback capture ports

MiTAI events arriving on UPiQ ports and callback capture ports should be ignored to reduce MiTAI linking overhead.

To ignore MiTAI events on UPiQ and callback capture ports

1. Browse to **<drive>:\program files\prairiefyre software inc\CCM\Services\EnterpriseServer**.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter **MitaiLinkerPortIgnoreList** and click **Find Next**.
   NOTE: If the MitaiLinkerPortIgnoreList key does not exist, you must create one. Enter <add key="MitaiLinkerPortIgnoreList" value="2230 , 2250-2260, 2270" />
5. Save the file.

Configuring DNIS linkage

We recommend you configure the DNIS in the Contact Center Management database. In many situations, for example, in a Network ACD environment, MiTAI events that arrive on the path and on the end device may not contain the originally dialed digits. Capturing dialed digits at the Intelligent Queue port allows the system to preserve them for use in the screen pop DNIS field.

Configuring time spent in IVR

We recommend you configure the MiTAI linker to dispose of old (stale) calls immediately. In a high load environment where the system processes thousands of calls per hour, MiTAI call IDs can recycle in minutes. To dispose of stale calls, we recommend you configure the time a call spends in Intelligent Queue (or any IVR) before it gets transferred to a path or end device. For example, if callers typically spend two minutes or less in the IVR call flow before they are transferred, the MiTAI linker should be configured to dispose of stale calls within three minutes.

To dispose of stale calls

1. Browse to **<drive>:\program files\prairiefyre software inc\CCM\Services\EnterpriseServer**.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter **MitaiLinkerMaxTimeInSecsInIVRBeforeRouting** and click **Find Next**.
   NOTE: If the MitaiLinkerMaxTimeInSecsInIVRBeforeRouting key does not exist, you must create one. Enter <add key=" MitaiLinkerMaxTimeInSecsInIVRBeforeRouting " value="180" /> and replace 180 with the time threshold (in seconds) to dispose of stale calls.
5. Save the file.

Deleting completed calls from memory

Configuring the MiTAI linker to delete completed calls from memory allows the system to recycle calls faster. If no special components tap into the call after it finishes, there is no need for the system to track calls for longer than 15 seconds after they have completed.

To delete completed calls from memory

1. Browse to **<drive>:\program files\prairiefyre software inc\CCM\Services\EnterpriseServer**.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter MitaiLinkerMaxTimeInSecsToRecycleAfterCallCleared and click **Find Next**.
   NOTE: If the MitaiLinkerMaxTimeInSecsToRecycleAfterCallCleared key does not exist, you must create one. Enter <add key=" MitaiLinkerMaxTimeInSecsToRecycleAfterCallCleared" value="15" />.
5. Save the file.

Preventing blank or duplicate pop-ups

In a scenario where screen pop is configured to display on more than one field, for example, in a clustered network environment, the client may invoke screen pop with incomplete or blank pop-ups. In this case, the client receives the data in more than one batch due to

- The speed that the telephone switch delivers events.
  Agent controllers are typically faster than queuing gateways.
- The order that the events arrive.
  The MiTAI linker may not have received and linked all required events at the time when a call rings at an end device.

You must configure a list of required fields in the ContactCenterClient.exe.config file to prevent blank or duplicate pop-ups.

To prevent blank or duplicate pop-ups

1. On the client computer, browse to Client Installation directory Applications\ContactCenterClient.
2. Open **ContactCenterClient.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter WebPopRequires and click **Find Next**.
   NOTE: If the WebPopRequires key does not exist, you must create one. Enter <add key="WebPopRequires" value="PFDNIS, PFVERIFIEDCOLLECTEDDIGITS"/>
5. Save the file.

Configuring Contact Center Screen Pop Outlook options for journal entries

NOTE: Contact Center Screen Pop can search the contacts available in Outlook Personal Contacts only.

You can configure Contact Center Screen Pop to automatically record information in journal entries. You must complete the following instructions if you selected Display caller-specific Microsoft Outlook Contact Information and create Journal entries in "Configuring Contact Center Screen Pop options" on page 411. This step must be performed on every agent computer that uses Contact Center Screen Pop.

For information on viewing and searching for journal entries, see Microsoft Office Outlook Help.

To configure Contact Center Screen Pop Outlook options for journal entries

1. Start Contact Center Client.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Click **Configure Outlook screen pop options**.
5. Select **Create a journal entry for each incoming call and include the following properties**.
6. Select the properties that you want to include in your journal entries.
    - **Name—**caller name as provided by the telephone carrier (for example, John Smith)
    - **Phone number—**telephone number of the caller (for example, 6135990045)
    - **DNIS—**number passed from the public telephone network that identify the phone number the caller dialed. DNIS is typically used to identify different 1-800 or 1-900 numbers (for example, 9875).
    - **Queue—**queue from which the call originated. Only the first word of the queue name is recorded.
    - **Collect Caller Entered Digits—**the Collect Caller Entered Digits option, enabled and configured. These are the digits entered by the user during the call (for example, account number 78831)
7. Click **OK**.

Configuring Contact Center Screen Pop to display Outlook contacts

Contact Center Screen Pop searches the Outlook contact list for a caller's information and displays it in an Outlook window. You must complete this section if you selected Display caller-specific Microsoft Outlook Contact Information and create Journal entries in "Configuring Contact Center Screen Pop options" on page 411.

To configure Contact Center Screen Pop to display Outlook contacts

1. Start Contact Center Client.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Click **Configure Outlook screen pop options**.
5. Select the **Search for an Outlook contact** check box.
    - If you want to search for a contact using their name, select **By name**.
    - If you want to search for a contact using their telephone number, select **By number**.

    You can select both By name and By number to enable Contact Center Screen Pop to search for contacts using either method.
6. Click **OK**.

Configuring Contact Center Screen Pop to display Goldmine contacts

The FrontRange Goldmine connector for Contact Center Screen Pop searches Goldmine contact lists for caller phone numbers and displays the caller's contact page. The following procedures detail how to configure Contact Center Screen Pop to display FrontRange Goldmine contact information.

To configure Contact Center Screen Pop to display FrontRange Goldmine contacts

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Click the **Screen pop** tab.
3. Select the **Launch an application or Web page when agents answer ACD calls** check box.
4. Select **Display a specific application or Web page**.
5. Under **Contact Center Screen Pop will launch this application or Web page**, type the path of the executable file followed by the required variables: **<drive>:\Program Files\prairieFyre Software Inc\CCM\Applications\ContactCenterClient\GoldmineScreenPopConnector.exe"%PFANI%"**
   If you want to suppress Goldmine from maximizing and being popped to the front of all active windows, follow the above string with *-s*.
   See "Configuring Contact Center Screen Pop options" on page 411 and "Configuring Contact Center Screen Pop display variables" on page 412.
6. Click **Save**.

If you do not want Contact Center Screen Pop to display Goldmine contacts, you can disable this option for individual desktops using Contact Center Client.

To disable the FrontRange Goldmine screen pop on individual desktops

1. Start Contact Center Client.
2. Click **View=>Soft phone**.
3. Right-click the Phone toolbar and click **Configure**.
4. Click the **Screen pop** tab.
5. Ensure the **Display Contact Center Screen Pop** option is deselected.
6. Click **OK**.

Testing Contact Center Screen Pop search functions

This test will confirm that Contact Center Screen Pop will function with the software you selected. For example, if you selected the **Display caller-specific Microsoft Outlook Contact Information and create Journal entries** option, the test will attempt to pop up a sample caller-specific Outlook Contact window, and create a sample Journal entry. See "Configuring Contact Center Screen Pop options" on page 411.

To test the search function in Contact Center Screen Pop

1. Start Contact Center Client.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Click **Test**.
5. Type the variables using the described format.
   PFCALLERNAME—first name followed by last name, separated by a space (for example, John Smith)
   PFANI—phone number (including area code if relevant) with no spaces, dashes, or brackets (for example, 6135558769)
   PFDNIS—phone number (including area code if relevant) with no spaces, dashes, or brackets (for example, 8005556598)
   PFVERIFIEDCOLLECTEDDIGITS—all digits the caller has entered since entering the telephone system, with no spaces, dashes or brackets (for example, 1113)
   Queue—queue that the caller first entered (for example, P500)
6. Click **OK**.
   A screen pop that contains the test parameters you specified will display. The outcome of the Contact Center Screen Pop test will change depending on the type of screen pop you have configured and the test parameters you entered.

Disabling Contact Center Screen Pop

If you prefer some client computers do not use Contact Center Screen Pop, you can disable it on one or more computers. This procedure affects one agent profile only.

To disable Contact Center Screen Pop on a client computer

1. Start Contact Center Client.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Clear the **Display Contact Center Screen Pop** check box.
5. Click **OK**.

Chapter 16

Flexible Reporting

Using Flexible Reporting

Flexible Reporting

Flexible Reporting is an application that works with Contact Center Management Enterprise Edition. In addition to the over 425 reports provided by Contact Center Solutions and Call Accounting, Flexible Reporting enables you to design your own reports.

To install Flexible Reporting on a client computer, select the Flexible Reporting option in the Client Role Selector.

To access Flexible Reporting, employees must be associated with a security role that allows them to manage reporting (the May manage reporting check box must be selected).

With Flexible Reporting you can:

- Use a wizard interface to create customized reports with existing statistics (column headings)
- Create custom calculations using expressions
- Select column headings to build custom reports
- Select only the columns you want to view
- Select like data for two or more device types and combine them in one report
- Arrange the columns in the order in which you want to view them
- Customize the names of statistics (column headings) so they are meaningful to your department, business, and industry
- Save the reports in Excel and .pdf formats

Using Flexible Reporting

In Flexible Reporting you can

- Create new reports
- Modify standard Contact Center Management report templates
- Modify existing Flexible Reporting report templates
- Design reports
- Manage your Flexible Reporting reports
- Run reports

Starting Flexible Reporting

To start Flexible Reporting

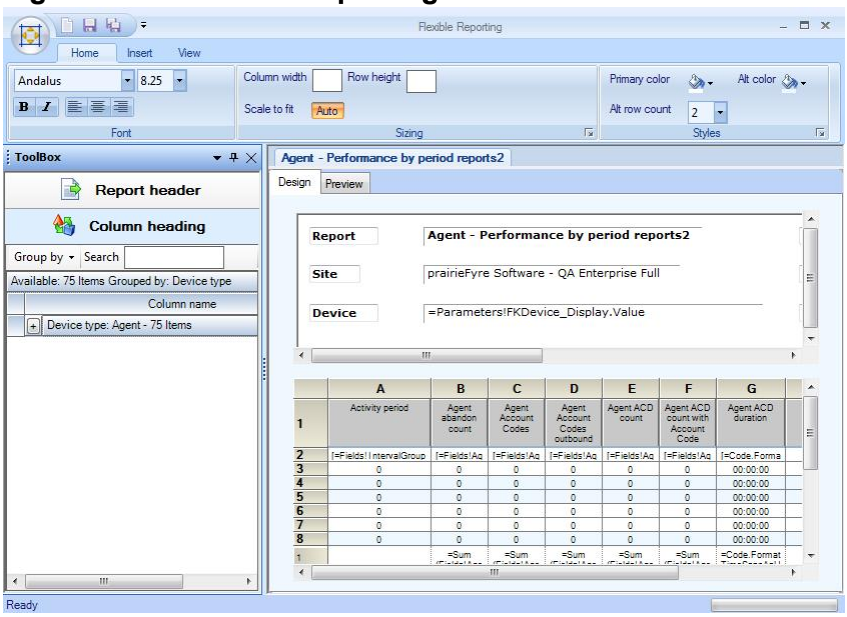
1. Open **Flexible Reporting**.
2. Log on with your user name and password.
   The Welcome to Flexible Reporting dialog box opens.
3. You can select from: Run a report, Create a new report, Redesign a standard report, Modify an existing report, or Do not show this dialog box again. If you want to initiate a procedure, click **OK** and see the associated section in this chapter. Otherwise, close the dialog box.

Viewing the Flexible Reporting user interface

The Flexible Reporting user interface comprises the following. (See Figure 16 - 1.):

- Report Designer wizard
- Layout designer window
- Flexible Reporting button
- Ribbon
- Toolbox window

Figure 16 - 1 Flexible Reporting user interface



You can customize the position of the windows in the following ways:

- Dock to the left, right, top, or bottom of the user interface
- Float
- Hide
- Auto-hide

Report Designer wizard

Whether you are building a new report or modifying an existing Contact Center Management report, the Report Designer wizard leads you through the following steps to select data for the report:

- Create a new report based on an existing one, or design a new report
- Select a report type (Performance reports, Answering points, Make Busy, and Account Code reports, or Summarized/Detailed Agent Event reports)
- Select the device types
- Select the statistics (column headings), and the order in which you want them displayed
- Specify the time frame options

Layout designer window

The layout designer window comprises two tabs: design and preview. The window displays the report header and data grid. You can perform the following functions in the layout designer window.

On the design tab you can

- Add images to report headers
- Edit the report header titles
- Adjust the placement of the report header titles and values
- Remove report header titles and values
- Add existing or custom columns
- Move columns
- Delete columns
- Edit column heading names
- Specify column width and row height
- Specify row colors
- Freeze and unfreeze columns
- Save report templates

On the preview tab you can

- Run and preview reports
- Save reports
- Export reports
- Print reports

Flexible Reporting button

The Flexible Reporting button is the circular button located in the upper left corner of the window. The following options are available from the Flexible Reporting button: New, Open, Save, Save as, Close, About, Log out, Exit, and Log out and exit.

Ribbon

The ribbon provides the same functionality as traditional toolbars. Use the tools on the ribbon to help you design your reports. The ribbon comprises the Home, Insert, and View tabs.

On the Home tab of the ribbon, you will find the tools to help you

- Change the font type, size, and style
- Select text justification
- Specify column width, auto-fit column width, and row height
- Change row colors

On the Insert tab of the ribbon, you will find the tools to help you

- Insert and remove images from the report header
- Select the report header titles to open in the report header
- Add existing or custom columns
- Remove columns
- Freeze and unfreeze columns
- View or modify expressions

On the View tab of the ribbon, you will find the tools to help you

- Show and hide the Toolbox window
- Manage reports

Toolbox window

The Toolbox window contains the following:

- **Report header**
  Report header is a list of report header titles that are currently not included in the report header. If the Report Header list is empty, all of the report header titles will be applied to the report. When report header titles are removed from a report they are shown in the Report headers list.
- **Column heading**
  Column heading displays a list of all of the column headings (for only those devices selected for the report) that are not currently included in the report grid. When you add a column heading to the report, it is removed from the list. Similarly, if you remove a column heading from the report, it displays in the Column headings list.

Creating new reports

Using the Report Designer wizard you can build new reports with existing column headings. Use the Report Designer wizard to select the data for the report.

The Report Designer wizard guides you through the following steps:

- Select how you want to display the report data
  - Performance reports display data for agents, queues, trunks, DNIS, or extensions by interval. Each row in the report represents a specific period. The supported periods are: 15 minutes, 30 minutes, 60 minutes, day of week, day of month, and month.
  - Answering points, Make Busy, and Account Code reports display data for a single device per row (including employee, agent, queue, ANI, DNIS, Account Code, Make Busy code, Trunk busy minutes, agent ID, and devices associated with device groups). Each row in the report represents a device. Examples of by device reports are Employee Group by Employee, Queue Group by Queue, Queue by Agent, or Queue ANI by Area Code.
  - Summarized/Detailed Agent Event reports display ACD-based agent activity data. The data can be grouped by login/logout pair or can be viewed as a trace of all login/logout pairs. For example, Detailed Agent Event Data reports show the agent state activity for each login/logout pair performed by the agent. Summarized Agent Event Data reports group the data and show one line representing the agent's total activity.
- Select the device(s) on which you want to report
- Select the statistics (column headers) that will be shown in the report
- Select the time frames over which you want to run the report

To create a new report

1. Click the Flexible Reporting button and select **New** to launch the Report Designer wizard.
2. Click **Next**.
3. Click **Create a new report** and follow the steps in the wizard.
   At the end of the Report Designer wizard, the new report opens automatically on the Design tab.
4. Design the report.
   See "Designing reports" on page 427.
5. Click the Flexible Reporting button and select **Save** to save the report.

Modifying standard Contact Center Management report templates

Using the Report Designer wizard you can modify standard Contact Center Management voice report templates. In the wizard, you can remove data (column headings) and add new data (additional devices and column headings).

The Report Designer wizard guides you through the following steps:

- Select the report you want to modify from a list of standard Contact Center Management reports
- Select the time frames over which you want to be able to run the report
  Choosing options on this page enables you to select time frames when submitting or previewing reports. The start and end times enable you to run the report for a specific time frame for each day in the report. For example, you can run the report for your hours of operation only, 8 A.M. to 6 P.M.
  The days of the week time frame enables you to run the report for specific days. For example, every Friday over the last two months.

Table 16 - 1 lists the standard Contact Center Management report templates.

Table 16 - 1 Standard Contact Center Management report templates

Agent report templates
• Agent by Make Busy Code
• Agent Group by Make Busy Code
• Agent Group Performance by Period
• Agent Performance by Account Code
• Agent Performance by Period
• Agent Shift by Period
DNIS report templates
• DNIS Group Performance by Period
• DNIS Performance by Period
• Employee report templates
• Employee Group Performance by Employee
• Employee Performance by Agent ID
Extension report templates
• Extension Group Performance by Period
• Extension Performance by Period
Queue report templates
• Queue ANI by Area Code
• Queue Group Performance by Queue
• Queue Performance by Account Code
• Queue Performance by Agent
• Queue Performance by Period
Trunk report templates
• Trunk Group Performance by Period
• Trunk Performance by Period

To modify a standard Contact Center Management report template

1. Click the Flexible Reporting button and select **New** to launch the Report Designer wizard.
2. Click **Next**.
3. Select the **Redesign a standard report** option and follow the steps in the wizard.
   At the end of the Report Designer wizard, the new report template opens automatically on the Design tab.
   NOTE: On the Select an existing report template page of the wizard, under Filter by device type, select All devices if you want to see all available reports for all devices.
4. Design the report.
   See "Designing reports" on page 427.
5. Click the Flexible Reporting button and select **Save** to save the report.

Modifying existing Flexible Reporting report templates

To modify an existing Flexible Reporting report template

1. Click the Flexible Reporting button and select **Open**.
   The Reports List window opens, giving you access to all personal and shared Flexible Reporting reports.
2. Select the report you want to modify.
3. Click **Open**.
4. Modify the report.
   See "Designing reports" on page 427.
5. Click the Flexible Reporting button and select **Save** to save the changes to the report template, or select **Save As** to save the report as a new template.
6. If you want to run the report, click the **Preview** tab.

Designing reports

Using the options available on the ribbon, design the report by modifying the report header, columns, and rows.

NOTE: You can open and edit report templates you previously created in Flexible Reporting.

Adding images to report headers

To add an image to a report header

1. On the **Insert** tab of the ribbon, click the **Insert** button.
2. Select an image file and click **Open**.
   The image displays on the report header.
3. Drag the image to where you want it to be shown on the report header.

Deleting images on report headers

To delete an image

1. Select an image on the report header.
2. On the **Insert** tab of the ribbon, click the **Remove** button.

Editing report header titles

Report headers comprise titles and values. Edit the report header titles to customize the look of your reports.

You can edit the font type, size, and style of report header titles.

You can edit the titles of the following report headers:

- Report
- Site
- Device
- Date range
- Date created
- Created by

NOTE: You cannot edit the report header values as these are driven by the options selected when the report is submitted.

To edit a report header title

1. Click a report header title.
2. Edit the text in the box.

Moving report header titles and values

You can drag and drop report header titles and values independently.

To move a report header title or value

- Drag and drop the report header title or value to where you want it to be shown on the report header.

Removing report header titles and values

All report header titles and values are shown on a report when it is first created. If you remove a report header title, the corresponding value will also be removed from the header. For example, if you remove the Date range title, the date range will not be shown on the report.

To remove a report header title and value

- On the **Insert** tab of the ribbon, click the **Header** button and deselect the check box of the report header title you want to remove. You can optionally drag and drop the report header title from the report to the Report header list.
  Report header titles removed from the report are shown in the Report header list in the Toolbox window.

Adding report header titles and values

To add a report header title and value to a report

- On the **Insert** tab of the ribbon, click the **Header** button and select the check box of the report header title you want to add. You can optionally drag and drop the report header title from the Report header list to the report.

Adding existing columns

To add an existing column

1. On the **Insert** tab of the ribbon, click **Add=>Existing**.
   Optionally, right-click the report and select Insert column=>Existing from the drop-down list.
   The Add columns window opens.
   NOTE: You can also drag and drop items from the Column heading list in the Toolbox window to add existing columns to your report.
2. Select the columns you want to add to the report.
3. Click **OK**.

Adding custom columns

You can add custom columns to create custom calculations using expressions or blank columns. The ability to create custom calculations using expressions enables you to further customize report data to suit your specific business needs. Blank columns can be used as spacers to make reports easier to read, or as placeholders for importing third-party data after a Flexible Reporting report has been generated.

NOTE:

- Adding columns containing custom calculations requires a thorough understanding of Microsoft Excel and regular expressions.
- We recommend you preview reports containing custom calculations in Flexible Reporting before saving the changes and generating the report in the Contact Center Management website.

To add a column containing custom calculations

1. On the **Insert** tab of the ribbon, click **Add=>Custom**.
   Optionally, right-click the report and select Insert column=>Custom from the drop-down list.
   A blank column displays in the report.
2. Right-click a cell in the blank column and select **Expression**.
   The Edit expression window opens.
   NOTE: You cannot create calculations using expressions in a header cell.
3. Select an option in the **Options** list to view the associated **Item** list.
4. Select an item in the **Item** list to view the associated item **Description** and expression **Example**.
5. Double-click the item in the **Item** list to insert its expression into the **Expression** box.
6. Repeat steps 3 to 5 until the complete calculation is entered in the **Expression** box and click **OK**.
   The expression displays in row two of the blank column in the report.
7. If you want to edit the expression you created, right-click the cell and select **Expression** to return to the Edit expression window.

After adding a column containing custom calculations you can choose to view or modify the expression.

To view or modify an expression

1. Select the cell in the report, for which you want to view or modify the expression.
2. On the **Insert** tab of the ribbon, click **Expression**.
   Optionally, right-click the column and select Expression from the drop-down list.
   The Edit expression window opens.
3. Select an option in the **Options** list to view the associated **Item** list.
4. Select an item in the **Item** list to view the associated item **Description** and **Expression** example.
5. Double-click the item in the **Item** list to insert its expression into the **Expression** box.
6. Repeat steps 3 to 5 until the complete calculation is entered in the **Expression** box and click **OK**.
   The expression displays in row two of the blank column in the report.

You can restrict the number of decimal places that will display for results. As an example, setting the number of decimal places that will display for the Average Manned Agent statistic is described below.

To set the number of decimal places that display for results

1. In the **Design** view, right-click the **Average Manned Agent** column in the report and select **Expression** from the drop-down list.
2. Change the current value of **=Fields!AgentGroupEventAvgMannedAgents.Value to =FormatNumber(Fields!AgentGroupEventAvgMannedAgents.Value,1)**.
3. Click **OK**.
4. Click **Save**.
   The column is formatted to display one decimal place. To alter the number of decimal places displayed, enter the appropriate number in place of **1**.

To add a blank column

1. On the **Insert** tab of the ribbon, click **Add=>Custom**.
   Optionally, right-click the report and select Insert column=>Custom from the drop-down list.
   A blank column displays in the report.
2. Optionally, click the header cell of the blank column and type a name for the column.

Moving columns

To move a column

- On the report grid, drag and drop the column to where you want it on the grid.

Deleting columns

To delete a column

1. Click a column on the report grid.
2. On the **Insert** tab of the ribbon, click the **Remove** button.
   Optionally, right-click the column and select Delete column from the drop-down list.

NOTE: Some statistics require specific columns to ensure a report is meaningful. These statistics are associated with the required columns and cannot be deleted on their own. For example, in by period reports, you cannot delete the interval; in by device reports, the reporting number cannot be deleted.

Editing column heading names

You can edit the names of column headings so they are meaningful to your department, business, and industry. You can change the font type, size, and style as well as edit the text.

To edit a column heading name

1. Click a column heading on the report grid.
2. On the **Home** tab of the ribbon, use the font options to change
   - the font type, size, and style
   - the justification
3. Optionally, edit the name of the column heading.
   If, after renaming a column heading, you want to see the original column heading name, hover over the column heading. The original column heading name displays after Name.

Specifying column width

To specify the column width

1. Click a column.
2. On the **Home** tab of the ribbon, after **Column width**, type the width (in pixels).
   Optionally, right-click the column and select Column width from the drop-down list.

To auto-fit the column width

1. Click a column.
2. On the **Home** tab of the ribbon, after **Scale to fit**, click **Auto**.
   Optionally, right-click the column and select Auto-fit Column width from the drop-down list.

Specifying row height

You can specify a different row height for the header row than the body rows.

To specify the header row height

1. Click the header row.
2. On the **Home** tab of the ribbon, after **Row height**, type the height (in pixels).
   Optionally, right-click the header row and select Row height from the drop-down list.

To specify the body row height

1. Click a body row.
2. On the **Home** tab of the ribbon, after **Row height**, type the height (in pixels).
   Optionally, right-click the body row and select Row height from the drop-down list.
   All of the body rows will be the same height.

Specifying row colors

You can alternate row colors to make report data easier to read.

1. On the **Home** tab of the ribbon, select the primary and alternate colors.
2. After **Alt row count**, type the number of rows for each color.

Freezing columns

Frozen columns remain stationary when you scroll to view columns to the right.

To freeze a column heading

1. On the report grid, click the column to the right of the ones you want to freeze.
2. On the **Insert** tab of the ribbon, click the **Freeze column** button.
   Optionally, right-click the column and select Freeze column from the drop-down list.

Unfreezing columns

To unfreeze a column heading

1. On the report grid, click the column to the left of the frozen column.
2. On the **Insert** tab of the ribbon, click the **Unfreeze column** button.
   Optionally, right-click the column and select Unfreeze column from the drop-down list.

Managing your Flexible Reporting reports

You manage your Flexible Reporting reports on the My Reports window. My Reports gives you access to all of the reports you have created.

NOTE: You can access all the reports you have created and all shared reports created by others, by clicking the Flexible Reporting button=>Open.

In the My Reports window you can

- Change access properties: Shared or not Shared
- Rename reports
- Delete reports

Changing access properties

To change the access properties of a report

1. On the **View** tab of the ribbon, click **My reports**.
2. Select the report(s).
3. If you want to share the report(s), under **Shared**, select the check box. Otherwise, clear the check box and the report(s) will be available to you only.
4. Click **OK**.

Renaming reports

To rename a report

1. On the **View** tab of the ribbon, click **My reports**.
2. Select a report and click **Rename**.
3. Edit the name.
4. Click **OK**.

Deleting reports

You can only delete the reports you create.

To delete a report

1. On the **View** tab of the ribbon, click **My reports**.
   NOTE: You cannot delete a report that is open in Flexible Reporting.
2. Select the report(s) you want to delete and click **Delete**.
3. Click **Yes** to delete the selected report(s).
4. Click **OK**.

Running reports

You can run Flexible Reporting reports on the Contact Center Management website or in Flexible Reporting. However, you can schedule reports on the Contact Center Management website only.

From the Contact Center Management website, you can run Flexible Reporting reports on demand, or schedule them, the same way you run standard reports. See "Reporter" on page 277 and "Scheduled Reports" on page 282.

In Flexible Reporting you can run, save, and print reports on the Preview tab. After you run a report, printing options enable you to view the print layout, and configure page setup and printer properties.

NOTE:

- Flexible Reporting will run reports only when there is data to generate the report.
- If you run a report on the Preview tab and the report data is all zeros, ensure you selected a device on which to run the report. If you selected a device, ensure the selected time period is one that would have incurred activity.
- Custom reports created in Flexible Reporting can only be generated in the language that was used when they were created and saved.

Running reports in the Contact Center Management website

To run an on-demand report in the Contact Center Management website

- Click **Reporter=>Flexible Reporting** and select and run the report.
  You will have access to all Flexible Reporting reports created by you and shared Flexible Reporting reports created by others.

NOTE: When a report supports more than one device type, click on each tab to select the devices on which you want to report.

To schedule a report on the Contact Center Management website

1. On the Contact Center Management website, click **Reporter=>Scheduled reports**.
2. If you want to create a new schedule, click **Next**. Otherwise, select an existing schedule and click **Manage schedule properties**.
3. Configure the schedule properties and distribution attributes.
   For more information, see "Creating Contact Center Management Report schedules" on page 283.
4. Click **Add a report**.
5. Click **Flexible Reporting** and select a report to add to the schedule.

Running reports in Flexible Reporting

To run reports in Flexible Reporting

1. On the **Preview** tab, under **Devices**, select the device(s).
2. Specify the date and time parameters.
3. Click **Run report**.
   Flexible Reporting generates the report and displays it in the preview pane.

Saving templates and reports

In Flexible Reporting you can save

- **Templates**
  The report templates you create in Flexible Reporting are saved on the Enterprise Server so you can run them from Flexible Reporting and the Contact Center Management website.
  NOTE: Report templates are not saved automatically. You must save your report template before you exit Flexible Reporting if you want to use it to run reports or modify the template later.
- **Reports**
  After you run a report in Flexible Reporting, you can save the output (report) on your computer or elsewhere on your network. Reports can be saved or, optionally, exported in Excel or .pdf formats.

To save a report template as a new document

1. Click the Flexible Reporting button and select **Save as**.
2. After **File name**, type the name of the new template.
   NOTE: Only you can run and view reports you have created and designated as not shared. Shared reports can be run and viewed by others.
3. If you want to allow others to run the report, select the **Shared** check box.
4. Click **Save**.

To save modifications to a report template

- Click the Flexible Reporting button and select **Save**.

To export a report in Excel or .pdf format

- In the Preview window, above the generated report, click the **Save** button, select **Excel**, and specify the location to save the report as an Excel file, or select **Acrobat (PDF) file** and specify the location to save the report in .pdf format.
  Optionally, click the Export report button, on the View tab of the ribbon, and specify the file type and location, as above.

Printing reports

To print a report you ran on the Preview tab

- On the Preview window toolbar, click the **Print** button.

Chapter 17

IVR Routing

IVR Routing features

Configuring IVR Routing

IVR Routing call flow samples

IVR Routing complex call flow configuration

Pre-configured messages and prompts

Configuring remote IVR Routing nodes with the Enterprise Server in a workgroup

IVR Routing

An IVR Routing license includes IVR Routing ports and Visual Workflow Manager. Mitel IVR Routing is an all-in-one, scalable, integrated voice processing solution that works in conjunction with Contact Center Management.

IVR Routing's Visual Workflow Manager application enables you to rapidly and intuitively

- Build call flows in a drag-and-drop graphical interface
- Create and relay static,dynamic, and custom recorded prompts to callers in queue
- Provide callers with estimated wait time or position in queue messaging
- Guide callers to the information, extension, or ACD queue that best meets their needs
- Allow customers to request a queued callback by leaving a voice message or using the Web
- Provides call flow branching based off ANI, DNIS, schedules, and queues
- Report on IVR activity

IVR Routing is activated during the Contact Center Management installation process, if you are licensed for IVR Routing. For information on installing Contact Center Management, see the *Contact Center Management Installation Guide*. For information regarding installing IVR Routing on a Remote Server, see the *Contact Center Management Installation Guide*.

NOTE:

- To support IVR Routing resiliency and redundancy, you must have at least one non-resilient extension programmed on the queuing gateway and configured in the Contact Center Management database (either manually or via synchronization). In addition, there must be a MiTAI monitor set on this extension. This is done in YourSite Explorer by ensuring the "Disable real-time monitoring and data collection on this device" check box is not selected. (Note: This check box is deselected by default.) Having the MiTAI monitor set on the extension enables our software to recognize when the connection to the queuing gateway is restored following a network outage.
- As a limitation of the telephone system, dual-tone multi-frequency signaling (DTMF) digits are only detected if the SIP trunks are configured to send via DTMF 2833. If your SIP trunks are configured to send DTMF digits in-band, IVR Routing will not detect any DTMF digits.
- Call record data generated on remote IVR Routing nodes when the main IVR Routing server is offline will not be reported on.

IVR Routing features

IVR Routing includes the following features.

- **Visual diagramming** — Build call flows on a Call flow Canvas. Visual Workflow Manager enables you to drag all activities, including transfers, database read/write, interactive menus, verified collected digits, and routing conditions to the Canvas to build call flows.
- **New hunt group configuration** — Hunt groups have been added and are configured in YourSite Explorer.
- **New prompt and playlist editor** — Prompts (playlist editor) are now configured in YourSite Explorer. You are able to view the list of system, queue, voice readback, and custom prompts and assemble them to create playlists. Additionally, you can import, preview, and record prompts.
- **Network Monitor enhancements** — Network Monitor enables you to set alarms on critical IVR and call flow functionality, such as audio failure.
- **Sample call flows** — The IVR Routing call flow samples are based on common business scenarios. They not only demonstrate how IVR Routing can be used to efficiently direct calls to appropriate queues but, because they can be imported directly into your IVR Routing application, they save you the time of creating your own introductory call flows. See "IVR Routing call flow samples" on page 525.

Configuring IVR Routing

You configure all aspects of IVR Routing in YourSite Explorer.

You must provision your IVR Routing environment in the following order:

1. **Media servers -** select the media server type and set the media server settings and options.
   See "Configuring media servers for IVR Routing" on page 439.
2. **Ports and extensions -** select the extension type and set extension settings and options.
   See "Configuring extensions" on page 440.
3. **Hunt groups -** select the phone lines associated to each hunt group and configure the destination point for each hunt group.
   See "Configuring hunt groups" on page 443.
4. **Call flows -** add various activities and configure their properties and order of execution for incoming calls.
   See "Building call flows" on page 448.

Starting YourSite Explorer

To start YourSite Explorer

1. Open **YourSite Explorer**.
2. Type your username and password and verify the Enterprise Server IP address.
3. Click **Log on**.
   YourSite Explorer opens.

Viewing Visual Workflow Manager

You can view Visual Workflow Manager in two formats: Horizontal and Vertical.

To select a view type

1. In the left pane, click **Visual Workflow Manager**.
2. In the ribbon, click **View**.
3. In the Page layout pane, select **Horizontal**, **Vertical**, or **Data Grid**.
   NOTE: The Data Grid view is not available for all Visual Workflow Manager devices.

Using the Import Wizard

The Import Wizard enables you to import a .csv file containing all of your IVR information. The .csv file must have individual pieces of information separated by commas or by tabs. You can prepare a .csv file using Microsoft Notepad.

For information on importing .csv files using the Import tool, see "Importing a range of devices using a .csv file" on page 122.

Building conditions in IVR Routing features and activities

Many features in IVR Routing require users to configure conditions. These include:

- Routing rules
- Queue callback conditions
- Schedule conditions
- Queue conditions
- Variable compare conditions

While the individual types of expressions that can be added to conditions and their configuration may vary between the conditions being built, IVR Routing's interface for adding, deleting, and grouping expressions remains consistent throughout IVR Routing.

Adding and removing expressions

To add an expression

- Click the **Add** button.
  An expression is added to the condition.
  NOTE: When an expression is added, it will be highlighted in red if it requires additional configuration. The expression will remain highlighted in red until configured.

To remove an expression

- Select the expression you want to delete and click the Delete button.
  The expression is removed from the condition.

Grouping expressions

IVR Routing enables users to group expressions, facilitating the easily construction of detailed and specific conditions. While grouping is associated with a number of different activities, configurations, and dialogs, the grouping clauses are consistent throughout IVR Routing. Expressions within a group may also be grouped together to create nested levels of sub-groups within a single group.

NOTE: We recommend you do not exceed eight levels of grouping within a group of expressions even though IVR Routing is capable of handling greater than eight levels of grouping.

Expressions may be grouped by one of two clauses:

- **AND:** Expressions grouped by the AND clause require that all the expressions in a group be met to successfully meet the condition.
- **OR:** Expressions grouped by the OR clause require that only one of the expressions in a group be met to successfully meet the condition.

To group expressions

1. Holding down the **Shift** key, select the topmost expression in the range of expressions you want to group and then select the last expression in the range of expressions you want to group.
   All expressions in between these two expressions will be selected.
   NOTE:
   - Grouped expressions must be adjacent to each other. Holding down CTRL and selecting individual expressions will select all expressions between the first and last expression you selected.
   - You cannot add an expression to an existing group. If you want to add an expression to an existing group, ungroup the expression and then regroup it with the expression you want to add.
2. Click either the **group AND** or **group OR** buttons.
   The expressions are grouped with the selected clause.

To ungroup grouped expressions

1. Click the group's drop-down menu button.
2. Select **Ungroup**.

To add a new expression to a group

1. Click the group's drop-down menu button.
2. Select **Add**.
   An expression is added to the group.

To remove a single expression from a group

1. Click the expression's drop-down menu button.
2. Select **Ungroup**.
   The expression is removed from the group.

Configuring media servers for IVR Routing

IVR Routing supports 3300 ICP media servers. You add and configure 3300 ICP servers in YourSite Explorer. For more information, see "Adding 3300 ICP media servers" on page 75.

Configuring extensions

An extension is a telephone system answer point that handles calls. Each extension has a specific extension number. A caller to your contact center is presented with options to dial various answering points. The caller can dial an individual agent at an extension through a queue number.

Following is a list of the five extension types specific to IVR Routing and their functions:

- **RAD port 5020 IP:** is used to play RAD (Recorded Announcement Device) messages for queue announcements.
- **Messaging port 5020 IP:** is used to process voice call flows
- **Outbound port 5020 IP:** is used to process outbound call flows
- **Callback port 5020 IP:** is used to process Outbound Callback requests
- **UPiQ port 5020 IP:** is used to process UPiQ (Updated Position in Queue) messages

NOTE:

- Any extensions configured on the telephone switch are retrieved during synchronization and are shown in the extensions list.
- IVR Routing uses 5020 IP port as its port type. APPSERVER ports that were used with Intelligent Queue cannot be transitioned over to IVR Routing. When you install IVR Routing, you need to create new ports. You cannot reuse ports that were previously used for Intelligent Queue, but you can delete these ports and reuse the dialable numbers. You can also reuse existing hunt groups.
- The Outbound extension option is only available to clients with IVR Routing Premium licensing.
- RAD 5020 IP ports must be assigned to the same media server as the queues receiving the RAD messages.

Adding extensions

To add an extension

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Extensions**.
3. Click **Add**.
   A new extension is added to the extensions list.
4. Complete the following fields:
   - **Name**—type a name for the extension.
   - **Reporting/Dialable number**—enter a dialable number for the extension.
   - **Extension type**—select the extension use type from the drop-down list.
     NOTE: Ensure you select the correct extension type for the port. For example, if you want the extension to be a messaging port, select Messaging port 5020 IP. If you want the extension to be a RAD port, select RAD port 5020 IP, etc.
   - **Media Server**—select a media server from the media server list.
     NOTE: Callback ports must be assigned to the same media server(s) as the queues to which callbacks are directed.
   - **Failover media server**–select a failover media server to handle the call load in the event the primary media server goes offline.
   - **Class of service**–automatically populated based on the Class of Service set earlier in the Media servers section.
5. If you want to disable real-time monitoring and data collection on this device, select **Disable real-time monitoring, data collection and call handling on this device**.
   NOTE: This option is only used to unlicense the port and discontinue its use. Unlicensed extensions can be assigned to a call flow but will not go into service or be visible in Contact Center Client.

6. Configure the **Port Options** as follows:
   - After **Call flow**, click **...** and select the call flow to which you want to associate the extension.
     NOTE: UPiQ and Callback ports do not allow you to select a call flow; the call flow is automatically associated to the port.
   - After **Port State**, select either **Normal** or **Emergency** from the drop-down list.
     Select "Emergency" as the port state only if this port is associated to a call flow that is configured to have an emergency path. You can configure a port state as "Emergency" when applicable either within YourSite Explorer directly or by using a Management Plan remotely.
   - Select the **Trusted Service Level** check box to set the service level for the 5020 IP port to "trusted". This step is necessary if you are using MCD 5.0+, otherwise, do not select this check box.
     NOTE: In order to set the trusted service level in YourSite Explorer, you must have already enabled write-back functionality on the media server. (See "Enabling write-back functionality" on page 79). If you do not have write-back enabled, you must set the trusted service level on the telephone system, instead of in YourSite Explorer, by logging in to the 3300 ICP, navigating to User and Device Configuration, clicking the extension for which you want to set the service level, and, on the Profile tab, selecting Trusted from the drop-down list beside Service Level.
   - Select the **This is a remote port** check box if applicable.
   - After **Remote Server**, if this is a remote port, click **...** and select the remote media server on which IVR Routing is configured.
   - After **MiTAI / MiAudio Local Binding IP Address**, select the appropriate IP address.
     NOTE: This option is used if you have more than one NIC and want to specify which one is used for MiTAI/MiAudio, for example, if you have a voice and data network split.
   - The **Port License** area details how many IVR Routing port licenses remain and how many primary and redundant ports are in use.
7. On the ribbon, click **Save**.
   NOTE: If, after you configure and save the extension, it does not come in to service, check to see if the prairieFyre IVR Inbound Service is installed and running. If you discover this service is not installed, it may be that you were not licensed for IVR Routing at the time of installation. If that is the case, you must re-run the Mitel Contact Center Configuration Wizard to reinstall the IVR Routing services.

Viewing specific extension types

To view specific types of extensions

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Extensions**.
3. Click **Filter**.
4. From the drop down list, click the extension type you want to view.
   NOTE: Only extensions of the type you selected are shown. If you select None, all extension types are shown.

Deleting extensions

To delete an extension

1. Select an extension from the extension list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.
   The extension is deleted and removed from the extension list.
   NOTE: You cannot delete an extension if it is associated to a hunt group.

Using Extension Quick Setup

The Extension Quick Setup enables you to import extensions into YourSite Explorer from the telephone switch.

To use quick setup to import extensions

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Extensions**.
3. Click **Quick Setup**.
   The Extension Quick Setup pane opens.
4. After **Active number from**, specify the first dialable number of the extension you want to add.
5. After **Active number to**, specify the last dialable number of the extension you want to add.
6. After **Name prefix**, enter the text you want prefixed to the name of the port.
7. After **Name postfix**, enter the text you want postfixed to the name of the port.
8. On the **General** tab, configure the **Media server options** as follows:
   - **Extension type:** Select the extension type from the drop-down list.
     NOTE: Ensure you select the correct extension type for the port. For example, if you want the extension to be a messaging port, select Messaging port 5020 IP. If you want the extension to be a RAD port, select RAD port 5020 IP, etc.
   - **Associate the devices to this media server:**If you want to configure your ports to be resilient, click **...**, select a failover media server from the list, and click **OK**.
   - **Associate the devices to this failover media server:** Click **...**, select a failover media server from the list, and click **OK**.
     NOTE: The failover media server will be used to handle the call load in the event the primary media server goes offline (only for voice extensions).
   - **Class of service:** This field is automatically populated based on the Class of Service set during media server configuration if there is a default Class of Service selected for the type of port you are creating.
   - **Disable real-time monitoring, data collection and call handling on this device:** If you want to disable real-time monitoring, data collection, and call handling for this extension, select this check box.
     NOTE:
     - Selecting this option unlicenses the port and discontinues its use. Unlicensed extensions can be assigned to a call flow but will not go into service or be visible in Contact Center Client.
     - Any ports created after you become overlicensed will have this option enabled
9. Configure the **Port Options** as follows:
   - After **Call flow**, click **...** and select the call flow you want to which you want to associate the extension.
     NOTE: UPiQ and Callback ports do not allow you to select a call flow; the call flow is automatically associated to the port.
   - After **Port State**, select either **Normal** or **Emergency** from the drop-down list.
     Select "Emergency" as the port state only if this port is associated to a call flow that is configured to have an emergency path. You can configure a port state as "Emergency" when applicable either within YourSite Explorer directly or by using a Management Plan remotely.
   - Select the **Trusted Service Level** check box to set the service level for the 5020 IP port to "trusted". This step is necessary if you are using MCD 5.0+, otherwise, do not select this check box.
     NOTE: In order to set the trusted service level in YourSite Explorer, you must have already enabled write-back functionality on the media server. (See "Enabling write-back functionality" on page 79). If you do not have write-back enabled, you must set the trusted service level on the

telephone system, instead of in YourSite Explorer, by logging in to the 3300 ICP, navigating to User and Device Configuration, clicking the extension for which you want to set the service level, and, on the Profile tab, selecting Trusted from the drop-down list beside Service Level.
- Select the **This is a remote port** check box if applicable.
- After **Remote Server**, if this is a remote port, click **...** and select the remote media server on which IVR Routing is configured.
- After **MiTAI / MiAudio Local Binding IP Address**, select the appropriate IP address.
  NOTE: This option is used if you have more than one NIC and want to specify which one is used for MiTAI/MiAudio, for example, if you have a voice and data network split.
- The **Port License** area details how many IVR Routing port licenses remain and how many primary and redundant ports are in use.

10. If you want to create an employee for each extension, on the **Employee associations** tab, select the **Create an employee ID for each extension** check box.
11. After **Start the employee IDs at**, type the first employee ID to associate to this extension.
12. After **Increment the employee IDs by**, type the increment by which the employee IDs will increase.
13. Click **Run**.

Configuring hunt groups

A hunt group is a collection of extensions. When a call enters the system and is routed to a hunt group, the hunt group searches its members for an available extension and directs the call to that number. Calls are rotated through the hunt group until an available extension is found and the caller can be connected. Hunt groups can be configured to be resilient, using a failover media server if the primary server fails.

NOTE:
- Any hunt groups configured on the telephone switch are retrieved during synchronization and are shown in the hunt group list.
- For information on enabling ports shared by hunt groups to play different messages to different queues, see "Dynamic RAD messages" on page 455.

Adding hunt groups

To add a hunt group

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Hunt Groups**.
3. Click **Add**.
   A new hunt is added to the hunt group list.
4. Complete the following fields:
   - **Name**–Type a name for the hunt group.
   - **Dialable**–Type a dialable number for the hunt group.
   - **Media Server**–Click **...**, select a media server from the list, and click **OK**.
   - **Failover media server**—Click …, select a failover media server from the list, and click **OK**.
   - **Class of Service**–This field is automatically populated based on the class of service set earlier in the media servers section.
   - **Hunt Group Type**–Select the type of extensions for this hunt group:
     - Voice – handles messaging type extensions
     - RAD – handles RAD type extensions
     - Phantom – performs modified DND rerouting
     - Voice Mail – handles voice mail type ports
     - HCI Reroute – enables external applications to tell the system how to route calls

- Recorder – handles groups of devices using the Record-A-Call feature
- Emergency – identifies the group as an Emergency Call notification hunt group
- Name Tag – identifies the group as using destination-based name tags for display on the ringing sets

- **Hunt Group Mode**–Select **Terminal** if you want the first line in the hunt group list to always be used or select **Circular** if you want the next line in the hunt group to be used.
  NOTE: RAD hunt groups must be terminal.
- **Priority**–Specify the hunt group priority level. The priority level ranges from 1 (highest) to 64 (lowest).
- **Phase timer ring**– This option is only configured if you are using a RAD hunt group type and determines the delay required between successive recorded announcements If no delay is required, select "0".

5. On the ribbon, click **Save**.

Adding extensions to hunt groups

Hunt group members are extensions. To be a member of a hunt group, the extension and the hunt group must be of the same type. For example, you can only add RAD extensions to RAD hunt groups.

To add an extension to a hunt group

1. In YourSite Explorer, click **Visual Workflow Manager**.
2. Click **Hunt Groups**.
3. Select a hunt group from the hunt groups list.
4. On the **Membership** tab, under **Available members**, select the extension you want to add to the hunt group.
   NOTE: The Available members pane only displays extensions belonging to the same media server as the hunt group. Available members are also filtered by hunt group type.
5. Click the **>** button.
   The extension displays in the Selected members window and is now part of the hunt group.
   NOTE:
   - If you have assigned the hunt group a Circular Mode, extensions are searched in the order in which they appear in the Selected members pane. If you have assigned the hunt group a Terminal Mode, extensions are searched in chronological order and the first available extension is selected first. See "Adding hunt groups" on page 443.
   - If your call flow uses Dynamic RAD messages, configure each hunt group to begin its search starting on different extensions. You do this by changing the order in which extensions appear in the Selected members pane for each hunt group. For more information on Dynamic RAD messages, see "Dynamic RAD messages" on page 455.
6. Repeat steps 4 and 5 for all additional extensions you want to add to the hunt group.
7. If your contact center uses a remote configuration, click the **Interleave** button to distribute the hunt group members equally throughout your servers.
8. On the ribbon, click **Save**.

Viewing specific hunt group types

To view specific types of hunt groups

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Hunt Groups**.
3. Click **Filter**.
4. From the drop down list, click the hunt group type you want to view.
   NOTE: Only hunt groups of the type you selected are shown. If you select None, all hunt group types are shown.

Deleting hunt groups

To delete a hunt group

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Hunt Groups**.
3. Select a hunt group from the list.
4. Click **Delete**.
   The Delete these elements dialog box opens.
5. Click **OK**.
   The hunt group is deleted and removed from the hunt group list.

Configuring queues

A queue consists of a group of agents responsible for answering calls pertaining to a specific product, service, department, or functional area within your organization. Agents can be members of multiple queues, handling calls for multiple departments, services etc., depending on the agent's knowledge and availability.

NOTE: Any queues configured on the telephone switch are retrieved during synchronization and are shown in the queues list.

Adding queues

To add a queue

1. In YourSite Explorer, in the left pane, click **Visual Workflow Manager**.
2. Click **Queues**.
3. Click **Add**.
4. Specify the **Name** and **Reporting Number** for the queue.
   NOTE: The queue reporting number for a phone queue must be the same as the path reporting number on the telephone system assignment forms. In addition, to ensure accurate reporting, queue reporting numbers must be unique across both active and inactive queues.
5. After **Media server**, click **...**, select the media server for the queue, and click **OK**.
6. Under **Queue service objective**, specify the **Service Level goal** and the **Service Level time**.
7. If the queue is a voice or chat queue, under **Handling**, after **Short Handle less than**, type the duration for the call talk parameter.
   If the talk time is less than the call talk parameter, then the call is a short talk call (for example, type 3 to define a short talk call as a call the agent makes that lasts less than 3 seconds). Short talk calls are included in call statistics.
8. After **Short Abandon less than**, type the duration for the call abandon parameter.
   If the abandon time is less than the call abandon parameter, then the call is a short abandon call and is not included in the call statistics (for example, type 5 to define a short abandon call as a call that lasts less than 5 seconds).
9. If you want to configure the queue's work timer, under **Work timer options**, select the **Use work timer** check box and specify the duration. The default duration is 00:00:00.
   NOTE:
   - Queue work timer maximum duration is dependent upon your telephone system.
     - MCD 5.0 and greater – 4 hours maximum
     - MCD 4.x or earlier – 10 minutes maximum
   - A queue's work timer must not exceed the Class of Service associated with any agents in agent groups who are associated with this queue. See "Editing Class of Service options" on page 110.

10. To force agents to enter call classification Account Codes, select the **Force entry of a classification code** check box.
    NOTE: This feature is hidden unless you are licensed for Contact Center PhoneSet Manager.
11. To automatically cancel contact center work timer, select the **Cancel work timer once code is entered** check box.
    NOTE: Do not select this option if your contact centers use Salesforce.com Connector. Deselecting this option enables agents to stay in work timer presence until they finish entering call log information in their Contact Center Salesforce.com Connector.
12. If you want to add contact center work timer time to handling time, select the **Include work timer as part of handling time** check box.
13. If the queue is a voice queue, after **Dialable number**, type the path directory number listed on the telephone system assignment forms.
14. To configure a new queue for web callbacks, see "Enabling callbacks" on page 462.
15. To configure a new queue for UPiQ, see "Configuring UPiQ options" on page 448.
16. On the ribbon, click **Save**.

Associating agent groups to queues

To associate an agent group with a queue

1. In YourSite Explorer, in the left pane, click **Visual Workflow Manager**.
2. Under **Devices**, click **Queues**.
3. Select a queue from the list.
4. On the **Membership** tab, under **Available members**, select an agent group and click **>** to move the agent group to the **Selected members** list.
5. On the ribbon, click **Save**.

Configuring business hours for queues

To configure business hours for a queue

1. In YourSite Explorer, in the left pane, click **Visual Workflow Manager**.
2. Under **Devices**, click **Queues**.
3. Select a queue from the list.
4. Click the **Business Hours** tab.
5. After Business-hour schedule, click **...**, select a schedule to associate with the queue, and click **OK**.
6. If you want real-time statistics and reports to only be generated during business hours, select **Generate real-time statistics and reports only within the business hours selected**.
7. If you want to apply the selected business hour schedule to all queues associated with this media server, click **Submit**.
8. On the ribbon, click **Save**.

Configuring queue spectrum values for queues

To configure queue spectrum value for a queue

1. In YourSite Explorer, in the left pane, click **Visual Workflow Manager**.
2. Under **Devices**, click **Queues**.
3. Select a queue from the list.
4. Click the **Queue Spectrum** tab.
5. Adjust the **Abandon**, **Answer**, and **Interflow** values and click **Submit**.

Configuring 3300 ICP options for queues

On the 3300 ICP options tab, you specify queue priority, the directory number for the queue unavailable answer point, queue interflow options, and RAD message options.

RAD messages are associated to queues and can broadcast to up to 50 callers in the queue. After a call is received and has traveled through a call flow to a queue, RAD messages can be configured to play at programmed intervals for all callers in that queue. Up to four RAD messages can be associated to each queue. A typical RAD message may greet the caller and thank them for holding.

RADs have been optimized in Contact Center Solutions to minimize the number of RAD devices that IVR Routing requires. Previously, RADs were mapped to a specific queue and its position. RAD optimization enables you to reduce the number of ports your system uses by configuring one port to play a message simultaneously to multiple queues.

NOTE: A minimum of MCD 5.0 is required for RAD optimization to function.

To specify 3300 ICP options for a queue

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queues**.
3. Select a queue from the list.
4. On the **3300 ICP options** tab, under **General**, specify the priority level of the queue and the queue unavailable answer point directory number.
   The highest priority level is 1. The lowest priority level is 64.
5. Under **Interflow options**, specify interflow options for the queue.
   You select Interflow to this queue uses this queue's priority if you want interflowed calls to use the queue's priority. Otherwise, interflowed calls will retain the priority levels of their originating queues.
6. Under **Recording options**, specify the following RAD messaging options:
   - Dialable—enter the dialable number of the port or hunt group you want to use to play the RAD message
   - Start delay—specify the time that must pass after a caller enters the queue or from when the last message finished playing before playing the RAD message
   - Interflow dialing list—select the interflow dialing list you have configured on the telephone system
   - Release digit receiver after recording—select the digit to stop recording
   - Embedded music source—select the in-queue music list you have configured on the telephone system
   - Alternative dialable—enter a secondary port or hunt group you want to use to play the RAD message.
7. If you want to repeatedly play the RAD message, select **Repeat recording enabled** and specify the repetition interval.
8. After **DTMF Receiver Unavailable Action**, specify the action when a dial out from a RAD is programmed but no DTMF receiver can be seized to enable that functionality.
   - Play RAD—plays a RAD message. The caller may be prompted with the option to dial out
   - Skip—does not play a RAD message but leaves the caller in the queue
   - Divert—transfers the caller to the number programmed in the DTMF Receiver Unavailable Answer Point Directory Number field
9. After **DTMF Receiver Unavailable Answer Point Dialable,** enter the desired directory number. For numbers longer than seven digits, program this field as a speed call.
   NOTE: The DTMF Receiver Unavailable Action field must be set to Divert.
10. On the ribbon, click **Save**.

Configuring UPiQ options

Updated Position in Queue (UPiQ) messages inform customers of their initial queue position and dynamically continue to inform them of their position in queue and estimated wait time. The UPiQ configuration options enable you to set the minimum and maximum positions at which callers hear UPiQ messages, the duration of time before callers hear an initial position in queue message, the intervals at which callers are informed of their position in queue, and the language of the UPiQ prompts.

To configure UPiQ options

1. In YourSite Explorer, click **Visual Workflow Manager=>Queues**, and select a queue from the queue list.
2. Under the **VWM Options** tab, select **UPiQ**.
3. To set up the queue for UPiQ, select the **Enable** checkbox.
4. Click the Change Priority button.
   The UPiQ Priority Dialog box opens.
5. To adjust the priority of a queue, select the queue and click the **up** or **down arrow**.
   NOTE: The Priority number corresponds to the frequency in seconds within which a queue will attempt to find a port if it does not find one on the first try. The quicker a queue finds a port, the sooner IVR Routing can report on a caller's position.

Building call flows

Call flows are the pathways callers use to reach all areas and individuals in your organization. Call flows dictate the prompts callers hear, the inputs requested by the system, and the available routing options. Call flow functionality can identify customers and determine their service needs by phone number, toll-free numbers dialed, and the digits callers enter to reach specific areas of your organization. Proper call flow configuration is necessary to direct callers to the agents, departments, and employees best qualified to handle their requests.

The functions performed when a caller contacts your organization depend on the activities included in the call flow. For more information on all available call flow activities and their descriptions, see "Activities" on page 479.

NOTE:

- If your contact center routinely handles a high volume of calls, for optimal traffic handling, we recommend using subroutines in your call flows or increasing the number of available ports for your call flows. For more information on subroutines, see "Building subroutines" on page 458.
- After you have built a call flow, you must associate it to extensions or hunt groups in order to make the call flow go "live" in your system. For more information, see "Associating call flows to extensions or hunt groups" on page 454.

Call flow types

Call flows are categorized into three types.

- RAD—plays RAD messages to all callers in their associated queues
- Voice—directs incoming calls to the agents, departments, and employees best qualified to handle their requests
- Management—enables managers to make changes to the incoming caller options in the event of an emergency or unforeseen circumstance, as well as record new prompts using a phone.
- Outbound—makes outgoing calls to external and internal numbers. Once connected, an Outbound call flow can play the connected party a greeting or ask them to enter information into IVR Routing. Outbound call flows can also transfer a connected party to a queue, agent, or extension automatically or based on responses to an option menu.
  NOTE: Outbound call flows and extension options in YourSite Explorer are only available with IVR Routing Premium licensing.

Each type of call flow offers you a contextual selection of Visual Workflow Manager activities from which to build your specific call flow. For more information on activities, see "Activities" on page 479.

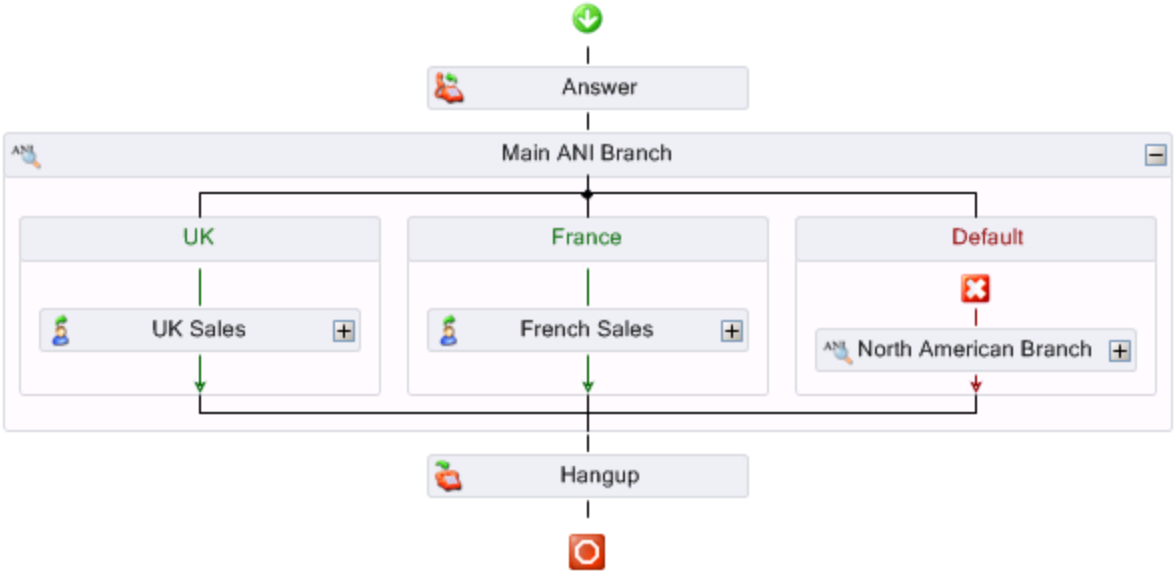
Call flow examples

The following call flow examples are provided to aid in understanding various call routing scenarios.

Example 1 — ANI routing

The ANI routing example shows a call flow that routes calls based on the phone number of the customer contacting your company. Incoming calls are answered and, based on configured telephone routing rules, routed to the sales department in the incoming call's country of origin. (See Figure 17 - 1.) In order to access the ANI activity when building call flows, you must have either Advanced or Premium IVR Routing licensing.

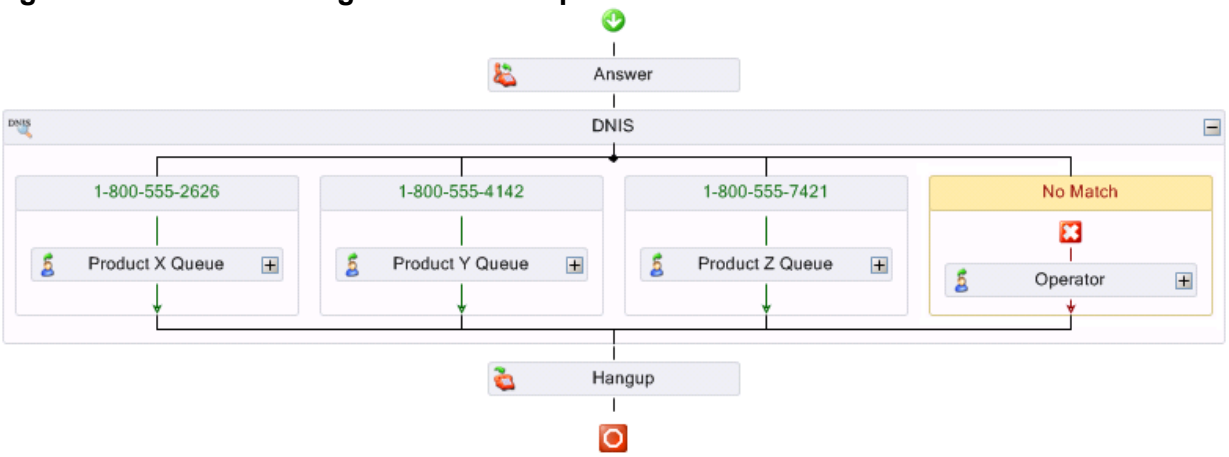
Figure 17 - 1 ANI routing call flow example



Example 2 — DNIS routing

The DNIS routing example shows a call flow that routes calls to separate product lines based on the toll-free line dialed by the customer. Incoming calls are answered and, based on the toll-free number dialed, routed to the queue responsible for handling call requests for that product line. (See Figure 17 - 2.) In order to access the DNIS activity when building call flows, you must have either Advanced or Premium IVR Routing licensing.

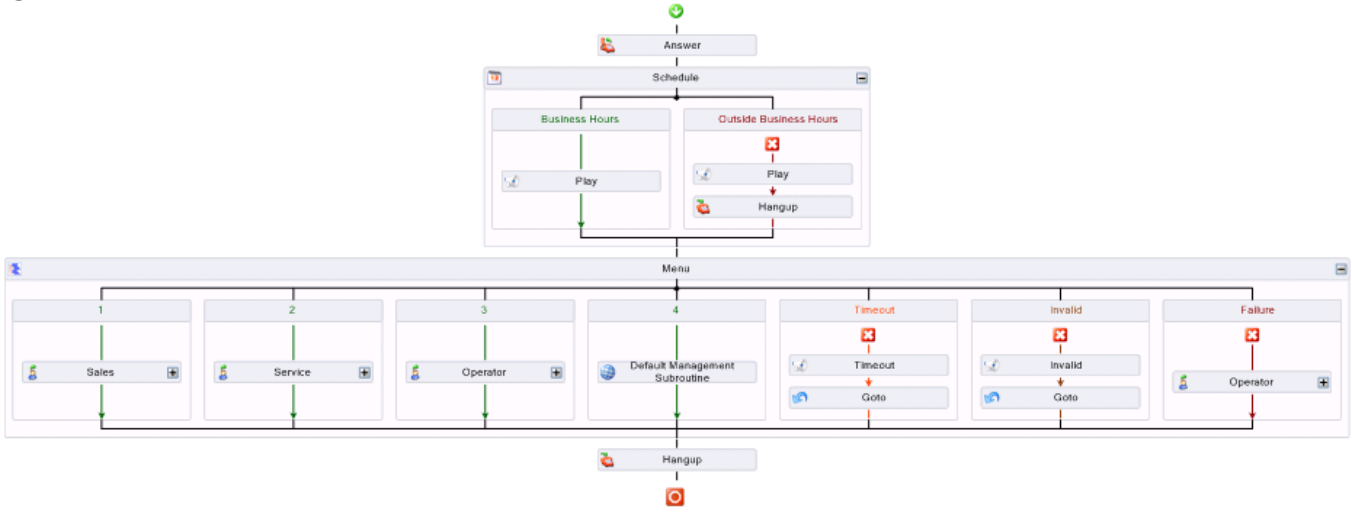
Figure 17 - 2 DNIS routing call flow example



Example 3 — Schedules and Menus

The schedules and menus routing example shows a call flow that first routes calls through a schedule to determine the action to perform based on the date and time of the call. (See Figure 17 - 3.) If within business hours, the call flow provides a user menu to the caller.

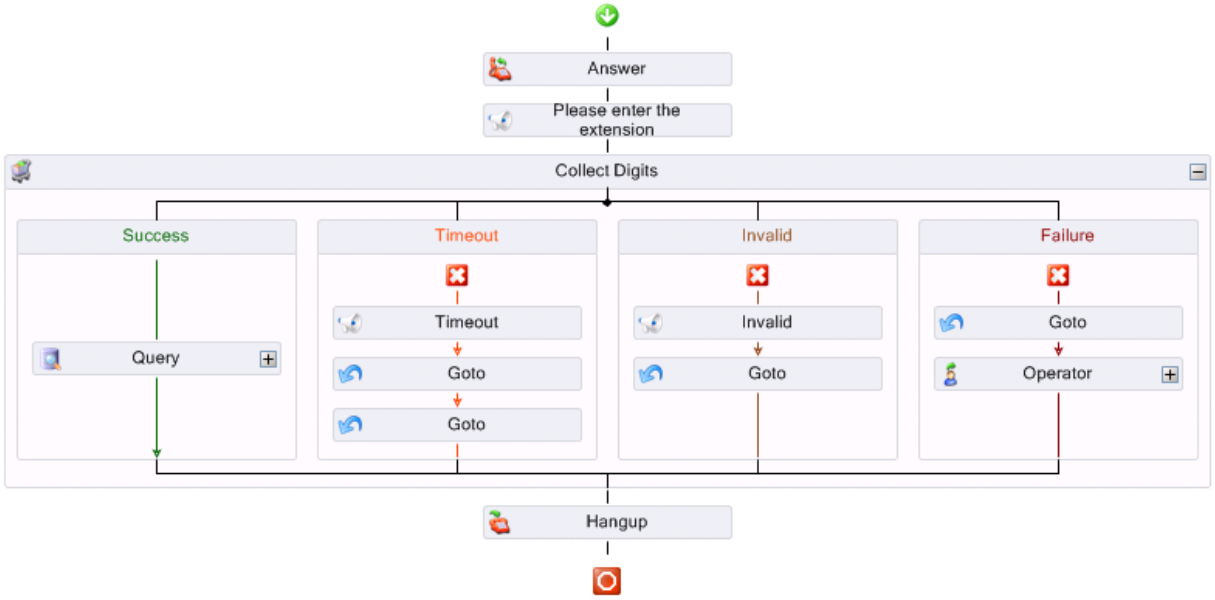
Figure 17 - 3 Schedules and menus call flow example



Example 4 — Collected Digits

The premium collected digits call flow example shows a call flow that routes calls based on the extension number inputted by the caller. The call is answered and the caller is prompted to enter the extension number of the party they want to reach. A call routing decision is then made based on the collected digits. (See Figure 17 - 4.) In order to access the Collect Digits activity when building call flows, you must have Premium IVR Routing licensing.

Figure 17 - 4 Collected digits call flow example



Creating RAD, Voice, Management, and Outbound call flows

NOTE:

- Call flows must begin with an Answer activity if you intend to play a message or collect digits. A call flow must end with a Hangup activity if you do not end with a Transfer activity.
- A call flow may be assigned to a hunt group or a port. It is recommended to add one or the other, but you may configure a call flow to be a member of both.
- The Validate call flow check box in the call flow Properties pane, which is selected by default, enables Visual Workflow Manager to validate your call flow and its activities to ensure that there are no programming errors. While this is enabled, you must address any errors before the call flow can be saved and assigned to a port or hunt group. Disabling this option enables you to save and experiment with a prototype call flow before making it live on your system.
- For information on using Dynamic RAD messages in call flows, see "Dynamic RAD messages" on page 455.

To create a call flow

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Call flows**.
3. Click **Add**.
   The call flow drop down opens.
4. Select either **Voice**, **RAD**, **Management**, or **Outbound** call flow type.
   The selected call flow type is added to the call flow list.
   NOTE: The call flow type selected determines the activities available to be added to the call flow.
5. In the **Properties** pane on the right, under **Name**, enter a name for the new call flow.
   NOTE: The name must contain only alphanumeric characters and spaces.
6. After **System Name**, enter a system name.
   The default System Name is TelephonyCallflow.
   NOTE: System Names must be unique. They must only contain characters from A-Z or from 0-9 and cannot contain spaces.
7. Click the **Toolbox** tab at the bottom of the Properties pane.
   The Toolbox pane opens.
8. Click and drag the Activities you want to add to the **Drop Activities Here** section of the interface under the **Designer** tab of the call flow.
9. If you want to assign your call flow to a hunt group, click the **Hunt Group Membership** tab.
10. Click on a hunt group in the **Available members** pane and click the **>** button to assign hunt groups to the call flow.
    The hunt group is added to the Selected members pane.
11. If you want to assign your call flow to a port, click the **Port Membership** tab.
12. Click on a port in the **Available members** pane and click the > button to assign ports to the call flow.
    The port is added to the Selected members pane.
13. On the ribbon, click **Save**.

Filtering call flows

You can filter which call flow types are shown in the call flow list.

To filter call flows

1. Click **Filter.**
2. From the drop down menu, select the call flow type you want to view.
   NOTE: Only the call flow type you selected is shown in the call flow list.

Copying call flows

You can quickly and easily reuse existing call flows as templates for new call flows by copying and pasting them. A copied call flow retains all of the actions, menus, and conditions of the original call flow, but is not bound to any port or hunt group.

To copy a call flow

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Call flows**.
3. Right-click on the call flow you want to copy and select **Copy**.
4. Right-click anywhere in the call flow list and select **Paste**.
   The call flow is copied.
5. Select the copied call flow.
6. If you want to assign your call flow to a hunt group, click the **Hunt Group Membership** tab.
7. Click on a hunt group in the **Available members** pane and click the **>** button to assign hunt groups to the call flow.
   The hunt group is added to the Selected members pane.
8. If you want to assign your call flow to a port, click the **Port Membership** tab.
9. Click on a port in the **Available members** pane and click the **>** button to assign ports to the call flow.
   The port is added to the Selected members pane.
10. On the ribbon, click **Save**.

Deleting call flows

To delete a call flow

1. Select the call flow you want to delete from the call flow list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.

Importing and exporting call flows

Visual Workflow Manager enables you to import and export call flows. You can export and save call flows to the local hard drive. Saved call flows can then be copied to another computer and imported for use. Imported call flows are automatically converted to the latest version of IVR Routing.

NOTE:

- After importing a call flow, you must configure your own prompts and connect the call flow to devices that are specific to your system. If the prompts you configure or the connections you make to devices are invalid, a red exclamation mark icon displays on the Call flows Canvas indicating a validation error. Selecting the relevant activity and clicking the exclamation mark icon indicates the specific errors you must correct.
- You must associate a completed call flow to extensions or hunt groups in order to make it go "live" in your system. For more information, see "Associating call flows to extensions or hunt groups" on page 454.

To import a call flow

1. In YourSite Explorer, click **Visual Workflow Manager=>Call flows**.
   The Call flows pane opens.
2. Click the **Import** button
   The Select a .xoml file window opens.
3. Browse to the .xoml file you want to import and click **Open**.
   The call flow is added to the Call flows list
4. On the ribbon, click **Save**.

To export a call flow

1. In YourSite Explorer, click **Visual Workflow Manager=>Call flows**.
2. Click **Export.**
   The Save Call flow window opens.
3. Browse to the location that you want to save the file.
4. Name the file and click **Save**.
   The file is saved to the location you specified.

Associating call flows to extensions or hunt groups

After building a call flow or importing a call flow into IVR Routing, you must associate the call flow to an extension or hunt group in order to make the call flow go "live" into your system.

NOTE: You can only associate call flows to extensions or hunt groups that are of the same type as the call flow. For example, you cannot associate a RAD call flow to a Callback extension type.

To associate a call flow to an extension

1. In YourSite Explorer, click **Visual Workflow Manager=>Extensions**.
2. From the **Extensions** pane, select an extension to associate to the call flow.
   NOTE: For IVR Routing sample call flows, you must select an extension with a Messaging port 5020 IP extension type.
3. Under **Port Options**, after **Call flow**, click the **…** button.
   The Select a call flow window opens.
4. Select the call flow you want to associate to the extension and click **OK**.
   NOTE: The Select a call flow window only displays call flows that do not contain validation errors and are the same type as the extension.
5. After **Port State**, select either **Normal** or **Emergency** from the drop-down list.
   Select **Emergency** only if this port is associated to a call flow that is configured to have an emergency path.
6. On the ribbon, click **Save**.

To associate a call flow to a hunt group

1. In YourSite Explorer, click **Visual Workflow Manager=>Extensions**.
2. From the **Hunt Groups** pane, select a hunt group to associate to the call flow.
3. Select the **Options** tab.
4. Under **VWM Settings**, after **Call flow**, click the **...** button.
   The Select a call flow window opens.
5. Select a call flow and click **OK**.
6. After **Port State**, select either **Normal** or **Emergency** from the drop-down list.
   Select **Emergency** only if this port is associated to a call flow that is configured to have an emergency path.
7. On the ribbon, click **Save**.

Dynamic RAD messages

Dynamic RAD messages enable a group of IVR Routing ports, shared by multiple hunt groups, to play different RAD messages to callers waiting in queue. For example, if hunt groups for a Sales queue and a Customer Service queue share a port, a call flow using Dynamic RAD messages enables the shared port to play a Sales greeting to the Sales queue and a Customer Service greeting to the Customer Service queue. Because Dynamic RAD messaging reduces the number of ports required to play messages, it is a cost-effective means of tailoring greetings to queues. For more information on configuring RAD messages for playback, see "Configuring 3300 ICP options for queues" on page 447.

NOTE:

- To ensure the expected Dynamic RAD functionality, we recommend that you configure each hunt group to begin its search starting on different extensions. See "Adding extensions to hunt groups" on page 444.
- Dynamic RAD messages can only be used within RAD call flows.

To use Dynamic RAD messages in call flows, you must ensure that

- Media server configuration is complete. Dynamic RADs require that all hunt groups, extensions, and Class of Service options are populated with data from the 3300 ICP. For more information on configuring media servers, see "Adding 3300 ICP media servers" on page 75.
- Full Synchronization is completed. For information, see "Performing synchronization" on page 104.
- Extension configuration is complete. Dynamic RAD messages require that each IVR Routing port playing the messages is set to RAD port 5020 IP. You must also enable Trusted Service Level for the relevant extensions. See "Configuring extensions" on page 440.
- Hunt group configuration is complete. Dynamic RADs require hunt groups to be configured as RAD hunt group types and that the appropriate RAD extensions have been added to the hunt groups you will use in your call flow. See "Configuring hunt groups" on page 443.
- If you using are an IVR Routing instance on a Remote Server, ensure that remote configuration is complete. Dynamic RAD messages require that the relevant ports are specified as remote ports and assigned to the Remote Server. See "Configuring extensions" on page 440.
- You have configured the necessary prompts for your RAD messages. See "Configuring prompts" on page 459.
- You have associated the call flow to the ports (extensions) that will play the RAD messages and to the appropriate hunt groups. See "Associating call flows to extensions or hunt groups" on page 454.
- If you are using multiple, un-teamed NICs, you have selected the appropriate MiTAI Binding IP address. See "Configuring extensions" on page 440.

For a demonstration on how to build a call flow that uses Dynamic RAD messages, please see the following prairieFyre Knowledge Base article: http://www.prairiefyre.com/kb/KnowledgebaseArticle51476.aspx.

Building resilient call flows

Many of IVR Routing's call flow activities and configurations are dynamic, relying upon statistics and information from the Enterprise Server. In situations where the Enterprise Server or telephone system is unavailable, such as during a reboot, the functionality of dynamic call flows is impacted. IVR Routing enables contact centers to build resilient call flows that respond to disruptions in service to the Enterprise Server, routing calls to alternate branches that are not reliant upon statistics from the Enterprise Server. Resilient call flows rely on the queue condition statistic Last Queue Update Received and the system variable CCMOnlineStatus.

The Last Queue Update Received queue condition statistic is available in the Queue Condition builder for the Queue activity, Abandon Callbacks, and Rules. In the Queue Condition builder, Last Queue Update Received is assigned a duration of time (with a minimum duration limit of 30 seconds) that defines the time that may pass between updates from the Enterprise Server before the statistics are considered to be stale. This real-time statistic is particularly useful for contact centers that consider a limited amount of stale statistic data to be acceptable, such as during the length of time it takes the Enterprise Server to reboot, but may want calls to be routed using the Queue activity to different call flow paths if the real-time data from the Enterprise Server remains unavailable beyond that timeframe. For information on configuring rules, abandon callbacks and Queue activity, see "Configuring rules" on page 469, "Enabling callbacks" on page 462, and "Configuring the Queue activity" on page 513.

The CCMOnlineStatus is a system variable that detects whether or not any real-time data is coming from the Enterprise Server to IVR Routing services. If data is available from the Enterprise Server, it is set to True. If the Enterprise Server's real-time data is unavailable, it is set to False. In conjunction with the Variable Compare activity, calls can be routed down the appropriate True and False branches immediately if the availability of data from the Enterprise Server changes. For information on the Compare Variable activity, see "Configuring the Compare Variables activity" on page 492.

Adding callback plans

To add a callback plan

1. In YourSite Explorer, click **Visual Workflow Manager**.
2. Click **Callback Plan**.
3. Click **Add** and select Voice, Web, or Abandon from the drop down list.
   A new callback plan is added to the callback plan list.
4. After **Name**, enter a name for the callback plan.
5. On the ribbon, click **Save**.

Configuring caller options

NOTE:

- Caller options are only available for voice callback plans.
- To ensure callers leave the proper phone number for callbacks, we recommend you:
  - Record local, in country, and international instructions in the prompts callers hear when leaving a callback. The default prompt is a generic prompt intended for use by local and in country calls only. International calling rules vary by country and region and customized prompts should be recorded for specific business needs.
  - Callers leaving a call back request must enter the date in the preferred date format (DDMM or MMDD). As a best practice, we suggest you include the preferred date format in the prompt played to callers to avoid invalid entries.

To configure caller options

1. Click the **Callers Option** tab.
   NOTE: Available only for voice callbacks.
2. Under **General**, complete the following:
   - Terminating Digit—select a digit to signify the end of the caller's input
   - Min number of digits for external callbacks—select the minimum number of digits necessary for an external callback to occur
   - Min number of digits for internal callbacks—select the minimum number of digits necessary for an internal callback to occur

3. Select **Capture Preferred Time** if you want to prompt the caller for their desired callback time:
    - Preferred Time—select a prompt to request the caller's desired callback date and time
    - Expiry Duration—select a time range around the caller's preferred callback time in the event their preferred callback time is not available
    - Date Format—select the date entry format for the caller's callback date
    - Time Format—select the time entry format for the caller's callback time
4. Select **Capture Recording** if you want to prompt the caller to record a voice message.
    - Record Message—select a prompt to request the caller to record a message
    - Confirm Recording—select a prompt to confirm receipt of the caller's recorded message
    - Recording timeout (sec)—select the amount of time allotted for the caller to record a message
5. Under **Capture Phone Number**, complete the following fields:
    - Request Phone Number—select a prompt to request the caller's callback phone number
    - Invalid Phone Number—select a prompt to inform the caller of an invalid phone number entry
    - Submit Phone Number—select a prompt to confirm the callback phone number
    - Exclusion Phone List—enter a phone number to exclude from receiving callbacks
6. Under Capture Confirmation, complete the following fields:
    - Submitted Confirmation—select a prompt to confirm the caller's callback request.
    - Cancel Confirmation—select a prompt to confirm the cancellation of the caller's callback quest.
7. On the ribbon, click **Save**.

Configuring routing rules

To configure routing rules

1. Click the **Routing Rules** tab.
2. Under **General**, complete the following.
    - On requeue, retain original callback date stamp—select to keep the original date stamp. Clear to update the date stamp when the callback is requeued.
    - Number of attempts to contact client—enter the number of times Visual Workflow Manager will attempt to return the client's call. The default is 3 times.
    - Retry interval between attempts (min)—enter the number of minutes between callback attempts. The default is 30 minutes.
    - No answer client timeout (sec)—enter the time limit a callback port will wait for an agent to answer. The default is 120 seconds.
3. Select **Allow Schedule** if you only want to process callbacks during a specified time period.
4. If you selected **Allow Schedule**, after **Schedule Plan**, select the schedule plan you want to use to process callbacks

Configuring agent options

To configure agent options

1. Click **Agent Options**.
2. Under **General**, after **No answer timeout (sec)**, enter the amount of time before hanging up if an agent does not pickup the callback request.
3. Under Digit Menu, compete the following fields.
    - Instruction—select a prompt to provide the agent with the callback instruction menu
    - Listen to caller's message—select a menu option number and a prompt to enable the agent to playback the caller's message
    - Connect to phone number—select a menu option number to enable the agent to perform the callback
    - Pre connect—select a prompt to be played to the agent before a connection attempt is made
    - Connecting to customer—select a prompt to inform the agent they are being connected
    - Greeting message to customer—select a prompt greeting to play for the customer when they receive a callback

- Failure message heard by agent—select a prompt to play to the agent if the customer does not answer the callback, informing them the call cannot be completed
- Requeue callback—select a menu option and prompt to enable the agent to requeue the callback
- Reject callback—select a menu option and prompt to enable the agent to reject the callback
- Replay instruction—select a menu option to enable the agent to reply the menu choices

4. On the ribbon, click **Save**.

Building subroutines

Subroutines are portions of call flows that can be reused in multiple call flows. Subroutines create common call flow activity groups that can be easily reused, encapsulating common activity groups in one single activity. Subroutines can be reused across call flows or within a single call flow, which helps keep call flows manageable and enables rapid call flow creation. They also facilitate call flow updates by requiring only one change to affect all call flows that use the subroutine.

With a few exceptions, subroutines and call flows function almost identically. Subroutines are configured as RAD, Voice, Management, or Outbound, like call flows, and each type offers different activities to use. This enables you to use subroutines to get access to activities not normally available to your call flow type. While all callflows are associated to ports or hunt groups, however, subroutines are contained within call flows and are not associated to ports or hunt groups.

Adding subroutines

NOTE: Before you add a subroutine activity to a call flow, you must first create and configure the subroutine. While subroutine activities are added to call flows in the same way as any other activity, subroutine activities must be assigned to a pre-configured subroutine. See "Building subroutines" on page 458.

To add a subroutine to a call flow

1. Select the call flow to which you want to add a subroutine.
   The Call flows Canvas opens.
2. In the **Toolbox** pane, click and drag the **Subroutine** activity into the **Drop Activities Here** section of the Canvas.
   NOTE: If the Toolbox pane is not visible, click the Toolbox flyout. To keep the toolbox pane visible, click the pin icon.
3. Right click the subroutine and select **Assign Subroutine**.
   The Select a subroutine or variable window opens.
4. Select a subroutine from the list and click **OK**.
5. On the ribbon, click **Save**.
   NOTE: A red exclamation mark icon shown in the top right corner of an activity signals an error or missing information. You must correct the error or enter the information before you are able to save the call flow. Clicking the icon will display the error or the information required. If you wish to disable validation, deselect the Validate call flow check box in the call flow Properties pane

Deleting subroutines

NOTE: You cannot delete a subroutine currently associated with a call flow. Remove the subroutine from all call flows it is being used by and then delete it.

To delete a subroutine

1. Select the subroutine you want to delete from the subroutine list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.
4. On the ribbon, click **Save**.

Filtering subroutines

You can filter which subroutine types are shown in the subroutine list.

To filter subroutines

1. Click **Filter.**
2. From the drop down menu, select the subroutine type you want to view.
   NOTE: Only the subroutine type you selected is shown in the subroutine list.

Configuring prompts

Prompts are audio clips that provide callers with information during a call. Associated with activities, prompts play messages when callers reach the associated activity in a call flow. Prompts can be individual wave files or multiple wave files joined together to form custom messages. For a list of pre-configured prompts see "Pre-configured messages and prompts" on page 556.

The default language for prompts will be taken from the site language and call flows will be executed in that language unless a Language activity has been included in the call flow. Individual prompts can be configured to handle multiple languages, working with the Language activity to support multiple languages in a single call flow. This reduces the number of prompts that must be created and allows for the same set of ports to be used for multiple languages. For more information on the Language activity, see "Activities" on page 479.

If you want to use your own custom prompts with a new callback plan, you must add your wave files by importing the files or recording wave files using a microphone on your computer or your telephone using a management call flow. You must then associate your custom wave files to the callback plan. Otherwise, when you create a new callback plan, all message plans are created automatically and are automatically assigned to the callback. See "Configuring callbacks and callback plans" on page 462 for more information.

NOTE: Agent prompts cannot be configured to play in a language that is different than the language selected as a preference in Contact Center Management. Agent language preference settings override agent prompt language choices as IVR Routing aligns with agent language settings.

Adding prompts

To add a prompt

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Prompts**.
3. Click **Add**.
   A new prompt is added to the prompts list.
4. After **Name**, type a name for the prompt.
5. After **Description**, type a description for the prompt.
6. After **Category**, select one of the following categories from the drop-down list:
   - Callback
   - Custom
   - Management
   - UPiQ

   If you wish to create your own category, after **Category**, type a name for the new category.
   Prompt categories are an organizational tool to help keep your prompts sorted and easily accessible.
7. After **Language**, select the primary language from the drop-down list.
   NOTE: By default, the language is set to your default site language.Click one of the following tabs:
8. Click one of the following tabs:
   - **System Wave Files**—lists the system wave files callers hear while in the IVR or while waiting on hold. This pane will only show the wave files that are available in the language you have selected.
   - **Custom Wave Files**—lists imported and newly created wave files. To import or record a custom wave file, click **Add** and select **Existing wave file** to import the file, or **Record wave file** to use the microphone on your computer to record the file.
     NOTE: Wave files must be 8khz, Mono, ULAW format.
   - **Queue Stats**—lists up-to-date queue statistics for use in prompts
   - **Variables**—lists all variables available for use in prompts
     NOTE: Read back on variables is based on the type of variable. Number variables read back the whole number, while digit variables read back individual numbers. For example, number variables would read 123 as "one hundred and twenty-three", while digit variables would read 123 as "one, two, three".
   - **Prompts used in call flows and subroutines**—lists all prompts used in call flows and subroutines
9. In the **All system wave files**, **All custom wave files**, **All queue stats**, **All Variables**, or **Prompts used in call flows and subroutines** pane, select the file(s) you want to add to the prompt.
10. Click **>** to add the file to the prompt.
    The file is added to the prompt and is shown in the Selected members pane.
    NOTE: The wave files play in the order they are added to the prompt. If you want to change the order in which the wave files will be played, select the wave file and click the up or down arrow buttons on the right-hand side of the dialog box.
11. On the ribbon, click **Save**.
    NOTE: If you are adding prompts in a new language, you must add audio files that correspond to the existing audio files in IVR Routing's default language. Otherwise, the caller will not hear anything when the prompts are supposed to be playing.

Adding files and variables to prompts

NOTE: Variable readback is only available for numerical variables.

To add files and variables to a prompt

1. Select the prompt you want to add variables or files to from the prompt list.
2. Click the **System wave files** tab.
   All system wave files are shown.
3. Select the system wave file you want to add to the prompt and click **>**.
   The system wave file is added to the prompt and shown in the **Selected members** list.
4. Add custom wave files, queues stats, and variables by repeating steps 1 to 3 and selecting the corresponding wave file, queue stat, or variable tab.

Deleting prompts

To delete a prompt

1. Select the prompt you want to delete from the prompt list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.
4. On the ribbon, click **Save**.

Playing prompts

To play a prompt

1. Select the prompt you want to play from the prompt list.
   NOTE: To select multiple prompts, click and hold the shift key while selecting each prompt.
2. Click **Play**.
   The selected prompt is played.

To play an individual or selection of wave file in a prompt

1. Select the prompt you want to play from the prompt list.
2. Select the wave file(s) you want to play.
   NOTE: To select multiple prompts, click and hold the shift key while selecting each prompt.
3. Click **Play**.
   The selected prompt is played.

Using Prompts Quick Setup

Quick setup enables you to import previously created wave files.

To use quick setup to import prompts

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Prompts**.
3. Under **Prompts**, click **Quick Setup**.
   The Prompts Quick Setup pane opens.
4. After **Folder Path**, click **Browse**.
   The Browse For Folder window opens.
5. Browse to the folder containing the wave files and click **Ok**.
   The prompts are imported and are shown in the prompt list in the right-most pane.
6. On the ribbon, click **Run**.

Configuring callbacks and callback plans

A callback plan is a tool that identifies a caller from the information provided in the caller's message and makes a return telephone call. The callback plan settings you configure in YourSite Explorer determine the rules and options IVR Routing uses when attempting to contact the message sender.

For callbacks to function correctly, you must have configured location settings for your media server. If location settings are not configured, your callbacks will not be able to contact your customers. See "Configuring location settings for 3300 ICP media servers" on page 76.

Three kinds of callbacks are available with IVR Routing.

- **Abandon**—Abandon callbacks are automatically generated when a caller hangs up before speaking to an agent before the long abandon time is met. Although not recommended, abandon callbacks may also be configured to generate inside the short abandon time.
- **Voice**—Voice callbacks enable callers to leave a callback request in queue, which is then sent to an agent. Voice callback requests can be configured to be part of a call flow to which customers can navigate.
- **Web**—Web callbacks enable customers to request an agent callback via the Web. The customer completes a request on an HTML/ASP page that is designed and hosted by the IVR Routing customer. A customer who wants to receive a callback from an ACD agent fills out the following required information on the web form:
    - The telephone number at which they can be contacted
    - The customer's name, presented as a text-to-speech rendition to the ACD agent
    - The target ACD path
    - The time at which they would like to be contacted
    - Optionally, a message presented as a text-to-speech rendition to the ACD agent.

Deleting callback plans

To delete a callback plan

1. Select the callback plan you want to delete from the callback plan list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.
4. On the ribbon, click **Save**.

Enabling callbacks

Voice, Abandon, and Web callbacks are enabled in different ways. Voice callbacks are entered directly into a call flow. Abandon callbacks are automated and must be enabled. Abandon callbacks can be configured with individual queues. The Queue Condition builder for abandon callbacks enables you to build conditions into the queue that must be met before the queue takes abandon callbacks. You could, for example, configure it so that the queue only takes callbacks if the agents available are less than the number of calls waiting. If no queue conditions are configured, by default abandon callbacks will be offered if more than 1 agent is available. Web callbacks require a webpage to be set up to submit callbacks and must have queues enabled to receive web callbacks.

To enable voice callbacks

1. In YourSite Explorer, click **Visual Workflow Manager=>Call flows**.
2. Select the call flow you want to add a voice callback to from the list of call flows.
3. Drag and drop a Callback Request activity into your call flow.
4. Right-click on the Callback Request and select **Properties**.
5. In the Properties pane, after Callback Plan, click the **…** button.
6. Select a callback plan and click **OK**.
7. After **Destination**, click the **...** button.
8. Select a queue and click **OK**.

To enable abandon callbacks

1. In the ribbon, above **Abandon Callbacks**, click the **Disabled** button.
   Abandon Callbacks are now enabled.
   NOTE: Default Abandon Callback options refer to the Callback Settings, located under Enterprise=>Callback Options.
2. If you want to change plans, click the **…** button after **Default Plan** and select a plan.
3. Click **OK**.
4. If you want to select a different queue, click the … button after **Default Queue** and select a queue.
5. Click **OK**.
6. If you want to enable short abandon callbacks, select the **Allow Short Abandon Callbacks** check box.
   NOTE: It is recommended that you do not enable this feature as it may generate extremely high volumes of callback requests.

To enable abandon callbacks in individual queues

1. In YourSite Explorer, click **Visual Workflow Manager=>Queues**.
2. Select the queue to which you want to apply a specific callback plan.
3. Click the **VWM Options** tab.
4. Click the **Callback** tab.
5. After **Callback Plan**, click the **…** button.
6. Select the callback plan you want to apply to this queue and click **OK**.
7. If you want to send abandon callbacks for this queue to another queue, after **Queue Destination**, click the **…** button.
8. Select a queue and click **OK**.
9. If you want to add queue conditions, go to step 10. Otherwise, in the ribbon, click **Save**.
   NOTE: While queue conditions are optional, it is recommended you add a queue condition to the callback queue to avoid callback requests being requeued when no agents are available.
10. To add queue conditions that must be met before abandon callbacks are offered, under **Queue Condition Builder**, click **Add**.
    A new queue condition is added to the queue condition builder list.
    NOTE: If no queue conditions are set, abandon callbacks will be offered if the queue has more than 1 agent available.
11. In the first column, select one of the following real-time statistics from the drop-down list:
    - Agents Available
    - Agents Unavailable
    - Agent Idle
    - Call Load
    - Longest Wait Time
    - Number of Calls Waiting
    - Path DND
    - Expected Wait Time
    - Last Queue Update Received

- AvgTimeToAbandon
- AvgTimeToAnswer
- Service Level

12. In the second column, select one of the following operators from the drop-down list:= Equal to
    - != Not Equal
    - > Greater than
    - >= Equal to or greater than
    - < Less than
    - <= Equal to or less than
    - >= Equal to or greater than

    NOTE: Operators appearing in the drop-down list vary according to the variable selected.
13. In the third column, from the drop-down list select either the **Value**, **Queue Stats**, or the **Call variable** tab.
14. Under **Value**, type in a numeric value or enable the check box for the value.
15. Under **Queue Stats**, select a queue stat from the drop-down list.
16. Under **Call variable**, select a call variable from the drop-down list.
17. Click **OK**.
18. If you want to add another condition, at the top of the dialog box, click **Add**.
19. Repeat steps 10-17 for each additional condition to add to the Queue.
20. To import queue conditions, click the **Import** button and navigate to a *.csv file.
21. To export queue conditions, click the **Export** button and navigate to a *.csv file.

    NOTE:
    - Conditions on a single line and separated by a comma will be added to a single branch.
    - Conditions on multiple lines and separated by a comma will be added to multiple branches.
22. To test the conditions, under **Test Parameters**, enter a value in the relevant fields and click **Test**.
    If the test is successful, “Pass” displays beneath the Test button.
    If the test is not successful, “Fail” displays beneath the Test button.
23. To enable reporting for the branch, select the **Enable reporting for this Branch** check box.
24. To delete a queue condition, from the drop-down list to the left of the condition select **Delete**.
25. Click **OK**.

To enable web callbacks

1. Set up a webpage for submitting callback requests.
   Sample webpage templates for submitting callback requests are available from C:\Program Files (x86)\prairieFyre SoftwareInc\CCM\Websites\CallbackWebService
2. Click **YourSite Explorer=>Visual Workflow Manager=>Callback Plan**.
3. In the ribbon, under **Max Per Hour Per IP Address**, select the number of callbacks that are accepted from a single IP address per hour.
4. Click **Queues**.
5. Select a queue for which you want to enable web callbacks.
6. Click the **VWM Options** tab if it is not already open.
7. Click the **Callback** tab if it is not already open.
8. Select the **Enable queue for web callbacks** check box.
   This queue can now receive requests for web callbacks.
9. In the ribbon, click **Save**.

Enabling .NET Framework 4.5 Advanced Services on Windows 8 for IVR Routing web callbacks

If you are running IVR Routing and Windows 8, you must have the certain .NET Framework 4.5 Advanced Services enabled for web callbacks to function.

To enable .NET Framework 4.5 Advanced Services for IVR Routing web callbacks on Windows 8

1. Navigate to the **Control Panel**.
2. Click **Programs=>Turn Windows features on or off**.
3. Select the following check boxes:
    - .NET Framework 4.5 Advance Services
        - WCF Services
            - HTTP Activation
4. Click **OK**.

Web callback templates

Using web callback, callers can submit callback requests using forms accessed through a contact center's website. Callers submit a telephone number, name, and time frame within which their call should be returned, as well as other optional information, which is then routed to the contact center.

prairieFyre offers two web callback templates included with IVR Routing that you can edit for use by your contact center. Contact Center Solutions does not configure web callback webpages as part of installation. You must set up the web callback templates as an application through IIS or another web server application. (See Figure 17 - 5 and Figure 17 - 6.)

Figure 17 - 5 Template - WebCallbackExample

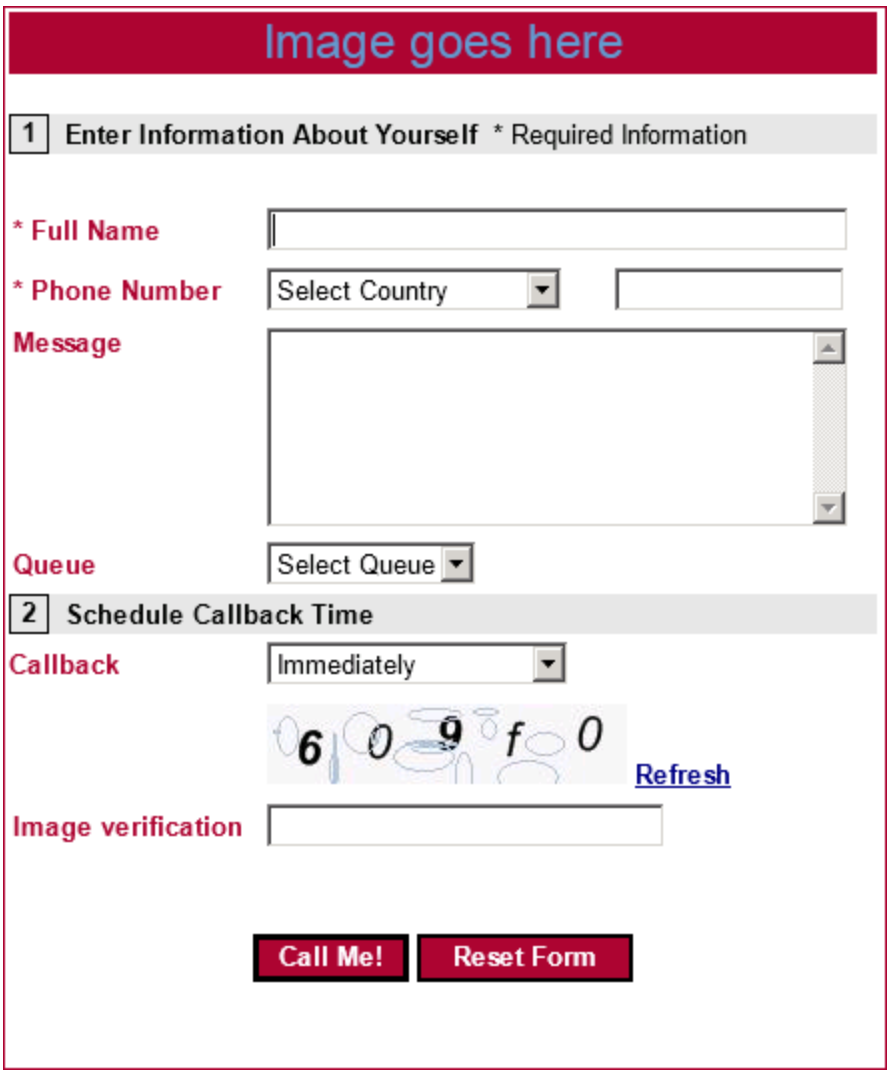
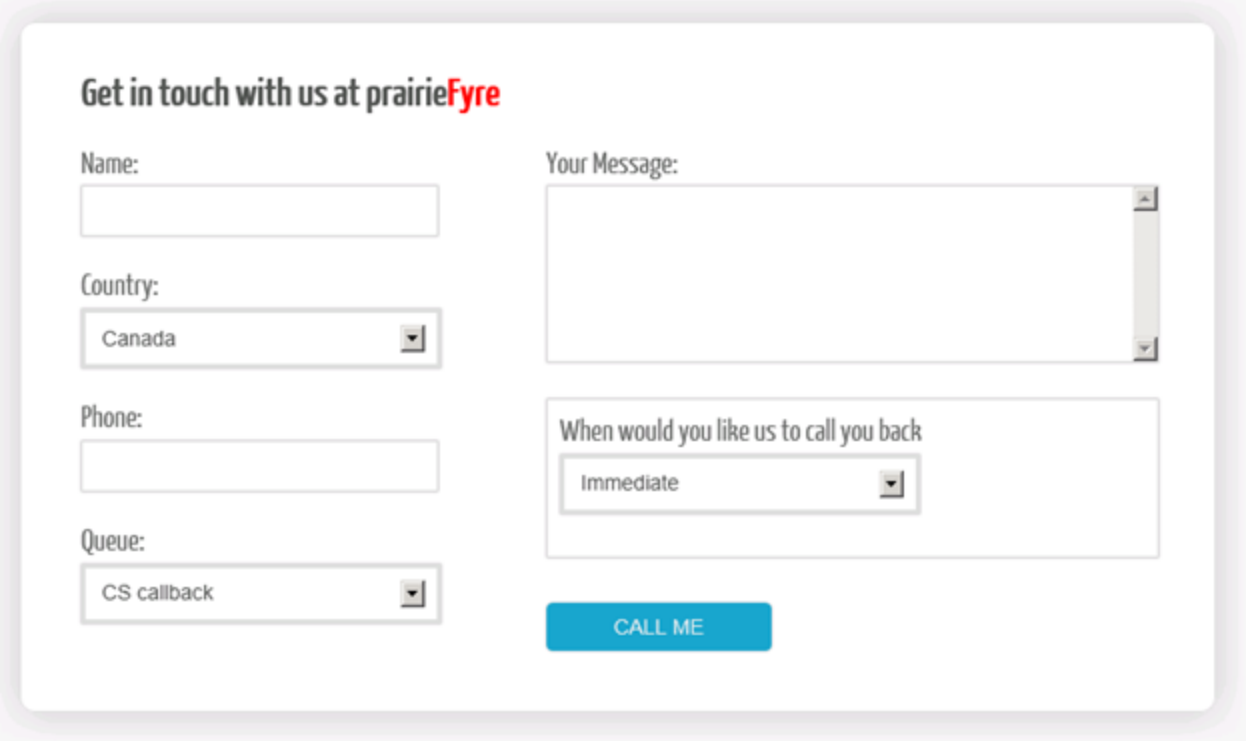


Figure 17 - 6 Template - WebCallbackExample2



Viewing the web callback templates

The web callback templates are stored in a zip file in <installation drive>*:\Program Files (x86)\prairieFyre Software Inc\CCM\Websites\CallbackWebService\WebCallbackTemplate.zip*.

Customizing the web callback templates

You can edit elements of the web callback templates to meet your contact center's needs, changing headers, customizing Cascading Style Sheets (CSS), or even customizing the web callback template content.

Customizing the header

In the templates, WebCallbackExample.aspx has a header consisting of the text "Image goes here", where you may insert a company logo or change the text. WebCallbackExample2.aspx has a header consisting of the text "Get in touch with us at prairieFyre". You can customize these headers for your contact center, however.

To customize the header

1. Open the .aspx page in an HTML editor.
2. Replace the text with your own text or an image.
   NOTE:
   - If you are using Notepad with WebCallbackExample, press CTRL+F and type "Image goes here" after **Find what** and click **Find Next** to locate the header in the HTML.
   - If you are using Notepad with WebCallbackExample2, press CTRL+F and type <h1> to locate the header in the HTML.
3. Save and close the HTML editor.

Customizing the Cascading Style Sheet

The Cascading Style Sheet (CCS) defines how HTML elements are displayed. CCS enables you to control the style and layout of multiple Web pages all at once.

To customize the CCS

1. Open **Styles.css** in Notepad.
2. Edit the heading and body font sizes and styles, or spacing.
3. Click **Save**.

Customizing the content of the web callback template

You can change the content of the web callback template to reflect your business, however, we do not recommend changing fields as improper changes will result in a non-functioning webpage. If you have the experience, expertise, and resources to edit HTML, you can use the templates to build the webpage you desire, however.

Configuring web callback options

If you are using custom web callback plans or intend to have a different machine run the web callback service than the one IVR Routing is installed on, you will have to configure the templates to support their use.

Configuring templates for a custom web callback plan

If you are using custom web callback plans, you will have to reconfigure the example templates by replacing the default web callback plan's callbackPlan value in the template.

To configure a template for a custom web callback plan

1. Open SQL Server Management Studio or another SQL Management program.
2. Query the following select statement:
   select Pkey,Name from tblCOnfig_VWM_CallbackPlan
3. Find your value for the custom callback plan.
4. Open the .aspx page in an HTML editor.
5. Locate the following line:
   <input type="hidden" runat=server id="callbackPlan" name="callbackPlan" value="B0AA4E0E-A97D-461E-A7F9-E32026C1FA40" />
   NOTE: The value may vary.
6. Replace the **value="“** with the value for your custom callback plan.
7. Save and close the HTML editor.

Configuring a different machine for web callback service

By default, the web callback service is configured to run on the machine on which IVR Routing is installed. You may, however, configure the web callback service to run on a different machine.

To configure a different machine for web callback service

1. Open web.config in an HTML editor.
2. Locate the following line of HTML:
   <add key="ServerUri" value="localhost/CallbackWebService"/>
3. Delete **localhost** and type the IP address of the machine you want to run the web callback service in its place.
4. Save and close the HTML editor.

Configuring rules

Rules provide call conditions that are evaluated at the runtime of the call flow. They enable you to compare against a broad range of conditions in a single call flow activity, reducing call flow clutter and enabling more precise routing.

In a call flow, rules are assigned to a rules activity. When an incoming call enters a call flow and encounters a rules activity, the call is evaluated against the activity's associated rules and is then branched based on whether or not the call meets the rule's routing rules' conditions. Routing rules can be based on a number of different conditions:

- ANI (Voice)
- DNIS (Voice, Outbound)
- Emergency (Voice, RAD, Outbound)
- Hunt Group (Voice, RAD, Outbound)
- Queue (Voice, Outbound)
- Redirect (Voice, Outbound)
- Schedule (Voice, RAD, Outbound)

If the call meets the routing rules' conditions, then it is routed through the success branch and has variables set to specific values based on the pre-configured variable options in the rule. If it does not meet the rule's routing conditions, then the call is routed through the failure branch. If the call is comparing against many routing rules in a single Rules activity, the variables will only be set once (by the first routing rule that was matched).

Rules are best used when you want to route calls based on multiple conditions. A site that has a Monday to Friday, 9 am to 5 pm French language queue and a 24-hour English queue could, using ANI and Schedule routing rules in a single rule, route calls from French area codes that are calling within business hours to the French queues and all other calls to the 24-hour English queue.

For more information on the rules activity for call flows, see "Configuring the Rules activity" on page 518.

Adding rules

To add a rule

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Rules**.
3. Click **Add**.
4. Select either **Voice**, **RAD**, or **Outbound** from the rules drop down list.
   The rule is added to the list of rules.
5. After **Name**, enter name for the rule.
   NOTE: The Expression field is automatically populated when routing rules have been configured. See "Adding routing conditions to rules" on page 470.

Adding routing conditions to rules

NOTE:

- You cannot save your routing rules until after you add variables to your rules. See "Adding variables to rules" on page 472.
- For instruction on grouping conditions and expressions, see "Grouping expressions" on page 439.

To add a DNIS, ANI, Redirect, or hunt group routing condition to a rule

1. Select the rule you want to add routing conditions to from the Rules list.
2. Under **Routing Rules**, click **Add**.
   A routing rule is added. The default routing rule is Emergency.
3. In the first column, click the field to open the drop-down menu and select one of the routing rule types:
   - DNIS
   - ANI
   - Redirect
   - Hunt Group
4. In the second column, click the **-** button.
   The routing rule dialog box opens.
5. To add a value, click **Add** and enter a value for the routing rule.
6. Click the **Add** button.
   The value is added to the Routing Rules.
7. If you want to enable reporting for this Branch, select the **Enable reporting for this Branch**checkbox.
8. If you want to mask the result from this Branch with *** with reporting, select the **Mask the result from this Branch with *****checkbox.
9. Click **OK**.

To add a Schedule routing condition to a rule

1. Select the rule you want to add routing conditions to from the Rules list.
2. Under **Routing Rules**, click **Add**.
   A routing rule is added. The default routing rule is Emergency.
3. In first column, click the field to open the drop-down menu and select Schedule.
4. In the second column, click the **-** button.
   The Schedule dialog box opens.
5. Click **Add**.
   A condition is added. The default condition is Date.

6. If you want to select a different condition, click the drop-down menu button and select one of the following conditions:
   - Date
   - DOW (Day of Week)
   - Holiday
   - Time
7. In the value field next to the name of the condition, click on the value.
   The value window opens.
8. Select a value for the condition and click **OK**.
9. If you want to add more schedule conditions, repeat steps 5-8.
10. To test the conditions, under **Utilities**, enter time and date information and click **Test**.
    If the test is successful, Pass will appear beside the Test button.
    If the test is not successful, Fail will appear beside the Test button.
11. To enable reporting, select the **Enable reporting for this Branch** checkbox.
12. Click **OK**.

To add a Queue routing condition to a rule

1. Select the rule you want to add routing conditions to from the Rules list.
2. Under **Routing Rules**, click **Add**.
   A routing rule is added. The default routing rule is Emergency.
3. In the first column, click the field to open the drop-down menu and select Queue.
4. In the second column, click the **-** button.
   The Queue Conditions dialog box opens.
5. After the **Select a queue or queue group** field, click the **...** button.
6. Select either the **Queue** or the **Queue Group** tab.
7. Select a queue or queue group to add to the condition and click **OK**.
8. To add a new queue, see "Configuring queues" on page 445.
   NOTE:
   - To configure a new queue for web callbacks, see "Enabling callbacks" on page 462.
   - To configure a new queue for UPiQ, see"Configuring UPiQ options" on page 448.
9. To add a new queue group, select the **Queue Group** pane and click **Add**.
   The Queue groups pane opens.
10. After **Name**, type a name for the queue group.
11. After **Reporting number**, type a reporting number for the queue group.
12. To make the queue group virtual, enable the **Virtual Queue** check box.
    NOTE: Use virtual queues for assigning the same pool of agents to answer the ACD calls for multiple queues across multiple telephone switches.
13. In the **Available members** pane, select a queue group and click the **>** button.
14. Click **Save**.
15. To add conditions, at the top of the Queue Conditions dialog box, click **Add**.
16. In the first column, select one of the following real-time statistics from the drop-down list:
    - Agents Idle
    - Agents Available
    - Agent Unavailable
    - AvgTimeToAbandon
    - AvgTimeToAnswer
    - Call Load
    - Expected Wait Time
    - Last Queue Update Received
    - Longest Wait Time
    - Number of Calls Waiting
    - Path DND
    - Service Level

17. In the second column, select one of the following operators from the drop-down list:
    - ! = Not Equal to
    - < Less than
    - <= Equal to or less than
    - = Equal to
    - > Greater than
    - >= Equal to or greater than

    NOTE: Operators appearing in the drop-down list vary according to the variable selected.
18. In the third column, from the drop-down list select either the **Value**, **Queue Stats**, or the **Call variable** tab.
19. Under **Value**, type in a numeric value or enable the check box for the value.
20. Under **Queue Stats**, select a queue stat from the drop-down list.
21. Under **Call variable**, select a call variable from the drop-down list.
22. Click **OK**.
23. If you want to add another condition, at the top of the dialog box, click **Add**.
24. Repeat steps 15-22 for each additional condition to add to the Queue Condition builder.
25. To import queue conditions, click the **Import** button and navigate to a *.csv file.
26. To export queue conditions, click the **Export** button and navigate to a *.csv file.

    NOTE:
    - Conditions on a single line and separated by a comma will be added to a single branch.
    - Conditions on multiple lines and separated by a comma will be added to multiple branches.
27. To test the conditions, under **Test Parameters**, enter a value in the relevant fields and click **Test**.
    If the test is successful, “Pass” displays beneath the Test button.
    If the test is not successful, “Fail” displays beneath the Test button.
28. To enable reporting for the branch, select the **Enable reporting for this Branch** check box.
29. To delete a queue condition, from the drop-down list to the left of the condition select **Delete**.
30. Click **OK**.

To add an Emergency routing condition to a rule

1. Select the rule you want to add routing conditions to from the Rules list.
2. Under **Routing Rules**, click **Add**.
   A routing rule is added. The default routing rule is Emergency.
3. In second column, select **Yes** or **No**.
   The value is added to the Routing Rules.

Adding variables to rules

To add a variable to a rule

1. Select the rule you want to add a variable to from the Rules list.
2. Under **Variables**, click **Add**.
3. Under **Name**, click **…**.
   The Select a variable window opens.
4. Select a variable to add to the rule from the variables list.
   - If you want to view variables by name or number, click the appropriate letter or # button above the OK button.
   - If you want to search for a variable, enter the search term in the Search text box. The list of variables will refresh with relevant variables.
5. Click **OK**.
6. The variable is added to the rule’s variables list.
7. Click the field in the second column.
   The Value pop-up opens.
8. If you want to enter a specific value, in the **Value** tab, type the variable’s value.

9. If you want to use a call variable for the value, click the **Call Variable** tab and select a variable from the list of variables.
10. Click **OK**.
11. On the ribbon, click **Save**.
    The routing rule is now saved.

Deleting rules

To delete a rule

1. Select the rule you want to delete from the rules list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.

Configuring holidays

Holidays can be configured for dates that affect your contact center functionality.

Adding holidays

To add a holiday

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Holidays**.
3. Click **Add**.
   A new holiday is added to the Holidays list.
4. Under **Properties**, in the **Name** field, type a name for the holiday.
5. Under **Pattern**, specify the pattern of the holiday.
   - If the holiday always falls on the same day of the same month, select **Every** and specify the month and date the holiday falls on
   - If the holiday has a pattern of falling on a certain day, week, and month, select **The** and specify the pattern, day of week, and month
   - If the holiday is a calculated holiday, such as Good Friday or Easter Monday, select **Calculated holiday** and specify the holiday
6. On the ribbon, click **Save**.

Deleting holidays

To delete a holiday

1. Select the holiday you want to delete from the holidays list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.

Configuring data providers

You can create a connection to a data provider located on a local or an external server to access information about incoming callers. For example, the data providers query can be configured to retrieve customer information based on ANI, DNIS, collected digits, or variables. Visual Workflow Manager can add Microsoft Excel worksheets, Microsoft SQL servers, and Lightweight Directory Access Protocol (LDAP) as data providers to query for data. Visual Workflow Manager can also import ODBC connections configured using the Windows ODBC Data Source Administrator.

Adding a Microsoft Excel worksheet as a data provider

To add a Microsoft Excel worksheet as a data provider

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Data providers**.
3. Click **Add** and select **Excel** from the drop-down list.
   A new data provider is added to the data provider list.
4. After **Name**, type a name for the data provider.
5. Click **Select File** and browse to the Excel worksheet you want to use as a data provider.
   NOTE: The Excel worksheet must be shared as a workbook and located on a UNC (Universal Naming Convention) path, also known as a shared network path. The syntax for a UNC path is \\ComputerName\SharedFolder\Resource. The IVR folder in <systemdrive>\program files\prairiefyre software inc\ccm is set up to be shared during the installation process and is called ivrdirectory. An example of the syntax format is \\IVRMACHINE\IVRDIRECTORY\WORKSHEET.xls. Locating the worksheet on a UNC enables Visual Workflow Manager to access the data provider remotely.
6. Click **Open**.
7. Click **Test Connection**.
8. On the ribbon, click **Save**.

Adding a Microsoft SQL server as a data provider

To add a Microsoft SQL server as a data provider

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Data providers**.
3. Click **Add** and select **Microsoft SQL Server** from the drop down list.
   A new data provider is added to the data provider list.
4. After **Name**, type a name for the data provider.
5. After **Server Name**, enter the server name.
6. Under **Log on credentials**, select **Windows Authentication** or **SQL Server Authentication**.
7. If you select SQL Server Authentication, enter a **Username** and **Password**.
8. After **Database Name**, select a database name from the drop down list.
9. Click **Test Connection**.
10. On the ribbon, click **Save**.

Adding a LDAP as a data provider

To add a LDAP as a data provider

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Data providers**.
3. Click **Add** and select **LDAP** from the drop down list.
   A new data provider is added to the data provider list.
4. After **Name**, type a name for the data provider.
5. After **Domain**, type the domain of the LDAP.
6. After **Username**, enter the username for the LDAP.
7. After **Password**, enter the password for the LDAP.
8. Click **Test Connection**.
9. On the ribbon, click **Save**.

Adding an ODBC as a data provider

ODBC connections can be added as a data provider through the Windows ODBC Data Source Administrator. After adding an ODBC using ODBC Data Source Administrator, the ODBC will automatically appear in data source providers and will be made available for the Query activity.

You cannot edit an ODBC data provider in Visual Workflow Manager.

Deleting data providers

NOTE: Visual Workflow Manager is unable to delete ODBC data providers from the data providers list.

To delete a data providers

1. Select the data providersyou want to delete from the data providers list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.

Configuring variables

Variables are used in multiple activities and to perform various tasks, including

- Storing information for later use
- Collecting user data
- Performing database queries
- Building simple or complex conditions

Variables can be used for different activities such as:

- Transferring a call to a different queue based on customer class
- Playing different prompts based on account balance
- Holding collected digits for use later in a database query

IVR Routing variables can be configured to be sent to agent screen pop windows, enabling agents to receive customized information gathered as the call passed through the call flow. This feature is only available for contact centers with an Advanced Contact Center Solutions license.

Custom variables can be populated through queries. See "Configuring the Query activity" on page 509.

See Table 17 - 1 for a list of built-in variables.

Table 17 - 1 Built-in Variables

Variable Name	Description	Variable Type
LastCollectedDateTime	Populated with last collected date and time requested for a callback	DateTime
UpiqPosition	The current position in queue when used with UPiQ (Updated Position in Queue)	Digits
ANI	Contains the ANI value of the current call which is the number of the calling party	DN
DNIS	Contains the DNIS value of the current call which indicates which number was called. Typically used for 800 & 900 numbers	DN
HuntGroup	Contains the hunt group dialable from which the current call originated	DN
ManagmentCollectedDigits	Used in default management plan to collect the dialable number for a device	DN
Redirect	Contains the redirect dialable if the current call was redirected.	DN
UpiqPrompt	The current prompt when used with UPiQ (Updated Position in Queue)	PromptEntity
LastRecordingFilename	Used in conjunction with a record activity and always contains the last recorded filename	PromptRecording
CallerName	Contains the name of the calling party if provided	Unspecified
CCMOnlineStatus	True if the IVR service is connected to the Enterprise Server, False otherwise.	Boolean
Language	Populated when used in conjunction with a language activity. The language activity is used for changing the language of a call flow dynamically at runtime based on user options.	Unspecified
LastCollectedDigits	Populated when used in conjunction with a collected digits activity in a call flow. Always contains the last collected digit(s) from that activity	Unspecified
LastMenuCollectedDigits	Populated when used in conjunction with a menu activity in a call flow. It will always contain the last collected digit from a menu activity.	Unspecified

Variable Name	Description	Variable Type
LastQueryResult	Contains the last query results when used in conjunction with a query activity	Unspecified

Adding variables

To add a variable

1. In the left pane, click **Visual Workflow Manager**.
2. Click **Variables**.
3. Click **Add**.
   A new variable is added to the variables list.
   NOTE: Default variables are grayed out and cannot be edited or deleted.
4. After **Name**, enter a name for the new variable.
   NOTE: Name cannot contain any spaces or non-alphanumeric characters.
5. After **Description**, provide a brief explanation of the variable function.
6. After **Variable Type**, select the type of variable from the drop-down list.
   NOTE: A variable's type cannot be changed after you save.
7. If you wish to enable this variable to display in an agent's screen pop window, select the **Send to Agent's toaster** checkbox.
8. After **Display Name**, type the name this variable will have when it appears in an agent's screen pop window.
9. If you selected Dollars, Euros, or Pounds as the variable type, after **Currency Format**, select the format from the drop-down list.
10. If you selected Date Time as the variable type, after **Date Format**, select the date format from the drop-down list. After **Time Format**, select the time format from the drop-down list.
11. On the ribbon, click **Save**.

Deleting variables

To delete a variable

1. Select the variable you want to delete from the variables list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.
   The variable is deleted and removed from the variables list.

Filtering variables

You can filter which variable types are shown in the variable list.

To filter variables

1. Click **Filter.**
2. From the drop down menu, select the variable type you want to view.
   NOTE: Only the variable type you selected is shown in the variable list.

Configuring music on hold

IVR Routing provides music on hold for your telephone system using a PC sound card with a connection to your telephone system.IVR Routing plays music through the sound card using a rotating (loop) playlist. Music sources for the playlist include any or all of the following: audio CD, stored .wma, stored .wav file, and stored .mp3 file. The playlist can include music or prerecorded information messages.

Administrators and supervisors can start or stop the music engine from the user interface. Once started, the music engine loops through the play list, playing continuously until it is stopped.

Adding music on hold

To add a music on hold playlist

1. In YourSite Explorer, in the left pane, click **Visual Workflow Manager**.
2. Click **Music on hold**.
3. Click **Add**.
   A new music on hold playlist is added.
4. After **Name**, enter a name for the playlist.
5. Click the **Songs** tab.
6. If you want to add a song to the list of available songs, under **Available songs**, click **Add**.
   The Select song(s) dialog box opens.
7. Browse to the song you want to add and click **Open**.
   The song is added to the available songs list.
8. If you want to add a song to a playlist, select the song you want to add and click **>**.
   The song is added to the playlist and is shown in the Selected members list.
9. Click Associate Servers.
10. Under **Available members**, select the computer that the playlist will be played from and click **>**.
    The computer is shown in the Selected members list.
11. On the ribbon, click **Save**.

Deleting music on hold

To delete a music on hold playlist

1. Selected the playlist you want to delete from the music on hold list.
2. Click **Delete**.
   The Delete these elements dialog box opens.
3. Click **OK**.
   The music on hold playlist is removed from the list.

Configuring Screen Pop

IVR Routing integrates with Screen Pop to display ANI, DNIS, and caller entered collected digits.

NOTE: This feature is hidden unless you are licensed for Screen Pop.

To enable Screen Pop with IVR Routing

1. In YourSite Explorer, under **Enterprise**, click **Enterprise**.
2. Click the **Screen Pop** tab.
3. Select **Display Intelligent Queue licensed options (ANI/DNIS and Collect Caller Entered Digits) on the soft phone pop-up**.
4. Select **Launch an application or Web page when agents answer ACD calls**.

5. Select one of the following options:
    - Display caller specific Microsoft Outlook contact information and create Journal entries—
    - Display the caller specific Inbound Trace report web page—
    - Display a specific application on web page—
6. To have Screen pop open for non-ACD calls, select **Screen pop on non-ACD calls**.
7. On the ribbon, click **Save**.

Configuring security

You can configure IVR Routing security settings in Contact Center Management to allow or prevent users from making changes to call flows, devices, and prompts, and to the runtime operations of your business. See "Configuring security roles" on page 181.

Activities

IVR Routing's activities enable you to build Voice, RAD, Management, or Outbound call flows and configure the routing conditions that send customers to queues. You can use activities to answer, transfer, or redirect calls, collect caller-entered digits, play customized prompts, and direct calls to the most appropriate agent. The following sections will explain the activities available in IVR Routing and explain how you can configure activities in order to build call flows and routing conditions.

This section on Activities begins with Table 17 - 2, which lists IVR Routing's activities, displays the activities' icons, and lists activity availability by call flow type and licensing level. The section then explains how different activities are categorized based on the functions they perform in call flows and how they instruct IVR Routing to manage call routing. This Activities section concludes by explaining how to configure activities in order to build call flows and routing conditions. It provides procedures for configurations that are common to many activities and concludes with procedures for configuring individual activities.

NOTE:

- The following sections explain activities and how to configure activities, but they do not explain how to use those activities to create an entire call flow. For information on the types of call flows you can create using IVR Routing activities, see "Call flow examples" on page 449.
- Call flows with improperly configured activities are considered to have validation errors and cannot be saved. If an activity contains validation errors, a red exclamation mark will display. Clicking the red exclamation mark icon will show the errors to correct in order to configure the activity properly and save the call flow.

Activities available in IVR Routing

Table 17 - 2 contains the activities that are used to create call flows. The table lists the activity, shows the activity's icon, and lists the activities' availability according to call flow type and licensing level. The table also contains links to the configuration procedures for each activity.

NOTE:

- For more information on IVR Routing licensing see the *Contact Center Solutions and Call Accounting System Engineering Guide*.
- Description of activity properties are available in the User Interface of IVR Routing's Visual Workflow Manager.

Table 17 - 2 Activities available in IVR Routing

Activity Name	Icon	Details
ANI		Available in Voice and Management call flows with IVR Routing Advanced or Premium licensing For configuration procedures, see "Configuring the ANI activity" on page 487.
Answer		Available in Voice, RAD, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Answer activity" on page 488.
Callback Request		Available in Voice call flows with IVR Routing Advanced or Premium licensing For configuration procedures, see "Configuring the Callback Request activity" on page 488.
Collect Digits		Available in Voice, Outbound, and Management call flows with IVR Routing Premium licensing For configuration procedures, see "Configuring the Collect Digits activity" on page 490.
Compare Variables		Available in Voice, Outbound, and Management call flows with IVR Routing Advanced or Premium licensing For configuration procedures, see "Configuring the Compare Variables activity" on page 492.
Delay		Available in Voice, RAD, Outbound, and Management call flows at all licensing levels For configuration procedures, see "Configuring the Delay activity" on page 501.
DNIS		Available in Voice, Outbound, and Management call flows with IVR Routing Advanced or Premium licensing For configuration procedures, see "Configuring the DNIS activity" on page 493.

Activity Name	Icon	Details
Email		Available in Voice, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Email activity" on page 494
Execute		Available in Voice, RAD, Outbound, and Management call flows at all licensing levels For configuration procedures, see "Configuring the Execute activity" on page 495.
Goto		Available in Voice, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Goto activity" on page 499.
Hangup		Available in Voice, RAD, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Hangup activity" on page 499.
Hunt Group		Available in Voice, RAD, and Outbound call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Hunt Group activity" on page 500.
Language		Available in Voice, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Language Activity" on page 501.
Make Call		Available in Outbound call flows with IVR Routing Premium licensing For configuration procedures, see "Configuring the Make Call activity" on page 502.
Management		Available in Voice and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Management activity" on page 503.

Activity Name	Icon	Details
Menu	 Menu	Available in Voice, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Menu activity" on page 505.
Mode of Operation	 Mode of Operation	Available in Voice and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Mode of Operation activity" on page 506.
Play	 Play	Available in Voice, RAD, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Play activity" on page 507.
Query	 Query	Available in Voice, RAD, Outbound, and Management call flows with IVR Routing Premium licensing For configuration procedures, see "Configuring the Query activity" on page 509.
Queue	 Queue	Available in Voice, RAD, and Outbound call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Queue activity" on page 513.
Record	 Record	Available in Voice and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Record activity" on page 516.
Redirect	 Redirect	Available in Voice and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Redirect activity" on page 517.
Rules	 Rules	Available in Voice, RAD, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Rules activity" on page 518.

Activity Name	Icon	Details
Schedule	 Schedule	Available in Voice, RAD, and Outbound call flows at IVR Routing licensing levels For configuration procedures, see "Configuring the Schedule activity" on page 519.
Set Device Mode of Operation	 Set Device Mode of Operation	Available in Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Set Device Mode of Operation activity" on page 521.
Set System Mode of Operation	 Set System Mode of Operation	Available in Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Set System Mode of Operation activity" on page 521.
Set Variables	 Set Variables	Available in Voice, RAD, Outbound, and Management call flows at all licensing levels For configuration procedures, see "Configuring the Set Variables activity" on page 522.
Subroutine	 Subroutine	Available in Voice, Outbound, and Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Subroutine activity" on page 522.
Swap Prompt	 Swap Prompt	Available in Management call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Swap Prompt activity" on page 523.
Transfer	 Transfer	Available in Voice and Outbound call flows at all IVR Routing licensing levels For configuration procedures, see "Configuring the Transfer activity" on page 524.

Understanding activity categories

Activities fall into three categories: conditional, action, and conditional action. Conditional activities check a condition and branch calls based on that condition. For example, an ANI activity will check the number from which a customer is calling and branch the call accordingly. Action activities perform actions within a call flow, but do not branch calls. For example, the Play activity plays callers a prompt. Conditional action activities perform actions and branch the call based on the result. For example, a Query activity can retrieve a caller's account balance and then branch the call to a Play activity that will recount that information.

Conditions include the following Activities:

- ANI
- Compare Variables
- DNIS
- Hunt Groups
- Menu
- Queue
- Redirect
- Rules
- Schedule

Actions include the following Activities:

- Answer
- Callback Request
- Delay
- Email
- GoTo
- Hang up
- Language
- Management
- Play
- Record
- Set Variables
- Subroutine
- Swap Prompt

Conditional actions include the following Activities:

- Collect Digits
- Execute
- Make Call
- Mode of Operation
- Query
- Set Device Mode of Operation
- Set System Mode of Operation
- Transfer

Configuring common activity options

Several of IVR Routing's activities share configuration procedures. This section explains procedures for configurations that are common to many activities, branches, and branching conditions.

NOTE: Branches route callers to different portions of the call flow. Branching conditions represent the circumstances a call must match in order to be sent to a particular branch.

Adding activities to call flows

NOTE: The availability of activities varies depending on

- The call flow type you select. Table 17 - 2 lists the call flows in which different activities are available. For example, you cannot use a Menu Activity in a RAD call flow. You can use subroutines to provide access to activities from other call flow types. See "Building subroutines" on page 458 for more information.
- Your licensing level. Table 17 - 2 lists the licensing levels at which different activities are available. For example, as part of the Outbound call flow type, the Make Call activity is only available with IVR Routing Premium Licensing.
  See the *Contact Center Solutions and Call Accounting System Engineering Guide* for more information regarding licensing.

To add an activity to a call flow

1. Select the call flow to which you want to add an activity.
   The Call flows Canvas opens.
2. In the Toolbox pane, click and drag the Activity you want to add to the **Drop Activities Here** section of the Canvas.
   NOTE: If the Toolbox pane is not visible, click the Toolbox flyout. To keep the toolbox pane visible, click the pin icon.
3. On the ribbon, click **Save**.
   NOTE: A red exclamation mark icon displayed in the top right corner of an activity signals a validation error or missing information. You must correct the error or enter the information before you can save the call flow. Selecting the relevant activity and clicking the exclamation mark icon displays the error you must correct. If you wish to disable validation, deselect the **Validate call flow** check box in the call flow Properties pane.

Deleting activities or branches from call flows

To delete an activity or branch from a call flow

1. Right-click the activity or branch and select **Delete**.
2. On the ribbon, click **Save**.

Naming activities, activity configurations, and branches

Activities, configuration settings within an activity, and branches will often require a name or system name. A “system name” is used by IVR Routing to identify an activity, activity condition, or branch. A “name” is used to label an activity, activity condition, or branch for the user to see.

To name an activity, activity configuration, or branches

1. In the Call flows Canvas, select the activity, activity configuration, or branch.
2. In the Properties pane, after **Name**, type a name for the activity, activity configuration, or branch.
3. After **System Name**, type a system name for the activity, activity configuration, or branching condition.
   NOTE: System names must be unique. They must only contain characters from A-Z or from 0-9 and cannot contain spaces.
4. On the ribbon, click **Save**.

Configuring activities and branches for reporting

Configuring activities or branches for reporting will enable you to run reports on them using Contact Center Management. Running reports on activities or branches enables you to analyze call flow traffic and see how callers are moving through your call flows.

To configure an activity and branch for reporting

1. In the Call flows Canvas, select the activity or branch to configure for reporting.
2. In the Properties pane, select the **Reportable** check box.
3. On the ribbon, click **Save**.

Editing branches

To edit a branch

1. In the Call flows Canvas, expand the activity.
2. Right-click the condition to edit and select **Edit (name of activity) Condition**.
3. Select the value to edit and type the new value.
4. At the top of the pane, click **Add**.
5. To add another value to the condition, at the top of the pane, click **Add** and type the value or range of values.
6. To delete a value, select the value and click **Delete**.
7. Click **OK**.
8. On the ribbon, click **Save**.

Changing the order of branches

You prioritize branching conditions by placing branches in sequence. The highest-priority branch, or branching condition, is placed in the left-most position. IVR Routing will prioritize branching in the order of left to right.

NOTE: Calls that do not match an activity's branching conditions will route to a "No Match" branch.

To change the order of a branch

1. In the Call flows Canvas, expand the relevant activity.
2. Right-click the branch you want to move and select either **Move left** or **Move right**.
3. On the ribbon, click **Save**.

Configuring the ANI activity

The ANI activity branches call flows based on all or part of a customer's ANI. For example, you can configure an ANI activity to identify the area codes for callers from French-speaking locations and route all applicable calls to queues with French-speaking agents. The ANI activity enables customers to be efficiently routed to the agents best suited to serve them. You can add branching conditions to ANI activities to determine how IVR Routing directs callers through the call flow. The ANI activity is available in Voice and Management call flows.

NOTE: For general information on working with activities, including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding branching conditions to ANI activities

Branching conditions represent the criteria by which IVR Routing directs calls.

To add a branching condition to an ANI activity

1. In the Call flows Canvas, right-click the ANI activity and select **Add an ANI condition**.
   The ANI dialog box opens.
2. To add an ANI value, at the top of the dialog box, click **Add** and type a value or range of values for the ANI condition.
3. Click the **Add** icon.
   NOTE:
   - To branch all calls from a specified area code, city exchange, or other number identification, include an "x" at the end of the numeric value. "x" indicates multiple wildcard characters.
   - To indicate individual digits or to set branching conditions to match any ANI, include question marks instead of numeric values.
4. To import ANI conditions in *.csv format, click **Import** and navigate to the file name you want to import.
5. To export ANI conditions in *.csv format, click **Export** and navigate to the file name you want to export.
   NOTE:
   - Conditions on a single line and separated by a comma will be added to a single branch.
   - Conditions on multiple lines and separated by a comma will be added to multiple branches.
   - You cannot add multiple branches by right-clicking the ANI condition and selecting the Edit option.
6. To add more ANI conditions, at the top of the ANI dialog box, click **Add**.
7. To enable reporting for the branch, select the **Reportable** check box.
8. To test the ANI conditions, under **Utilities**, enter a value.
   If the test is successful, "Pass" displays.
   If the test is unsuccessful, "Fail" displays.
   NOTE: You cannot test a range of values.
9. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
10. On the ribbon, click **Save**.

Configuring the Answer activity

The Answer activity prompts a port to answer a ringing line and begin the call flow. You can configure timeouts for Answer activities. Timeouts determine how long the Answer activity has to execute and indicate if it has successfully answered the line before IVR Routing terminates the activity. The Answer activity is available in Voice, RAD, and Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring timeouts for Answer activities

To configure a timeout for an Answer activity

1. In the Call flows Canvas, select the Answer activity.
2. In the Properties pane, after **Timeout (sec)**, type a number from 1 to 60.
3. On the ribbon, click Save.

Configuring the Callback Request activity

The Callback Request activity offers a callback plan to customers. For example, you can use the Callback Request activity to enable callers experiencing longer than average wait times to request a callback from an agent. Callback Request helps you meet your service level goals by reducing abandoned calls. You can assign call back plans and destinations to Callback Request activities, add devices to Callback Request destinations, and edit Callback Request activities to determine how IVR Routing directs callers through the call flow. The Callback Request activity is available in Voice call flows.

NOTE:

- For callbacks to function correctly, you must have configured location settings for your media server. If location settings are not configured, your callbacks will not be able to contact your customers. See "Configuring location settings for 3300 ICP media servers" on page 76.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Assigning callback plans to Callback Request activities

A callback plan is a tool that identifies a caller from the caller's message and makes a return telephone call. It also enables agents to re-queue or reject the callback request.

NOTE: IVR Routing provides a default voice callback plan. For information on configuring callback plans in YourSite Explorer, see "Configuring callbacks and callback plans" on page 462.

To assign a callback plan to a Callback Request activity

1. In the Call flows Canvas, right-click the Callback Request activity and select **Assign Callback Plan**. The Select a callback plan dialog box opens.
2. Under **Name**, select the callback plan to assign to the Callback Request activity.
3. Click **OK**.
   NOTE: The Callback Request activity receives the name of the callback plan assigned to it.
4. On the ribbon, click **Save**.

Assigning destinations to Callback Request activities

The callback destination represents the agent groups responsible for answering callbacks.

To assign a destination to a Callback Request activity

1. Right-click the Callback Request activity and select **Assign Destination**.
   The Select a device dialog box opens.
2. Select a destination from one of the following devices:
   - Queue
   - Queue group
   - Call variable
   - Extensions
   - Agent
3. Click **OK**.
4. On the ribbon, click **Save**.

Adding new devices to Callback Request destinations

To add a new device to a Callback Request destination

1. Right-click the Callback Request activity and select **Assign Destination**.
   The Select a device dialog box opens.
2. Select one of the following tabs:
   - Queue
   - Queue Group
   - Call variable
   - Extensions
   - Agent
3. In the **Queue**, **Queue Group**, **Call variable**, **Extension**, or **Agent** tabs, at the top of the dialog box, click **Add**.
4. To add a new queue, in the Queue pane, follow the steps under "Configuring queues" on page 445.
   NOTE:
   - To configure a new queue for web callbacks, see "Enabling callbacks" on page 462.
   - To configure a new queue for UPiQ, see "Configuring UPiQ options" on page 448.
5. To add a new queue group, follow the corresponding steps in "Adding and editing branching conditions for Queue activities" on page 514.
6. To add a call variable, follow the corresponding steps in "Adding new devices to Make Call destinations" on page 503.
7. To add a new extension, see "Adding extensions" on page 440.
8. To add a new agent, follow the corresponding steps in "Adding agents" on page 131.
9. To edit the destination assigned to the Callback plan, right-click the Callback Request activity and select **Assign Destination**.
   The Select a device dialog box opens.
10. Select the new destination to assign to the Callback Request activity.
11. Click **OK**.
12. On the ribbon, click **Save**.

Editing Callback Request activities

To edit a Callback Request activity

1. To edit the destination, right-click the activity and select **Assign Destination**.
   The Select a device dialog box opens.
2. Select the new destination and click **OK**.
3. To edit the callback plan assigned to a Callback Request activity, right-click the activity and select **Assign Callback Plan**.
   The Select a callback plan dialog box opens.
4. Select the new callback plan and click **OK**.
5. On the ribbon, click **Save**.

Configuring the Collect Digits activity

The Collect Digits activity prompts callers to enter, through their dial pad, information that can then be stored in a variable. For example, Collect Digits could enable a caller to enter their membership number when they enter the call flow. If stored in a custom variable, this information can be sent to an agent to provide them additional information about the customer. You can configure options and collection settings for Collect Digits activities to determine how IVR Routing directs callers through the call flow. The Collect Digits activity is available in Voice, Management, and Outbound call flows.

NOTE:

- Information acquired by a Collect Digits activity is stored within the <<LastCollectedDigits>> system variable. Subsequent Collect Digits actions overwrite this system variable. You can also select a variable to in which to store customer-entered digits.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring options for Collect Digits activities

To configure options for a Collect Digits activity

1. Select the Collect Digits activity.
2. In the Properties pane, after **Confirm Digit**, select a confirmation digit from the drop-down list.
   NOTE: Confirm digit sets the digit a caller presses to confirm that their input is correct.
3. After **Confirm Input**, click the **V** button and follow the steps under "Adding prompts to Play activities" on page 507.
   NOTE: Confirm Input sets the prompts a caller hears asking them to confirm the digits they have entered.
4. To enable reporting, select the **Reportable** check box.
5. To set the number of times a caller can try to enter information, after **Attempts**, type a number.
6. To set the number of seconds a caller has to enter another digit, after **DTMF Multi Digit Delay**, type a number from one to five.
   NOTE: Callers who take longer to enter a digit will be prompted again to enter their digits. After that, the caller is routed to the Failure branch.
7. To set the number of seconds that the system waits for a DTMF response before timing out, after **No digit timeout (sec)**, type a number from 1 to 10.

8. To hide customer-entered information in service logs, select the **Success** branch and, in the Properties pane, select the **Mask branch result** check box.
   NOTE:
   - To enable Mask branch result, in the Properties pane, ensure that the **Reportable** check box is selected.
   - Mask branch result covers customer-entered DTMF digits with '********' in service logs.
9. On the ribbon, click **Save**.

Configuring collection settings for Collect Digit activities

Collection settings assign the maximum and minimum number of digits a caller can enter.

To configure a collection setting for a Collect Digits activity

1. Select the Collect Digits activity.
2. In the Properties pane, after **Collection Settings**, click the … button.
   The Collect Digits dialog box opens.
3. To store customer-entered digits in a variable other than <<Last Collected Digits>>, after **Variable**, click the **…** button.
   The Variables dialog box opens.
4. Select a variable and click **OK**.
5. To add a new variable, click **Add**.
   NOTE: The following variables are available to Collect Digits: Dollars, Euros, Pounds, Digits, Number, and Date and Time.
6. After **Name**, type the name of the variable.
7. After **Description**, type a description for the variable.
8. After **Variable Type**, select a type from the drop-down list.
9. To enable agents to receive variable information on their toasters, select the **Send to Agent's toaster** check box.
10. After **Display Name**, type the screen pop name that appears on the agent's toaster.
11. Click **Save**.
12. Under **Greeting**, click the **…** button and select a greeting for the collection settings.
13. Click **OK**.
14. To add a new greeting, click **Add** and follow the corresponding steps in "Configuring prompts" on page 459.
15. Under **Terminating Digit**, type the digit that callers enter when they are finished inputting digits.
16. Under **Min. digits to collect**, type the minimum number of digits.
17. Under **Max digits to collect**, type the maximum number of digits.
    NOTE: When a caller reaches the maximum number of digits, IVR Routing will not wait for the terminating digit. If a caller reaches the maximum number of digits and then presses the terminating digit, that digit will be incorporated into the subsequent activity.
18. To configure another collection setting, click **Add**.
19. To delete a collection setting, select the setting and click **Delete**.
20. Click **OK**.
21. On the ribbon, click **Save**.

Configuring the Compare Variables activity

The Compare Variables activity branches calls by comparing customer information, stored in either custom or system variables, against specified conditions. For example, you can use Compare Variables to create a priority branch for customers with Gold membership. The Compare Variables activity compares a variable for Gold membership against a customer's actual membership level. If the customer's membership information compares positively against the criteria for the Gold branch then the caller is routed to the priority branch. Customers whose membership information does not match the criteria for the Gold branch are routed to the No Match branch. You can add and modify branching conditions for Compare Variables activities, and you can group variable conditions to determine how IVR Routing directs callers through the call flow. The Compare Variables activity is available in Voice, Outbound, and Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding and modifying variable conditions for Compare Variables activities

To add and modify (edit/delete) a variable condition for a Compare Variables activity

1. In the Call flows Canvas, right-click on the Compare Variables activity and select **Add Compare Variables condition**.
   The Variable Compare Condition Designer dialog box opens.
2. After **Name**, type a name for the variable compare condition.
3. To add a new compare variable row, at the top of the dialog box, click **Add**.
4. In the first column, select a variable from the drop-down list and click **OK**.
5. In the second column, select one of the following operators from the drop-down list:
   - != Not Equal
   - < Less than
   - <= Equal to or less than
   - = Equal
   - > Greater than
   - >= Equal to or greater than
   - Contains

   NOTE: Operators appearing in the second column vary according to the variable selected in the first column.
6. In the third column, from one of the tabs in the drop-down list, type a value or select a value.
   NOTE: Tabs appearing in the third column vary according to the variable selected in the first column.
7. Click **OK**.
8. To add a new variable row, at the top of the dialog box click **Add**.
9. To delete a row, from the drop-down list to the left of the variable row select **Delete**.
10. To enable reporting, select the **Enable reporting for this branch** check box.
11. To edit variable conditions, right-click the Compare Variables activity and select **Add Compare Variables condition**.
12. Change the variable compare conditions.
13. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
14. On the ribbon, click **Save**.

Grouping variable compare conditions in Compare Variables activities

You can group variables to be compared in the Compare Variables activity using the “Group AND” or “Group OR” buttons in the Variable Compare Condition Designer. Grouping variables by Group AND means that every variable condition specified must be met to route the call to the Success branch. Grouping variables by Group OR means that only one of the variable conditions specified must be met to route the call to the Success branch.

NOTE:

- The “Group AND” and “Group OR” buttons will be disabled unless you have at least two conditions to group.
- Group AND is the default grouping for the Compare Variables activity.

To group variable compare conditions in a Compare Variables activity

1. Right-click the Compare Variables activity and select **Add Compare Variable Condition**.
2. Select the variables to group and click the **Group AND** or **Group OR** buttons.
   NOTE: To group multiple rows, press **Ctrl** and click to the right of the **< Value>** column for each variable.
3. To add a variable to an existing group, from the drop-down list to the left of **And** or **Or**, select **Add**.
4. To ungroup a group of variables, from the drop-down list to the left of **And** or **Or**, select **Ungroup**.
5. To remove one variable from a group, from the drop-down list to the left of the variable row, select **Ungroup**.
6. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
7. On the ribbon, click **Save**.

Configuring the DNIS activity

The DNIS activity branches call flows based on the number a customer has dialed. For example, you can configure DNIS activities to branch calls to a “Service” section of the call flow as opposed to a “Sales” section of the call flow. DNIS activities enable the use of a single call flow and port set for calls to multiple business lines. You can add branching conditions to DNIS activities to determine how IVR Routing directs callers through the call flow. The DNIS activity is available in Voice, Management, and Outbound call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding branching conditions to DNIS activities

To add a branching condition to a DNIS activity

1. In the Call flows Canvas, right-click the DNIS activity and select **Add a DNIS condition**.
   The DNIS dialog box opens.
2. To add a DNIS value, at the top of the dialog box, click **Add** and type a value or range of values for the DNIS condition.
3. Click the **Add** icon.
4. To import DNIS conditions in .csv format click **Import => Import from file** and navigate to the file name.
5. To import DNIS conditions from a DNIS table, click **Import => Import from DNIS table**.
   The Import from DNIS table pane opens.
6. Select the DNIS conditions to import and click **OK**.

7. To export DNIS conditions, click **Export** and navigate to the file name.
   NOTE:
   - Conditions on a single line and separated by a comma will be added to a single branch.
   - Conditions on multiple lines and separated by a comma will be added to multiple branches.
8. To add more DNIS conditions, at the top of the dialog box, click **Add**.
9. To enable reporting for the branch, select the **Reportable** check box.
10. To test the DNIS conditions, under **Utilities**, enter a value or range of values.
    If the test is successful, “Pass” displays.
    If the test is unsuccessful, “Fail” displays.
    NOTE: You cannot test a range of values.
11. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
12. On the ribbon, click **Save**.

Configuring the Email activity

The Email activity enables IVR Routing to send emails, with or without attachments, to recipients via the SMTP provider configured in Contact Center Management. You can populate Email fields with variables, and you can populate email attachments with variables or files. For example, you can use the Email activity to enable automated emailing of purchase orders and reports within a call flow. The Email activity allows electronic information to be sent from within a call flow efficiently and accurately to the different departments in an organization. You can configure Email activity templates and add and edit SMTP servers using the Email activity. The Email activity is available in Voice, RAD, Outbound, and Management call flows.

NOTE:
- When using a variable as an attachment, you require an activity that can retrieve data to appear prior to the Email activity in the call flow. This activity, such as Query or Execute, will retrieve the data to populate the variable attachment.
- To configure the SMTP provider in Contact Center Management, see "Configuring the SMTP server" on page 42. To configure email recipients, see "Configuring email contacts" on page 47.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring Email activity templates

Configure Email activity templates by populating the template fields with variables or text.

NOTE:
- You can populate fields in an Email activity template with a variable by typing the name of the variable between double-angle brackets. The text between the angle brackets will be replaced with the value of the variable currently executing in the call flow.
  For example, <<ANI>>. In this variable, ANI will be replaced with the caller ID information.
  You can also right-click any field in the email template and select a variable from the drop-down list.
- Variables must be populated with a value that points to a file path or populated by an activity within the call flow.

To configure an Email activity template

1. In the Call flows Canvas, right-click the Email activity and select **Edit Email Template**.
   The Configure email template dialog box opens.
2. Configure all email fields as applicable.
   NOTE: In the To:, Cc:, and Bcc: fields, separate multiple addresses with a semi-colon.
3. In the body of the email, type the text the template will contain.
4. To add call variables to fields in the email template, right-click the field and select the variable from the drop-down list.
   You can also type the name of the variable between double angle brackets.
5. Click **OK**.
6. On the ribbon, click **Save**.

Adding and editing SMTP servers in Email activities

To add and edit SMTP servers in an Email activity

1. Right-click the Email activity and select **Edit SMTP Server**.
   The Select a SMTP server dialog box opens.
2. Select an SMTP server.
3. Click **OK**.
4. To configure the activity with another recipient, click the **Add** button and follow the steps in "Configuring the SMTP server" on page 42.
5. To edit a recipient, select the recipient and click the **Edit** button.
6. Follow the steps in "Configuring the SMTP server" on page 42.
7. Click **OK**.
8. On the ribbon, click **Save**.

Configuring the Execute activity

The Execute activity enables IVR Routing to interact with external systems by running the following four processes:

- **Executable/Script** – Runs an *.EXE file or *.BAT script on the server and delivers return values or parameters if the script executes successfully.
  NOTE: The Execute activity requires *.EXE files and *BAT scripts to be on a UNC path.
- **PowerShell** – Runs a PowerShell script on the server and delivers return values or parameters if the script executes successfully.
  NOTE: The Execute activity requires PowerShell scripts to be on a UNC path.
- **Web Service** – Enables the Execute activity to retrieve an XML response from an external web service using SOAP or REST and delivers return values if the script executes successfully.
- **CRM Service** – Sends user defined queries to a Microsoft CRM 2007, 2011, or CRM Online system and delivers return values if the script executes successfully.

For example, you can use the Execute activity to retrieve customer information from a Web Service database and store this information in a custom variable for use within the call flow or to pass on to agents in a screen pop for enhanced customer service. You could also use the Execute activity to run a PowerShell script enabling an authorized caller to run remote maintenance on the IVR Routing server. You can configure the options and the process types for Execute activities. The Execute activity is available in Voice, RAD, Outbound, and Management call flows.

NOTE:

- A success return value indicates the process executed without errors. A failure return value indicates the process exited with errors and did not complete as expected.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring options for Execute activities

To configure the options for an Execute activity

1. In the Call flows Canvas, select the Execute activity.
2. To set waiting prompts to always play to completion before allowing the call flow to proceed, regardless of whether the process has completed executing, deselect the **Barge Prompt** check box.
   NOTE: The waiting prompt is what callers hear while they wait for the Execute activity process to complete. Barge Prompt signifies that the prompt will stop playing once the process has completed executing.
3. To set the Execute activity to route to the Success branch without waiting for a process to complete, deselect the **Wait for completion** check box.
   NOTE:
   - We recommend you deselect “Wait for completion” only if you do not require the Execute activity to retrieve information and return a result. For example, deselect Wait for completion if you are using the Execute activity to run maintenance.
   - If the process fails to start, the activity will route to the Failure branch regardless of whether “Wait for completion” is deselected.
4. After **Waiting Prompt**, click the **V** button and follow the steps under "Adding prompts to Play activities" on page 507.
   NOTE:
   - Waiting prompts help keep callers engaged on the line during processes that take longer than usual to complete.
   - If the Wait for completion check box is deselected, it is not necessary to configure a waiting prompt.
5. To enable reporting, select the **Reportable** check box.
6. After **Timeout**, type a number from 1 to 60 to set the number of seconds for an associated process to complete successfully before executing to the Failure branch.
7. On the ribbon, click **Save**.

Configuring process types for Execute activities

The process type is the external process that executes when a caller progresses through the call flow. The process type determines what parameters will be available and displayed. Process types include Executable/Script or PowerShell processes, Web Service processes, and CRM Service processes.

To configure an Executable/Script or PowerShell process

1. In the Properties pane to the right, after **Process**, click the **V** button and select **Executable/Script**.
2. After **Path**, click the **Browse …** button.
3. For Executable/Script processes, navigate to the *.EXE or *.BAT script.
   NOTE: This script must be on a UNC path.
4. After **Separator**, select a separator from the drop-down list required by your .exe file.
   NOTE: The separator is the character that separates the parameters in the command line statement for the process.
5. For PowerShell processes, navigate to the PowerShell script.
6. To add a set of input parameters, in the Input Parameters pane click **Add**.

7. Under **Parameter**, select the parameter that the process uses to execute.
   NOTE: If your batch files or Executable/Script processes require delimiters, you must enter them manually into the **Parameter** column.
8. Under **Value**, select a variable from the drop-down list or type a static value.
   NOTE:
   - This variable will be replaced when a caller progresses through the call flow.
   - To configure the process to use a value not linked to a parameter, select a variable from the **Value** field and leave the **Parameter** field blank.
9. Repeat steps 5-8 for each set of input parameters the process uses.
10. To test the process, under **Test Value** enter the values to test the process and click **Execute**.
11. The Results dialog box opens and gives the output values.
    If the test is successful, "Execution Successful" displays in the Results dialog box.
    If the test is not successful, "Execution Failed" displays in the Results dialog box.
    NOTE:
    - For Executable/Script processes, the Results dialog box lists return values and output pipeline values.
    - For PowerShell processes, the Results dialog box lists return values and PSObject[X] values.
12. Click **OK**.
    The Output Mapping pane will be auto-populated.
13. To delete a set of input parameters, click the arrow to the left of the **Parameter** field and click **Remove**.
14. To store the retrieved data as a call variable, in the Output Mappings pane under **Output**, select an output value.
15. Under **Mapping**, select a call variable from the drop-down list.
    When a caller progresses through the call flow, each call variable in the Output Mapping field is assigned the value indicated in the Output field.
16. Click **OK**.
17. On the ribbon, click **Save**.

To configure a Web Service process

1. In the Properties pane to the right, after **Process**, click the **V** button and select **Web Service**.
2. After **URI**, type the URI of the Web Service with which the IVR will communicate.
3. From the **Web Service Type** drop-down list, select either **SOAP** or **REST**.
4. If you are using a SOAP Web Service, click the **Scan …** button to verify the Web Service.
5. If you are using a REST Web Service, after **Username** and **Password** type your login credentials for the Web Service.
   NOTE: Login credentials might not be necessary depending on the Web Service you are using.
6. After **Web Method**, select the Web Method from the drop-down list.
   - The Web Method field will only appear if you are using a SOAP Web Service.
   - SOAP Web Services populate the Web Methods field with a drop-down list of functions the Web Service allows you to use.
   - The Web Method populates the Parameters field for SOAP Web Services.
7. Under **Value**, select a value from the drop-down list or type static values.
8. To test the process, under **Test Value**, enter the values to test the process and click **Execute**.
9. If you are using a SOAP Web Service:
   The Results dialog box opens.
   If the test is successful, "Execution Successful" displays in the Results dialog box.
   If the test is unsuccessful, "Execution Failed" displays in the Results dialog box.
10. Click **OK**.
11. If you are using a REST Web Service:
    The Results dialog box opens.
12. In the XML Output pane, select the node containing the information the Execute activity retrieves and click **OK**.

13. After **Selected Node**, click the **Show Results** button.
14. Click **OK**.
    The Output Mappings pane will be auto-populated.
15. To store retrieved data as a call variable, in the Output Mappings pane under **Output** select an output value.
16. Under **Mapping**, select a call variable from the drop-down list.
    When a caller progresses through the call flow, each call variable in the Mapping field is assigned the value indicated in the Output field.
17. Click **OK**.
18. On the ribbon, click **Save**.

To configure a CRM Service process

1. In the Properties pane, after **Process**, click the **V** button and select **CRM Service**.
2. After **CRM URI**, type the URI of the CRM system with which the IVR communicates.
3. From the **CRM Version** drop-down list, select the version of the CRM system.
4. If you select CRM2007, after **Organization Name**, type the name of the organization running the CRM system.
5. Complete the following fields:
   - **Domain** – Type the domain name of the CRM site.
   - **Username** – Type the username for your CRM site login.
   - **Password** – Type the password for your CRM site login.
   - **Entity Name** – From the drop-down list, select the name of the CRM entity that the Execute activity queries.
6. To add a set of input parameters, in the Input Parameters pane, click **Add**.
7. Under **Parameter**, type the name of the parameter that the process uses to execute.
8. Under **Value**, select a variable from the drop-down list.
   NOTE: This variable is replaced when a caller progresses through the call flow.
9. To test the process, under **Test Value**, enter the values to test the process and click **Execute**.
   The Results dialog box opens.
   If the test is successful, “Execution Successful” displays in the Results dialog box.
   If the test is unsuccessful, “Execution Failed” displays in the Results dialog box.
10. To store retrieved data as a call variable, in the Output Mappings pane under **Output** select an output value.
11. Under **Mapping**, select a call variable from the drop-down list.
    When a caller progresses through the call flow, each call variable in the Mapping field is assigned the value indicated in the Output field.
12. Click **OK**.
13. On the ribbon, click **Save**.

Configuring the Goto activity

The Goto activity enables callers to be sent to an alternate point in the call flow. For example, if a customer enters an invalid account number, the Goto activity sends them back through the call flow so they can enter their digits again. The Goto activity helps minimize the number of customers routed to the failure branch and helps callers route to the queues best able to help them. You can configure destinations for Goto activities. These destinations determine the parent activity to which the Goto returns callers. The Goto activity is available in Voice, Outbound, and Management call flows.

NOTE:

- You can only use the Goto activity within nested activities, unless you are using a Goto activity within a Query activity. Goto activities within Query activities may send caller to points in the call flow outside the Query activities nested call flow.
- The Goto activity enables callers to move up an activity tree and cannot be used to send callers laterally in the call flow or to a subsequent workflow step.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring destinations for Goto activities

To configure a destination for a Goto activity

1. In the Call flows Canvas, right-click the Goto Activity and select **Activity Name**.
2. Select the activity to which the Goto returns callers.
3. If your call flow uses embedded menus, select the **Reset Repeat Count** check box to give callers an unlimited number of attempts to enter information.
4. On the ribbon, click **Save**.

Configuring the Hangup activity

The Hangup activity instructs IVR Routing to end the call flow, preventing callers from waiting on a dead line and freeing up ports to take new calls. Hangup activities are inserted at the end of a call flow or branch. For example, you can insert a Hangup activity at the end of a “Closed” branch in a Schedule activity to terminate the call after a customer hears that the contact center is closed. You can configure the timeout for Hangup activities. Timeouts determine how much time the activity has to execute before IVR Routing terminates it. The Hangup activity is available in Voice, RAD, and Management call flows.

NOTE:

- We recommend you insert a Hangup activity any place where the call could potentially end. This ensures the call is terminated correctly and the port is freed to accept a new call.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring timeouts for Hangup activities

To configure a timeout for a Hangup activity

1. In the Call flows Canvas, select the Hangup activity.
2. In the Properties pane, after **Timeout (sec)**, type a number from 1 to 60.
3. On the ribbon, click **Save**.

Configuring the Hunt Group activity

The Hunt Group activity branches call flows based on the hunt group to which a call has been directed. For example, you can configure a Hunt Group activity to route a call towards “Technical Assistance” telephone lines and the queues that use these lines to provide technical support. The call flow will search the Technical Assistance hunt groups for the first available line and switch the call onto the line when one is found. The Hunt Group activity enables customers to be efficiently routed to the services they need. You can add branching conditions to Hunt Group activities to determine how IVR Routing directs callers through the call flow. The Hunt Group activity is available in Voice, RAD, and Outbound call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding branching conditions to Hunt Group activities

Branching conditions represent the criteria by which IVR Routing directs calls.

To add a branching condition to a Hunt Group activity

1. In the Call flows Canvas, right-click the Hunt Group activity and select **Add a Hunt Group condition**. The Hunt Group dialog box opens.
2. To add a hunt group value, at the top of the dialog box, click **Add** and type a value or range of values for the hunt group condition.
3. Click the **Add** icon.
    - To branch all calls from a specified area code, city exchange, or other number identification, include an “x” at the end of the numeric value. “x” indicates multiple wildcard characters.
    - To indicate individual digits or to set branching conditions to match any ANI, include question marks instead of numeric values.
4. To import hunt group conditions in .csv format, click **Import** and navigate to the file name.
5. To export hunt group conditions, click **Export** and navigate to the file name.
   NOTE:
    - Conditions on a single line and separated by a comma will be added to a single branch.
    - Conditions on multiple lines and separated by a comma will be added to multiple branches.
6. To add more hunt group conditions, at the top of the Hunt Group dialog box, click **Add**.
7. To enable reporting for the branch, select the **Enable reporting for this Branch** check box.
8. To test the hunt group conditions, under **Utilities**, enter a value or range of values.
   If the test is successful, “Pass” displays.
   If the test is unsuccessful, “Fail” displays.
   NOTE: You cannot test a range of values.
9. Click OK to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
10. On the ribbon, click **Save**.

Configuring the Delay activity

The Delay activity enables IVR Routing to suspend a call flow for a predetermined time. For example, a customer calling the IVR will hear a welcome menu that lasts a certain number of seconds. To test your call flow and simulate the customer's experience, you can insert a Delay activity suspending the call flow for a duration that matches the length of the prompt. The Delay activity also enables third-party applications to process a command before continuing to a step that requires the processing be complete. You can set the duration of a Delay activity to determine for how long the IVR Routing will suspend the call flow. The Delay activity is available in Voice, RAD, Outbound, and Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Setting the duration of Delay activities

To set the duration of a Delay activity

1. In the Call flows Canvas, select the Delay activity.
2. In the Properties pane, after **Delay**, type the number of seconds the call flow will pause.
3. On the ribbon, click **Save**.

Configuring the Language Activity

The Language activity changes IVR Routing's system language, enabling the IVR to provide an identical call flow in different languages. When the Language activity is reached in the call flow, all subsequent prompts play in the set language. For example, you can insert a Language activity into a menu to allow customers to choose the language in which they receive service. By supporting multiple languages in a single call flow, the Language activity reduces the number of prompts you must create and the number of duplicate activities in your call flow. The Language activity also reduces the number of ports that IVR Routing uses by allowing the same set of ports to be used for multiple languages. You can set and edit the languages for Language activities. The Language activity is available in Voice, RAD, Outbound, and Management call flows.

NOTE:

- The language value is stored within the <<Language>> system variable. Each subsequent Language action overwrites the value in the system variable.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Setting and editing languages for Languages activities

To set and edit the language for Language activities

1. In the Call flows Canvas, right-click the Language activity and select **Select Language**.
2. Select one of the following languages for the call flow:
    - Chinese Simplified
    - Dutch
    - English United Kingdom
    - English United States
    - French Canada
    - French France
    - German
    - Italian
    - Portuguese Brazil
    - Russian
    - Spanish Latin America
    - Spanish Spain
3. To edit the language, right-click the Language activity and select **Select Language**.
4. Select a different language for the call flow.
5. On the ribbon, click **Save**.

Configuring the Make Call activity

The Make Call activity prompts an associated port to process an outbound call to a specified destination. This destination can be retrieved from a data source including a SQL database, an Excel file, a Web Service call, or custom variable. For example, you can use the Make Call activity as part of an outbound call flow designed to contact customers during an advertising campaign. You can assign the Make Call activity a destination, set the amount of time the port has to make the call before IVR Routing terminates the action, and add new devices to Make Call activity destinations. The Make Call activity is available in Outbound call flows.

NOTE:

- As part of Outbound call flows, the Make Call activity is only available with IVR Routing Premium Licensing.
- For general information on working with activities including adding, deleting and editing activities, see "Configuring common activity options" on page 485.

Configuring options for Make Call activities

To configure options for a Make Call activity

1. In the Call flows Canvas, select the Make Call activity.
2. To assign a destination for the call, in the Properties pane after **Destination**, click the **…** button.
   The Select a device dialog box opens.
3. Select one of the following from the drop-down list:
    - Extension
    - Queue
    - Queue group
    - Call variable
4. Click **OK**.
5. To define the call as an external call to the phone system, select the **External Call** check box.
   Selecting this check box adds the external dialing digit as defined for the media server.

6. After **Timeout (sec)**, type the number of seconds the system has to make the call before the activity closes.
7. To enable reporting , select the **Reportable** check box.
8. On the ribbon, click **Save**.

Adding new devices to Make Call destinations

To add a new device to a Make Call Destination

1. In the Properties pane, after Destination, click the **...** button.
   You can also type in a destination.
   The Select a device dialog box opens.
2. Select one of the following tabs:
   - Extension
   - Queue
   - Queue group
   - Call variable
3. At the top of the dialog box, click **Add**.
4. To add a new extension, see "Adding extensions" on page 440.
5. To add a new queue, see "Configuring queues" on page 445.
   NOTE:
   - To configure a new queue for web callbacks, see "Enabling callbacks" on page 462.
   - To configure a new queue for UPiQ, see "Configuring UPiQ options" on page 448.
6. To add a new queue group, follow the applicable steps in "Adding and editing branching conditions for Queue activities" on page 514.
7. To add a new call variable, in the Variables pane after **Name**, type a name for the variable.
8. After **Description**, type a description for the variable.
9. From the **Variable Type** drop-down list, select one of the following variables types:
   - Queue
   - Digits
   - DN
   - Hunt Group
   - Number
   - Unspecified
10. To enable agents to receive call variable information on their toaster, select the **Send to Agent's toaster** check box.
11. After **Display Name**, type the name that appears on the agent's toaster.
12. Click **Save**.
13. In the Select a device pane, click **OK**.
14. On the ribbon, click **Save**.

Configuring the Management activity

The Management activity represents a management plan that is available to authorized callers, enabling them to manage the state of IVR Routing and its prompts over the phone. For example, if the contact center is unexpectedly closed due to severe weather, a manager working from home can use the Management activity to set the IVR to Emergency mode and record a prompt informing callers of the center's closure. You assign subroutines to Management activities and configure remote access options for authorized callers. The Management activity is available in Voice and Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Assigning subroutines to Management activities

IVR Routing provides a default Management subroutine. For information on building subroutines to assign to Management activities, see "Building subroutines" on page 458.

To assign a subroutine to a Management activity

1. In the Call flows Canvas, select the Management activity.
2. In the Properties pane, after **Management Subroutine**, click the **…** button.
   The Select a subroutine or variable window opens.
3. Click either the **Subroutines** or **Variables** tab and select a subroutine or a call variable to assign to the activity.
4. Click **OK**.
5. To create a new call variable, under the **Call variables** tab, click **Add** and follow the corresponding steps in "Adding new devices to Make Call destinations" on page 503.
6. In the Properties pane, after **Activity**, select the activity from the drop-down list to which the Goto returns callers.
   NOTE: You can only select a Goto activity if the Subroutine is nested within another activity. For more information, see "Configuring the Goto activity" on page 499.
7. If your call flow uses embedded menus, select the **Reset Repeat Count**, check box to give callers an unlimited number of attempts to enter information.
8. On the ribbon, click **Save**.

Configuring properties for remote access

To configure properties for remote access

1. Right-click on the Management activity and select **Open Management**.
2. Select the subroutine.
3. In the Properties pane, after **Instructions**, click the **V** button and follow the steps under "Adding prompts to Play activities" on page 507.
   NOTE: Instructions play prompts and menu options to an authorized caller.
4. To enable reporting, select the **Reportable** check box.
5. To set the number of times an authorized caller can try to enter information, after **Attempts**, type a number.
6. To set the digits an authorized caller will use to repeat menu instructions, after **Digits Repeat**, click the **…** button, select a number, and click **OK**.
7. To enable callers to skip instructions using a digit entry, select the **DTMF Barge In** check box.
8. To set the time taken to reset each digit after it is pressed, after **DTMF Multi Digit Delay**, type a number from one to five.
9. To set the number of seconds that IVR Routing will wait if the user does not enter any digits, after **No Input Timeout**, type a number from 1 to 60.
   NOTE: If this time elapses, IVR Routing will send the caller back through the call flow.
10. On the ribbon, click **Save**.

Configuring the Menu activity

The Menu activity prompts callers with messages and manages routing based on caller input. For example, you can configure the Menu activity to ask customers to press “1” on their dial pad to reach Technical Support and “2” if they want to reach Sales. IVR Routing then directs callers to the appropriate queue based on the number they pressed. The Menu activity enables efficient routing to the appropriate queue. You can configure the prompts callers hear, input options, and digit options for Menu activities. The Menu activity is available in Voice, Management, and Outbound call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring options for Menu activities

To configure options for a Menu activity

1. Select the Menu activity.
2. In the Properties pane, after **Instructions**, click the **V** button and follow the steps under "Adding prompts to Play activities" on page 507.
   NOTE: Instructions play prompts and menu options to callers.
3. To enable reporting for this branch, select the **Reportable** check box.
4. To set the number of times callers can try to enter information, after **Attempts** type a number.
   NOTE: If this number is exceeded, IVR Routing sends the call to the Failure branch.
5. To set the digits callers will use to repeat menu instructions, after **Digits Repeat** click the **…** button, select a number and click **OK**.
6. To enable callers to skip instructions using a digit entry, select the **DTMF Barge In** check box.
7. To set the time taken to reset each digit after it is pressed, after **DTMF Multi Digit Delay**, type a number from one to five.
8. To set the number of seconds to wait if the user does not enter any digits, after **No Input Timeout**, type a number from 1 to 60.
   NOTE: If this time elapses, IVR Routing will send the call to the Timeout branch.
9. On the ribbon, click **Save**.

Configuring digit options

Digit options are the numbers callers select to navigate the IVR Routing menu.

To configure digit options

1. Right-click the Menu activity and select **Add digit option**.
   The Menu dialog box opens.
2. To add a digit option, at the top of the dialog box, click **Add** and type a value or range of values.
   NOTE:
   - Adding question marks to a digit option enables callers to enter customer-specific information, of a set length, into IVR Routing. For example, you may have a menu asking callers who are members to enter their 10-digit membership number. Adding a digit option of “??????????” will route all callers entering a 10-digit number to the appropriate queue.
   - Adding the letter “x” to a digit option enables callers to enter customer-specific information of an unspecified length. For example, you may have a menu asking callers to enter their telephone number, including extensions. Adding a digit option of “613x” will route all callers phoning from a 613 area code to the appropriate queue.
3. Click the **Add** icon.

4. To import digit options conditions in .csv format, click **Import** and navigate to the file name you want to import.
5. To export digit options in *.csv format, click **Export** and navigate to the file name you want to export.
   NOTE:
   - Digit options on a single line and separated by a comma will be added to a single branch.
   - Digit options on multiple lines and separated by a comma will be added to multiple branches.
6. To add more digit options, at the top of the Menu dialog box, click **Add**.
7. To enable reporting, select the **Enable reporting for this Branch** check box.
8. To test the digit options, under **Utilities**, enter a value or range of values.
   If the test is successful, “Pass” displays.
   If the test is unsuccessful, “Fail” displays.
9. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
10. To delete a digit option, select the value and click **Delete**.
11. To hide customer-entered information in service logs, select the **Mask the result from this Branch with ***** check box.
    NOTE:
    - To enable Mask branch result, ensure that the **Enable reporting for this Branch** check box is selected.
    - Mask branch result covers customer-entered DTMF digits with ‘********’ in service logs.
12. On the ribbon, click **Save**.

Configuring the Mode of Operation activity

The Mode of Operation activity branches call flows to a secondary type of operation when the contact center is temporarily out of service. It can also change IVR Routing back to the Normal mode. For example, you can use the Mode of Operation activity to route calls to an Emergency branch if the contact center is closed due to severe weather. You can add activities to the Mode of Operation activity’s branches to determine how IVR Routing directs callers through the call flow in the event of an Emergency or in the case of Normal operations. The Mode of Operation activity is available in Voice and Management call flows.

NOTE:
- For more information on setting IVR Routing to Emergency mode, see "Configuring the Set Device Mode of Operation activity" on page 521 and "Configuring the Set System Mode of Operation activity" on page 521.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring Mode of Operation activities for Emergency and Normal modes

Configure the Mode of Operation activity by specifying the actions a call flow will take in Emergency and Normal modes.

To configure a Mode of Operation activity for Emergency and Normal modes

1. In the Call flows Canvas, expand the Mode of Operation activity.
2. From the Toolbox pane, drag activities to the **Emergency** or **Normal** branch.
   NOTE: To configure the call flow to play an emergency message to callers routed to the Emergency branch, see "Configuring prompts" on page 459.
3. To enable reporting on the activity or a branch, select the activity or branch and select the **Reportable** check box.
4. On the ribbon, click **Save**.

Configuring the Play activity

The Play activity enables IVR Routing to play messages or read back the contents of variables to callers. The Play activity can play a prompt or a single wave file to customers. For example, you can use a Play activity to greet callers and inform them of their position in queue. You can add an existing system prompt to a Play activity, add a new prompt, add a prompt that you have recorded, add a variable to a prompt, and preview prompts in Play activities. For more information on configuring prompts in call flows, see "Configuring prompts" on page 459. The Play activity is available in Voice, RAD, Management, and Outbound call flows.

NOTE:

- The duration of a prompt is stored within the <<LastWavePlayedDuration>> system variable. This value will be overwritten any time a wave file is played in the call flow.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding prompts to Play activities

Prompts are the messages callers hear at specified points in the call flow.

To add a prompt to a Play activity

1. In the Call flows Canvas select the Play activity.
2. In the Properties pane, to enable callers to skip prompts using a digit entry, select the **Barge Enable** check box.
3. To add an existing prompt, after **Greeting Prompts**, click the **V** button and select **Existing prompt**. The Select a prompt dialog box opens.
4. Select a prompt and click **OK**.
5. To add a new prompt, after **Greeting Prompts**, click the **V** button and select **Add Prompt**. The Prompt dialog box opens.
6. After **Name**, type a name for the prompt.
   NOTE: Do not use apostrophes in the name.
7. After **Description**, type a description for the prompt.
8. After **Category**, select one of the following categories from the drop-down list:
   - Callback
   - Custom
   - Management
   - UPiQ
9. To create your own category, after **Category**, type a name for the new category.
   NOTE: Prompt categories are an organizational tool to help keep prompts sorted and easily accessible.
10. After **Language**, select the primary language from the drop-down list.
    NOTE:
    - The language you select will determine the system wave files available to you.
    - By default, the language is set to the default site language.
11. Select one of the following tabs:
    - **System Wave Files** – lists the system wave files callers hear while in the IVR or while waiting on hold. This pane will only show the wave files that are available in the language you have selected.
    - **Custom Wave Files** – lists imported and newly created wave files. To import or record a custom wave file, click **Add** and select **Existing wave file** to import the file or **Record wave file** to use the microphone on your computer to record the file.
      NOTE: Wave files must be 8khz, Mono, or ULAW format.
    - **Queue Stats** – lists up-to-date queue statistics for use in prompts.

- **Variables** – lists all variables available for use in prompts.
  NOTE: Read back on variables is based on the type of variable. Number variables read back the whole number, while digit variables read back individual numbers. For example, number variables would read 123 as “one hundred and twenty-three”, while digit variables would read 123 as “one, two, three”.
- **Prompts used in call flows and subroutines** – lists all prompts used in call flows and subroutines

12. In the **All system wave files**, **All custom wave files**, **All queue stats**, **All variables**, or **Prompts used in call flows and subroutines pane**, select the files to add to the prompt.
13. Click **>** to add the file to the prompt.
    The files is added to the prompt and is shown in the **Selected members** pane.
    NOTE: The wave files play in the order they are added to the prompt. To change the order in which the wave files will be played, select the wave file and click the up or down arrow buttons on the right-hand side of the dialog box.
14. Click **Save**.
    NOTE: If you are adding prompts in a new language, you must add audio files that correspond to the existing audio files in IVR Routing’s default language. Otherwise, the caller will not hear anything when the prompts are supposed to be playing.
15. To quick add a custom prompt, after **Greeting Prompts**, click the **V** button and select **Quick Add Prompt**.
16. Navigate to the wave file.
17. To add a variable to a prompt, after **Greeting Prompts**, click the **V** button and select **Add Variable to Prompt**.
    The Add Variable to Prompt dialog box opens.
18. Select the variable name and click **OK**.
19. To add a new variable to a prompt, in the Add Variable to Prompt pane, click the **Add** button.
    The Variables pane opens.
20. After **Name**, type the name of the variable.
21. After **Description**, type a description for the variable.
22. After **Variable Type**, select a type from the drop-down list.
23. To clear a prompt, after **Confirm Input**, click the **V** button and select **Clear Prompt**.
24. To enable agents to receive variable information on their toasters, select the **Send to Agent’s toaster** check box.
25. After **Display Name**, type the screen pop name that appears on the agent’s toaster.
26. Click **Save**.
27. On the ribbon, click **Save**.

Previewing prompts in Play activities

To preview a prompt in a Play activity

1. Right-click the Play activity and select **Play Prompt**.
   The Play recordings dialog box opens.
2. Click the **Play** button to listen to the prompt.
3. If you are satisfied with the prompt, close the Play recordings window.
4. If you are not satisfied with the prompt, close the Play recordings window, right-click the prompt and select **Clear prompt**.
5. To add a different prompt, follow the steps under "Adding prompts to Play activities" on page 507.

Configuring the Query activity

The Query activity enables IVR Routing to read and write information through a MS SQL connection, Excel sheet, LDAP provider, or through an ODBC connection. You can use the Query activity to retrieve information and store this information in custom variables for use within the call flow. For example, Query activities enable IVR Routing to retrieve a customer's call history from a database and provide this information to agents. Advanced query activities enable a single query to return multiple records of information, which can be stored in multiple variables. For example, you can use the Query activity to retrieve customer account balances for the past year. Callers can then have their account history read back to them from within the call flow. You can configure the data providers for Query activities, configure simple or advanced queries, and define simple or advanced write statements for Query activities. The Query activity is available in Voice, RAD, Outbound, and Management call flows.

NOTE:

- The query result is stored within the <<LastQueryResult>> system variable. Each subsequent Query action overwrites this variable.
- Advanced queries require users to have knowledge of SQL. Advanced queries support LDAP syntax and advanced queries for MS SQL Server and ODBC data providers support stored procedures.
- For more information on configuring data providers, see "Configuring data providers" on page 473.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Assigning data providers to Query activities

To assign a data provider to a Query activity

1. In the Call flows Canvas, select the Query activity.
2. In the Properties pane, after **Data Provider**, click the **…** button.
   The Select Connection window opens.
   NOTE: To configure data providers, see "Configuring data providers" on page 473.
3. Select the data provider for the query and click **OK**.
   NOTE: To create a data provider for the Query, including an Excel worksheet, SQL server, or LDAP provider, see "Configuring data providers" on page 473.

Configuring Query activities with simple queries

To configure a Query activity with a simple query

1. In the Properties pane, after **Select query**, click the **…** button.
   The Database Lookup dialog box appears.
2. Under **Query Type**, select **Simple Query**.
3. After **Database Table Name**, from the drop-down list, select the table you want to query.
   "Database table names" refer to the tables in the data source from which the Query activity will retrieve information.
4. After **Column Return Name**, from the drop-down list, select the column of data you want to query.
   "Column return names" refer to the columns in the selected table, from which the Query activity will retrieve information.
5. After **Variable Return Name**, from the drop-down list, select the variable to populate with the return value.
   "Variable return names" refer to the call variables that will be populated as a result of the query.

6. After **Column Where Name**, from the drop-down list, select the name of the column of data to compare against.
   "Column where names" refer to the columns in the data source against which the Query activity will compare information.
7. After **Variable Where Name**, from the drop-down list, select the variable to use for comparison.
   "Variable where names" refer to the call variables that the Query activity will compare against.
8. To enable the activity to convert digits into text values, select the **Dialpad Compare** checkbox.
   For example, if a caller is trying to reach an employee's telephone extension, dialpad compare enables the caller to enter the letters of the employee's name into their dialpad instead of entering an extension number.
9. To test your query, after **Test with a value equal to**, enter a value from the data provider that you know exists and click **Test Query**.
   The Raw SQL window will display the SQL statement based on your selections from the drop-down lists. If a record is found, the result displays. If no record is found, "Result not found" displays.
10. To clear all fields and return to the Canvas, click **Clear**.
11. If you are satisfied with the query, click **OK**.
12. To enable reporting, in the Properties pane, select the **Reportable** check box.

Configuring Query activities with advanced queries

Advanced queries allow users with knowledge of SQL to write SQL statements retrieving information from a database provider. Advanced queries also support LDAP syntax for LDAP data providers.You can use an advanced query to retrieve single or multiple records from a database provider.

To configure a Query activity with an advanced query

1. In the Properties pane, after **Select query**, click the **…** button.
   The Database Lookup dialog box opens.
2. Under **Query Type**, select **Advanced Query**.
3. Under **Query**, type the SQL statements to be run directly against the data provider and click **Execute**.
   The Execute window opens displaying a list of detected input and output parameters.
4. Under **Value**, type the numbers corresponding to the values contained in the data provider.
5. To enable the activity to convert digits into text values, select the **Use Dialpad Compare** check box.
6. Click **Run**.
7. To assign variables to store information returned by the SQL statements, click the **Variable Assignment** tab.
   Return Column will be populated with the column names in the data provider.
8. Under **Variable Name**, select the variables to store information returned by the SQL statements.
9. To assign values to the parameters filled by the SQL statements, click the **Parameter Assignment** tab.
   Parameter Name will be populated with the SQL parameters used to query the data provider.
10. After **Variable Name**, select a variable from the drop-down list to store the information retrieved by the SQL parameter.
11. To translate parameters from a dial-pad digit, select the **Dialpad** checkbox.
12. To view the values returned from the query, click the **Test Results** tab.
13. To clear the variables and their parameters, click **Clear**.
14. Click **OK**.
15. To enable reporting, in the Properties pane, select the **Reportable** check box.
16. On the ribbon, click **Save**.

Defining write statements

Write statements define a delete, insert, or update statement against a specified data provider. Write statements enable you to delete, insert, or update column values in a data provider from within the call flow. You can configure Query activities with simple or advanced write statements. Advanced write statements enable users with knowledge of SQL to write insert, update, or delete SQL statements.

NOTE: You cannot use a "delete" write statement against an Excel data provider.

To define a simple write statement

1. Select the Query activity.
2. In the Properties pane, after **Write statement**, click the **…** button.
   The Database Write dialog box opens.
3. To define a simple write statement, select **Simple Write**.
4. After **Write Type**, select one of the following write types from the drop-down list:
   - Delete
   - Insert
   - Update

   NOTE: Delete is not an option for Excel data providers.
5. After **Table Name**, from the drop-down list, select the table in the data provider against which the write statement will be defined.
6. Under **Column Name**, select a column in the data provider against which the write statement will be defined.
7. Under **Value**, from the drop-down list, select the data you want to be inserted into your Excel or SQL data provider.
   For example, if you have a Column Name of "phone number", you can select "Digits" from the drop-down list. This will insert phone number digits into your data provider.
8. Under **Where** from the drop-down list, select a column name.
   NOTE:
   - "Where" statements appear only if you have selected Delete or Update.
   - The column names that appear in the drop-down list derive from the Table Name you selected.
9. Select an one of the following operators from the drop-down list:
   - = Equal to
   - <> Not equal to
   - > Greater than
   - < Less than
   - > = Greater than or equal to
   - < = Less than or equal to
10. From the third drop-down list, select or type the variables used to evaluate the information selected from the first column.
11. To test the write statement, under **Utilities**, click the **Test Syntax** button.
    If the test is successful, "Syntax is valid" displays.
    If the test is unsuccessful, "Syntax is invalid" displays.
12. To empty column values, click **Clear**.
13. Click **OK**.
14. On the ribbon, click **Save**.

To define an advanced write statement

1. In the Properties pane, after **Write statement**, click the **…** button.
   The Database Write dialog box opens.
2. Under **Write Type**, click the **Advanced Write** button.
3. Under **Query**, type the insert, update, or delete SQL statements to be run against the data provider.
4. Click **Execute**.
   The **Parameter Name** column will be populated with the column names in the data provider.
5. Under **Variable Name**, from the drop-down list, select the variables used to evaluate the information you selected from the first column.
6. To test the write statement, under **Utilities**, click the **Test Syntax** button.
   If the test is successful, “Syntax is valid” displays.
   If the test is unsuccessful, “Syntax is invalid” displays.
7. To empty column values, click **Clear**.
8. Click **OK**.
9. On the ribbon, click **Save**.

Dynamic prompting with the Query activity

Dynamic prompting leverages the Query activity to create more flexible and specific prompting for your contact center. A dynamic prompt is created by building a query that retrieves a file path to an audio file based on information from either the call or collected earlier in the call flow. The file path is stored in a variable and a Play activity after the Query activity is configured to play the file path-carrying variable.

To configure dynamic prompts in a call flow, you must have:

- A data provider that contains .wav network file paths
  NOTE: It is recommended that the .wav file path be a network file path (UNC) in case the engine does not have direct access to the file directory.
- A Query activity configured to hold a .wav network file path in a variable
- A Play activity in a call flow configured to play the file path-holding variable

Dynamic prompting in a call flow can be configured using additional activities, such as Collect Digits, that may provide variables to Query against to help determine which .wav file to play, so long as the Query activity fills a variable with a .wav network file path as a result of the query.

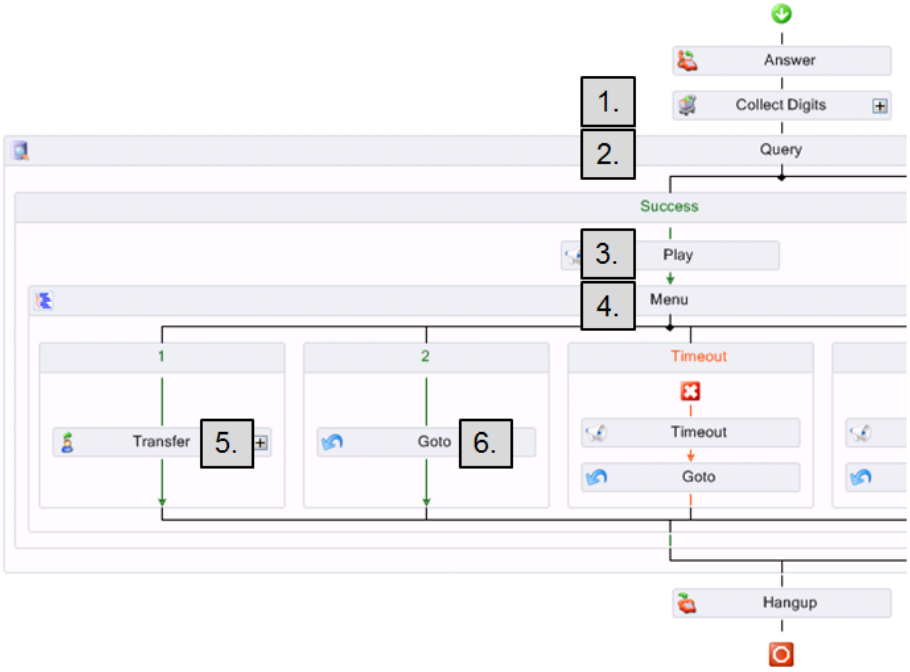
For specific examples of how to create and configure dynamic prompting, see the prairieFyre Knowledge Base.

Returning multiple results with queries

The Query activity supports returning multiple results from a query. When a Query activity returns multiple results from a query, the call is looped through the Success branch for each result unless it is interrupted by a caller-activated activity, such as Goto or Transfer. When there are no more results for the Success branch to loop, the call exits the Success branch of the Query activity and continues along the call flow.

Multiple result returning Query activities enable contact centers to build more complex call flow functions, such as providing callers access to an employee directory. In Figure 17 - 7, we see an example where the enclosed numbers indicate the consecutive steps of a multiple result-returning call flow for an employee directory.

Figure 17 - 7 Multiple result-returning query example call flow



In Figure 17 - 7, the employee directory call flow works as follows for returning multiple results:

1. The Collect digits activity collects the first three letters of an employee's name as entered by a caller. This is filled into a variable.
2. In the Query activity, a database with employee names, extensions, and a .wav file that plays the employee's name is queried with the variable. The query fills two more variables: one with the UNC file path to the .wav file playing the employee's name and the other with that employee's extension.
3. The UNC file path variable is used as a dynamic prompt with the Play activity in the Success branch of the Query, playing to the caller the name of the first returned result.
4. The menu's instruction prompt then asks the caller to dial 1 if that is the employee they are looking to call or dial 2 if they would like to hear the next result.
5. If the caller dials 1, they are taken to the Transfer activity, which uses the extension variable filled by the Query to transfer the caller to the desired extension.
6. If the caller dials 2, they proceed to the end of the Success branch, which then loops once more with the next result of the query.

Configuring the Queue activity

The Queue activity branches call flows to queue groups based on real-time queue conditions. For example, you can configure a Queue activity to check queue conditions and offer a callback plan to callers experiencing long wait times. The Queue activity can help to lessen abandoned calls and manage Service Level objectives by routing calls based on emerging queue conditions. You can add and edit branching conditions for queue activities and group queue conditions to determine how IVR Routing directs callers through the call flow. The Queue activity is available in Voice, RAD, and Outbound call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding and editing branching conditions for Queue activities

Adding branching conditions to the Queue activity determines the real-time conditions that send a call to an associated action in the call flow.

NOTE:

- The actions that IVR Routing takes when queue conditions are met are determined by activities you insert into the **Drop Activities Here** section of the Call flows Canvas for that Queue condition.
- The call flow evaluates Queue conditions from left to right. For information on how to change the order of Queue conditions, see "Changing the order of branches" on page 486.

To add and edit a branching condition for a Queue activity

1. In the Call flows Canvas, right-click the Queue activity and select **Add a queue condition**.
   The Queue Conditions dialog box opens.
2. After **Queue Condition Name**, type a name for the queue condition.
3. After **Select a queue or queue group**, click the **…** button.
   The Select a queue or queue group dialog box appears.
4. Select either the **Queue** or the **Queue Group** tab.
5. Select a queue or queue group to add to the condition and click **OK**.
6. To add a new queue, see "Configuring queues" on page 445.
   NOTE:
   - To configure a new queue for web callbacks, see "Enabling callbacks" on page 462.
   - To configure a new queue for UPiQ, see "Configuring UPiQ options" on page 448.
7. To add a new queue group, select the **Queue Group** pane and click **Add**.
   The Queue groups pane opens.
8. After **Name**, type a name for the queue group.
9. After **Reporting number**, type a reporting number for the queue group.
10. To make the queue group virtual, enable the **Virtual Queue** check box.
    NOTE: Use virtual queues for assigning the same pool of agents to answer the ACD calls for multiple queues across multiple telephone switches.
11. In the Available members pane, select a queue group and click the **>** button.
12. Click **Save**.
13. To add conditions that must be met before the Queue activity proceeds to an associated action in the call flow, at the top of the Queue Conditions dialog box, click **Add**.
14. In the first column, select one of the following real-time statistics from the drop-down list:
    - Agents Idle
    - Agents Available
    - Agent Unavailable
    - AvgTimeToAbandon
    - AvgTimeToAnswer
    - Call Load
    - Expected Wait Time
    - Last Queue Update Received
    - Longest Wait Time
    - Number of Calls Waiting
    - Path DND
    - Service Level

15. In the second column, select one of the following operators from the drop-down list:
    - ! = Not Equal to
    - < Less than
    - <= Equal to or less than
    - = Equal to
    - > Greater than
    - >= Equal to or greater than

    NOTE: Operators appearing in the drop-down list vary according to the variable selected.
16. In the third column, from the drop-down list select either the **Value**, **Queue Stats**, or the **Call variable** tab.
17. Under **Value**, type in a numeric value or enable the check box for the value.
18. Under **Queue Stats**, select a queue stat from the drop-down list.
19. Under **Call variable**, select a call variable from the drop-down list.
20. Click **OK**.
21. If you want to add another condition, at the top of the dialog box, click **Add**.
22. Repeat steps 13-20 for each additional condition to add to the Queue.
23. To import queue conditions, click the **Import** button and navigate to a *.csv file.
24. To export queue conditions, click the **Export** button and navigate to a *.csv file.

    NOTE:
    - Conditions on a single line and separated by a comma will be added to a single branch.
    - Conditions on multiple lines and separated by a comma will be added to multiple branches.
25. To test the conditions, under **Test Parameters**, enter a value in the relevant fields and click **Test**.
    If the test is successful, “Pass” displays beneath the Test button.
    If the test is not successful, “Fail” displays beneath the Test button.
26. To enable reporting for the branch, select the **Enable reporting for this Branch** check box.
27. To delete a queue condition, from the drop-down list to the left of the condition select **Delete**.
28. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create a new branch.
29. To edit queue conditions, on the Call flows Canvas right-click the branch and select **Edit queue condition**.
30. On the ribbon, click **Save**.

Grouping queue conditions in Queue activities

You can group conditions in Queue activities using the “Group AND” or “Group OR” buttons in the Queue Conditions dialog box. Grouping conditions by “Group AND” means that every queue condition specified must be met to route the call to the Success branch. Grouping conditions by “Group OR” means that one of the queue conditions specified needs to be met to route the call to the Success branch.

NOTE:
- The "Group AND" and "Group OR" buttons will be disabled unless you have at least two conditions to group.
- “Group AND” is the default grouping setting for the Queue activity.

To group queue conditions in a Queue activity

1. Right-click the Queue activity and select **Add a queue condition**.
2. Select the conditions to group and click the **Group AND** or **Group OR** buttons.
   NOTE: To group multiple rows, press **Ctrl** and click to the right of the third column for each row you want to group.
3. To add a condition to an existing group, from the drop-down list to the left of **And** or **Or**, select **Add**.

4. To ungroup a group of conditions, from the drop-down list to the left of **And** or **Or**, select **Ungroup**.
5. To remove one condition from a group, from the drop-down list to the left of the condition row, select **Ungroup**.
6. Click **OK** to create the branch, or click **Add** to add the current branch and create a new branch.
7. On the ribbon, click **Save**.

Configuring the Record activity

The Record activity enables authorized callers, such as managers or supervisors, to record a wave file over the phone as opposed to using a microphone in a computer. For example, a manager can call into IVR Routing from home and use the Record activity to record a wave file to populate a custom prompt for Play activities. The Record activity increases the flexibility with which you can create custom prompts for your call flow and respond to after-hours conditions affecting the call center's operations. You can configure Record activities with prompts to determine the message an authorized caller hears when they dial the IVR Routing system, and set the number of seconds they have to record a message. You can also preview the prompt that will play to authorized individuals. The Record activity is available in Voice and Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring Record activities with prompts

To configure a Record activity with a prompt

1. In the Call flows Canvas, select the Record activity.
2. In the Properties pane, after **Timeout (sec)**, type a number from 1 to 60 to set the number of seconds before the activity closes.
3. To configure a prompt with recording instructions, after **Instructions**, click the **V** button and follow the steps under "Adding prompts to Play activities" on page 507.
   NOTE: "Instructions" plays recording instructions to authorized callers.
4. To remove a date and time stamp from the wave file name, deselect the **Append date time stamp** check box.
5. After Output name, type the file name for the wave file.
   NOTE: The output name must be a valid file name but may contain call variables enclosed between double angle brackets. For example: <<ANI>>. The text between the angle brackets will be replaced with the value of the variable currently executing in the call flow.
6. After **Recording Timeout**, type the number of seconds that an authorized caller has to record a message.
7. On the ribbon, click **Save**.

Previewing prompts in Record activities

See "Previewing prompts in Play activities" on page 508.

Configuring the Redirect activity

The Redirect activity branches call flows based off a redirect value received in a call record and the number of the device from which the call was redirected. The Redirect activity provides an additional means of branching call flows so that calls can reach the appropriate queue. You can add branching conditions to Redirect activities to determine how IVR Routing directs callers through the call flow. The Redirect activity is available in Voice and Management call flows.

NOTE:

- Redirects are achieved using the telephone system's HCIRedirect or Name Tag hunt groups.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding branching conditions to Redirect activities

To add a branching condition to a Redirect activity

1. In the Call flows Canvas, right-click the Redirect activity and select **Add a redirection condition**. The Redirect dialog box opens.
2. To add a Redirect value, at the top of the dialog box, click **Add** and type the value or range of values for the Redirect condition.
3. Click the **Add** icon.
4. To import Redirect conditions in .csv format, click **Import** and navigate to the file name.
5. To export Redirect conditions, click **Export** and navigate to the file name.
   NOTE:
   - Conditions on a single line and separated by a comma will be added to a single branch.
   - Conditions on multiple lines and separated by a comma will be added to multiple branches.
6. To add more Redirect conditions, at the top of the dialog box, click **Add**.
7. To enable reporting for the branch, select the **Enable reporting for this Branch** check box.
8. To test the Redirect conditions, under **Utilities**, enter a value or range of values.
   If the test is successful, "Pass" displays.
   If the test is unsuccessful, "Fail" displays.
9. Click **OK** to create the branch, or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
10. On the ribbon, click **Save**.

Configuring the Rules activity

The Rules activity enables call flows to be branched according to multiple conditions, or routing rules, nested within a single activity. When an incoming call enters a call flow and encounters a Rules activity, the call is evaluated against the activity's preconfigured routing rules. Calls will be directed through the call flow based on whether the call meets the activity's routing rules. If a call meets the activity's routing rules, it is routed to the Success branch and the activity will populate variables for the call based on pre-configured options in the rule. These variable values will determine the queue to which the call is directed. For example, you can assign a rule to a Rules activity that specifies the hours of operation and the ANI condition for a French-language queue. If a call enters IVR Routing and matches the ANI of a French-speaking region during the French queue's hours of operation, that call will have an ANI variable populated with the French area code and will be routed to the appropriate branch. You can assign and edit rules for Rules activities to determine how IVR Routing directs callers through the call flow. The Rules activity is available in Voice, RAD, Management, and Outbound call flows.

NOTE:

- Before creating a Success branch, configure a rule that will contain the conditions for a successful match. For information on rules and configuring rules, see "Configuring rules" on page 469.
- If the call is evaluated against multiple routing rules, first routing rule to be matched will set the variable values.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding and editing rules for Rules activities

To assign a rule to a Rules activity:

1. In the Call flows Canvas, right-click the Rules activity and select **Configure Rules**.
   The Rules dialog box opens.
2. From the **Available members pane**, select the rule to assign to the Rule activity and click the > button.
3. Click **OK**.
   NOTE:
   - Rules are evaluated in the order they appear in the selected list. IVR Routing will evaluate all rules in order to find a match. It will not stop at the first match.
   - You can only configure one Success branch per Rules activity.
4. To edit a rule assigned to a Rules activity, right-click the activity and select **Configure Rules**.
5. Change the rule assigned to the branch.
6. To enable reporting for this branch, in the Properties pane, select the **Reportable** check box.
7. Click **OK**.
8. On the ribbon, click **Save**.

Configuring the Schedule activity

The Schedule activity branches call flows based on date and time conditions, enabling a call flow to respond to a contact center's business hours and holiday closures. For example, you can use the Schedule activity to route customers calling after hours to an after-hours voicemail and menu. The Schedule activity reduces call flow clutter by providing "Open" and "Closed" branching conditions within a single call flow. You can add time, day of the week, holiday, and other date conditions to Schedule activities to determine how IVR Routing directs callers through the call flow. The Schedule activity is available in Voice, RAD, Outbound, and Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Adding and modifying time and day of the week conditions for Schedule activities

Adding time and day of week conditions to a Schedule activity specifies when calls are routed to queues based on a call center's business hours.

To add or modify a time and day of the week condition for a Schedule activity

1. In the Call flows Canvas, right-click the Schedule activity and select **Add a schedule condition**. The Schedule Dialog box opens.
2. After **Name**, type the name of the schedule condition.
3. At the top of the dialog box, click **Add** and select **Time** from the first drop-down list.
4. Using the second drop-down list, type your contact center's **Start time** (hh/mm/ss) and **End Time** (hh/mm/ss) and click **OK**.
5. To add more time conditions follow steps 3-4.
6. To add a day of the week condition, at the top of the dialog box, click **Add** and select **DOW** from the first drop-down list.
7. Under **<Value>**, specify the days of the week your contact center is open by selecting the checkboxes for those days, and click **OK**.
8. To add more Day of the Week conditions follow steps 6-7.
9. To import schedule conditions, click the **Import** button and navigate to a *.csv file.
10. To export schedule conditions, click the **Export** button and navigate to a *.csv file.
    NOTE:
    - Conditions on a single line and separated by a comma will be added to a single branch.
    - Conditions on multiple lines and separated by a comma will be added to multiple branches.
11. To test the conditions, under **Utilities**, enter time and date information and click **Test**.
    If the test is successful, Pass will appear beside the Test button.
    If the test is not successful, Fail will appear beside the Test button.
12. To enable reporting, select the **Enable reporting for this Branch** check box.
13. To delete a queue condition, from the drop-down list to the left of the condition, select **Delete**.
14. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
15. To edit schedule conditions, on the Call flows Canvas, right-click the branch and select **Edit schedule condition**.
16. On the ribbon, click **Save**.

Adding and modifying date or holiday conditions for Schedule activities

Adding date and holiday conditions to a Schedule activity specifies when calls are routed to a branch designed to handle calls then the contact center is closed. Use date conditions to specify exceptional days your contact center is closed. Add holiday conditions to specify Holiday closures.

To add and modify a date or holiday condition for a Schedule activity

1. Right-click the Schedule activity and select **Add a schedule condition**.
   The Schedule Condition Designer opens.
2. After **Name**, type the name of the schedule condition.
3. At the top of the dialog box, click **Add** and select **Date** from the first drop-down list.
4. Using the second drop-down list, specify the date the contact center is closed and click **OK**.
   If your contact center is regularly closed on this date, enable the **Reoccur every year** checkbox.
5. To add more dates the contact center is closed, follow steps 3-4.
6. To add a holiday condition, click the **Add** button and select **Holiday** from the first drop-down list.
7. After **<Select a holiday>**, select the check box beside the holiday and click **OK**.
8. To add more holidays follow steps 6-7.
9. To import schedule conditions, click the **Import** button and navigate to a *.csv file.
10. To export schedule conditions, click the **Export** button and navigate to a *.csv file.
    NOTE:
    - Conditions on a single line and separated by a comma will be added to a single branch.
    - Conditions on multiple lines and separated by a comma will be added to multiple branches.
11. To test the conditions, under **Utilities**, enter the dates and click **Test**.
    If the test is successful, Pass will appear beside the Test button.
    If the test is not successful, Fail will appear beside the Test button.
12. To enable reporting, select the **Enable reporting for this Branch** check box.
13. To delete a queue condition, from the drop-down list to the left of the condition select **Delete**.
14. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
15. To edit schedule conditions, on the Call flows Canvas, right-click the branch and select **Edit Schedule**.
16. On the ribbon, click **Save**.

Grouping schedule conditions in Schedule activities

You can group conditions in Schedule activities using the “Group AND” or “Group OR” buttons in the Schedule Condition Designer. Grouping conditions by “Group AND” means that every queue condition specified must be met to route the call to the Success branch. Grouping conditions by “Group OR” means that only one of the queue conditions specified must be met to route the call to the Success branch.

NOTE:

- The “Group AND” and “Group OR” buttons will be disabled unless you have at least two conditions to group.
- “Group AND” is the default grouping for the Schedule activity.

To group conditions in a Schedule activity

1. Right-click the Schedule activity and select **Add a schedule condition**.
2. Select the conditions to group and click the **Group AND** or **Group OR** buttons.
   NOTE: To group multiple rows, press **Ctrl** and click to the right of the second column for each row.
3. To add a condition to an existing group, from the drop-down list to the left of **And** or **Or**, select **Add**.
4. To ungroup a group of conditions, from the drop-down list to the left of **And** or **Or**, select **Ungroup**.

5. To remove one condition from a group, from the drop-down list to the left of the condition row, select **Ungroup**.
6. Click **OK** to create the branch or click **Add** to add the current branch to the call flow while leaving the dialog box open to create new branches.
7. On the ribbon, click **Save**.

Configuring the Set Device Mode of Operation activity

The Set Device Mode of Operation activity changes the mode of operation for a specific device from Normal to Emergency or vice-versa. These devices include

- Hunt Groups
- Extensions

For example, if only one of the IVR Routing's extensions is experiencing emergency conditions, you can use the Set Device Mode of Operation to put that port into Emergency mode without affecting the entire system's operations. The Set Device Mode of Operations activity is available in Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring properties for Set Device Mode of Operation activities

To configure the properties for a Set Device Mode of Operation activity

1. In the Call flows Canvas, select the Set Device Mode of Operation activity.
2. In the Properties pane, after **Device Type**, select a device type from the drop-down list.
   NOTE:
   - Device type refers to the type of device checked when searching a dialable number.
   - Dialable number refers to the digit or series of digits a caller dials to reach an agent at an extension.
3. To set the call variable containing the device dialable number, after **Input Variable**, click the **…** button. The Select a variable dialog box opens.
4. Select an input variable and click **OK**.
5. After **Mode of operation**, select either **Normal** or **Emergency** from the drop-down list.
6. To enable reporting on the activity or a branch, select the activity or branch and select the **Reportable** check box.
7. On the ribbon, click **Save**.

Configuring the Set System Mode of Operation activity

The Set System Mode of Operation activity changes the mode of operation for IVR Routing from Normal to Emergency and vice-versa. For example, if the contact center is closed due to weather you can use the Set System Mode of Operation Activity to change IVR Routing to Emergency mode and route all call flows in accordance with an emergency plan. The Set System Mode of Operation activity is available in Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring properties for Set System Mode of Operation activities

To configure properties for a Set System Mode of Operation activity

1. In the Call flows Canvas, select the Set System Mode of Operation activity.
2. In the Properties pane, after **Mode of Operation**, select either **Normal** or **Emergency** from the drop-down list.
3. To enable reporting on the activity or a branch, select the activity or branch and select the **Reportable** check box.
4. On the ribbon, click **Save**.

Configuring the Set Variables activity

The Set Variables activity enables IVR Routing to take values generated within a call flow or static, predefined values and use them to populate variables for use later in the same call flow. For example, you can use the Set Variables activity to populate a variable with a caller's choice of service language. IVR Routing can use this information later in the call flow to direct callers to a queue with service in the appropriate language. You can determine the variables to be populated in Set Variables activities. The Set Variables activity is available in Voice, RAD, Outbound, and Management call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Populating variables in Set Variables activities

To populate a variable in a Set Variables activity

1. In the Call flows Canvas, right-click the Set Variables activity and select **Set Variables**.
   The Set Variables dialog box opens.
2. After **Name**, type a name for the activity.
3. Click **Add** to add a new variable to be populated.
4. In the first column, select a variable from the drop-down list and click **OK**.
5. In the second column, type a value or select a value from one of the tabs in the drop-down list.
   NOTE: Tabs appearing in the second column vary based on the variable you select in the first column.
6. Click **OK**.
7. To add a new variable row, at the top of the dialog box, click **Add**.
8. To delete a row, from the drop-down list to the left of the variable row, select **Delete**.
9. Click **OK**.
10. On the ribbon, click **Save**.

Configuring the Subroutine activity

The Subroutine activity represents a set of call flow steps that IVR Routing presents to a caller. You can use the Subroutine activity to reuse portions of call flows across multiple call flows. For example, if a call flow has multiple DNIS activities, you can use a Subroutine activity to present the same menu through each DNIS activity. Making changes to the Subroutine activity will change all DNIS conditions, enabling you to present the same menu through different conditions using a single point of administration. You can assign IVR Routing's default management subroutine to the activity, or build a subroutine to assign to the activity. The Subroutine activity is available in Voice, Management, and Outbound call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Assigning subroutines to Subroutine activities

IVR Routing provides a default management subroutine. To build other subroutines see "Building subroutines" on page 458.

To assign a subroutine to a Subroutine activity

1. In the Call flows Canvas, select the Management activity.
2. In the Properties pane, after **Subroutine**, click the **…** button.
   The Select a subroutine or variable window opens.
3. To assign a subroutine, click the **Subroutines** tab and select a subroutine to assign to the activity.
4. To assign a call variable, click the **Variables** tab and select a call variable to assign to the activity.
5. To create a new call variable, under the **Call variable** tab, click the **Add** button and follow the corresponding steps in "Adding new devices to Make Call destinations" on page 503.
6. Click **OK**.
7. In the Properties pane, from the drop-down list after **Activity**, select the activity to which the Goto returns callers.
   NOTE: You can only select a Goto activity if the Subroutine activity is nested within another activity. For more information, see "Configuring the Goto activity" on page 499.
8. Select the **Reset Repeat Count** check box to give callers an unlimited number of attempts to enter information.
9. On the ribbon, click **Save**.

Configuring the Swap Prompt activity

The Swap Prompt activity enables you to swap the contents of one prompt with the contents of another prompt in IVR Routing. For example, if an emergency greeting informs customers that the contact center is closed due to bad weather, in the event of an earthquake you can use Swap Prompt to change the contents of the emergency greeting. The Swap Prompt activity enables you to provide specialized prompts within a single call flow without inserting additional activities. You can set the prompts to be exchanged in Swap Prompt activities from existing prompts in IVR Routing or from prompts that you create. The Swap Prompt activity is available in Management call flows.

NOTE:

- If you have switched the contents of one prompt with another, you may eventually need to switch the contents of prompts back again.
- For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Setting prompts to be exchanged in Swap Prompt activities

To set the prompts to be exchanged in a Swap Prompt activity

1. In the Call flows Canvas, select the Swap Prompt activity.
2. In the Properties pane, after **Source Prompt**, click the **…** button.
   The Select a prompt dialog box opens.
   NOTE: The source prompt is the prompt that will be used to replace the target prompt.
3. Select a prompt and click **OK**.
4. After **Target prompt**, click the **…** button.
   NOTE: The target prompt is the prompt that will be swapped with the source prompt.
5. Select a prompt and click **OK**.
6. To add a source or target prompt, click the **Add** button and follow the steps under "Adding prompts to Play activities" on page 507.
7. On the ribbon, click **Save**.

Configuring the Transfer activity

The Transfer activity transfers a caller to a specified endpoint, enabling you to send callers to a queue, queue group, call variable, or other specified destination. For example, you can use a Transfer activity to route calls across queues. You can configure the options for how and where a call is transferred, and add new devices to Transfer activities. Transfer activity is available in Voice and Outbound call flows.

NOTE: For general information on working with activities including adding, deleting, and editing activities, see "Configuring common activity options" on page 485.

Configuring options and adding devices to Transfer activities

To configure options and add devices to a Transfer activity

1. In the Call flows Canvas, select the Transfer activity
2. To instruct the activity to hold calls transferred to busy lines, in the Properties Pane, select the **Camp On Busy** check box.
3. After **Destination**, click the **…** button.
4. The Select a device dialog box appears.
5. Select a destination from one of the following tabs and click **OK**.
    - Extension
    - Queue
    - Queue Group
    - Call Variable
6. To add a new device, click **Add**.
7. To add an extension, follow the corresponding steps in "Adding extensions" on page 440.
8. To add a new queue, follow the corresponding steps in "Configuring queues" on page 445.
   NOTE:
    - To configure a new queue for web callbacks, see "Enabling callbacks" on page 462.
    - To configure a new queue for UPiQ, see"Configuring UPiQ options" on page 448.
9. To add a new queue group, follow the corresponding steps in "Adding and editing branching conditions for Queue activities" on page 514.
10. To add a call variable, follow the corresponding steps in "Adding new devices to Make Call destinations" on page 503.
11. To append outbound calls with a prefix digit, select the **External Transfer** check box.
    The prefix digits appended to external transfers are defined on the media server.
12. After **Transfer Type**, select **Blind** or **Supervised** from the drop-down list.
    NOTE: Blind transfers immediately transfer calls, freeing the port for a new call. Supervised transfers mean the call is kept on hold while being transferred. Callers cannot hear the phone ringing during the transfer unless the transfer time exceeds the timeout.
13. To set the duration that a call is put on hold during a transfer, after **Timeout (sec)**, type the number of seconds allotted for the transfer.
14. To enable reporting, select the **Reportable** check box.
15. On the ribbon, click **Save**.

IVR Routing call flow samples

Version 6.0.2 includes a variety of sample call flows. These call flow samples are based on common business scenarios. They not only demonstrate how IVR Routing can be used to efficiently direct calls to appropriate queues but, because they can be imported directly into your IVR Routing application, they save you the time of creating your own introductory call flows.

The sample call flows create a basis upon which you add elements to fully customize your IVR Routing solution. For example, if you want to be able to access a database of customer phone numbers, you will need to create the database and make it available to your call flow. Each sample call flow description below includes recommendations for call flow configuration optimization.

Generic prompt messages are included for applicable call flow samples.

Version 6.0.2 gives you access to the following five sample call flows:

- Schedule with Mode of Operation and Menu
- ANI and DNIS condition with unique menus and a callback option
- Schedule condition followed by DNIS and Language with menus
- Management Plan call flow
- Outbound call flow with Excel

Each sample call flow contains Menu activities. The Menu activity prompts callers with messages and manages routing based on caller input. Besides the options you configure and add in the Menu, there are three default branches included in all Menu activities: Timeout, Invalid, and Failure. These branches cannot be deleted and function as follows:

- **Timeout:** Calls are routed to this option if the caller does not respond to a request within the time limit allowed, as configured for the Main Menu in the Properties pane, under Options. A default timeout message plays and the caller is returned to the Main Menu. You configure the number of times the call is returned to the Main Menu, after failing to respond to a request within the set time limit. If the caller exceeds the number of attempts, the call proceeds to the Failure branch.
- **Invalid:** This branch works similarly to the Timeout branch except that it channels callers that have entered invalid response digits. There is a default Invalid number message that plays.
- **Failure:** Calls are routed to this branch if the maximum Timeout or Invalid attempts are reached. Calls that enter the Failure branch are, in most samples, transferred to the Operator. If the Operator is unavailable, the call proceeds to the Hang up activity. If you want a message to play in this branch, you must configure and add one.

NOTE: After importing the sample call flows and assigning them to ports they will be “live” in your system. Any modifications to the call flows will affect your IVR Routing system. For example, if you put a port into Emergency Mode using the Sample Management Plan call flow that port will indeed go into Emergency Mode.

Importing IVR Routing sample call flows

In order to have access to the sample call flows you must import them from the folder in which they are stored when you download our software.

To import IVR Routing sample call flows

1. In YourSite Explorer, click **Visual Workflow Manager=>Call flows**.
   The Call flows pane opens.
2. Click the **Import** button.
   The Select a .xoml file window opens.
3. Navigate to the .xoml file you want to import and click **Open**.
   NOTE: The sample call flows are located in C:\Program Files\prairieFyre Software Inc\CCM\Ivr\Sample Callflows.
4. On the ribbon, click **Save**.

NOTE:

- After importing a call flow, you must configure your own prompts and connect the call flow to devices that are specific to your system. If the prompts you configure or the connections you make to devices are invalid, a red exclamation mark icon displays on the Call Flows Canvas indicating a validation error. Selecting the relevant activity and clicking the exclamation mark icon indicates the specific errors you must correct.
- You must associate a completed call flow to extensions or hunt groups in order to make them go "live" in your system. For more information see "Associating call flows to extensions or hunt groups" on page 454.
- When you initially load the sample call flows, you will see red exclamation mark icons indicating where you must correct validation errors. Each sample call flow description explains what you must configure in order to correct the validation error and save the call flow.

Associating sample call flows to extensions or hunt groups

After you import a sample IVR Routing call flow, you must associate it to extensions or hunt groups in order to make the call flow go "live" in your system. For more information, see "Associating call flows to extensions or hunt groups" on page 454.

Sample Schedule with Mode of Operation and Menu

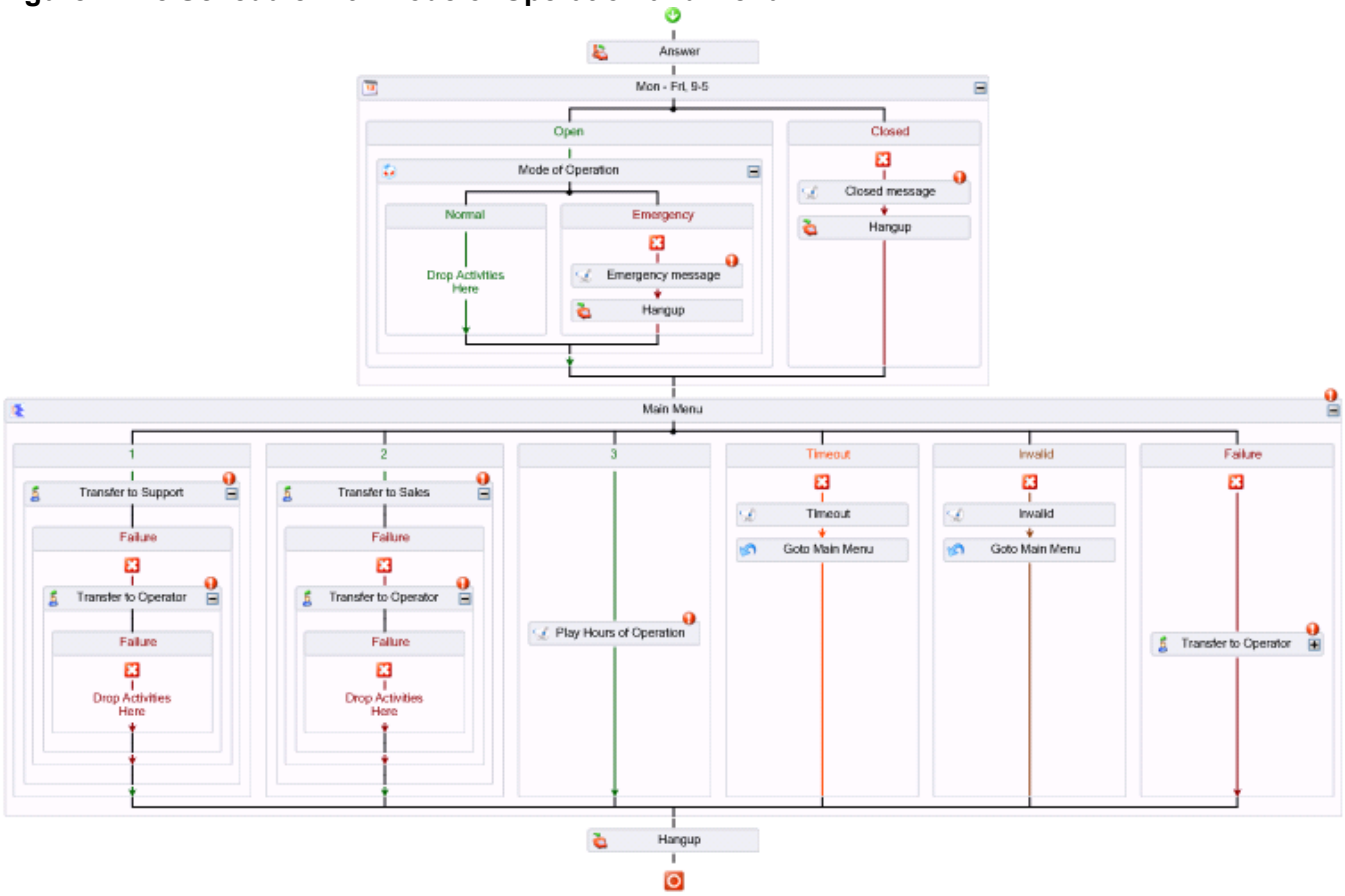
This call flow instructs IVR Routing to direct calls that arrive during business hours, in normal conditions, to the appropriate queues based on the caller's selection of menu options. Calls arriving during business hours when the contact center is closed due to emergency conditions are routed to an Emergency branch where they hear an emergency message explaining why the contact center is closed. Calls arriving outside business hours are routed to a Closed branch where they hear a prompt informing them that the contact center is closed.

This call flow:

- Makes customers aware of business hours and channels their calls as applicable
- Enables calls to be routed during emergency closures, for example, in extreme weather conditions
- Routes callers to the appropriate queues, based on customer digit selection

Figure 17 - 8 displays this call flow as it appears when first imported.

Figure 17 - 8 Schedule with Mode of Operation and Menu



Description

The first step in this call flow is an Answer activity. The Answer activity tells the port to answer the call. Until this condition is met, the caller hears ringing.

Next in the call flow sequence is the Schedule condition (Mon-Fri, 9-5). There are two branches, Open and Closed, each containing activities, within the Schedule. A check is done to confirm that the date and time of the call falls within business hours (set as Monday – Friday, 9 AM – 5 PM).

If the call arrives outside of business hours, then the call is routed to the Closed branch, a Closed Message plays, and the call proceeds to the Hang up activity. The Hang up activity ends the call flow and disconnects the call. If you do not have a Hang up activity, the call will continue through the call flow until it reaches the end of all possible actions, at which point it will wait in silence until the port resets.

If the call arrives within business hours, then the call is routed to the Open branch and the Mode of Operation activity is confirmed. The system checks if the ports or hunt groups assigned to the call flow are in Normal mode or Emergency mode. If they are found to be in Emergency mode, the Emergency Message plays and the call is directed to the Hang up activity. If they are found to be in Normal mode, the call proceeds to the Main Menu activity.

The Main Menu activity prompts callers with messages and manages routing based on caller input. In this example, the Main Menu activity has been configured with three options and customers are prompted to press whichever option suits their needs. IVR Routing then directs the caller to the appropriate queue based on the number they pressed.

The three numbered options in the Main Menu activity were added manually to this sample call flow and complete the following actions:

- **Option 1:** Transfers the caller directly to the Support Queue
- **Option 2:** Transfers the caller directly to the Sales Queue
- **Option 3:** Plays the Hours of Operation Message

Options 1 and 2 have a Failure branch. If the transfer destination is unavailable, the caller is routed to the Operator. We recommend you set up the Failure branch to redirect calls to a dependable, available endpoint.

The last step in this call flow is the Hang up activity. We recommend you end call flows with a Hang up activity to prevent errant calls from resting at the end of the call flow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your call flow sample up and running, you must:

- Associate the call flow to a port (extension) or a hunt group. See "Associating call flows to extensions or hunt groups" on page 454.
- Configure Properties for Transfer Activities. In this sample, the Operator and the Sales and Support queue destination information needs to be added. To do this, simply right-click the Transfer activity in the call flow and specify the Destination in the Properties pane.
- Create prompts (messages) as needed. For example, in this call flow, generic prompts are included for the Greeting Message, Closed Message, Emergency Message, and Hours of Operation Message. If you want to customize these messages, you will need to create your own and add them to the call flow.

Sample ANI and DNIS condition with unique Menus and a callback option

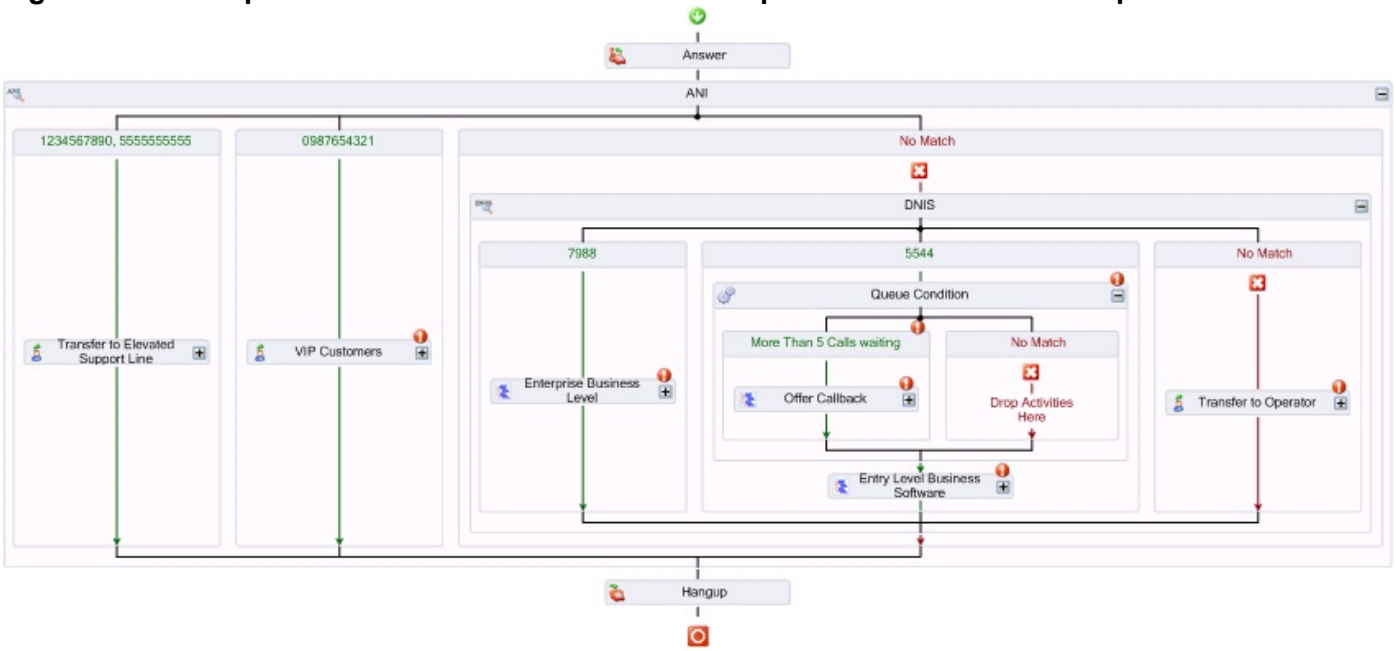
This call flow instructs IVR Routing to direct calls to appropriate queues based on the caller's telephone number (ANI), the number the caller dialed to reach the contact center (DNIS), and caller-entered responses to menu options. The menu options are unique to each branch, meaning that callers are presented with different menu options based on where their call originated or the number they dialed to reach the contact center. In addition, the customer is offered the option of requesting a callback rather than waiting in queue for an agent. In this example, callers are routed based on their customer status (derived from their ANI) or based on the number they called to reach your contact center, either the Enterprise Business Level or Entry Level Business Software contact number.

This call flow:

- Shows you how to channel callers to queues based on the area from which they are calling. This type of call routing could be beneficial if, for example, you have a sales promotion that is targeted toward particular geographical markets, callers from those areas would be directed to a queue with promotional RADs and agents who have been trained to sell products specifically related to the current promotion. Another useful application for this call flow could be for companies who offer services that are specific to a certain area. For example, a flooring installation company with offices in cities across the country could direct callers based on the city from which they are calling to agents who book in-home flooring consultations.
- Demonstrates how you can set up your IVR Routing system using ANIs to help route customers with specific needs to the agents most suited to assist them. In this sample, a VIP customer calls in and is recognized as such by their ANI, which you have added to the ANI list. They are automatically transferred to an experienced agent with advanced customer relation skills.
- Allows you to send callers to queues based on the number they dialed to access your contact center. This enables callers to be more accurately routed to the services in which they are most interested. In this sample, callers are channeled to either the Enterprise Business Level or Entry Level Business Software queue based on the number they called to reach you.
- Gives callers the option of leaving a message and receiving a callback rather than waiting in queue. Customer satisfaction is improved when callers are offered this enhanced level of control. In addition, the call center operates more smoothly as some calls are diverted during busier periods to be handled during less busy hours.

Figure 17 - 9 displays this call flow as it appears when first imported.

Figure 17 - 9 Sample ANI and DNIS Condition with unique Menus and Callback option



Description

The first step in this call flow is an Answer activity. The Answer activity tells the port to answer the call. Until this condition is met, the caller hears ringing.

Following the Answer activity, is an ANI condition that checks the caller's phone number. We recommend placing the ANI condition near the beginning of the call flow as you can use this activity to initially filter calls based on whatever parameters work best for you, for example, you could filter based on VIP status or, conversely, based on a list of customers with a heightened need for immediate support, such as those with a recent history of dissatisfaction with your product. By filtering these calls based on ANI, you can configure the subsequent call flow sequence to channel these calls to queues that are best suited to their needs.

Within the ANI condition, there are three branches that evaluate the ANI and branch the call based on the results. In this example, the caller is branched, based on ANI, either to the Elevated Support Line branch, VIP Customers branch, or a No Match branch. The Elevated Support Line branch (in this example, used for customers that are in need of immediate, skilled support, as they are currently experiencing difficulties with your product) and the VIP Customers branch each contain a Failure branch which routes the caller to the Operator if the transfer destination is unavailable. We recommend you set up the Failure branch to redirect calls to a dependable, available endpoint.

If the ANI is unrecognized (No Match), the system moves on to check the DNIS (the number the customer called to reach the contact center).

Within the DNIS condition, there are three branches that evaluate the DNIS and branch the call based on the results. In this example, the caller is branched, based on DNIS, either to the Enterprise Business Level Menu, the Entry Level Business Software Menu, or a No Match branch.

The Enterprise Business Level Menu prompts callers with messages and manages routing based on caller input. In this example, it has been configured with two options and customers are prompted to press whichever option suits their needs. IVR Routing then directs the caller to the appropriate queue based on the number they pressed.

The two numbered options in the Enterprise Business Level Menu activity were added manually to this sample call flow and complete the following actions:

- **Option 1:** Transfers the caller directly to the Support Queue
- **Option 2:** Transfers the caller directly to the Sales Queue

Options 1 and 2 have a Failure branch. If the transfer destination is unavailable, the call goes to the Hang up activity.

The Entry Level Business Software Menu activity prompts callers with messages and manages routing based on caller input. In this example, it has been configured with two options and customers are prompted to press whichever option suits their needs. IVR Routing then directs the caller to the appropriate queue based on the number they pressed.

A Queue Condition has been added to this branch to enable the callback request option. In this case, the Queue Condition checks if more than five calls are waiting in queue and if this is the case, the caller is offered the option of requesting a callback rather than waiting in queue. You can alter this Queue Condition as needed. In the Offer Callback Menu, you configure a message that informs the customer about current call volume and wait times, based on the queue condition you set. There is a Default Voice Callback Plan included with this sample call flow. You can either use the default or create your own callback plan. For more information about callback plans, see "Adding callback plans" on page 456.

If the customer declines the request for a callback, the call flow progresses to the Entry Level Business Software Menu.

The two numbered options in the Entry Level Business Software Menu were added manually to this sample call flow and complete the following actions:

- **Option 1:** Transfers the caller directly to the Support Queue
- **Option 2:** Transfers the caller directly to the Sales Queue

Options 1 and 2 have a Failure branch. If the transfer destination is unavailable, the call goes to the Hang up activity.

If the DNIS is unrecognized, the caller is routed down the No Match branch and, subsequently, the Operator.

The last step in this call flow is the Hang up activity. We recommend you end call flows with a Hang up activity to prevent errant calls from resting at the end of the call flow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your call flow sample up and running, you must:

- Associate the call flow to a port (extension) or a hunt group. See "Associating call flows to extensions or hunt groups" on page 454.
- Configure properties for all Transfer activities. For example, the Operator and the Sales and Support queue destination information needs to be added. To do this, simply right-click the Transfer activity in the call flow and specify the Destination in the Properties pane.
- In addition, for the Default Voice Callback Plan, you must designate ports that you want to use for callbacks as callback ports (extension type: port 5020 IP).
- Create prompts (messages) as needed. Generic prompts are included in this call flow but if you want to customize these messages, you will need to create your own and add them to the call flow.

Sample Schedule condition followed by DNIS and Language with Menus

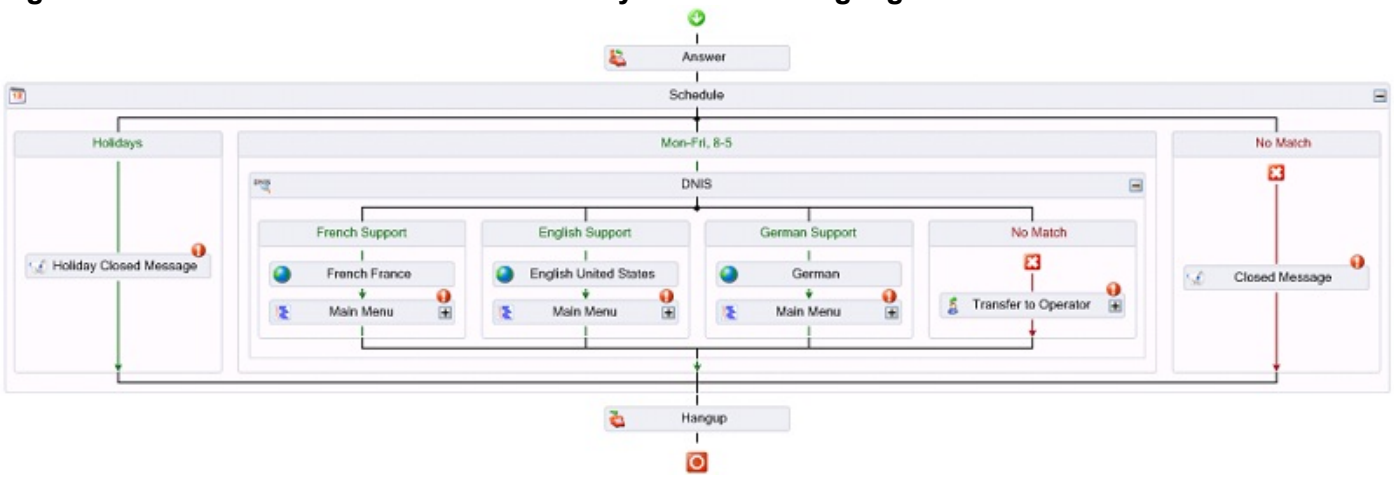
This call flow instructs IVR Routing to direct calls that arrive on standard work days, during business hours, to language-specific queues based on the number the caller dialed. Callers are routed to a single menu, which presents prompts in the appropriate language.

This call flow enables you to:

- Configure schedule conditions to route calls based on predefined holidays
- Offer services in more than one language based on the number dialed to reach your contact center
- Use the same Prompt but make it available to all configured languages

Figure 17 - 10 displays this call flow as it appears when first imported.

Figure 17 - 10 Schedule condition followed by DNIS and Language with Menus



Description

The first step in this call flow is an Answer activity. The Answer activity tells the port to answer the call. Until this condition is met, the caller hears ringing.

Next in the call flow sequence is the Schedule condition. There are three branches, Holidays, Mon-Fri, 8-5, and No Match. Placing the Holiday branch on the far-left of the call flow ensures that this branch is checked first. If it is determined that the call is being received on a predefined holiday, a Closed Message plays and the call proceeds to the Hang up activity.

NOTE: You must configure the call flow to check whether it is a holiday before checking whether it is within business hours. If a call enters the system between 8 AM and 5 PM on a Monday that is a statutory holiday and you check the business hour schedule first, the system will erroneously determine that the call center is open and the call will proceed through the call flow, even though your office is closed.

If it is not a holiday, a check is done to confirm if the date and time of the call falls within business hours (set as Monday – Friday, 8 AM – 5 PM). If the call arrives within business hours, the call is routed to the DNIS check. If the call arrives outside of business hours, it is routed to the No Match branch and a Closed Message plays. The call then proceeds to the Hang up activity. The Hang up activity ends the call flow and disconnects the call. If you do not have a Hang up activity, the call will continue through the call flow until it reaches the end of all possible actions, at which point it will wait in silence until the port resets.

If the call passes the Schedule criteria, it continues to the DNIS activity. This call flow sample contains three DNIS, each one representing a different language (French, English, and German, in this case). According to the DNIS, the call is routed through the appropriate Language activity to a Menu. The Menu is the same for each DNIS and has the same Prompt. The Prompt contains .wav files that are specific to each language. Depending on which language activity the call was channeled through, the matching language .wav file will play. This enables reuse of the same Prompt regardless of the number of language activities that are configured. If there is no DNIS match, the call flows to the No Match branch and is transferred to the Operator.

As noted above, the Menu options are the same for each DNIS – only the Language is different. The two numbered options in the Menu activity (Main Menu) were added manually to this sample call flow and complete the following actions:

- Option 1: Transfers the caller directly to the Support Queue
- Option 2: Plays the Shipping Instructions Message

Option 1 has a Failure branch. If the transfer destination is unavailable, the call goes to the Hang up activity.

The last step in this call flow is the Hang up activity. We recommend you end call flows with a Hang up activity to prevent errant calls from resting at the end of the call flow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your call flow sample up and running, you must:

- Associate the call flow to a port (extension) or a hunt group. See "Associating call flows to extensions or hunt groups" on page 454.
- Configure properties for all Transfer activities. For example, the Support queue destination information needs to be added. To do this, simply right-click the Transfer activity in the call flow and specify the Properties in the Properties pane.
- Create prompts (messages) as needed. Generic prompts are included in this call flow but if you want to customize these messages, you will need to create your own and add them to the call flow.

Sample Management Plan call flow

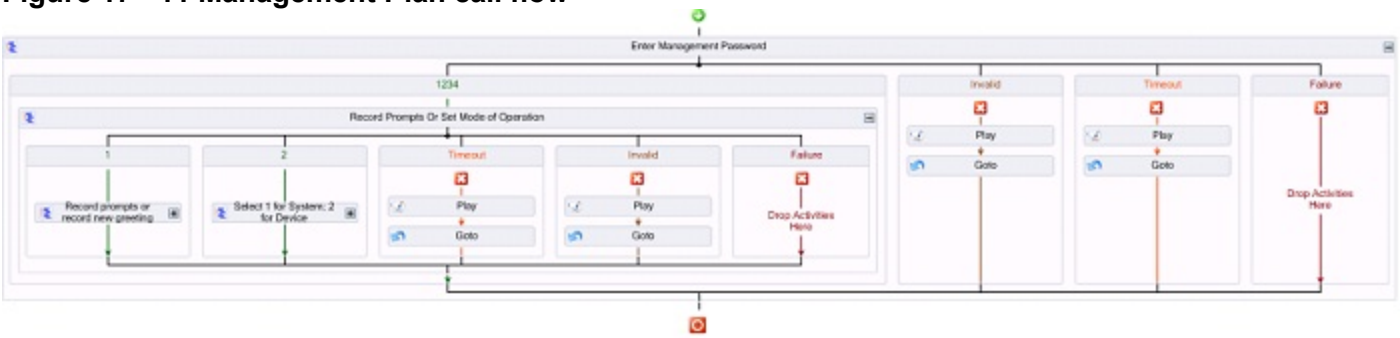
This call flow enables authorized callers to remotely perform management operations on their IVR Routing application. For example, authorized callers can switch the IVR Routing Mode of Operation between Normal and Emergency mode and modify the prompts that callers hear.

This call flow:

- Enables you to change over from Normal to Emergency mode if extreme weather conditions or other events force the temporary, unforeseen closure of your contact center. In such situations, it is often desirable and sometimes necessary to make such changes from a remote location.
- Allows authorized users to make changes to the IVR Routing system from remote locations. For example, you can modify incoming caller options and record new prompts using a phone. This is useful when a commute to the site is either inconvenient or not possible.

Figure 17 - 11 displays the Management Subroutine, which is configured as part of the Management Plan call flow.

Figure 17 - 11 Management Plan call flow



Description

The first step in this call flow is an Answer activity. The Answer activity tells the port to answer the call. Until this condition is met, the caller hears ringing.

The next step in the call flow sequence is the Management activity. A default Management Subroutine has been assigned to the Management activity. The Default Management Subroutine allows you to record Prompts or set the Mode of Operation. You can either use this Subroutine or create your own.

If you open the Default Management Subroutine, you will see the first step is entering the Management Password. The authorized user calls the port and enters their password (in this sample, 1234) in order to access the Management Plan call flow.

The next step in the call flow is the Record Prompts or Set Mode of Operation Menu. Within this Menu activity there are two, numbered options that were added manually and complete the following actions:

- **Option 1:** Record prompts or record new greeting
- **Option 2:** Select 1 for System; 2 for Device

If you press Option 1 in the Record Prompts or Set Mode of Operation Menu, you can record new prompts or record new greetings and swap prompts from one position to another within a call flow.

Press Option 1 to record a Prompt. If, after recording a Prompt, you want to continue recording Prompts, press 1 to record, press 2 to exit, or press any other key to return to the Record prompts or record new greeting (activityMenu7 in the call flow).

If you press Option 2, you can record a new Greeting or swap a Prompt. For example, you can record an Emergency Closed Message during an emergency situation and then swap it for a traditional Open Message once the emergency has been resolved.

If you press Option 2 in the Record Prompts or Set Mode of Operation Menu, you can set the System Mode of Operation to either Emergency or Normal mode. If you select 1 (for system) you are affecting the Mode of Operation for all hunt groups and ports. If you select 2 (for device) you are affecting only the devices for which you enter a reporting number (individual hunt groups or ports).

The last step in this call flow is the Hang up activity. We recommend you end call flows with a Hang up activity to prevent errant calls from resting at the end of the call flow and tying up the port until it can reset and disconnect the call.

Additional configuration required

This sample is configured as a standalone call flow which would require a dedicated port or hunt group. You can use it in this way but we recommend you incorporate the Management Plan call flow into your main call flow(s). There are various ways to do this. For example, you could use an ANI condition that refers to a list of authorized user numbers and gives them the option, when they call in, of accessing the Management Plan. You can alternatively add a DNIS condition and give users the appropriate number to call in to access the Management Plan. If your call flow has an ANI or DNIS branch, you can add the Management Plan ANI or DNIS branch as an additional branch in that location of the call flow. The menu option for accessing the Management Plan should be hidden (unadvertised) meaning that it is not mentioned in your greeting message. The authorized user would input a set code to access the Management Plan.

CAUTION: After importing this sample call flow, it is “live” within your existing system. For example, if you put a port into Emergency Mode that port will indeed go into Emergency Mode.

Sample Outbound call flow with Excel

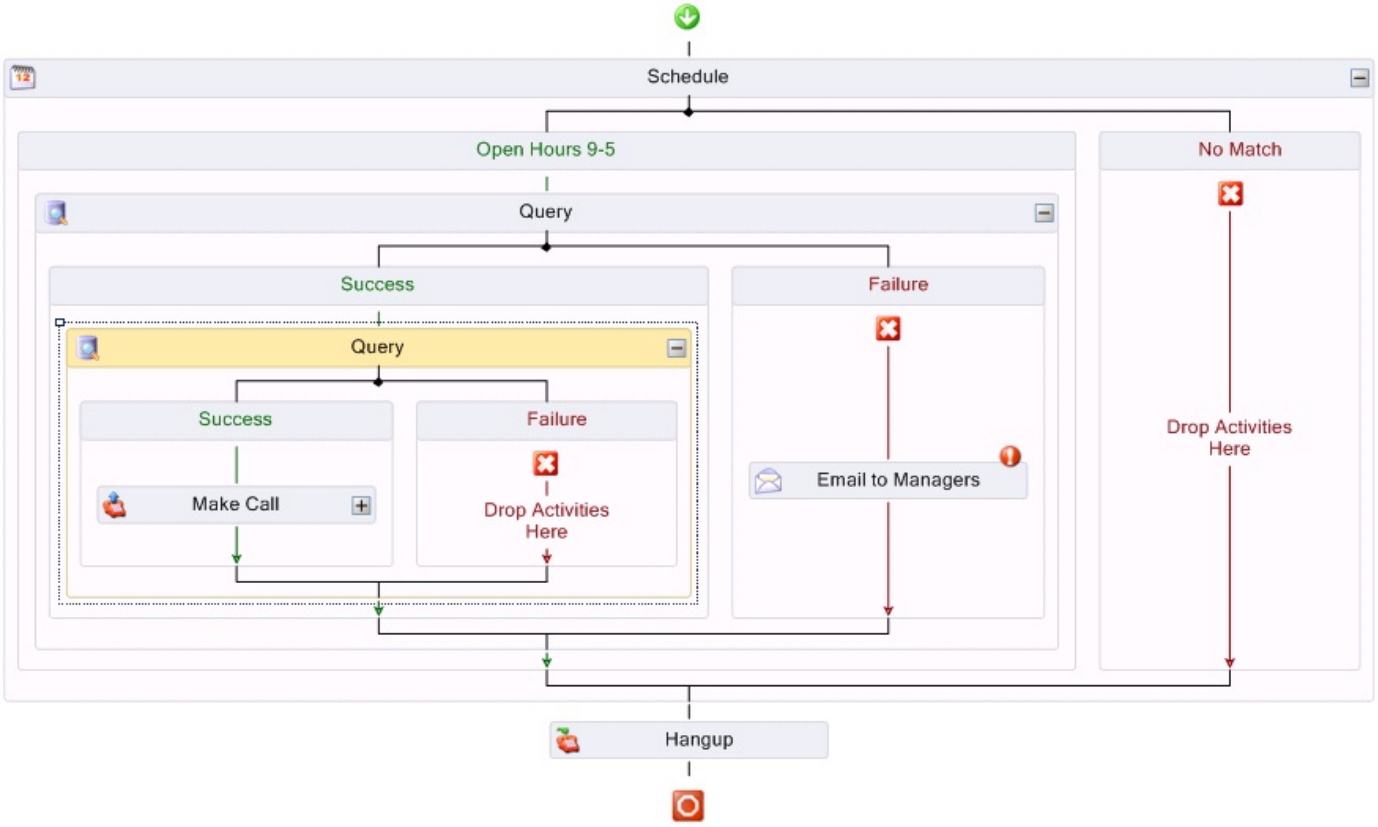
This call flow queries a data provider, in this case an Excel spreadsheet, to retrieve customer contact information. The call flow then uses the contact information to make outbound calls to customers. If a call is not answered by the customer or if the line is busy, IVR Routing continues to attempt the call until it is connected. If the customer answers the ringing line or the call goes to the customer's voicemail the call flow updates the call status as "Completed" and the customer will not be called again. Customers who answer the outbound call are directed to a menu presenting them with routing options.

This call flow enables:

- Contact centers to make outbound calls to customers by accessing an internal database

Figure 17 - 12 displays this call flow as it appears when first imported.

Figure 17 - 12 Outbound call flow with Excel



Description

This sample call flow uses an Excel spreadsheet, called OutboundSample.xlsx. This file is located in the IVR folder on the Enterprise Server. You populate the Excel sheet with customer phone numbers that you access while making outbound calls.

The first step in this call flow is the Schedule condition. There are two branches, Open Hours 9-5 and No Match. If calls are executed during business hours, they progress to the Query. If calls are executed outside of configured business hours the call flow routes to the No Match branch and then to the Hang up activity.

If during business hours, the call flow progresses to the Query. The Query references the Data Provider (in this case, Default Outbound Provider). In this sample, the Data Provider refers to the Excel sheet of customer phone numbers that is mentioned above. This Excel sheet has two columns – one for the customer's phone number and one for the customer's status. The Excel sheet and the Query can be modified as needed.

The first Query action is to run a Select statement to pull the first number with an "Incomplete" status to call. The Select Query either goes to the Success branch (if it successfully finds/selects a customer phone number) or to the Failure branch if no customer phone number is found. When the call enters the Failure branch an email is sent to managers advising them that no "Incomplete" calls remain in the database Excel sheet. Access to this functionality requires you to first configure the SMTP Server and the email template used for this example.

If an "Incomplete" status call is selected, the call flow progresses to the Success branch and the Write statement executes, which changes the customer's status from "Incomplete" to "In Progress", preventing other ports from simultaneously calling the same customer.

When the Query successfully pulls a customer phone number, it proceeds to the Make Call activity. The Make Call activity has a destination set for LastQueryResult, meaning it will dial the phone number that the Query pulled from the Excel spreadsheet.

The Make Call activity has several branches. When you successfully connect to a customer, the call goes down the Success branch, a query is executed and the customer status is updated to "Completed", ensuring that number is not called again. Following this action, the customer is presented with two options. They can choose to either be transferred to a queue to speak to an agent or listen to a message for more information. For example, you could record a message with details about a current sales promotion.

If there is no answer, a Query is executed and the customer status is updated to "No Answer", meaning that when this number is selected from the list the next time, the system will attempt to call it again.

If there is a busy signal (Destination Busy), a Query is executed and the customer status is updated to "Busy", meaning that when this number is selected from the list the next time, the system will attempt to call it again.

If the number is not in service (Invalid Destination), a Query is executed and the customer status is updated to "Invalid", meaning that when this number is selected from the list the next time, the system will not attempt to call it again.

If the Make Call fails due to an issue with the telephone system, an email is sent to the manager(s) advising them of the communication failure. Access to this functionality requires you to first configure the SMTP Server and the email template used for this example.

The last step in this call flow is the Hang up activity. We recommend you end call flows with a Hang up activity to prevent errant calls from resting at the end of the call flow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your call flow sample up and running, you must:

- Associate the call flow to a port (extension). This call flow type cannot be assigned to a hunt group. See "Associating call flows to extensions or hunt groups" on page 454.
- Configure properties for all Transfer activities. For example, the Transfer to queue destination information needs to be added. To do this, simply right-click the Transfer activity in the call flow and specify the Properties in the Properties pane.
- Create prompts (messages) as needed. Generic prompts are included in this call flow but if you want to customize these messages, you will need to create your own and add them to the call flow.
- In order to make the call flow active, you must select “Always Run” in the Properties Pane, under Call Flow. If you want to end the call flow activity, deselect this option.
- We recommend adding a queue condition in the Success branch of this call flow so callers are directed to the queue only if, for example, a sufficient number of agents are available to take their call or the number of calls waiting in the queue is not excessive. Rather than making the caller wait to speak to an agent in this situation, it might be preferable to instead play the “Play more information on offer” message.
- We suggest adding a queue condition following the Schedule condition that sets calling times for the optimum times of the day, for example, you might only want to make outbound calls between 3 PM and 7 PM. By setting a condition in this way, you can ensure that you have sufficient agents available during that time to handle calls.

IVR Routing complex call flow configuration

The following section describes how to configure two intricate call flows. You can use these instructions to create the call flows as described or as an educational exercise from which you can learn to build your own customized, unique call flows. Before attempting to configure these call flows you must be familiar with IVR Routing and able to proficiently configure intermediate to advanced level call flows using Visual Workflow Manager.

This document shows you how to construct:

- **Outbound call flow**: An outbound call flow that returns abandoned calls on a priority basis according to customer status
- **Dial Active Directory call flow**: A call flow that uses a LDAP connection to a Windows Active Directory domain to retrieve phone numbers and transfer the caller to the retrieved extension

Outbound call flow configuration

This example demonstrates how to build an outbound call flow that returns abandoned calls on a priority basis according to customer status. This call flow makes use of the delay activity, populates custom variables with a specific format type, demonstrates enhanced email activity by adding attachments, and sends custom variable information to agents via enhanced screen pop.

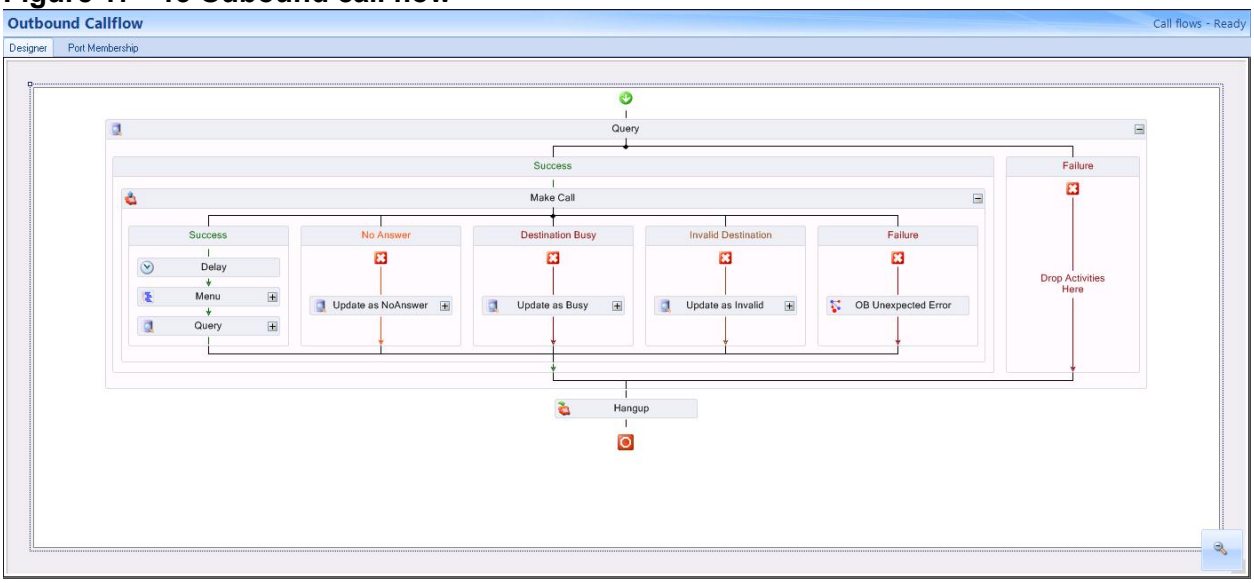
Consider the following scenario:

Problem: A busy order desk is having trouble keeping up with customer requests. As a result, they are dealing with a high number of abandoned calls. Their customers are sorted into three priority levels: gold, silver, and bronze. Gold member callers are considered the highest priority and the order desk is obligated to return their calls expediently in order to meet service level agreements. Each day a SQL table is populated with all of the abandoned calls from the previous day including the customer’s priority levels. All gold customers must be called back.

Solution: The following outbound call flow is configured to search for customer numbers based on priority level, thus ensuring gold-level customer calls are returned expediently. In addition, customers are given options that can expedite call handling, resulting in a more efficient use of agent resources. For example, if callers are offered choices, besides the option of connecting with an agent, of being sent a PDF of their order status or listening to a message describing their balance and due date, some caller's needs would be satisfied without having to speak to an agent. If callers choose to speak to an agent, specific caller information, for example, their status, is delivered to the agent via a screen pop display when the agent connects to the call.

Figure 17 - 13 depicts the final, post-configuration version of the Outbound call flow example described here.

Figure 17 - 13 Oubound call flow



Configuring a database provider

The first step in creating this call flow is to determine the source from where you will retrieve the numbers to call back. Typically the outbound call list is stored in a SQL database or an Excel spreadsheet. In this example, the following table was created in a SQL database. The example SQL database used in this sample call flow is named abandoned_caller. (See Table 17 - 3.)

NOTE: We recommend following standard database design practices when setting up your database. The example database referred to in this document is for demonstration purposes only.

Table 17 - 3 SQL database example for abandoned caller list

ID	[Level]	CallerID	UserName	Balance	EMail
100	Gold	3001	Dave	21.32	dave@prairiefyre.com
101	Silver	6132221212	James	201.55	james@prairiefyre.com
102	Bronze	6135990000	Curtis	30	curtis@praireifyre.com

ID	LastBill	DueDate	Processing	Contacted	FailedAttempt
100	\\share\bills\100bill.docx	April 20, 2012	0	false	NULL
101	\\share\bills\100bill.docx	September 1, 2012	0	false	NULL
102	\\share\bills\100bill.docx	Dec 12, 2012	0	false	NULL

The SQL data types used for this example are shown in Figure 17 - 14.

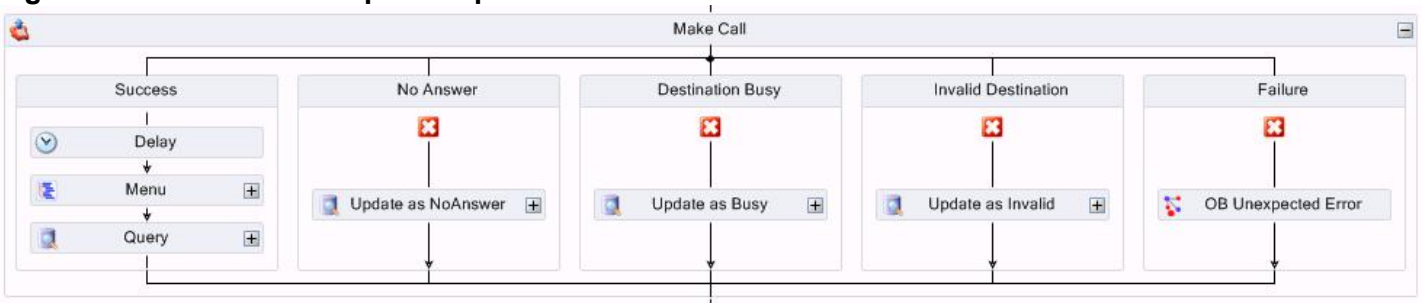
Figure 17 - 14 SQL data types

Column Name	Data Type	Allow Nulls
ID	int	☐
[Level]	varchar(10)	☑
CallerID	varchar(20)	☐
UserName	varchar(50)	☑
Balance	varchar(20)	☑
EMail	varchar(50)	☑
LastBill	varchar(MAX)	☑
DueDate	date	☑
Processing	bit	☐
Contacted	bit	☐
FailedAttempt	varchar(50)	☑
		☐

The columns **Processing** and **Contacted** are added to the table to assist with call processing, as follows. The outbound call flow executes in an always-run fashion. If there are records present in the database and outbound ports are available, calls will be executed constantly. The processing column is used to flag a call as in progress. When a call is in progress, it means that the outbound port is currently calling that number. After the outbound call flow has completed, the contacted column is set to true. This process ensures callers, once contacted, are not called back.

A **FailedAttempt** column is added to indicate the reason the attempt to call failed, for example, due to No Answer, Destination Busy, or Invalid Destination. Figure 17 - 15 displays an example of failed attempts as they display in the call flow.

Figure 17 - 15 Failed attempt example



You must configure a database provider to supply outbound call records to the Outbound call flow. This example uses a Microsoft SQL server as a data provider and names the data provider Abandon DB. See "Adding a Microsoft SQL server as a data provider" on page 474.

Creating outbound ports

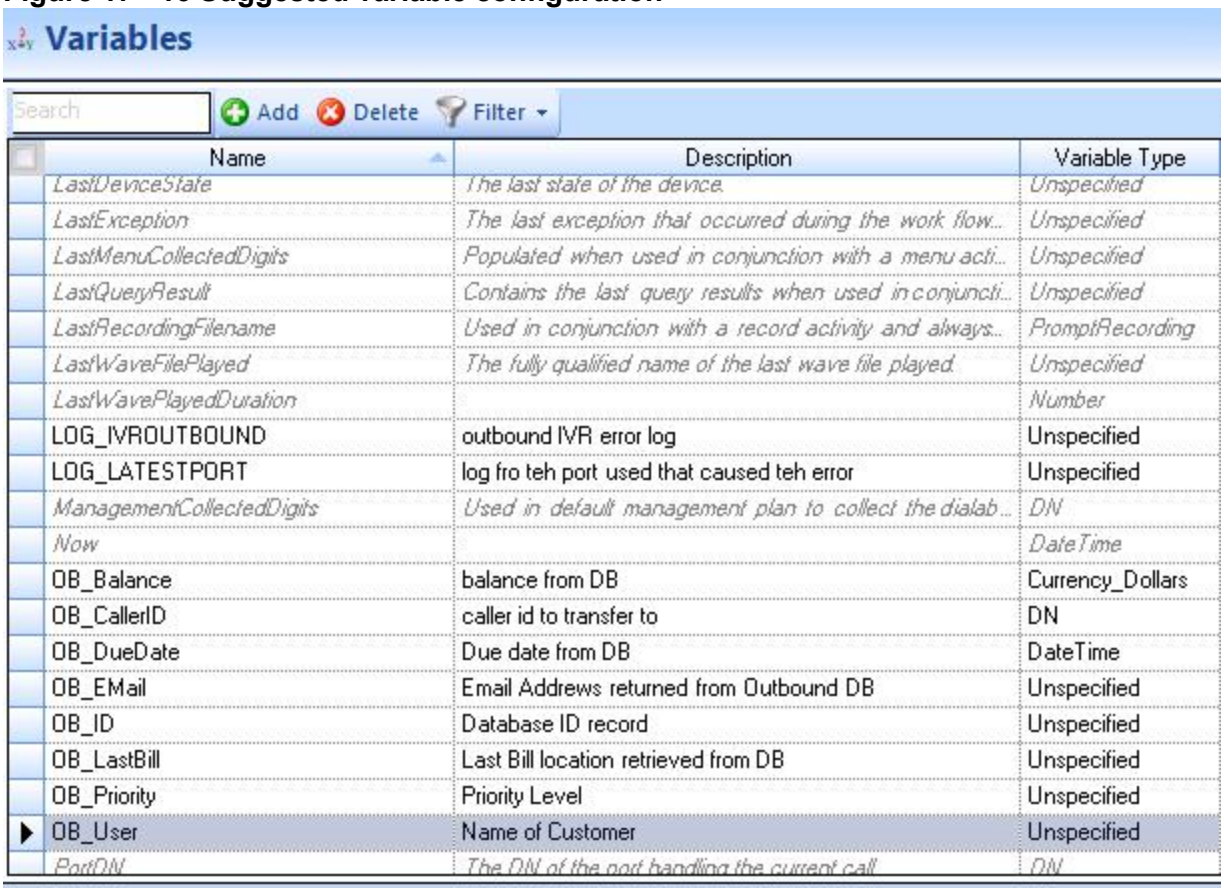
Outbound call flows and IVR Routing callbacks are both executed by the existing prairieFyre IVR Outbound Service. However, ports are not shared between outbound call flows and callback call flows; their execution is independent and both features can live side by side and function with or without each other. Callback port 5020 IP is used to process IVR Routing callbacks and Outbound port 5020 IP is used to process outbound call flows.

Refer to the procedure "Adding extensions" on page 440 and add the appropriate number of outbound ports. If you have any questions regarding the number of ports you require, contact the Systems Engineering Team.

Defining variables

Before creating the call flow, define the variables that it will use. For this example, we have created the following variables from the above SQL database example table. Ensure the “Send to Screen Pop” check box is selected if you want customer-relevant database information to be available in a screen pop display for agents upon call receipt. (See Figure 17 - 16.)

Figure 17 - 16 Suggested variable configuration



Creating an outbound call flow

Now that you have populated the table in the SQL database with abandoned contact information, added a database provider and outbound ports, and created applicable variables, you can create the outbound call flow.

To create an outbound call flow

1. In YourSite Explorer, click **Visual Workflow Manager=>Call flows**.
2. Click **Add** and select **Outbound** as the call flow type from the drop-down list.
3. In the **Properties** pane, configure the call flow properties as needed.
   NOTE: To make the call flow active, select the **Always run** check box. When you no longer want the call flow to be active, deselect this option.
4. Click **Save**.

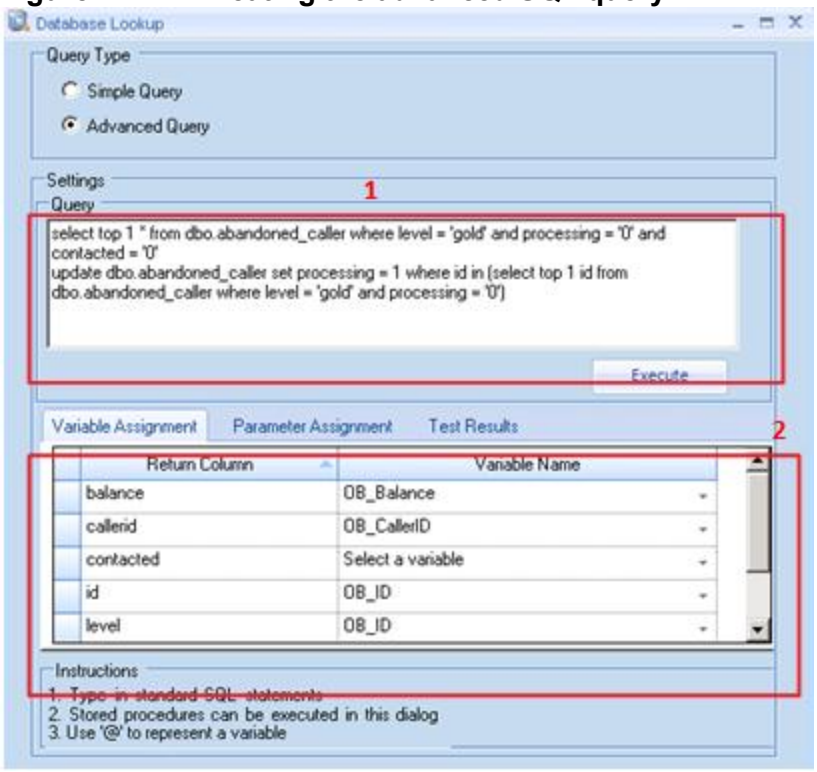
Configuring the outbound call flow for abandoned contacts

The first steps in configuring the outbound call flow for use with abandoned contacts are to add a Query activity, a Make Call activity, and a Hang up activity. The Make Call activity is used to place calls to external phone numbers that are typically stored in a data source, such as a SQL database or an Excel spreadsheet. The Query activity is used to retrieve the numbers from the database that are then stored in a variable which is accessed by the Make Call activity when dialing. The Make Call activity determines the location of the media server and provides the correct formatting for the external phone number before placing the call. In this example, the query looks for gold-level customers that require a return call.

To configure the outbound call flow for abandoned contacts

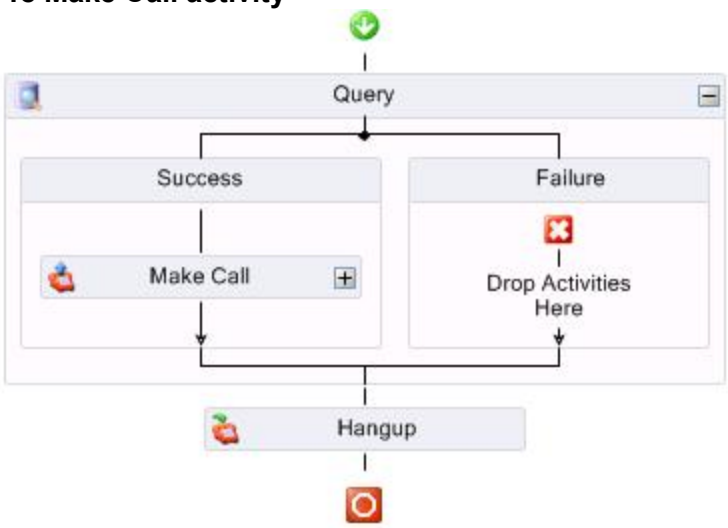
1. Add a **Query** activity and a **Hang up** activity into the Call flows Canvas.
2. Right-click the **Query** activity and select **Edit Database Provider**.
3. Select the **Abandon DB** database provider created earlier.
4. Click **OK**.
5. Right-click the **Query** activity and select **Edit Query Definition**.
6. Under **Query type**, select **Advanced Query** and, under **Settings**, enter the following SQL query(1):
   SELECT top 1 * from dbo.abandoned_caller where level = ‘gold’ and processing = ‘0’ and contacted = ‘False’
   UPDATE dbo.abandoned_caller set processing = 1 where id in (select top 1 id from dbo.abandoned_caller where level = ‘gold’ and processing = ‘0’)
7. On the **Variable Assignment** tab, assign the appropriate variables to the parameters returned from the query(2).
   Figure 17 - 17 displays steps 5-7.

Figure 17 - 17 Creating the advanced SQL query



8. In the **Success** branch of the **Query** activity, add a **Make Call** activity. See Figure 17 - 18.

Figure 17 - 18 Make Call activity



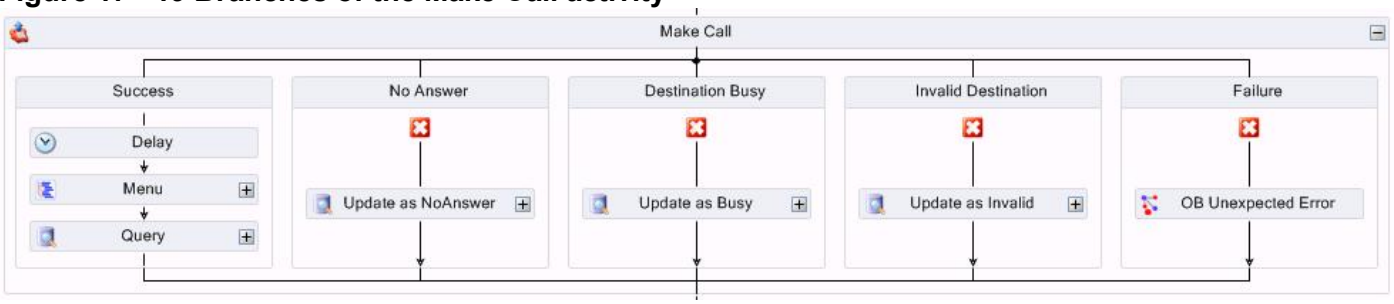
9. Select the **Make Call** activity and configure the properties in the **Properties** pane.
10. For this example, beside **Destination**, select the variable **<<OB_CallerID>>** and click **OK**.
11. Select the **External Call** check box to indicate that these calls are external to the PBX. Outbound dialing digits are appended when dialing externally.
    NOTE: Outbound dialing digits must be programmed in YourSite Explorer for the media server upon which the outbound ports reside. This is configured in YourSite Explorer=>Media servers=>Location tab.

Configuring the branches of the Make Call activity

If the query is successful, the outbound number variable will populate. The caller is then offered the option to speak with an agent, receive an email with account details, or listen to a message that includes their account balance and due date. If the query is unsuccessful, for example, if you are set up to call back gold-level callers and there are none available in the SQL database table, the failure branch is followed.

In the Success branch of the Make Call activity three actions are performed: Delay, Menu, and Query. See Figure 17 - 19.

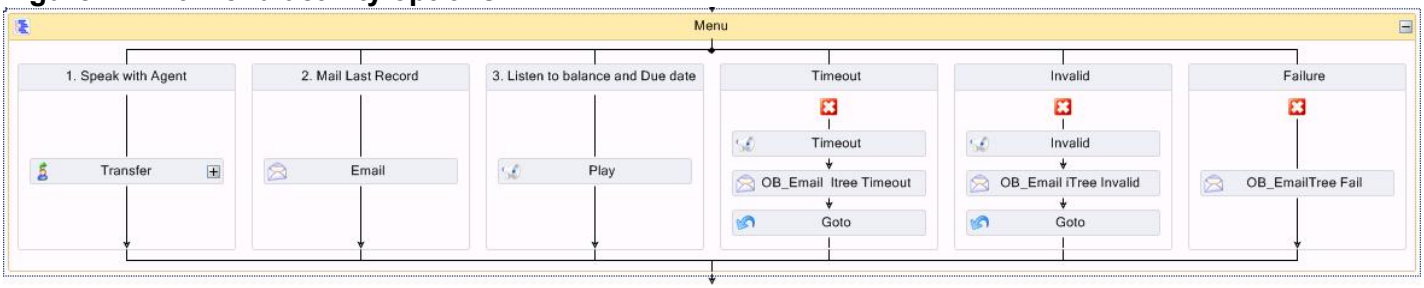
Figure 17 - 19 Branches of the Make Call activity



To configure the success branch of the Make Call activity

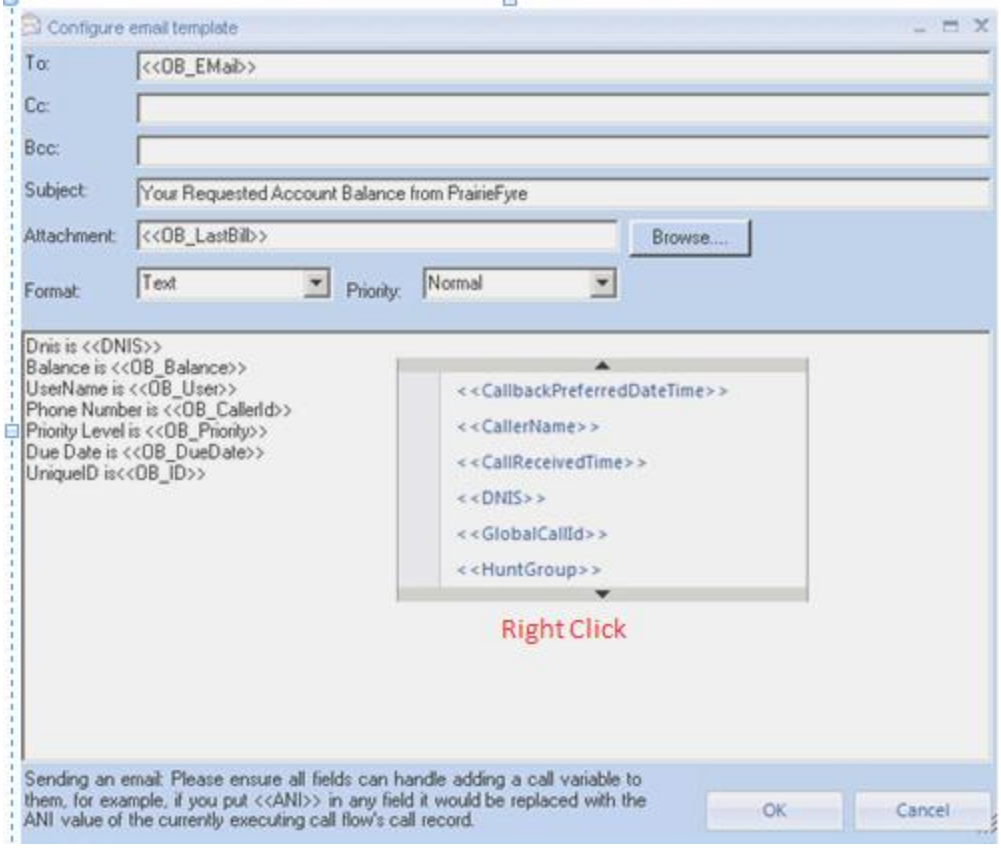
1. In the **Success** branch of the **Make Call** activity, add and configure properties for a **Delay** activity.
   The Delay action is used to give the customer time to answer the phone and greet the caller. The delay value is set in seconds.
2. Following the **Delay** activity, add a **Menu** activity.
3. Right-click the **Menu** activity and add the three digit options as follows: 1. Speak with Agent, 2. Mail Last Record, and 3. Listen to balance and due date.
   The customer will be able to select 1 to speak to an agent, 2 to receive an email containing their most recent account information, or 3 to hear a message regarding their account balance and due date.
   See Figure 17 - 20.

Figure 17 - 20 Menu activity options



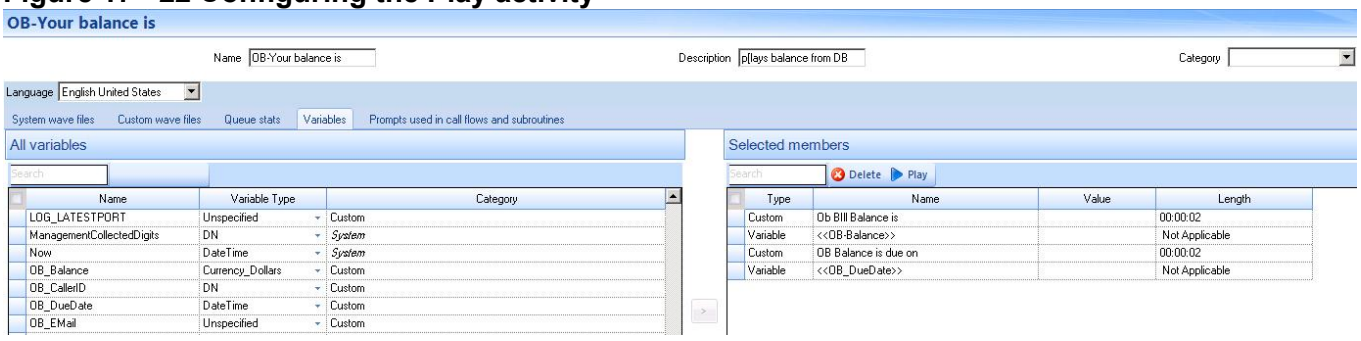
4. Add a **Transfer** activity under option 1, an **Email** activity under option 2, and a **Play** activity under option 3.
5. Configure the **Properties** for the **Transfer** activity. Be sure to set the **Destination** to an ACD path.
6. Configure the **Properties** for the **Email** activity. Select the SMTP Server address from the SMTP servers that were configured in YourSite Explorer during the software installation process.
   For more information, see "Configuring the SMTP Server" on page 73.
7. Right-click the **Email** activity and select **Edit Email Template**.
8. Right-click in the **Configure email template** window to see a list of available variables.
   NOTE: To ensure the email is sent to the customer, use the variables that were populated previously with the query action.
   See Figure 17 - 21.

Figure 17 - 21 Configuring the email template



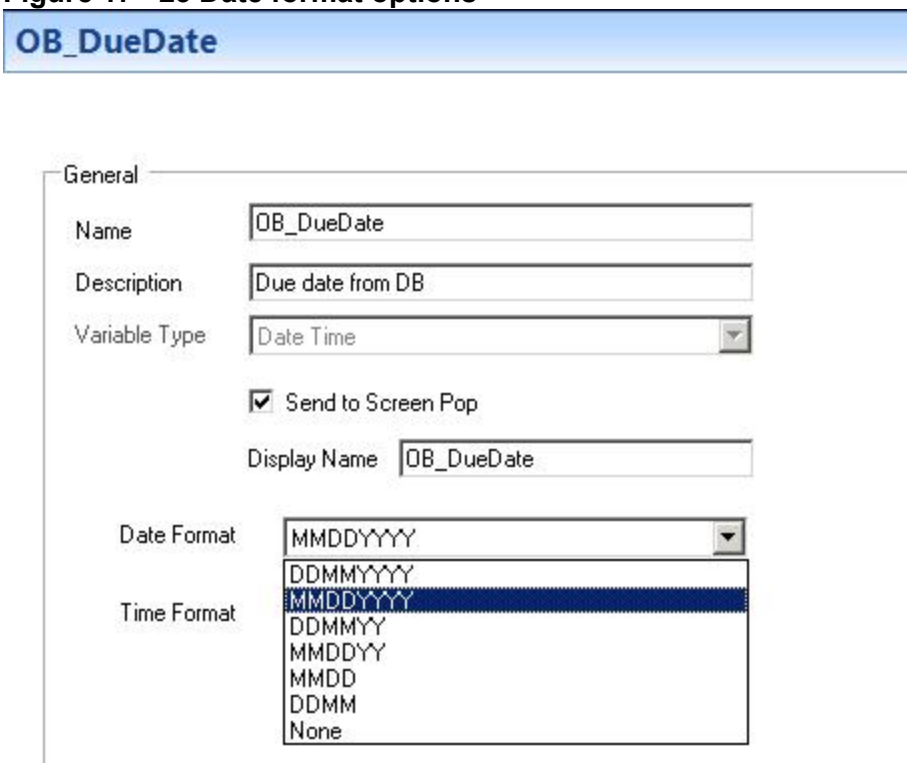
9. Configure the **Properties** for the **Play** activity.
10. Right-click the **Play** activity and select **Greeting prompts=>Add a new prompt**.
    The Prompt window opens.
    You will configure the activity to play two custom .wav files and two prompts. The customer will hear their account balance and due date, based on the variables you associate with the prompts.
11. Select the **Variables** tab.
    See Figure 17 - 22.

Figure 17 - 22 Configuring the Play activity



In this example, the OB_Balance variable is set as type 'Date Time' and the variable OB_Balance is set as type 'Dollars'. These variables have an associated format type. The variable type 'Date Time' must be formatted to suit the variable populated from the database query. The available options display in Figure 17 - 23.

Figure 17 - 23 Date format options



12. Select **MMDDYYY** as the **Date Format** for the due date variable (OB_DueDate).
    NOTE: The balance due variable (OB_Balance) can have either **Currency Format** selected. The currency format is only used when writing data to a database.
13. Configure the exception branches, **Timeout**, **Invalid**, and **Failure**, as needed.
14. As a final step in configuring the success branch of the Make Call activity, under the **Menu** activity, add a **Query** activity.
    This query updates the SQL table to indicate that the call has been completed, ensuring that number is not called again.

To configure the failure branch of the Make Call activity

1. Under **No Answer**, add and configure a **Query** activity that updates the customer status in the database to “No Answer” when the customer does not answer the call. The next time this number is selected from the list, the system will attempt to call it again.
2. Under **Destination Busy**, add and configure a **Query** activity that updates the customer status in the database to “Destination Busy” when the busy signal is encountered. The next time this number is selected from the list, the system will attempt to call it again.
3. Under **Invalid Destination**, add and configure a **Query** activity that updates the customer status in the database to “Invalid” when the number called is out of service. The next time this number is selected from the list, the system will not attempt to call it.
4. Under **Failure**, add and configure a **Subroutine** activity that advises the Administrator when there are problems with the call flow.
   Adding this subroutine is recommended in order to help error proof the call flow.

After configuring the outbound call flow, associate it to a port. An outbound call flow cannot be associated to a hunt group. See "Associating call flows to extensions or hunt groups" on page 454.

Dial Active Directory call flow configuration

This section demonstrates how to build a call flow that uses an LDAP connection to a Windows Active Directory domain to retrieve phone numbers and transfer the caller to the retrieved extension.

This example is composed of a main call flow and a subroutine that contains an LDAP query. The caller is presented with a menu that prompts them to enter the extension of the party they wish to reach. If they know the extension they can dial it at any time or they can dial by name (by pressing 1) or choose to speak to the operator (by pressing 0). When the caller chooses option 1, the call flow is directed to the Dial By Active Directory (DialByAD) subroutine. Subroutines are recommended when a call process contains many activities or repeating tasks. In this case, the DialByAD subroutine contains several activities. Segregating it from the main call flow simplifies the process.

Figure 17 - 24 depicts the final, post-configuration version of the Dial Active Directory call flow.

Figure 17 - 24 Dial Active Directory call flow

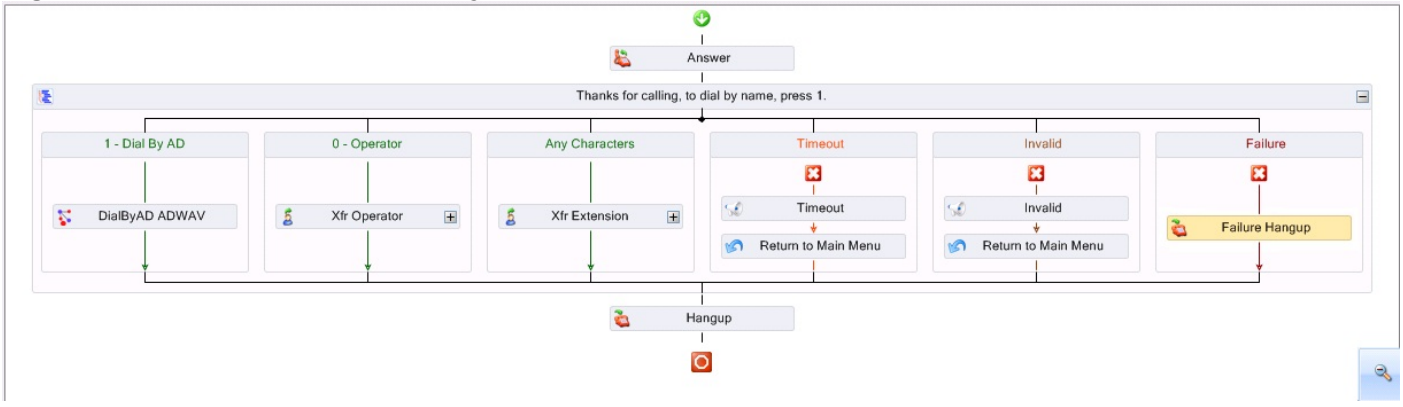
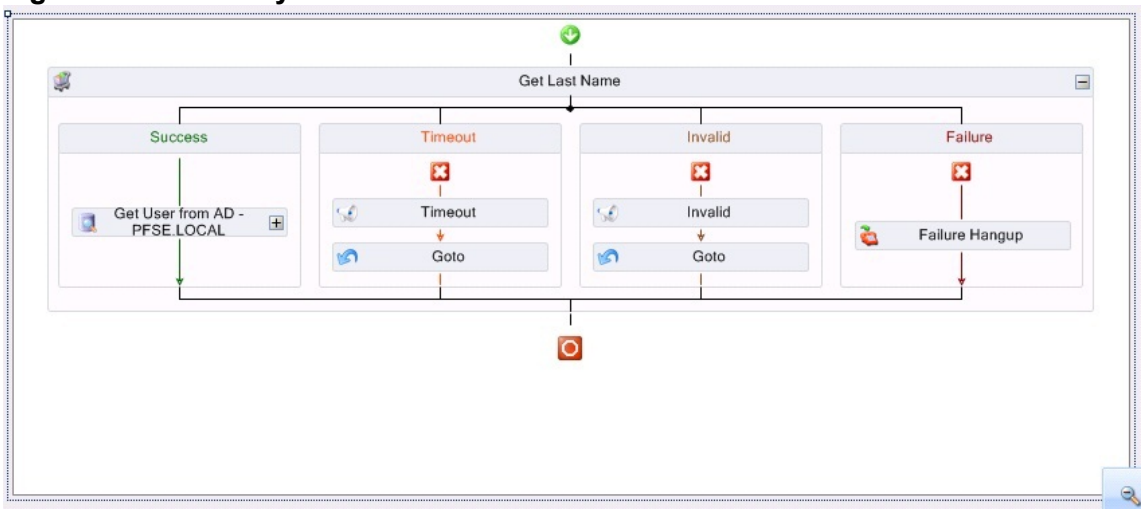


Figure 17 - 25 depicts the final, post-configuration version of the DialByAD subroutine.

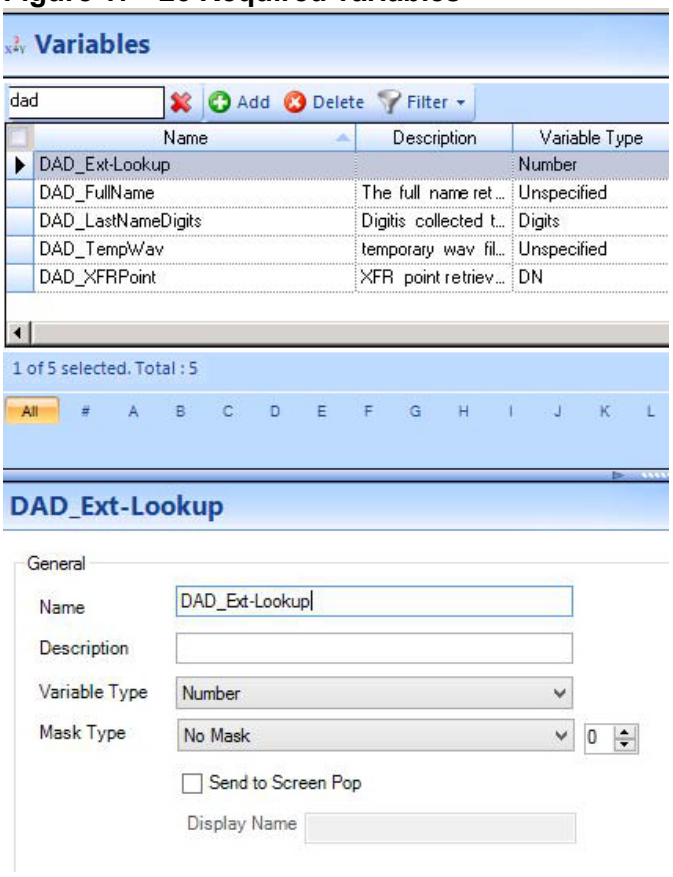
Figure 17 - 25 DialByAD subroutine



Preliminary configuration

Before creating the call flow, you must configure the required variables and prompts.
Create the following list of variables along with their associated variable type. (See Figure 17 - 26.)

Figure 17 - 26 Required variables



After creating the variables, configure applicable prompts as shown in Table 17 - 4.

Table 17 - 4 Required prompts

Prompt Name	Script
DialAD – Main Menu	Thank you for calling. If you know the extension of the party you wish to reach, dial it now. To dial by name, press 1. For operator assistance, press 0.
DialAD – Name from Dialpad	Using your touchtone keypad, please type the last name of the person you wish to reach, followed by the pound (#) sign.
DialAD – Did you mean ... **NOTE:** This prompt references the variable DAD_TempWav created earlier	<DAD_TempWav> If this is the person you want to reach, press 1. If not, press star (*).

Creating the main Dial Active Directory call flow

Now that you have created the variables and prompts, you can create the main Dial Active Directory call flow.

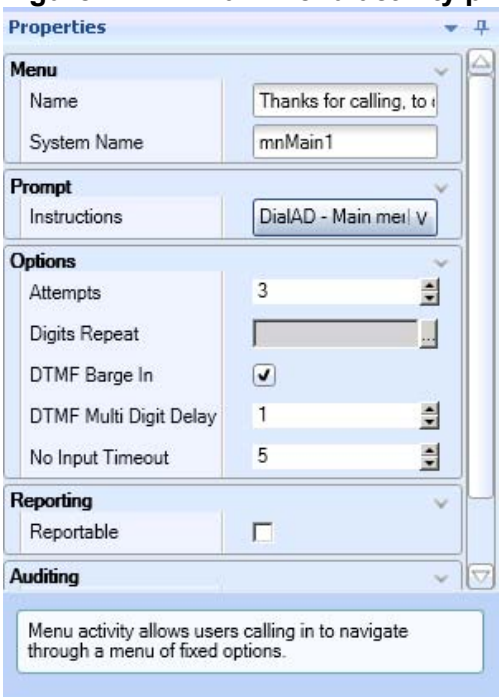
1. In YourSite Explorer, click **Visual Workflow Manager=>Call flows**.
2. Click **Add** and select **Voice** as the call flow type from the drop-down list.
3. In the **Properties** pane, configure the call flow properties as needed.
4. Add an **Answer** activity and a **Hang up** activity onto the Call flows canvas.
5. After the **Answer** activity, add a **Menu** activity.
6. Click **Save**.

The next step in creating the Dial Active Directory call flow is configuring the Menu activity.

To configure the Menu activity

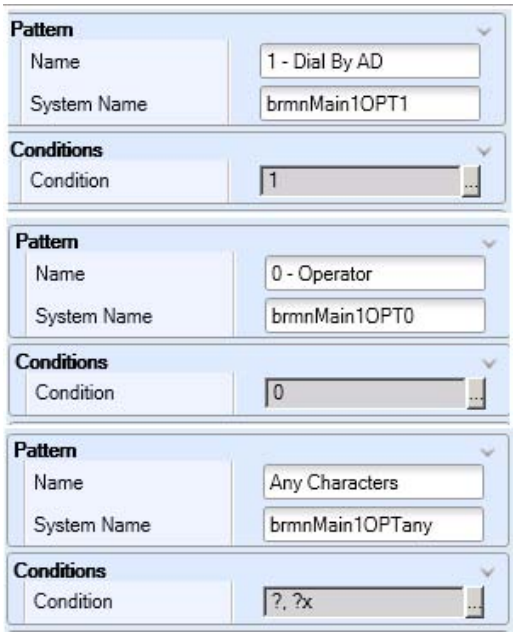
1. Select the **Menu** activity on the Call flows Canvas and, in the **Properties** pane, configure the Menu properties.
2. Enter an appropriate **Name** for the menu and add a **Prompt** to play a greeting message to the caller (DialAD – Main Menu, as shown in Table 17 - 4).
   See Figure 17 - 27 for suggested configuration settings.

Figure 17 - 27 Main Menu activity properties configuration



3. Right-click the **Menu** activity and add the three digit options as follows: **1 - Dial by AD**, **0 - Operator**, and **Any Characters**.
   NOTE: The DTMF Multi Digit Delay function allows the system to wait for one second (default value) after hearing the first DTMF tone from the caller to see if another digit will be pressed before processing the call.
4. In the **Properties** pane, configure the Menu options.
   NOTE: It is important to give each menu option branch an appropriate name as doing so simplifies the troubleshooting process when interpreting log files.
   See Figure 17 - 28.

Figure 17 - 28 Menu option configuration



5. In the **0 – Operator** and the **Any Characters** branches of the menu options, add a **Transfer** activity.
6. Right-click the **Transfer** activity that follows **0 – Operator** and select **Destination**.
7. In the **Properties** pane, after **Destination**, type the extension that reaches the operator in your organization.
8. Right-click the **Transfer** activity that follows **Any Characters** and select **Destination**.
9. Configure the **Destination** as the call variable **<<LastMenuCollectedDigits>>**.
   This sets the entry that is received by the Menu activity as the transfer point.
10. Name the **Timeout**, **Invalid**, and **Failure** branches of the **Menu** activity according to best practices.
    Use the nomenclature **br<PARENT_MENU><OPT>**.
    Following this naming convention simplifies the troubleshooting process when searching through log files. See Table 17 - 5 for an example of best practice naming conventions.
11. Click **Save**.

Table 17 - 5 Best practice naming convention example

Menu branch	Naming convention
Timeout	brmnMain1OPTTIME
Invalid	brmnMain1OPTINV
Failure	brmnMain1OPTFAIL

Now that the main Dial Active Directory call flow has been configured, the DialByAD subroutine must be configured and added to the overall call flow.

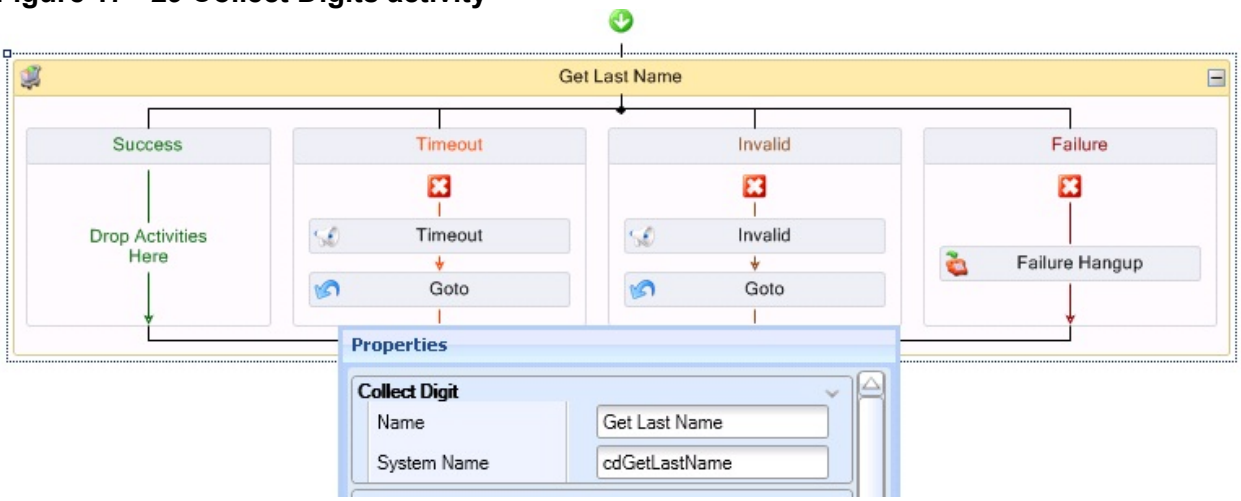
Configuring the DialByAD subroutine

If the caller knows the last name of the person they are trying to reach, they enter the matching digits in their dial pad. The dial pad compare feature is used to support this search function. The first step in being able to access this functionality is to collect the digits. This is done via a Collect Digits activity within the subroutine.

To configure the DialByAD subroutine

1. Click **Subroutines=>Add=>Voice**.
2. In the **Properties** pane, after **Name**, type **DialByAD**.
3. Add a **Collect Digits** activity to the subroutine.
4. Select the **Collect Digits** activity and, in the **Properties** pane, after **Name**, type **Get Last Name** and after **System Name**, type **cdGetLastName**.
5. Configure the **GoTo** activities in the **Timeout** and **Invalid** branches to return to the **Get Last Name** Collect Digits activity.
   See Figure 17 - 29.

Figure 17 - 29 Collect Digits activity



6. Name the **Success**, **Timeout**, **Invalid**, and **Failure** branches according to best practices, as shown in Table 17 - 6.

Table 17 - 6 Best practice naming convention example

Menu branch	Naming convention
Success	brcdGetLastNameSUCC
Timeout	brcdGetLastNameTIME
Invalid	brcdGetLastNameINV
Failure	brcdGetLastNameFAIL

7. Right-click the **Get Last Name** Collect Digits activity and select **Edit Variable Settings**.
   The Collect Digits settings window opens.
8. Select the appropriate options for each value in the Collect Digits settings window.
   The **Variable** should be unique to this call flow and be of the Variable Type **Number**. In this case, the variable **<<DAD_Ext-Lookup>>** is used.
   NOTE: This example uses a greeting that asks the caller to enter the last name of the person they are trying to reach by using their dial pad and pressing pound (#) when finished. The settings and greeting verbiage you choose are dependent on your environment and needs.
9. Click **OK**.
10. Click **Save** to save the subroutine.

This example performs a lookup based on the last name of the employee in Active Directory. However, the procedure can easily be converted to use the first name or a different value altogether. When a caller successfully enters digits they are branched down the Success branch in the Collect Digits activity. In the Success branch, a Query to Active Directory is inserted to search for the requested employee. Prior to this action, a new data provider must be created.

Configuring the LDAP data provider

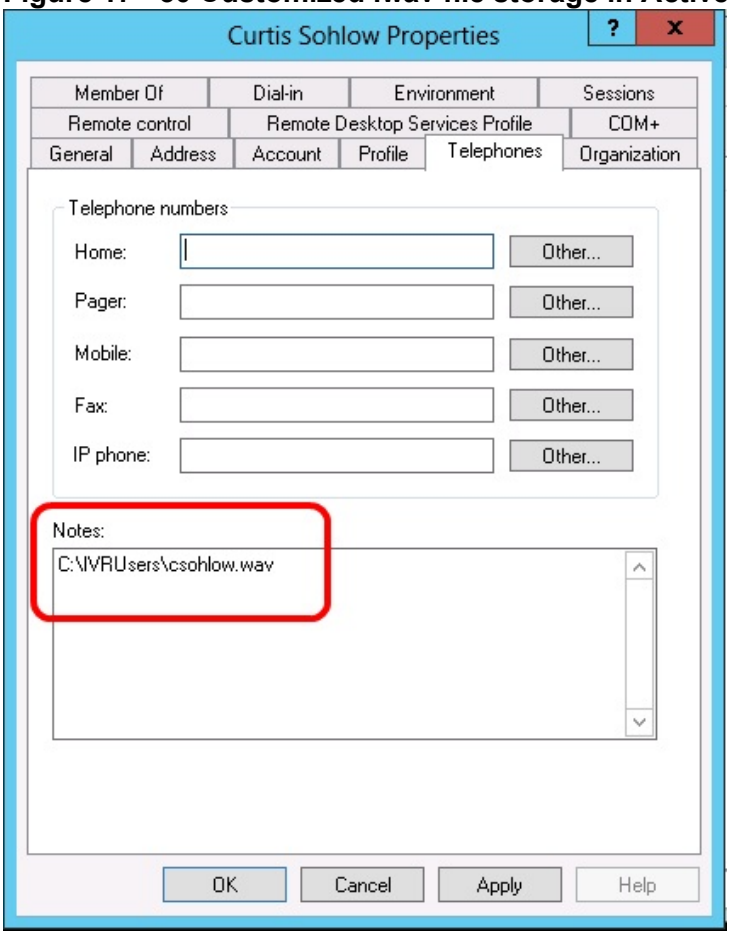
To configure the LDAP data provider

1. Click **Data providers=>Add** and select **LDAP** from the drop-down list.
2. Enter the appropriate settings for the Active Directory domain, including a user with read access.
3. Click **Test Connection** to attempt to connect to the domain.
   This example connects to a local domain labeled "PFSE Domain".
4. Click **Save**.

Configuring the Active Directory LDAP query

This example queries based on the employee's last name and returns their extension to which the call is then transferred. The Last Name, Display name, and Telephone number fields from the user object in Active Directory are accessed. In addition, the objects will return a .wav file so the names can be read back to the caller. It is suggested that each employee record their name to use as a customized .wav file. In this example, the customized employee name .wav files are stored in the Telephones tab in Active Directory. Note that this location must be accessible from the IVR Routing instance performing the query and readback. See Figure 17 - 30.

Figure 17 - 30 Customized .wav file storage in Active Directory

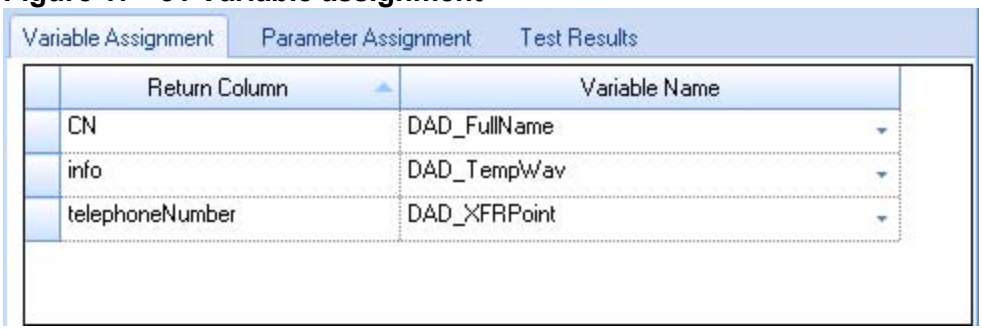


To configure the Active Directory LDAP query

1. Add a **Query** activity to the **Success** branch of the **Get Last Name** Collect Digits activity.
2. Select the **Query** activity and, in the **Properties** pane, enter an appropriate **Name** and **System Name**.
   This example uses "Get User from AD – PFSE.LOCAL" and "qrPFSEAD" respectively.
3. Name the **Success** and **Failure** branches in adherence with best practices. In this case, Success: **brqPFSEADSUCC** and Failure: **brqrPFSEADFAIL**.
4. Right-click the **Query** activity and select **Edit Database Provider**.
5. In the **Select Connection** window, choose the appropriate provider.
   This example uses PFSE Domain.
6. Right-click the **Query** activity and select **Edit Query Definition**.
7. Under **Query Type**, select **Advanced Query** and, under **Settings**, enter the following query: **select info,telephoneNumber,CN from 'LDAP://PFSE.LOCAL where objectClass='user' AND sn = '@LastName'**.
   An advanced query is necessary in this example to enable the return of multiple variables. If there was only a need for a single variable, a simple query would suffice.
8. Click **Execute**.

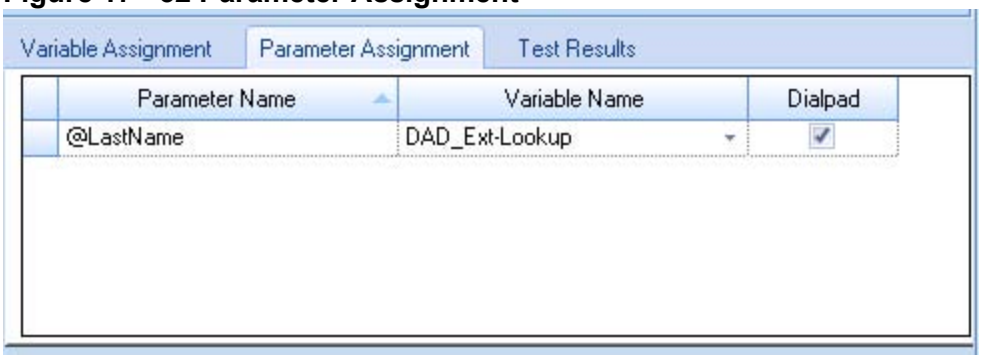
9. In the **Parameters** window, select the **Value** of '76' for **@LastName** and select the **Use Dialpad Compare** check box.
   The value of '76' is translated into the following when using the dialpad compare feature: p, pn, Po, Q, Qm, Qn, Qo, R, Rm, Rn, Ro, S, Sm, Sn, So.
10. Click **Run**.
    The command runs and the Database Lookup window for the Advanced Query opens.
11. Confirm correct configuration by clicking the Test Results tab and checking the **info** column to ensure the expected result(s) were returned.
12. In the **Variable Assignment** tab, select appropriate variables for the returned values.
    In this example, CN is used for the common name of the Active Directory object (display name in Active Directory) and telephoneNumber for the extension of the user being queried. The information from the Telephones tab is also returned as it contains the location of the .wav file to be played. (See Figure 17 - 31.)

Figure 17 - 31 Variable assignment



13. In the **Parameter Assignment** tab, select the variable that was populated in the Collect Digits activity, 'cdGetLastName'. In this case, **DAD_Ext-Lookup**.
    Configuring the parameter assignment with a variable replaces the query with the appropriate run-time information. (See Figure 17 - 32.)

Figure 17 - 32 Parameter Assignment



Configuring the Success branch of the query

Now that information has been retrieved via the LDAP query, the process loops through the results until the correct one is found. The customized employee name .wav file is played and the caller is asked if that is the individual they want to reach. Once the correct name is found, the caller is transferred to that destination and the call flow is terminated.

To configure the Success branch of the query

1. Add a **Menu** activity into the **Success** branch of the **Query** activity (**Get User from AD – PFSE.LOCAL**).
2. Select the **Menu** activity and, in the **Properties** pane, enter appropriate information for the **Name** and **System Name**.
   This example uses "Did you mean…?" and "mnDidYouMeanQ", respectively.
3. Under **Prompt**, in the **Properties** pane, select **Existing Prompt** from the drop-down list and choose the prompt called **DialAD – Did you mean …**
4. Right-click the **Menu** activity and add a digit option for **1**.
5. Name the **Menu** branches in accordance with best practices, as shown in Table 17 - 7.

Table 17 - 7 Best practice naming convention example

Menu branch	Naming convention
1	brmnDidYouMeanQOPT1
Timeout	brmnDidYouMeanQTIME
Invalid	brmnDidYouMeanQINV
Failure	brmnDidYouMeanQFAIL

6. In the **Failure** branch, add **Hang up** activity
7. In the **Timeout** and **Invalid** branches, remove the default **Play** and **GoTo** activities.
8. Removing these activities ensures that if the returned employee extension is not the correct one, the parent Query activity will move on to the next result found and offer it to the caller instead.
9. In the Digit option **1** branch, add a **Play** activity, a **Transfer** activity, and a **Hang up** activity.
10. Name the activities, according to best practices, as shown in Table 17 - 8.

Table 17 - 8 Option 1 activity naming example

Activity	Name	System Name
Play	Transferring your call	pfTransferring
Transfer	Xfr To Extension	xfrToExt
Transfer Branch	Failure	brxfrToExtFAIL
Hang up	Hangup After Transfer	hgTransfer

11. Choose an applicable prompt for the **Play** activity.
    This example uses a prompt called “DAD – Transferring” that plays a .wav file that says: “Transferring your call now.”
12. Right-click the **Transfer** activity and select **Destination**.
13. In the **Select a device** window, select **Call variable** and choose the appropriate variable assigned in the LDAP query.
14. Click **Save**.

Pre-configured messages and prompts

Table 17 - 9 contains a list of pre-configured messages and prompts.

Table 17 - 9 IVR Routing pre-configured messages and prompts

Message or prompt		
Connecting now	CB-en-US-Agent-Connecting.wav	8Khz mono Mulaw
You have a voice callback request	CB-en-US-AgentGreeting.wav	8Khz mono Mulaw
To listen to the caller's message, press 1. To place this call, press 2. To requeue this request press 3. To reject this request, press 4. To hear this information again, press 5.	CB-en-US-Agen-tInstructions.wav	8Khz mono Mulaw
Please wait while the call is established	CB-en-US-Agent-PreConnect.wav	8Khz mono Mulaw
Your request has been canceled. Goodbye.	CB-en-US-AgentRejected.wav	8Khz mono Mulaw
Your request has been requeued. Goodbye.	CB-en-US-AgentRequeue.wav	8Khz mono Mulaw
You have a voice callback request.	CB-en-US-Cal-lersMessage.wav	8Khz mono Mulaw
Your request has been canceled. Goodbye.	CB-en-US-Can-celConfirmation.wav	8Khz mono Mulaw
Your request has been canceled. Goodbye.	CB-en-US-ClientCancelled.wav	8Khz mono Mulaw
The callback could not be established.	CB-en-US-ClientFailure.wav	8Khz mono Mulaw
You have a voice callback request.	CB-en-US-ClientGreeting.wav	8Khz mono Mulaw
Press 1 to confirm your recording, or press any digit other digit to try again.	CB-en-US-Clien-tRecordingConfirm.wav	8Khz mono Mulaw

Message or prompt		
At the tone, please record your name. When you are finished recording, press 1.	CB-en-US-ClientRecordMessage.wav	8Khz mono Mulaw
To submit this callback request, press 1. To cancel this request and leave the system, please press the star key.	CB-en-US-ClientRequestConfirmation.wav	8Khz mono Mulaw
Please enter a telephone number where you can be reached, followed by the pound sign.	CB-en-US-EnterPhoneNumber.wav	8Khz mono Mulaw
To submit this callback request, press one. To cancel this request and leave the system, please press the star key.	CB-en-US-IncomingSubmissionMenu.wav	8Khz mono Mulaw
To submit this callback request, press one. To cancel this request and leave the system, please press the star key.	CB-en-US-Instructions.wav	8Khz mono Mulaw
The phone number entered was invalid. Please try again.	CB-en-US-InvalidPhoneNumber.wav	8Khz mono Mulaw
The date and time entered was invalid.	CB-en-US-InvalidpreferredTime.wav	8Khz mono Mulaw
Enter the time or date and time you want to be called back at.	CB-en-US-PreferredTime.wav	8Khz mono Mulaw
The callback request has been successfully submitted.	CB-en-US-SubmitConfirmation.wav	8Khz mono Mulaw
You have entered...	CB-en-US-YouHaveEntered.wav	8Khz mono Mulaw
...if this is correct, press one. If this is not correct, please press the star key.	CB-en-US-YouHaveEnteredConfirm.wav	8Khz mono Mulaw

Message or prompt		
Please enter your management password.	mgmt-en-US1 - Instructions.wav	8Khz mono Mulaw
The password you have entered is incorrect.	mgmt-en-US2 - Invalid password.wav	8Khz mono Mulaw
To record system prompts, press one. To change the system's operating mode, press two.	mgmt-en-US3 - Main menu.wav	8Khz mono Mulaw
Begin speaking after the tone. When finished, press any digit.	mgmt-en-US4 - Recording instructions.wav	8Khz mono Mulaw
To keep this recording, press any digit. Press star or pound to delete this recording.	mgmt-en-US5 - Recording playback instructions.wav	8Khz mono Mulaw
Playing back recording.	mgmt-en-US6 - Recording playback.wav	8Khz mono Mulaw
Recording has been saved.	mgmt-en-US7 - Recording saved.wav	8Khz mono Mulaw
Recording deleted.	mgmt-en-US8 - Recording deleted.wav	8Khz mono Mulaw
Press one to change the system's operating mode, or press two to change the operating mode of a specific port group.	mgmt-en-US9 - Emergency Instructions.wav	8Khz mono Mulaw
Press one to set the system to emergency mode, or press two to set the system to normal mode.	mgmt-en-US10 - Set system emergency instructions.wav	8Khz mono Mulaw
Please enter the reporting number for the port group you would like to change.	mgmt-en-US11 - Port group emergency instructions.wav	8Khz mono Mulaw
Your port groups are now operating in emergency mode.	mgmt-en-US12 - System emergency mode set.wav	8Khz mono Mulaw

Message or prompt		
Your port groups are now operating in normal mode.	mgmt-en-US13 - System normal mode set.wav	8Khz mono Mulaw
The port group you have entered does not exist.	mgmt-en-US14 - Invalid port group.wav	8Khz mono Mulaw
Exiting management activity.	mgmt-en-US15 - Exit management activity.wav	8Khz mono Mulaw
Normal mode.	mgmt-en-US16 - Normal mode.wav	8Khz mono Mulaw
Emergency mode.	mgmt-en-US17 - Emergency mode.wav	8Khz mono Mulaw
...is now operating in emergency mode.	mgmt-en-US18 - Port group emergency mode.wav	8Khz mono Mulaw
...is now operating in normal mode.	mgmt-en-US19 - Port group normal mode.wav	8Khz mono Mulaw
...is currently operating in normal mode. Press one to change this port group to operate in emergency mode.	mgmt-en-US20 - Confirm port group emergency mode.wav	8Khz mono Mulaw
...is currently operating in emergency mode. Press one to change this port group to operate in normal mode.	mgmt-en-US21 - Confirm port group normal mode.wav	8Khz mono Mulaw
All our representatives are busy helping other callers. Your call will be answered as an agent becomes available.	en-US1 - All of our representatives are busy.wav	8Khz mono Mulaw
Good morning and thank you for calling. All our representatives are busy helping other callers. Your call will be answered as an agent becomes available.	en-US2 - Main menu instructions.wav	8Khz mono Mulaw
Good afternoon and thank you for calling. All our representatives are busy helping other callers. Your call will be answered as an agent becomes available.	en-US3 - Good afternoon, thank you for calling.wav	8Khz mono Mulaw

Message or prompt		
Thank you for calling. Based on current call volume, the expected wait time is...	en-US4 - Based on current call volume, expected wait time.wav	8Khz mono Mulaw
Thank you for calling. Due to the unusually high number of calls, the expected wait time is...	en-US5 - High number of calls, expected wait time.wav	8Khz mono Mulaw
Thank you for calling. The current wait times are between 5 and 10 minutes. Please continue to hold to maintain your call priority. We thank you for your patience.	en-US6 - Current wait time between 5-10 minutes.wav	8Khz mono Mulaw
Thank you for calling. Due to the unusually high number of calls, the current wait times are greater than 10 minutes. Please continue to hold to maintain your call priority. We thank you for your patience.	en-US7 - Current wait time greater than 10 minutes.wav	8Khz mono Mulaw
That option is not available.	en-US8 - That option is not available.wav	8Khz mono Mulaw
Thank you for calling. Our offices are now closed. Please call back Monday to Friday.	en-US9 - Offices are closed.wav	8Khz mono Mulaw
Thank you for calling. Our offices are now closed for the holiday. Please call back Monday to Friday between the hours of 8am and 5pm.	en-US10 - Offices are closed for holidays.wav	8Khz mono Mulaw
Thank you for calling. We are currently experiencing an unusually high number of calls. Your call will be answered as soon as an agent is available. We thank you for your patience.	en-US11 - Unusually high volume of calls.wav	8Khz mono Mulaw
You have entered...	en-US12 - You have entered.wav	8Khz mono Mulaw
...if this is correct, press one. If this is not correct, please press the star key.	en-US13 - If correct Press 1, if not correct press star.wav	8Khz mono Mulaw
Please wait while the call is established.	en-US14 - Please wait until call is established.wav	8Khz mono Mulaw
Connecting now.	en-US15 - Connecting now.wav	8Khz mono Mulaw

Message or prompt		
Your call is being routed. One moment please.	en-US16 - Call being routed.wav	8Khz mono Mulaw
Thank you for calling. Your call will be answered in as soon as an agent becomes available.	en-US17 - Your call will be answered when agent becomes available.wav	8Khz mono Mulaw
That selection is invalid.	en-US18 - Selection is invalid.wav	8Khz mono Mulaw
The number of callers waiting is…	en-US19 - Number of callers waiting is.wav	8Khz mono Mulaw
Your position in queue is…	en-US20 - Your position in queue is.wav	8Khz mono Mulaw
The longest call waiting is…	en-US21 - Longest call waiting is.wav	8Khz mono Mulaw
Goodbye.	en-US22 - Goodbye.wav	8Khz mono Mulaw

Chapter 18

Intelligent Queue

Intelligent Queue

Intelligent Queue is an all-in-one, scalable, web-based, integrated voice processing solution providing static messaging, intelligent messaging, voice and web callbacks, call recording, enhanced routing, reporting capabilities, and caller-entered digit screen pop when integrated with Contact Center Screen Pop.

Intelligent Queue is an optional application that works with Contact Center Management. Contact Center Management provides real-time statistics (required for queue conditional messaging) and historical reporting of Intelligent Queue activity (Call detail reporting option). It supports the G729 codec with a voice compression rate of 1/8. The compression optimizes network bandwidth so that networked branches of a company can communicate more quickly and efficiently with each other.

Intelligent Queue is easily and effectively managed through a web-based interface with .wav file recordings. Administrators dynamically configure the application ports and features of Intelligent Queue from an Internet Explorer browser. This flexibility makes the system highly responsive to the needs of the contact center manager.

Using Intelligent Queue

The Getting started section provides information on licensing, registering, and upgrading Intelligent Queue.

Registering and Activating Intelligent Queue

Before you register Intelligent Queue, ensure you have your site key available. The site key is the five-digit number located in your product fulfillment email.

You must contact prairieFyre Software technical support at 613-599-0045 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific) to register and activate your Intelligent Queue software.

Registration can be completed online or offline. Upon registration, prairieFyre will issue you a key to license your Intelligent Queue software and a MOSS password you will require during the activation process.

Registering your Intelligent Queue software

To register your Intelligent Queue software

1. Contact prairieFyre Software technical support at 613-599-0045 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific), and provide the technical support representative with the five digit site key located in your product fulfillment email.
   prairieFyre will issue you a license key and a MOSS password. Ensure you write this information down as it is required during the activation process.
2. In Windows, navigate to the **Mitel** program folder and select **Intelligent Queue=>Intelligent Queue License Client**.
   The Registration dialog box opens.

3. If you have an active Internet connection, click Register Online. See "Registering online" on page 565.
   If you do not have an active Internet connection, click Register Offline. See "Registering offline" on page 565.

Registering online

NOTE: To ensure you are able to register online, any firewalls and proxies must be configured to allow traffic over port 80 to IP address 72.1.218.40.

To register Intelligent Queue online

1. In Windows, navigate to the **Mitel** program folder and select **Intelligent Queue=>Intelligent Queue License Client**.
2. Click Register Online.
3. Type the License Key in the Online Registry form and click OK.
   Your Intelligent Queue software is registered automatically. When complete, the Online Registration: Successfully Licensed message opens.
4. Click OK and close the Registration window.

Registering offline

If you do not have access to the Internet or if you cannot access our license server, you can register offline. After you register offline, the License Client application will register a seven-day demo license while you wait for your license file from prairieFyre Software.

To register Intelligent Queue offline

1. In Windows, navigate to the **Mitel** program folder and select **Intelligent Queue=>Intelligent Queue License Client**.
   The Registration window opens.
2. Click Register Offline.
3. Type the License Key in the Offline Registry form and click OK.
   The Offline Registration engine generates the IQ.dlsc file in your Intelligent Queue install folder.
4. Locate the IQ.dlsc file and email it to the Technical Support representative.
   He will sign the IQ.dlsc file electronically and send it back to you.
5. Replace the existing IQ.dlsc file with the signed copy.

Registering a seven-day demo license

With the seven-day demo license you receive 24 ports, callbacks, and CDR so you can continue using Intelligent Queue. However, you should replace the demo license file before the seven days expire to ensure you have continuous access. After you replace the demo license with your license the only the purchased options will be enabled.

To register Intelligent Queue offline

1. Launch the Intelligent Queue License Utility by navigating to the Mitel program folder and selecting **Intelligent Queue=>Intelligent Queue License Utility**.
   The Registration window opens.
2. Click the **Install Demo** button.
3. Start Intelligent Queue by navigating to the **Mitel** program folder and selecting **Intelligent Queue=>Intelligent Queue**.

Activating your Intelligent Queue software

To activate your Intelligent Queue software

1. Open **Intelligent Queue**.
2. Log in to Intelligent Queue using mitel / setup as the default username and password.
   The Purchased Options page opens.
3. Under **System License**, enter the Mitel Options (MOSS) Password provided to you during the registration process.
4. Under **System Options**, select the Intelligent Queue bundle and options you have purchased.
5. Click **Save**.

Upgrading an existing license

If you are upgrading from Intelligent Queue Version 3.1.x to Version 5.x, you must upgrade your license. Before you start the license upgrade, you will need a new MOS password. If you do not have it, contact prairieFyre Software Inc.Technical Support at 613-599-0045 and select option 3 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).

To upgrade an existing Intelligent Queue license

1. Log on to Intelligent Queue with the default user name and password:
   - Username: mitel
   - Password: setup
2. Click **Administration=>Purchased options**.
   The Purchased options window opens.
3. Verify your Mitel Product Key matches the MOSS Options sheet.
4. After **Enter the Mitel Options Password**, type the MOS password you received for the license upgrade.
5. Enter your system options.
6. Click **Save**.
   If the information you entered is correct, menu items will open. The menu items correspond to your purchased options. If you entered incorrect information, the Incorrect select window opens and you will need to correct your system options entries.

Intelligent Queue functionality

In general terms, the functionality that the Intelligent Queue offers can be broken down into the following core and optional behaviors.

Incoming call handling

Incoming call handling behaviors cover the conditions and actions that are triggered when a call is received, such as information messaging, interactive trees, and routing.

Music on hold

Music on hold describes the music subsystem and how it behaves.

System administration

System administration covers the system behaviors that are related to configuring and maintaining Intelligent Queue.

Optional functionality

Callback processing

Callback processing addresses all the behaviors that occur between the callback request by the customer to the processing of the callback by an ACD agent. Callbacks consist of two parts: intelligent call processing that stems from interactive tree choices and callback processing that requires dedicated ports based on volume.

Agent call recording

Agent call recording addresses the behavior of the quality monitoring feature.

Call detail reporting

Call detail reporting allows the system to report on the activity of Intelligent Queue through Contact Center Management.

Caller-entered digits

Caller-entered digits addresses how the caller can enter digits for identification purposes with screen pop on the agent's desktop through integration with Contact Center Screen Pop.

Core functionality

Intelligent Queue consists of the following core functionality:

Incoming call handling

Intelligent Queue defines port behavior dynamically, based on call properties, schedule, current queue conditions, and operating mode.

Music on hold

You can use Intelligent Queue as a music on hold source for your telephone system using a PC sound card, if equipped. Intelligent Queue plays music through the sound card using a rotating (loop) playlist. Music sources for the playlist include any or all of the following: audio CD, stored .wav file, and stored MP3 file. The playlist can include music or prerecorded information messages.

The behavior begins when the music engine is started, either by the Windows service or via the user interface. A user with Intelligent Queue administrator rights can start or stop the music engine from the user interface. Once started, the music engine will loop through the play list, playing continuously until it is stopped.

System administration

Intelligent Queue enables you to record announcements or change the Emergency Mode status using the phone. When you record new system prompts, they are stored in a temporary inbox folder until you name the message and assign it to an action or message plan via the Web interface.

System administration includes starting/stopping the engines and event logging.

Incoming call handling

The action an Intelligent Queue port takes when a call is received is defined by an action plan. A call's action plan depends on the conditions defined for the port group.

Incoming call handling conditions

When a call is detected at an Intelligent Queue port, the system consults its database to determine which are defined for that port. Conditions are defined in the user interface and act as a decision tree structure. Each port or group of ports has a set of conditions that determine which action plan applies to the current call. If no conditions are defined, or no defined conditions are met, the port uses a default action plan. Action plan selection starts when a call is first detected on the Intelligent Queue port and is completed before the call is answered.

Multiple conditions can be applied to each port, and any condition can lead to another subcondition or action plan. The order in which the conditions are defined in the user interface determines the order that the conditions are applied to a call.

An Intelligent Queue port uses the following conditions to determine an action plan:

Caller's telephone number (ANI)

The system compares a callers's telephone number to a list (ANI map) of telephone numbers or digit patterns. If a match is detected, the defined action plan or subcondition is applied.

The number dialed by the caller (DNIS)

The number that is presented to the telephone system as the dialed digits can be used as a condition.

Redirection number

If applicable, the original destination of the call can be used as a condition for determining the action plan. The original destination is the number from which the call was diverted, forwarded, or transferred (unsupervised transfers). For ACD interflow, this device is the ACD path from where the call came.

Day of the year

Any specific date can be defined as a condition. You can apply a subcondition, such as time of day, to make the condition more specific.

Day of the week

Any specific day of the week can be defined as a condition. You can apply a subcondition, such as time of day, to make the condition more specific.

Time of day

A specific time period can be defined as a condition. You can specify the start and end times for which the condition is valid.

Number of calls in queue

If you have Contact Center Management, you can use the total number of calls waiting in a queue or queue group, at the time the call begins to ring on the Intelligent Queue port, as a condition for applying an action plan to a call. The system queries Contact Center Management at decision time to determine the current queue conditions.

Queue waiting times

If you have Contact Center Management, you can use the longest amount of time that a caller has been waiting in a queue or queue group, at the time the call begins to ring on the Intelligent Queue port, as a condition for applying an action plan to a call. The system queries Contact Center Management at decision time to determine the current queue conditions.

Operating mode

The current operating mode of the system or of a port group can be either Normal or Emergency. An Intelligent Queue administrator can place the call flows in Emergency mode to force all calls on a port to use a predefined Emergency action plan. This would typically be due to an unforeseen temporary closure of a contact center, as in the case of a natural disaster.

Incoming call handling action plans (messaging, callback, and routing)

All calls are eventually handled by an action plan. An action plan is a set of call handling instructions that defines how to manage a specific call. The relationship between conditions and action plans is that conditions define which action plan is chosen for a specific call. If no conditions are met, a default action plan is used to handle the call. An action plan begins upon selection and carries a call for the duration of its existence within Intelligent Queue.

An action plan can be defined as any of the following call handling types:

Do nothing (default)

This is the default type for any action plan.

Play a message

The Intelligent Queue port answers the offered call and plays a predefined .wav file that is determined by the condition. Messages can be static, prerecorded phrases or complex messages made up of a set of concatenated phrases. Complex messages can include queue condition values, such as number of callers in queue, call load, and longest waiting call in queue.

NOTE: This is the only type of action plan that can be used if the port is defined as a RAD port. In this case, the Intelligent Queue port(s) used to play the RAD would be dedicated.

Redirect the call

The call is not answered and is redirected to a predefined destination. Since the call is not answered, no message is played to the caller, and the caller is unaware of the redirection.

Transfer the call

The Intelligent Queue port answers the call. Once answered, an optional greeting can be played for the caller and then the call blind transfers to a predefined destination.

Interact with the caller

This type of action plan uses a predefined Interactive Tree that is configured to offer choices to the caller. The caller makes their selections using their keypad to navigate to the information or destination that they desire. You can define each digit on the keypad (0-9,*,#) as an option that can perform any one of the following functions: play a message, transfer a call, leave a voice callback, collect digits, manage the system, offer a submenu, go to another choice, repeat the choices, offer Voice callback.

Offer voice callback

The Intelligent Queue port answers the offered call and then prompts the caller for information required by a predefined voice callback structure.

Collect digits

This option must be purchased and in use on the PBX where Intelligent Queue resides. This option would prompt the caller to enter a digit string, such as an account number. This account number would be sent to the ACD agent that eventually answers the call, for screen pop into a desktop application. The number of digits can be pre-defined, or can be terminated by a digit, such as #, or by a pre-defined duration of silence.

Manage the system

The Intelligent Queue port answers the offered call and then prompts the caller for a password. The caller enters the password using their keypad. Once the password is validated, Intelligent Queue allows the caller to record system prompts or change the system's operating mode (Emergency or Normal mode) using their telephone. When a caller chooses to record new system prompts, Intelligent Queue stores the prompts in a temporary "Inbox" folder. The message is named and assigned to an action plan or message list. When the caller chooses to change the system's operating mode, the change is immediate and will be reflected when Intelligent Queue receives the next call.

Music on hold

You can use Intelligent Queue as a music on hold source for your telephone system using a PC sound card, if equipped. Intelligent Queue plays music through the sound card using a rotating (loop) playlist. Music sources for the playlist include any or all of the following: audio CD, stored .wav file, and stored MP3 file. The playlist can include music or prerecorded information messages.

The behavior begins when the music engine is started, either by the Windows service or via the user interface. A user with Intelligent Queue administrator rights can start or stop the music engine from the user interface. Once started, the music engine will loop through the play list, playing continuously until it is stopped.

System administration

You can configure and manage Intelligent Queue through the web-based user interface. The first step is to authenticate the user name and password. This user name/password combination defines the user's access level. Users will generally be granted selected permissions, while administrators will grant themselves full permissions.Intelligent Queue can run on multiple servers simultaneously. When multiple instances of Intelligent Queue are running at once, the system and user IDs are shown at the top right of the user interface to help users identify which system they are making changes to.

Starting/stopping the engines

The messaging engines start automatically when the operating system is started. You can manually start or stop the engines from Services in the Control Panel or through a dialog in the user interface.

Event logging

Event logging is applicable to all incoming and outgoing calls. Event logging begins when a call is first detected and ends when a transfer terminates the call or hangs up. Each log contains a self-describing record of the event.

The following events will cause an event to be logged:

- **Call received**
  When a call first enters Intelligent Queue, the system logs all known properties of the call.
- **Action plan selected**
  When Intelligent Queue selects an action plan for a call, the system logs the action plan, as well as the selection criteria.

- **System action**
  The system logs all actions taken by the Intelligent Queue port.
- **Caller action**
  The system logs all actions taken by a caller while connected to an Intelligent Queue port.
- **Agent action**
  The system logs the actions that an agent takes while in a callback.
- **Callback**
  The system logs all actions and events of a callback.

Optional functionality

Intelligent Queue consists of four types of optional functionality:

Callback processing

Intelligent Queue processes callbacks on a first in/first out basis. Upon receipt of a callback request, agents listen to the caller's message, then either place the call, requeue the request, or reject the request.

Agent call recording

Agent call recording is used for quality monitoring. Intelligent Queue enables you to access administrative screens and record agents based on agent IDs or extensions.

Call detail reporting

Call detail reporting enables the system to report on Intelligent Queue call activity.

Caller-entered digits

Caller-entered digits enable callers to enter digits with their keypad for identification purposes.

Callback processing

Callback processing consists of
- Voice callback requests
- Web callback requests

Intelligent Queue processes callback requests in a continuous loop using the ports that are dedicated to callback processing. Each callback queue on the telephone system needs to be created, identifying the group and priority for the callbacks. Each callback request is submitted with a callback action plan. This structure defines the ACD path to attempt, the client's telephone number, the client's name, the greeting to be played, queue thresholds, and the language in which the call should be processed. Intelligent Queue processes callbacks on a 'first in/first out' basis, but each call has a maximum number of attempts and a retry interval. If the client does not answer the call, the system requeues the callback request to a maximum number of attempts. Intelligent Queue will not attempt the callback again until the retry interval has been exceeded. However, if the callback request reaches a customer's voice mailbox, the agent can then leave a voice mail message.

Each callback structure also defines the maximum amount of time the callback port will wait for an agent to answer, before requeuing the call and moving to the next request. Upon receipt of a callback request, agents can listen to the caller's message, place the call, requeue the request, or reject the request. Callback requests can be viewed, prioritized, deleted, changed, or executed immediately from the user interface by a user with administrator privileges.

Voice callback request

Voice callback allows a caller to request an agent callback instead of staying on the line. You can create distinct callback profiles based on the type of callback. These profiles enable the agent to understand the origin of the callback request by providing a specific callback greeting to the customer and an introduction to the agent.

A voice callback request prompts the caller for the following information:

- A telephone number at which they can be contacted
- The caller's name (recorded as a .wav file for playback by an ACD agent)
- A confirmation to submit the request

Once the caller provides the information, Intelligent Queue hangs up and records the request in the database for processing.

Web callback request

Web callback allows a customer to request an agent callback via the Web. The customer completes a Web callback request on an HTML/ASP page that is designed and hosted by the Intelligent Queue customer. Intelligent Queue then submits the information to the database for callback processing.

A web callback request prompts the caller for the following information:

- The telephone number at which they can be contacted
- The customer's name (presented as a Text To Speech (TTS) rendition to the ACD agent)
- The target ACD path

Intelligent Queue then submits the information to the database for callback processing.

Agent call recording

Call recording, for quality monitoring purposes, requires that ports be dedicated as recording ports to ensure availability and to avoid call collisions with incoming calls. Intelligent Queue administration initiates this functionality and saves all recordings as .wav files.

Using Intelligent Queue, a user with sufficient rights enters an agent ID or extension number to request that a current call, or the next call received, be recorded. An agent that is being recorded cannot be monitored by anyone else at the same time. Once the recording completes, the user can access the recording with Intelligent Queue Administration to view the success or failure of the request and to play, export, or delete the recording.

Please check your municipal, provincial/state, and federal laws governing the use of call recording. Agent call recording is for "ad hoc" recording, and not for recording all agent calls.

Call detail reporting

The Call detail reporting option requires Contact Center Management (version 5 or higher) and Microsoft Excel to generate reports. Call detail reporting allows the system to report on the activity of Intelligent Queue. For example, you can generate a report that lists the choices callers are making in the interactive trees. This option helps you to make decisions about future call handling and processes, with an eye to continually improving service and effectiveness. You can create reports based on selections made by in-queue callers to navigate through Intelligent Queue.

Planning the number of ports you require

NOTE:

- System requirements change based on the number and type of ports you add.
- You must be a registered user to access Mitel OnLine. First time users will be prompted to register and create a username and password which can be used on all subsequent visits

It is important that you carefully plan the total number of each port type you require before you configure Intelligent Queue. Visit the Contact Center Portal on Mitel OnLine to view the Intelligent Queue port sizing tool (Excel spreadsheet). Port usage is inherently tied to the amount of traffic that the queues will be getting, as well as from the frequency of updates, and length of the messages played during the updates. The best way to determine the number required is to use the Intelligent Queue port sizing tool .

If an action plan calls for RAD messaging, a dedicated port is required. The number of RAD ports required is based on the volume of calls and of distinct messaging sequences. If an action plan requires one-to-one interaction, the number of ports required is based on volume.

To access the Intelligent Queue port sizing tool

- Browse to:
  http://www.prairiefyre.com/wp-content/rscs/documentation/IntelligentQueuePortSizingUtility.xls.

Types of ports

The type of port(s) you assign to the call flow determines what happens when the caller presses a telephone digit. Generally, messaging ports should make up the largest percentage of ports. If you do not have voice callback, you do not need callback ports.

Intelligent Queue uses several types of ports:

Messaging ports

Messaging ports are used for all incoming calls to Intelligent Queue. Messaging ports provide one-to-one interaction with the caller through interactive trees, messaging, routing, and taking callback requests. Messages can be either static or dynamic if you have Contact Center Management. Every messaging port is dynamic unless it is defined as a RAD (Recorded Announcement Device) on the communications system. A RAD port is a dedicated port that plays the same message for up to 50 callers simultaneously.

Management ports

Management ports are a type of messaging port used for emergency and prompts.

Callback ports

Callback ports are dedicated ports used for the outbound portion of callback requests. This type of port executes the callback with the ACD Agent.

Recording ports

Recording ports are dedicated ports used by supervisors to record ACD calls for quality monitoring purposes.

Updated position in queue ports

Updated position in queue ports are ports used for the Updated position in queue message. A port can play more than one updated position in queue message, however, it sends that message to one caller at a time only.

NOTE: In order to use Updated position in queue, you must enable all HCI options on Class of Service Assignment form 1 (COS 1). See the *Mitel Intelligent Queue Installation Guide*.

Types of messaging ports

Several factors affect the number of messaging ports you require for your Intelligent Queue system:

- the type of messaging: RAD or intelligent messaging (interactive trees)
- the nature of the message
- the length of the message
- the number of callers to whom you want to play an Updated position in queue message RAD messaging ports

When programmed on your telephone system as a RAD, Intelligent Queue ports are dedicated to a distinct messaging sequence. The Class of Service (COS) given to each RAD port has the Recorded Announcement Device option enabled in the COS. When configured as a RAD, the Intelligent Queue port does not receive any of the audio or DTMF digits entered by a caller. The telephone system processes the DTMF input instead of passing the digits to Intelligent Queue.

An Intelligent Queue port that is programmed as a RAD can play messages to callers who are waiting in an ACD path. The primary function of a RAD is to supply messages to up to 50 incoming calls simultaneously. This feature is beneficial to companies that want to supply general announcements. Each RAD (or distinct messaging sequence) requires a dedicated port, a directory number, and its own Class of Service. The number of RAD ports in a system depends upon the number of distinct announcements required by the customer and the call volume.

Up to 50 callers can listen to one RAD simultaneously. Any caller routed to a busy RAD is put on hold until the recording is finished. When the port clears down, the RAD is seized and all waiting callers receive the announcement. All calls maintain their position in the incoming queue, either while listening to the RAD or while queued for service. If an agent becomes free while a caller is listening to a RAD, Intelligent Queue routes the caller to that agent immediately.

RAD port conditions

RAD ports are not as flexible as intelligent messaging ports and require dedicated ports on Intelligent Queue. RADs play for up to 50 people at a time, making it impossible to use some of the conditions that make other ports flexible.

You can apply the following conditions to RAD ports to make them more flexible:

- Schedule conditions (time of day, day of week, day of year)
- Queue conditions
- Emergency conditions

You cannot apply the following conditions to RAD ports, because there are up to 50 different callers on the call at once:

- ANI conditions
- DNIS conditions
- Redirection conditions

The number of Intelligent Queue RAD ports that you require depends on the number of distinct messaging sequences that you require in your ACD environment, as well as basic traffic requirements. The following ACD path example requires three Intelligent Queue ports for RAD messaging.

The first port in this scenario identifies the department that the caller has reached. There are two departments offered (Sales and Support), so the system requires two distinct messages. In both ACD paths, the second message that a caller hears is a generic, *please hold* type of message that can be shared between the paths. Only one port is required for the common message. However, the number of ports required might increase based on volume.

Intelligent Queue can use a RAD port for the PBX Auto Attendant, because the DTMF is processed by the PBX. For example, a caller might hear the message, “If you know the extension of the person you wish to reach, please dial it now.”

Intelligent call processing ports

When you use an intelligent call processing port, Intelligent Queue handles a single caller at a time. The amount of time that the port is in use depends on the options given to a caller. You can configure intelligent messaging ports to execute the following actions: play messages, accept callback requests, collect digits, manage the system, offer a submenu, go to another point in the tree, replay the greeting, or route callers to predefined destinations (queue/voice mail/extension). The action the system takes depends on the following conditions: ANI, DNIS, redirection, schedule, queue conditions, and system mode. When the port is used to accept callback requests, Intelligent Queue collects the caller’s information on the intelligent messaging port, but the actual processing of the callback takes place on a separate, dedicated callback port.

Callback processing ports

Callback ports are Intelligent Queue ports that are dedicated to processing all of the collected callback requests based on a callback plan. Callbacks are action plans that can be associated with each individual request, rather than with a predefined port. When an agent answers, the system gives the agent the option to listen to the message or place the call. Once the agent places the call, the callback port begins processing the next request in the database. The number of callback ports required depends on the expected number of callback requests to be processed.

Recording ports

Recording ports are Intelligent Queue ports that are dedicated to quality monitoring. You can initiate call recording from the Intelligent Queue user interface. Using Intelligent Queue, a supervisor enters an Agent ID, extension number, or Agent Group ID to request that the current call or the next call received be recorded. Once the recording completes, the system notifies the user of the success (or failure) of the request, as well as the file name with which the call recording has been stored.

Updated position in queue ports

A port can play more than one updated position in queue message, however, it sends that message to one caller at a time only. Updated position in queue ports are Intelligent Queue ports that are dedicated to continually informing customers of their current position in queue. Intelligent Queue tells customers their queue position when they first enter queue and keeps customers updated throughout their wait as their position changes. For example, Intelligent Queue states “Three” when the customer is third in line to be answered. As the customer’s position in queue changes, Intelligent Queue will continue to update the customer, stating “Two” and then “One.” You add a .wav file to play in front of the position provided by Intelligent Queue and you configure how often Intelligent Queue will update the customer. For example, “You are caller number” “Three” can be configured to play once every minute. You specify the number of customers Intelligent Queue will inform of their Updated position in queue, keeping in mind that each call requires a port.

NOTE: In order to use Updated position in queue, you must enable all HCI options on Class of Service Assignment form 1 (COS 1). See the *Intelligent Queue Installation Guide*.

Types of messages

You can program ports on Intelligent Queue as either RAD or interactive ports. You must consider how the ports are programmed on the system as well as call volume when determining the number of ports required. The number of required RAD ports is based on the number of dedicated ports per distinct messaging sequence and call volume. The number of required interactive ports is based on how many telephones are programmed on the system as a device (telephone) and the call volume.

The type of the message played by a port also has an effect on the number of ports required by Intelligent Queue. If the message is generic in nature and can be shared by several applications, the system requires fewer ports. For instance, if a RAD port plays the message, “Please hold to maintain your call priority,” then more than one ACD group can use this port. If the message is more specific, a new port is required. For example, only a sales ACD group would use a RAD port that plays the message, “Please hold to speak with a sales representative.”

With Intelligent Queue, you can combine different types of messages within a messaging plan:

Interactive tree messages

Interactive trees play advanced messages that are played before a caller enters the queue. An initial message greets callers and lists their options. The caller selects from the options by pressing a telephone digit. The caller can then navigate through multiple options to arrive at the information or ACD path that best suits their needs.

RAD messages

RAD messages are basic in-queue messages. Intelligent Queue plays RAD messages to greet callers and provide advertisements or information while callers wait for an agent. These are “Thank you for holding” type messages. Messages must be .wav files. Music can be .wav or MP3 files or an external music source such as an audio CD.

Time in queue messages

NOTE: If you have Contact Center Management version 4.x, and you want to use time in queue messaging, you must have the Client Component Pack installed before you install Intelligent Queue.

Time in queue messages are played to a caller while in queue. They are based on real-time ACD statistics, such as the expected wait time before the call is answered.

This is how Intelligent Queue calculates the expected wait time: If there are agents available: Expected Wait Time = (Average Talk Time for the Queue x Calls Waiting in the Queue) / Available Agents, and if there are no agents available: Expected Wait Time = Average Time to Answer for the Queue

Updated position in queue messages

Updated position in queue messages are played to a caller while in queue. They inform customers of their initial queue position, and keep them informed of their position as it changes, at preset intervals.

Intelligent Queue Updated position in queue will provide the position but will not provide the message. If you want the callers in queue to hear a messages, for example, “Your call will be answered next” or “You are in position...“ you must record the message.
See "Recording voice prompts" on page 632.

Length of messages

You should consider the length of the message that callers hear when determining the number of ports the system requires. If all of the ports are busy playing messages to callers, new callers have to wait until the previous message finishes before they are answered.

Intelligent Queue has no restriction on the length of the message files, however, the PBX does. You must program the length of the message in the PBX Class of Service (COS).

Number of ports purchased

The number of Intelligent Queue ports you have purchased is shown on the Mitel Options sheet and in the Intelligent Queue Administration menu. Intelligent Queue supports a maximum of 60 IP ports per PBX.

Understanding the call flow process

Mitel ACD, an advanced automatic call distribution feature package that is fully integrated with Mitel enterprise communications platforms, provides the following capabilities:

- Route calls to the most appropriate group(s)
- Queue and prioritize callers
- Distribute calls fairly within a group—longest idle or highest skilled agent gets the call
- Automatically reroute or expand the availability of agents based on current queue conditions
- Network multiple contact centers together
- In-queue messaging

Mitel’s ACD functionality allows contact centers to distribute incoming calls to the longest idle agent or the agents with the highest skill level.

Each ACD agent receives a unique agent ID number. The agent ID number is similar to a telephone directory number and can be assigned a name in the telephone directory.

You can use agent groups to group agents according to their line of business. Up to four agent groups can be programmed to an ACD queue. You can assign agent groups to one or more queues. Each queue supports up to four RAD messages, with the last being replayed as often as required, based on wait time.

Creating call flows

You can use Intelligent Queue to help determine where each call should go (ACD queue) and what each caller will hear.

To create a call flow

1. Assign conditions and actions.
   - Define conditions (ANI, DNIS, emergency, queue, redirection and schedule conditions)
   - Define actions (callbacks, digit collection, interactive trees, management, messaging and routing)
2. Assign call flows to port groups.

The ACD queue

The ACD queue is a flexible call routing method that provides the information required for handling incoming calls. The ACD queue controls the resources used, the order in which resources are encountered, and the timing of the steps. Calls are queued for an agent group based on the call priority and order of arrival at that path. Queuing is the same for new calls and overflow calls. If an agent group is not available, the system routes calls to an alternative agent group or "interflows" to another destination. Up to 256 ACD queues are supported, including one primary agent group and three overflow agent groups per queue.

Queue priority

Each ACD queue is assigned a priority level in the range of one to 64, with one being the highest.

Agent groups

An agent group consists of a logical grouping of agents trained to support a particular type of call. All queues are routed to one primary agent group and up to three overflow groups. Intelligent Queue supports up to 64 different agent groups to handle incoming ACD traffic.

Call flow

Typically, you program the ACD to ensure that the first call to arrive is routed to the longest idle agent or the agent with the highest skill level. If multiple agents are free when an ACD call is presented to a group, the system sends the call to the longest idle agent. Idle time is calculated from completion of an agent's last ACD call.

A caller should never receive a busy tone from an available queue. Intelligent Queue handles an incoming ACD call with the following actions: the caller receives a ringback tone, the RAD timer starts, the interflow timer programmed in the queue starts, the overflow timer for the primary group in the queue starts, the call goes to the longest idle/highest skilled agent.

When a trunk picks up a call, it forwards it through to a group of agents handling calls or to another answering point. The call arrives at the ACD queue of an agent group. The length of time the caller waits in queue is the queue time. While waiting in queue, the caller listens to product features, announcements, or other messages provided by a RAD. The caller can wait in queue for an available agent, leave a voice mail message, or abandon the call by hanging up, depending on how Intelligent Queue and the telephone system have been programmed.

When an agent is available, the customer connects immediately to the agent. When no agent is available, the caller automatically queues to the primary agent group in the queue. In both cases, the caller's communication path remains unaffected and the caller remains listening to its ringback tone, RAD or music on hold. The caller receives a ringback tone until the first RAD answers, an agent answers, interflow occurs, or the caller hangs up.

Overflowing calls

A queue contains one primary agent group and can have up to three overflow groups. The overflow groups provide backup resources to the primary agent group to ensure that service level goals are met. Calls that overflow maintain their position in queue. Agent group overflow timers determine how long a call waits before overflowing.

Intelligent Queue places an ACD call that is not answered immediately in a queue. If an agent does not pick up the call after a set amount of time (the overflow time), the system places the call in the queue of another agent group, in addition to keeping it in the first group. The first available agent in either group handles the call. The overflow feature limits the delay for callers by queuing calls against two or more agent groups.

Interflowing calls

You can program the telephone system to direct a call to voice mail or to another answering point. The interflow timer runs independently of the overflow timer. If the interflow timer expires, the system removes the call from the queue and redirects it to another answering point, such as a trunk or voice mail.

Interflow is a time- or load-based feature that takes an ACD call out of the queue and routes it to the interflow answer point (if one is programmed). A call that interflows to another queue adopts the priority of the => queue and does not look back for an agent to become available from the initial queue in the following instances: the new queue has *Interflow to this path uses this path priority* set to **Yes** in its Path Assignment form, or the call interflows from a queue that has a priority of 64.

Otherwise, the call's priority does not change.

Setting up Intelligent Queue

This section includes information on

- Administration procedures
- Configuring ports, PBX settings, Contact Center Management settings, Music Manager, and Updated position in queue
- Managing actions
- Managing conditions
- Managing call flows
- Managing port groups
- Viewing the status of a queue

Administration procedures

In this section, you will learn how to

- Log on and off as an administrator
- Enter your purchased options
- Set up administrator and user permissions
- Change system modes
- Change passwords
- Set up the automatic backup

Logging on and off for the first time (Administrator)

CAUTION: Your toolbars and your firewall might interfere with your ability to view Intelligent Queue. Ensure you have turned off any pop-up blockers found on your tool bars, and made the Intelligent Queue site an exception on your firewall. To turn off the Microsoft Pop-up Blocker, click Tools=>Pop-up Blocker=>Turn Off Pop-up Blocker.

Once the installation completes successfully, you can log on to the Intelligent Queue server for the first time. The initial logon opens the System options window, which requires you to select your purchased options and enter the number of licensed ports. Consult your MOSS Options Sheet, enter your Mitel Options password (MOP), and save the settings.

To log on to Intelligent Queue from the server computer

1. In Internet Explorer, type **http://[your server address]/Intelligent Queue**.
   The Login window opens.
   NOTE: Alternatively, you can launch the application from the Start menu.
2. After **Login**, type *mitel*.
   NOTE: mitel is the default user name you will use until you set up your administrator account. You will need to create your own user account as "mitel" is proprietary. After you create an administrator's account and log out, you can log back on with your new account information.
3. After **Password**, type *setup*.
4. Click **OK**.
   The Initial setup window opens.
5. Click **OK**.
   The Purchased options window opens.
   See "Entering your purchased options" on page 581.
   NOTE: After you save your options, your Mitel Options password becomes the password for the Mitel account.

Logging off

To log off Intelligent Queue

- Click **Logout** in the toolbar.
  The login page opens.

Logging on as an administrator after initial setup

To log on to Intelligent Queue from the server computer

1. In Internet Explorer, type **http://[your server address]/Intelligent Queue**
   The Login window opens.
   NOTE: Alternatively, you can launch the application from the Start menu.
2. After **Login**, type the user name you created during initial setup.
3. After **Password**, type the password that you created during initial setup.
4. Click **OK** to launch Intelligent Queue.

Entering your purchased options

To enter your purchased options

1. After **Select the product key**, verify your Mitel Product Key matches the MOSS Options Sheet.
   NOTE: Your Mitel Product Key is entered by default.
2. Using your MOSS Options Sheet, enter your Mitel Options password, the system options and the number of ports you purchased.
3. Click **Save**. If the information you entered is correct, menu items will open. The menu items correspond to your purchased options. If the information you entered is not correct, the Incorrect selection window opens.
4. If you entered incorrect information, click **OK** to return to the **Purchased Options** window to correct your entries.
5. Click **Save**.

Setting up administrator and user permissions

Only an administrator should create user accounts. First, create an administrator account with all permissions, including the Manage user accounts permission. Then, create user accounts with selected permissions.

Creating an administrator account

To create an administrator account with full permissions

1. Click **Administration=>Manage users**.
2. Type a user name and password.
   NOTE: The user name and password are case sensitive.
3. Re-type the password for confirmation.
4. Click **Select all** to give the account full permissions.
   NOTE: Allow login and View system status are selected by default for every user.
5. Click **Save**.
   Intelligent Queue adds the user name to the Users list.

After you create an administrator account, you can create user accounts.

Creating a user account

To create a user account with selected permissions

1. Click **Administration=>Manage users**.
2. Type a user name and password.
   NOTE: The user name and password are case sensitive.
3. Re-type the password for confirmation.
4. Select the permissions you want to assign to the user account.
   NOTE: Allow login and View system status are selected by default for every user. If you select Configure ports, Manage port groups will be selected by default.
5. Click **Save**.
   Intelligent Queue adds the user name to the Users list.

Changing system modes

A user with the proper permissions can control the operating mode of Intelligent Queue. The operating mode determines incoming call handling. If the system or port group is operating in a normal state, Intelligent Queue handles the call according to its assigned call flow conditions. If the system or port group is operating in Emergency mode, the system ignores the assigned conditions and follows a special call flow.

To change system modes

1. Click **Administration=>System mode**.
2. Select a system mode.
   - In **Normal state**, port groups follow a normal call flow pattern, except for port groups that have been placed into an emergency call flow pattern.If the system mode is in Normal state, Intelligent Queue checks the port group to see if it is in an Emergency state.
   - In **Emergency state**, port groups follow an emergency call flow pattern.The emergency call flow is followed without checking the state of the port groups.
3. Under **Normal state** and **Emergency state**, select individual or multiple port groups, and then click the appropriate arrow to move your port groups between Normal and Emergency states:
   - Click **>>** to move all Normal state port groups into Emergency state.
   - Click **>** to add selected Normal state port groups into Emergency state.
   - Click **<** to add selected Emergency state port groups into Normal state.
   - Click **<<** to move all Emergency state port groups into Normal state.
4. Click **Save**.

Changing passwords

Once logged in, any user can change their own password. However, if a user forgets their password and is unable to log on, only an administrator can clear the password field of that user account and enable the user to log on and change their password. Alternatively, the administrator can assign a password to the user and enable the user to log on and change their password.

NOTE: Only users with the Manage user accounts permission can access the Manage users menu item.

To change your user password

1. Click **Administration=>Change password**.
   The Change password window opens. The Current user name field is populated by default.
2. Type your old password.
3. Type a new password.
4. Re-type the new password for confirmation.
5. Click **Save**.

If a user forgets their password and is unable to log in, they can contact an administrator to clear the password field. The user can then log on to Intelligent Queue and create a new password. Alternatively, the administrator can assign a password to the user. The user can log on with that password and change it to a new password.

To clear the password field of a user account

1. Click **Administration=>Manage users**.
   NOTE: You must have administrator privileges, including the Manage user accounts permission, to access this option.
2. Under **User name**, type the name of a user or select a name from the list.
   The Change password button is enabled.

3. Click **Change password**.
4. Clear the **Password** field.
5. Click **Save**.

The user can now log on using their login name and no password. After logging on, they create a new password for themselves in the Change password window.

Setting up the automatic database backup

NOTE: Maintenance Service must be running to perform the automatic backups.

Intelligent Queue introduces automatic database backups in Version 5.2. Besides being able to configure the interval of the backups, you can also configure the time of day at which the backup occurs, and the number of files you want Intelligent Queue to keep. The automatic backup is performed by the Maintenance Service.

The automatic backup files are kept in the Intelligent Queue installation directory, under Data\Automatic Backups\ directory. Unless the user changes the default installation folder, the application installs in the directory C:\Program Files\Mitel\6160. The files are named Autobackup_<day of week>, <date>.xml., for example, *Autobackup_Sunday, December 24, 2006.xml***.**

The GlobalSettings.xml file controls when and if the automatic backup occurs. In the GlobalSettings.xml file, you will see the following <AUTOBACKUP> section.

```
<AUTOBACKUP>
        <ENABLED>true</ENABLED>
        <INTERVAL>2</INTERVAL>
        <TIMEOFDAY>3:00</TIMEOFDAY>
        <MAX_BACKUP>50</MAX_BACKUP>
</AUTOBACKUP>
```

Enabling the automatic backup

To enable the automatic backup

1. In the Intelligent Queue installation directory, under **\XML\Config**, locate the **GlobalSettings.xml** file.
2. Between the **ENABLED** tags, type **true**.

Disabling the automatic backup

To disable the automatic backup

1. In the Intelligent Queue installation directory, under **\XML\Config**, locate the **GlobalSettings.xml** file.
2. Between the **ENABLED** tags, type **false**.

Assigning the interval of the automatic backups

You can configure the interval of the backups. We recommend the default interval of every two days, but you can configure Intelligent Queue to perform backups more often or less often.

- Select **1**
  Intelligent Queue will back up the database once every day.
- Select **2**
  Intelligent Queue will back up the database once every two days.
- Select **3**
  Intelligent Queue will back up the database once every three days, etc.

To assign the interval of the automatic backups

1. In the Intelligent Queue installation directory, under **\XML\Config**, locate the **GlobalSettings.xml** file.
2. Between the **INTERVAL** tags, type a **number**.
   The number represents the number of days between automatic backups.

Assigning the time of day of the automatic backup

NOTE: When assigning the time of day, you must use the 24 hour clock, for example, 22:00 represents 10:00 P.M.

To assign the time of day of the automatic backup

1. In the Intelligent Queue installation directory, under **\XML\Config**, locate the **GlobalSettings.xml** file.
2. Between the **TIMEOFDAY** tags, type the time at which the automatic backup will occur, using the 24 hour clock.

Assigning the number of backup files to keep

NOTE: Intelligent Queue, by default, keeps 50 backup files. Each file represents 1 backup, so 50 files equals 50 backups. Only the most current files are kept.

To assign the number of backup files to keep

1. In the Intelligent Queue installation directory, under **\XML\Config**, locate the **GlobalSettings.xml** file.
2. Between the **MAX_BACKUP** tags, type the number of backup files you want to keep.
   Each time you backup you produce one file.

Configuring ports

NOTE: If you add or remove ports after the initial installation, you need to restart the services on the System status window. See the *Intelligent Queue Installation Guide* or "Viewing system status" on page 617 for more information about restarting the system.

You initially configure ports outside of Intelligent Queue, which reads the registry for the PBX, extension number and port group. From within Intelligent Queue, you can add editorial comments to each port.

To configure your ports

1. Click **Configure=>Ports**.
   The Configure Ports window opens.
2. Verify the extension numbers are correct for each port.
   NOTE: The extension numbers must be present and correct.
3. To add a comment for a particular port, click **Edit** in the appropriate row.
   A text box opens under **Comment**. Edit is replaced by Update and Cancel.
4. Type a comment in the **Comment** text box and click **Update** to save the comment.
5. To navigate through multiple pages of listings, click **Previous** or **Next**.

Configuring PBX settings

Intelligent Queue version 5 supports multiple PBXs configured on the same system. Although your PBX settings are populated at login, you can configure each PBX on the PBX Settings window.

Manually configuring PBX settings

To manually configure your PBX settings

1. Click **Configure=>PBX settings**.
   The PBX settings window opens.
2. If the media server type is SX-200 ICP, under **SX-200 ICP**, select the check box across from the media server.
   If you have an SX-200 ICP, and do not select the check box, the Intelligent Queue system will not connect to the SX-200 ICP server.
   If you have changed to an SX-200 ICP from a different type of media server, you need to restart the services for the new setting to take effect.
   See "Viewing system status" on page 617.
3. Click **Ping** to test a PBX connection.
   The ping results open in the Results box.
4. Click **Edit** in the appropriate row to add or edit a silent monitor code, ARS digits, external digits, and a media name for a PBX.
5. Click **Update**.
6. Click **Save**.
   NOTE: When you save PBX settings, the Intelligent Queue services require at least 20 seconds to save your changes to the server. The length of time is based on the complexity of the call flows. You can continue working during this period.

Configuring Contact Center Management settings

If you have installed both Contact Center Management and Client Component Pack, configure your Contact Center Management settings.

To configure your Contact Center Management settings

1. Click **Configure=>Contact Center Management settings**.
   The Settings tab opens.
2. After **Address**, type the host name or IP address of the Contact Center Management server.
3. After **Port**, the port of the Contact Center Management server number is shown by default.
4. Click **Ping** to test your Contact Center Management connection.
5. Click **Save** to save your IP address and port configuration.
6. To query a queue/path, under **Contact Center Management queue/path**, select a queue/path from the list box.
7. Click **Get queue statistics**.
   Results displays the number of agents in queue.
8. Click **Refresh queue** to refresh the list box.
9. Click **Clear results** to clear the Results box.

Configuring Music Manager

Intelligent Queue uses Music Manager to upload music files and configure playlists from those files. Music Manager plays a continuous loop of the playlist in the background of Intelligent Queue. The music in a playlist is what callers hear when they are on hold. After callers hear a message, Intelligent Queue places them in a queue where they hear the playlist until an agent answers the telephone. The playlist can contain CD songs, MP3 files and/or .wav files. The play list can include music or pre-recorded information messages.

To create a playlist

1. Click **Configure=>Music Manager**.
   The Play List tab opens.
2. After **Media type**, select a file type.
3. To add a track to the playlist, select one of more tracks from the list box and click **>**.
   NOTE: You can select multiple files by holding down the **Ctrl** key while selecting files. To select a range of files, hold down the **Shift** key, select the file at the top of the range and then select the file at the bottom of the range. All files in between will be selected.
4. Repeat steps 2 and 3 to add other media types to the playlist.
   NOTE: Within the Windows environment, you can also copy multiple music files into the music folder. If you accepted the default settings during installation, the default path name to your music folder is Program Files\Mitel Networks\Intelligent Queue\Music
5. To navigate through the playlist, click **Previous** or **Next**.
6. To delete a file from the playlist, click **Remove** beside the track name you wish to delete.
7. Click the **Upload files** tab to select files to upload to the server.
8. Click **Browse** to navigate to a file you want to upload.
9. Click **Add** to add the file to the Upload file list.
10. If you want to remove a file you added to the list, click **Remove**.
11. If you want to remove all files you added to the list, click **Remove all**.
12. To save the list of files to the server, click **Upload**.
13. Click the **Volume** tab to adjust the volume of music on hold.
14. For each volume level type, click the appropriate radio button (10 is loudest) under each level. To mute a sound type, select **Mute** beneath the appropriate volume level.
    NOTE: The Master volume level increases/decreases the system volume. When you adjust the volume of music on hold, you are also adjusting the server volume.

Disabling Windows sounds

Windows sounds play through the music on the playlist. If you use the Intelligent Queue server as a music on hold source, you must disable these sounds.

To disable Windows sounds

1. In Windows, navigate to the **Control Panel**.
2. Double-click **Sounds and Multimedia**.
3. Click the **Sounds** tab.
4. Under **Scheme**, click **No Sounds**.
5. Click **Apply**.
6. Click **OK**.

Preventing CDs from starting automatically

You do not want your CD-ROM to start automatically, because if you insert a CD while music on hold is on, the caller will hear both the music from the playlist and music from the CD. You must alter the registry to disable the AutoRun feature.

To disable the AutoRun feature

1. In the registry, navigate to **HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\CDRom**.
2. Set the **AutoRun** value to **0**.

In addition, you can manually prevent a CD from running by pressing the Shift key when you close the CD tray.

Removing a music file from the play list

To remove a music file from the play list

1. Click **Configure=>Music Manager**.
   The Play List tab opens.
2. Under **Play List**, select the music file(s) you want to remove from the playlist.
3. Click **Remove** to remove the selected files from the playlist. Click **Remove all** to clear the entire playlist.

Adjusting music volume

You can adjust the volume of the .wav or .mp3 message files, the volume of the CD, or the system volume level.

To adjust the music volume

1. Click **Configure=>Music Manager**.
   The Play List tab opens.
2. Click the **Volume** tab.
   The Volume window opens.
3. For each volume type, click the appropriate radio button (10 is loudest) to set the volume level. To mute a sound type, select **Mute** beneath the appropriate volume level.
   NOTE: The Master volume level increases/decreases the system volume. When you adjust the volume of music on hold, you are also adjusting the server volume.

Configuring Updated position in queue

CAUTION:

- In order to use Updated position in queue, you must enable all HCI options on Class of Service Assignment form 1 (COS 1). See the *Intelligent Queue Installation Guide*.
- Updated position in queue messages for the queue must be programmed to play less frequently than RAD messages for the queue, otherwise, the RAD messages will not play. The Updated position in queue message frequency is configured in Intelligent Queue. Click Configure=>Updated position in queue**.** The RAD message frequency is programmed on the switch.
  See "Receiving an Updated position in queue message" on page 652.
- In a multi-PBX scenario, a queue will play Updated position in queue messages only when the port group and the queues are on the same PBX. For example: PBX A has both Port Group 1 and Queue 1. PBX B has no port group but has Queue 2. You can play Updated position in queue messages on Queue 1. You cannot play Updated position in queue messages on Queue 2 because no ports are available. You must add an Updated position in queue port group to PBX B, restart the system from the Intelligent Queue Status>System Status page, and then create an Updated position in queue port group for PBX B.

Updated position in queue definitions:

Available queues

Available queues are all of the queues in your contact center. All queues are programmed in Contact Center Management. See "Configuring Contact Center Management settings" on page 585.

Monitored queues

Monitored queues are the queues for which callers will receive updated position messages.

Disabled

Selecting Disabled prevents the callers from receiving the updated position message.

Do not inform callers if their positions in queue drop

If a caller's position in queue drops, because higher priority callers arrive in queue, do not inform the caller. The caller will continue to hear the highest position obtained. For example, a caller who was third in queue, who dropped to seventh in queue, will continue to hear "You are caller number three."

Initial delay to update callers in queue

Initial delay to update caller in queue is the duration between when callers arrived in queue and when they are informed of their queue position. For example, if you configure five seconds, Intelligent Queue informs callers of their initial position five seconds after they arrive in queue.

Frequency to update callers in queue

Frequency to update callers in queue is the duration after the start of the previous message, when callers are informed of their updated positions. For example, if you configure two minutes, Intelligent Queue informs callers of their updated positions every two minutes. The initial update occurs two minutes after the start of the previous message.

Maximum position to report

Maximum position to report is the number of callers who will receive the updated position message.

Default message plan for positions

The default message plan is the plan used to inform callers of their position in queue. For example, "You are in position five."

Before you configure Updated position in queue messages

Before you can configure an Updated position in queue message, you must

- Ensure you are connected to Contact Center Management.
  The connection to Contact Center Management provides Intelligent Queue with real-time data. When you are connected the list of queues is available on the Updated position window. (Configure=>Updated position in queue.) See "Configuring Contact Center Management settings" on page 585.
- Ensure a media server, site, and Updated position in queue are configured in Contact Center Management.
  To create a media server, site, and queue, see the YourSite chapter of the *Contact Center Solutions User Guide*.
- Configure telephone system settings.
  Updated position in queue functionality is dependent on the information provided by Contact Center Management, so you must ensure you are pointing to the correct PBX. For example, if the media server in Contact Center Management is named "London" not 10.1.1.123, you need to ensure the PBX Intelligent Queue is pointing to is "London" and not 10.1.1.123. See "Configuring PBX settings" on page 584.
- Create a Updated position in queue port group.
  An Updated position in queue port group must be configured on the media server on which the queue resides. For example, if the updated position in queue is on 10.1.1.123, you need to create an Updated position in queue port group on 10.1.1.123 as well, and assign ports to it. See "Managing port groups: updated position in queue, messaging, callback, and recording ports" on page 615.

Configuring Updated position in queue for all queue positions

To configure an Updated position in queue message for all queue positions

1. Click **Configure=>Updated position in queue**.
2. After **Available queues**, select a queue from the list for which you want to provide callers with updated positions in queue.
3. Click **Add**.
   The queue will open under Monitored queues.
4. After **Monitored Queues**, if you have selected more than one queue, drag the queues to arrange them by priority, the top queue being the highest priority queue.
5. Select the queue for which you want to provide an updated position message.
6. After **Initial delay to update callers in queue**, select the number of minutes/seconds after which the caller arrives in queue, before the caller is informed of his position.
   For example, you can configure Intelligent Queue to inform callers of their position five seconds after they arrive in queue.
7. After **Frequency to update callers in queue**, select the number of minutes/seconds after the start of the previous message, that callers will hear their updated position.
   For example, you can configure Intelligent Queue to inform callers of their updated positions every two minutes. The initial update occurs two minutes after the start of the previous message.
8. After **Default message plan for positions**, select the message plan, previously configured, to use as the updated position message. For example, "You are in position five."
   Intelligent Queue Updated position in queue will provide the position but will not provide the message. If you want the callers in queue to hear a messages, for example, "Your call will be answered next" or "You are in position..." you must record the message.
   See "Recording voice prompts" on page 632.
9. After **Maximum position to report**, type the number of callers in each queue who will receive the updates.
10. Click **Save**.

After you have configured a default message that will play to all queues, you can optionally configure a unique message for specific queue positions.

Configuring Updated position in queue for specific queue positions

To configure an Updated position in queue message for specific queue positions

1. Click **Configure=>Updated position in queue**.
2. Click the **View and edit individual positions** tab.
3. Select the position. For example, select Position 1.
4. Click **Edit**.
   The default message, configured on the Settings tab, is displayed. You must edit the message plan to add the message you want to play for specific queue positions.
   Intelligent Queue Updated position in queue will provide the position but will not provide the message. If you want the callers in queue to hear a messages, for example, "Your call will be answered next" or "You are in position..." you must record the message.
   See "Recording voice prompts" on page 632.
5. Under **Range programming**, after **Assign the following message plan**, select the message plan.
6. After **from the positions**, select the position with the highest priority for which the message will be played.

7. After **to**, select the position with the lowest priority for which the message will be played.
   If the message is unique to just one position, then select the same position twice. For example, if the message "Your call will be answered next" is unique to the position in priority one, then select "from the positions 1 to 1 inclusive."
8. Click **Save**.

Creating action plans

An action plan is a set of call handling instructions that defines how to manage a specific call. An action plan begins upon selection and carries a call for the duration of its existence within Intelligent Queue. This section details how to configure the following types of action plans:

- Unverified collected digits
- Verified collected digits
- Interactive tree
- Messaging
- Emergency messaging
- Management
- Routing

NOTE: When you save an action plan, the Intelligent Queue services require at least 20 seconds to save your changes to the server. The length of time depends on the complexity of the call flows in the action plan. You can continue working during this period.

Creating unverified collected digits plans

You can use the unverified collected digits plan in conjunction with Contact Center Screen Pop only. Digits are collected by Intelligent Queue and transferred to Contact Center Screen Pop to process.

The unverified collected digits option prompts the caller to enter a digit string, such as an account number. The account number is sent to the desktop PC of the ACD agent who eventually answers the call. The number of digits can be predefined or can be terminated by a digit, such as #, or by a predefined duration of silence.

To create an unverified collected digits plan

1. Click **Manage=>Actions=>Unverified collected digits**.
2. Under **Plan Name**, type a new plan name or select an existing plan.
3. After **Greeting message**, select a greeting message from the list box.
4. After **Terminating digit**, type a digit the caller can press to indicate they have no more digits to enter.
   The terminating digit is optional.
5. Type the maximum number of digits to be collected.
6. After **No digit timeout**, type the number of seconds the caller has between DTMF digit keypresses before the system times out.
7. Click **Save**.
8. Click the **Action to take** tab.
9. After **Digits collected**, select an action to take if digits are successfully collected.
   - If you click **None**, control will return to the call flow.If the collect digits plan was invoked from an interactive tree, the menu is played. If the collect digits plan was assigned as the action, the call hangs up.
   - If you click **Action**, select an action plan type (message, routing, or interactive tree) and then select an action plan from the list box.The selected action plan will be followed if digits are successfully collected.
10. After **No digits collected**, select an action to take if digits are not collected.

- If you click **None**, control will return to the call flow.If the collect digits plan was invoked from an interactive tree, the menu is played. If the collect digits plan was assigned as the action, the call hangs up.
- If you click **Action**, select an action plan type (message, routing, or interactive tree) and then select an action plan from the list box.The selected action plan will be followed if digits are successfully collected.

11. Click **Save** to save your configuration, or click **New** to clear the fields and create a new unverified collected digits plan.

To delete an unverified collected digits plan

1. Click **Manage=>Actions=>Unverified collected digits**.
2. Under **Plans**, select a plan.
3. Click **Delete**.
   NOTE: A confirmation dialog box will ask you to confirm before deleting an unverified collected digits plan. If you try to delete an unverified collected digits plan with associated plans, a more detailed confirmation box will open that allows you to view the associated plans before you can proceed with the deletion. Deleting the selected plan will only remove the reference to the associated plans.

Creating verified collected digits plans

NOTE: Intelligent Queue cannot read words. For Verified collected digits action plans, you must use string values that represent numbers. (String values are numbers that are not mathematically manipulated.) Ensure that all columns included in your SQL statement are string type columns. If you do not use string type columns, the query will not run successfully. The readback values must also be strings, between -999,999.999 and 999,999.999.

Intelligent Queue can respond to callers' inquiries in one of four ways: produce an action based on a true response, produce an action based on a false response, send the caller to a dialable number, or read back digits/values.

After customers press telephone digits, Intelligent Queue can read back the digits and read values accessed from a database in all supported language (US English, UK English, NA French, EU French, EU Spanish, LA Spanish, or Dutch). Dollars, cents, euros, pence, pounds, negative numbers, and decimal numbers, although supported in all languages, are provided in US English and UK English only. You must record your own .wav files if you want them in additional languages.

Digit read back

If you want your customers to hear a number one digit at a time, Intelligent Queue now gives you that option. Generally, digit read back is preferred for phone numbers and account numbers. Instead of reading back “nine hundred eighty-seven,” Intelligent Queue digit read back states “nine, eight, seven.” Digit read back is available in all supported languages.

Digit read back for verification

With an advanced verified collected digits query, Intelligent Queue verifies the digits customers press. For example, after pressing the digits of an extension, customers will hear “You have entered nine, eight, seven.” You can configure Intelligent Queue to permit customers to change their digit selection after read back.

Database value read back

Intelligent Queue, using the verified collected digits action plan, compares digits customers press to a list in a database. For example, you create a database table that contains two columns: the customers' account numbers and the customers' bank balances. Next you create a verified collected digits action plan that collects the account numbers. The advanced query first checks the account numbers column. If the account numbers column contains the digits pressed, the query checks the account balance for that row and Intelligent Queue will audibly state the customer's account balance. “Your account balance is nine hundred eighty-seven.”

Previously collected digits

With Previously collected digits, customers dial the requested digits just once, but can perform many actions that depend on the digits. For example, customers who provide a bank account number once can perform many future actions which depend upon that account number, without having to reenter the account number again.

You can create a verified collected digits plan in four steps:

1. Select the type of collected digits
2. Configure ODBC database parameters
3. Select an action to take

Before you create a verified collected digits plan, you must create an ODBC (Open Database Connectivity) connection to a valid data source.

Creating ODBC connections

When you create a verified collected digits plan, you specify a data source against which Intelligent Queue compares the collected digits. To connect to a data source, you must first create an ODBC connection. Intelligent Queue officially supports three data source formats:

- SQL Server
- Microsoft Access
- Microsoft Excel

Creating an ODBC connection for SQL Server

To create an ODBC connection for SQL Server

1. In Windows, navigate to the **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Data Sources (ODBC)**.
   The ODBC Data Source Administrator window opens.
4. Click the **System DSN** tab.
5. Click **Add**.
   The Create New Data Source window opens.
6. Select **SQL Server** and click **Finish**.
   The Create a New Data Source to SQL Server window opens.
7. Specify your ODBC data source information and click **Next**.
   Your SQL Server can be local or remote.
8. Click **With SQL Server authentication using a login ID and password entered by the user**.
9. Verify the Login ID and Password are valid for the database you selected in the previous window.
10. Click **Next**.
11. Check **Change the default database to** and select a database from the list.

12. Click **Next**.
13. Click **Finish**.
14. If you want to test your ODBC connection, click **Test Data Source**. Otherwise, click **OK** to complete the ODBC setup.
    The ODBC connection is now available on the System DNS tab.
    NOTE: It is highly recommended you test the ODBC connection before using it with Intelligent Queue.

Creating an ODBC connection for Microsoft Access

To create an ODBC connection for Microsoft Access

1. In Windows, navigate to the **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Data Sources (ODBC)**.
   The ODBC Data Source Administrator window opens.
4. Click the **System DSN** tab.
5. Click **Add**.
   The Create New Data Source window opens.
6. Select **Microsoft Access Driver**.
7. Click **Finish**.
   The ODBC Microsoft Access Setup window opens.
8. Specify a data source name.
9. Click **Select**.
10. Browse to the Access database you want to use and click **OK**.
11. Click **OK** to complete the ODBC setup.

Creating an ODBC connection for Microsoft Excel

If you use Microsoft Excel as your data source, you need to specify which section of the spreadsheet will be used as the database "table."

To format a spreadsheet for use with Intelligent Queue

1. Open the spreadsheet you want to format.
2. Highlight the region of the spreadsheet you want to define as a table.
   NOTE: The first row in the region must be the column names.
3. Click **Insert=>Name=>Define**.
   The Define Name window opens.
4. Type the name for the region you highlighted.
   The name you type is the database table name of the region.
5. Click **OK**.

To create an ODBC connection for Microsoft Excel

NOTE: If the IQ server is not on the same Active Directory as the computer hosting the excel file, the ODBC connection will be invalid.

1. In Windows, navigate to the **Control Panel**.
2. Double-click **Administrative Tools**.
3. Double-click **Data Sources (ODBC)**.
   The ODBC Data Source Administrator window opens.
4. Click the **System DSN** tab.
5. Click **Add**.
   The Create New Data Source window opens.
6. Select **Microsoft Excel Driver**.
7. Click **Finish**.
   The ODBC Microsoft Excel Setup window opens.
8. Specify a data source name.

9. Click **Select Workbook**.
10. Browse to the Excel document you want to use and click **OK**.
11. Click **OK** to complete the ODBC setup.

Selecting the type of collected digits

The Parameters tab specifies the type of digits you will be collecting: ANI, DNIS, a user-entered digit string, or a previously collected digit string. If you select ANI or DNIS, Intelligent Queue will automatically collect these digits from the call detail information.

With a Previously collected digit string, customers dial the requested digits just once, but can perform many actions that depend on the digits. For example, customers who provide a bank account number once can perform many future actions which depend upon that account number, without having to reenter the account number again.

To select the type of collected digits

1. Click **Manage=>Actions=>Verified collected digits**.
   The Verified collected digits window and the Parameters tab opens.
2. Under **Plan name**, type a new plan name or select an existing verified collected digits plan from **Plans**.
3. If you want to collect the digits of the telephone number of the caller, select **ANI**.
4. If you want to collect the digits of the telephone number the caller dialed, select **DNIS**.
5. If you want to prompt the user to type a digit string, select **User collected digits**, or if you want to use digits the user already typed, select **Previously Collected Digits**.
   NOTE: You can program one type of message to follow another type of message. For example, you can team the confirmation and the instruction message, so that Intelligent Queue reads back the digits dialed by the caller, and then gives the caller the option to continue by pressing 1, or to correct the digits dialed by pressing STAR.
   Configure the following options:
   - **Greeting message**
     Select a message that prompts the user to enter digits**.**
   - **Confirmation message**
     Select a message that confirms the digits dialed, for example, “You have entered...”
   - **Instruction message**
     Select a message that instructs the customer to dial digits, for example, “Press 1 to confirm, STAR to retry.” The caller gets a preset number of attempts to retry after which, an error message plays and Intelligent Queue moves the call to the fail path.
   - **Terminating digit**
     Type a digit the caller can press to indicate they have no more digits to enter
   - **Maximum digits to be collected**
     Type the maximum number of digits to be collected for the digit string.
   - **No digit timeout (seconds)**
     Type the number of seconds the caller has between DTMF digit keypresses before the system times out.
   - **Number of attempts**
     Type the number of attempts to press a valid digit a caller is allowed before Intelligent Queue moves the call to the fail path.
   - **Timeout message**
     Select a message that plays if a user does not press a digit within the time you specified in the No digit timeout option.
   - **Message to be played before retrying**
     Select a message that plays before the caller retries pressing digits.

- **Error message**
  Select a message that plays when the caller fails to enter a valid digit string within the maximum number of attempts.

6. Click **Save**.

Readback parameters

The Readback Parameters tab specifies Verified Collected Digits readback information.

NOTE:

- Dollars, cents, euros, pence, pounds, negative numbers, and decimal numbers, although supported in all languages, are provided in US English and UK English only. You must record your own .wav files if you want them in additional languages.
  See "Recording voice prompts" on page 632.
- To view a list of readback .wav file names, such as Dollars.wav, see Table 18 - 10. Dollars, cents, euros, pence, pounds, negative numbers, and decimal numbers, although supported in all languages, are provided in US English and UK English only. You must record your own .wav files if you want them in additional languages. The files are located in the following directory: \\Voice\language\System\. There are ten language folders: US English, UK English, NA French, EU French, EU Spanish, LA Spanish, Dutch, Brazilian Portuguese, Simplified Mandarin Chinese, and Italian. See "Recording voice prompts" on page 632.

To select the type of collected digits

1. Click **Manage=>Actions=>Verified collected digits**.
   Select the Readback Parameters tab.
2. Configure the following options:
   - **Readback language**
     Select the language Intelligent Queue uses to respond to customer queries.
   - **Gender of the word following the number**
     If the message will be in a language where numbers can be either feminine or masculine, select the appropriate gender of the number, depending on the word following the number. The word following the number will be the readback variable unless you have selected “Number” as the readback variable.
   - **Readback variable**
     Select the readback variable, such as dollar, euro, pound, number (for example the amount “nine hundred, eighty-seven”), or digit (for example, the account number “nine, eight, seven”).
   - **Response message**
     Select a message that is a response to the customers request, for example, “Your account balance is...”
   - **Response instruction message**
     Select a message that both provides a response to the customer’s request and instructs the customer to dial digits, for example “Press 1 to confirm. Press STAR to retry.”
3. Click **Save**.

Configuring ODBC database parameters

The ODBC Parameters tab specifies the database used in the collected digits verification and the parameters used to define the query.

Intelligent Queue enables you to verify the collected digits using either a simple or an advanced query. The simple query configuration prompts you for a database table and column. Intelligent Queue automatically creates a query based on this information that compares the collected digits to all the values in the column.

An advanced query configuration requires you to write your own query using SQL. An advanced query is more complicated to configure than the simple query but it provides more options when evaluating collected digits.

NOTE: The collected digits are saved as strings so the values you compare them against must also be strings. Verify that any columns included in your SQL statement are string type columns. If you do not use string type columns, the query will not run successfully. There are workarounds to this, particularly with the advanced query, but we recommend you use string values to avoid errors.

Configuring a simple query

For an action plan with a simple query, you enter a database table name, a column name, and optionally, a readback column name. After Intelligent Queue receives a collected digit string, it compares the value with all the values in the database column. If the value exists anywhere in the column, the query returns a value of *True* and the appropriate action follows, as selected in the **Query returned true** section on the **Action to take** tab. If the value does not exist, the query returns a value of *False*, and the action selected in the **Query returned false** section of the **Action to take** tab follows.

To configure a simple query

1. In the **Verified collected digits** window, select the **ODBC Parameters** tab.
2. After **ODBC Database system DSN**, select the data source you want to use to verify the collected digits.
   NOTE: The data source must be on the same domain/work group as the Intelligent Queue server.
3. Type a valid user name and password for the data source you selected.
4. After **Query type**, select **Simple**.
5. After **Database table name**, select the database table that contains the data you want to use to verify the collected digits.
   For example, select the table that has all of the bank account information.
6. After **Database column name**, select the column in the selected table that contains the data you want to use to verify the collected digits.
   For example, select the column that has the bank account numbers.
   NOTE: The database column type must be a string type column.
7. After **Read Back Column Name**, which is optional, you can select the column in the selected table that contains the data you want the system to read back.
   For example, Intelligent Queue uses the system prompts to audibly state the bank account balance.
   NOTE: If you have selected a Confirmation Message or an Instruction Message on the Parameters tab, and you then leave the Database Read Back Column Name blank, Intelligent Queue will audibly state the digits dialed by the caller, for example, the bank account number. If you have not selected a Confirmation Message or an Instruction Message on the Parameters tab, and you leave the Database Read Back Column Name blank, Intelligent Queue will not read back anything.
8. After **Test with (ANI/DNIS/User collected digits) equal to**, you can type a value to use in a test query of your table and column name options.
   CAUTION: You should test the query before you save the plan. If the query is not valid, the call defaults to the False path on the Action to take tab.
9. If you want to test your database configuration options, click **Test query**.
   If the value you typed in **Test with** does not exist in the database, or the database information is incorrect, the query returns a False value.
10. Click **Save**.

Configuring an advanced query

An action plan with an advanced query gives you more flexibility in verifying digits, but it also requires that you have a working knowledge of SQL. In addition to returning string values of *True* or *False*, the advanced query can return a value that consists of a string of numbers or symbols (0-9,#,*) one to seven characters in length. This string defines a transfer destination for the call.

The advanced query can also return a second piece of information in addition to True, False, or Dialable Number. Returning extra information with the result set allows supervisors and agents to view this information in the Contact Center Client software before the call is answered. Attaching Collected Information to the call is done by populating the second column of the result set with a string containing the prefix "PFCOLLECTED INFO|" followed by the information you want to associate with the call.

Example 1: Blind Transfer

The following example illustrates the benefit of using an advanced query instead of a simple query. Suppose your company has several important customers that you want to route to a high priority queue whenever they call your contact center. You would also like to add their warranty status to the call. You create a database table that contains a column with the customer's telephone number (ANI column), a column with the customer's warranty status, and a column that contains a queue number (Queue column).

Next, you create a verified collected digits action plan that collects the ANI digits (the telephone number of the caller) of a call. With a simple query, you can only determine whether the collected digits exist (*True*) in the ANI column or not (*False*).

With an advanced query, you have another option. The advanced query first checks the ANI column to determine whether the collected digits exist or not. If the value exists, the query checks the Queue column in that row. If the Queue column contains a number, the query returns that value as well as the warranty status and the call is immediately transferred (a blind transfer) to that queue. Using Interactive Visual Queue the supervisors are able to see the warranty status under the Collected Info column. Based on this information the supervisor could reroute the call to a sales queue if the warranty status is set to Expired. Upon receiving the call the agent is able to see the warranty status in the screen pop of Contact Center PhoneSet Manager or Contact Center Softphone before answering the call. Intelligent Queue handles return values of *True* or *False* the same way it does with the simple query, by consulting the **Action to take** tab.

Please note that this is just one example of how you can use advanced query. As long as your query returns a true, false, or string value, the SQL statement can be as simple or complex as you want.

Example 2: Readback

Confirm the callers input in any language supported by Intelligent Queue
With an advanced verified collected digits query, Intelligent Queue can now verify the digits customers press, and give customers the option to subsequently adjust their digit selection. For example, after pressing the digits of an extension, customers will hear "You have entered 1234." After readback, if customers want to change their selection, they may.

Read back a value returned by the database query

Suppose you want your customers to be able to check their bank balances without needing to talk to a person. You create a database table that contains two columns: the customer's account number and the customer's bank balance. Next you create a verified collected digits action plan that collects the account number. The advanced query first checks the account number column. If the account number column contains the digits dialed, the query checks the account balance for that row. Intelligent Queue, using the system prompts, will audibly state the customer's account balance.

NOTE: The verified collected digits action plan can only query a string value that represents a positive integer. It cannot read words, or complex numbers. It can read decimal numbers in a two query process by using the previously collected digits input method. Verify that all columns included in your SQL statement are string type columns. If you do not use string type columns, the query will not run successfully. The return values must also be strings. The four possible return values are True, False, the read back value, or a dialable number.

To configure an advanced query

1. In the **Verified collected digits** window, select the **ODBC Parameters** tab.
2. After **ODBC Database system DSN**, select the database you want to use to verify the collected digits.
3. Type a valid user name and password for the database you selected.
4. After **Query type**, select **Advanced**.
5. After **Action**, select **Blind Transfer** or **Read Back**.
   If you want the call to be immediately transferred to the extension dialed, you select **Blind Transfer**.
   If you want Intelligent Queue to read the digits in the database, you select **Read Back**.
6. After **Define your query**, type an SQL statement that compares the collected digit value to a database value.
   NOTE: You can click **Insert the variable** as a shortcut when typing the full variable name in the text box.
7. If you want to test your database configuration options, click **Test query**.
8. After **Test with (ANI/DNIS/User collected digits) equal to**, you can type a value to use in a test query of your SQL statement.
   CAUTION: You should test the query before you save the plan. If the query is not valid, the call defaults to the False path on the Action to take tab.
9. If you want to test your database configuration options, click **Test query**.
   If the value you typed in **Test with** does not exist in the database, or the database information is incorrect, the query returns a False value.
10. Click **Save**.

Selecting an action to take

The **Action to take** tab specifies the type of action or subcondition the verified collected digits action plan follows, based on whether the query returns a string value of *True* or *False*.

To select an action

1. In the **Verified collected digits** window, select the **Action to take** tab.
2. After **Query returned true**, select an action to take if the digits pass verification.
   - If you select **None**, control will return to the call flow.If the verified collected digits plan was invoked from an interactive tree, the menu is played.If the verified collected digits plan was assigned as the action, the call hangs up.
   - If you select **Action**, select an action type and then select an action plan from the list box.The selected action plan will be followed if the digits are successfully verified.

- If you select **Condition**, select a condition type and then select a condition plan for the list box.The selected condition plan will be followed if the digits are successfully verified.

3. After **Query returned false**, select an action to take if the digits fail verification.
   - If you select **None**, control will return to the call flow.If the verified collected digits plan was invoked from an interactive tree, the menu is played.If the verified collected digits plan was assigned as the action, the call hangs up.
   - If you select **Action**, select an action type and then select an action plan from the list box.The selected action plan will be followed if the digits fail verification.
   - If you select **Condition**, select a condition type and then select a condition plan for the list box.The selected condition plan will be followed if the digits fail verification.
4. Click **Save**.

Writing advanced queries

This section includes two examples of SQL queries you can use with advanced query on the ODBC Parameters tab. In each example, $USER_COLLECTED_DIGITS refers to the digits Intelligent Queue collected.

Query that dials the customer's phone number

SELECT PhoneNumber FROM Customer WHERE ID = $USER_COLLECTED_DIGITS

Intelligent Queue collects a customer ID, runs the query, and if the customer ID is found, that customer's phone number is dialed. If the customer does not exist, the query returns a value of 'False.'

Query, within more than one table, with only one possible return value and Collected Information

SELECT Extension, Warranty Status FROM Employee, Customer WHERE Customer.EmployeeID = Employee.EmployeeID AND Customer.ID = $USER_COLLECTED_DIGITS

Intelligent Queue collects a customer ID. The query searched both Employee and Customer tables. If the Customer ID exists on the Customer table, and that customer's EmployeeID exists on the Employee table, the employee's extension is dialed.

Creating interactive tree plans

Interactive trees are reusable sets of choices and functions that you present to a caller in order to help them find the information or functionality for which they are searching. Intelligent Queue plays menus for callers, who then make their selection using the telephone's DTMF keypad. As of Intelligent Queue Version 5.2, an interactive tree can be assigned to multiple actions, conditions, and other interactive trees. Previously, you could assign multiple actions only.

The Answer Menu is the main menu and offers callers their starting choices. Each digit from a menu (0-9, *, #) can be defined as an option.

DTMF options

Intelligent Queue includes the following DTMF options.

Callback Action

This option activates a predefined voice callback action plan. After the callback plan completes, the call is terminated.

Unverified Collect Digits Action

This option prompts the caller to enter a digit string, such as an account number. The system sends this number to the ACD agent who answers the call, resulting in a screen pop on a desktop application. The number of digits can be predefined or can be terminated by a digit (such as #) or a predefined duration of silence.

Go To (another DTMF option) Action

This option takes the caller to a predefined location (DTMF option) elsewhere in the tree.

Management Action

This option activates a Manage system action plan. This choice is a hidden option reserved for administrators and is not typically advertised in the menu greeting. Once the caller selects this option, the same password rules apply as in a Manage system action plan.

Play Message Action

This option plays a predefined information message (.wav file), and then the caller returns to the menu from which the choice was made.

Replay Greeting Action

This option replays the previous menu greeting.

Submenu Action

This option plays a new menu for callers, giving them more choices (DTMF options) defined by the digits 0-9, *, and #. An interactive tree can have an unlimited number of submenus. Each menu has a defined “no-digit” action that the call performs if the caller fails to press a digit. Each menu has an invalid digit action that the call performs if the caller presses an undefined digit. The menu also defines how many attempts to press a valid digit are allowed before the “no digit” or invalid digit actions are taken.

Transfer Action

This option defines a routing plan that plays a greeting for the caller and then blind transfers the call to a predefined destination.

Verified Collected Digits Action

The verified collected digits plan is similar to the unverified collected digits plan since both plans can prompt the user to enter a digit string, such as an account number. The verified collected digits plan can also collect the ANI or DNIS from an incoming call. The verified collected digits plan then compares the collected digits to a list in a database. You can configure the plan to take one action if the value exists in the database and another action if the value does not exists.

ANI Condition

The system compares a callers’s telephone number to a list (ANI map) of telephone numbers or digit patterns. If a match is detected, the defined action plan or subcondition is applied.

DNIS Condition

The number that is presented to the telephone system as the dialed digits can be used as a condition.

Queue Condition

- *Number of calls in queue* If you have Contact Center Management, you can use the total number of calls waiting in a queue or queue group, at the time the call begins to ring on the Intelligent Queue port, as a condition for applying an action plan to a call. The system queries Contact Center Management at decision time to determine the current queue conditions.
- *Queue waiting times* If you have Contact Center Management, you can use the longest amount of time that a caller has been waiting in a queue or queue group, at the time the call begins to ring on the Intelligent Queue port, as a condition for applying an action plan to a call. The system queries Contact Center Management at decision time to determine the current queue conditions.

Redirection Condition

If applicable, the original destination of the call can be used as a condition for determining the action plan. The original destination is the number from which the call was diverted, forwarded, or transferred (unsupervised transfers). For ACD interflow, this device is the ACD path from where the call came.

Schedule Condition

- **Day of the year** Any specific date can be defined as a condition. You can apply a subcondition, such as time of day, to make the condition more specific.
- **Day of the week** Any specific day of the week can be defined as a condition. You can apply a subcondition, such as time of day, to make the condition more specific.
- **Time of day** A specific time period can be defined as a condition. You can specify the start and end times for which the condition is valid.

Emergency Condition

The current operating mode of the system or of a port group can be either Normal or Emergency. An Intelligent Queue administrator can place the call flows in Emergency mode to force all calls on a port to use a predefined Emergency action plan. This would typically be due to an unforeseen temporary closure of a contact center, as in the case of a natural disaster.

Interactive Tree

Interactive trees are reusable sets of choices and functions that you present to a caller in order to help them find the information or functionality for which they are searching. Intelligent Queue plays menus for callers, who then make their selection using the telephone's DTMF keypad. As of Intelligent Queue Version 5.2, an interactive tree can be assigned to multiple actions, conditions, and other interactive trees.

Creating interactive trees

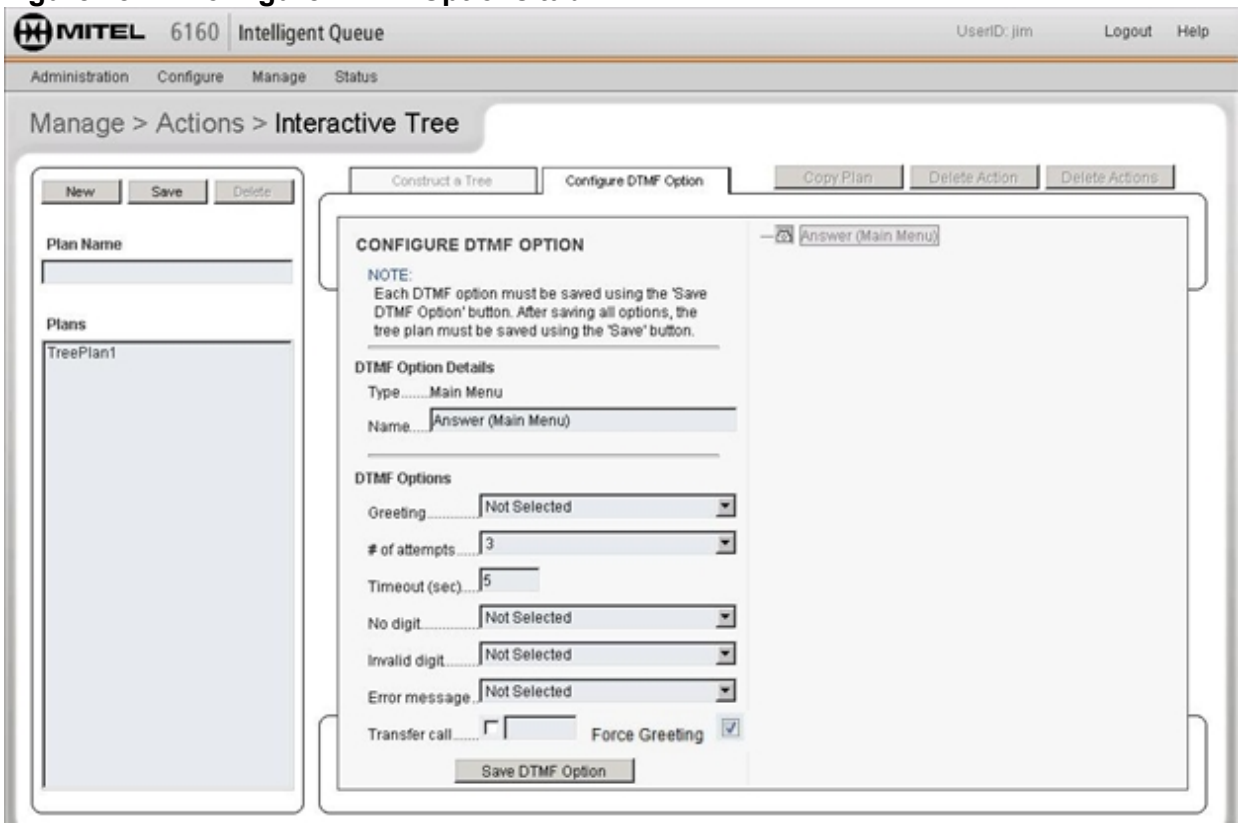
Creating an interactive tree involves the following steps.

1. Plan your interactive tree.
2. Associate a DTMF action with each digit that you plan to use in your main menu and any submenus you create.
3. Select each DTMF action in the Interactive Tree, configure it, and then save your DTMF options.
   NOTE: Save the DTMF option for each DTMF. Once you save the tree, make sure there are no red DTMF options left to configure. Unconfigured options are displayed in red. Configured options are displayed in black.
4. Save the interactive tree plan.

To create an Interactive Tree

1. Plan your interactive tree according to your needs.
2. Select **Manage=>Actions=>Interactive Tree**.
   The **Construct a Tree** tab opens by default.
   NOTE: When DTMF options are created, the **Configure DTMF Option** tab opens automatically. To return to the **Construct a Tree** tab, click the main **Answer Menu** or any submenus in the tree and then click the **Construct a Tree** tab.
3. In the **Plan Name** field, create a relevant plan name. This field is required before you can continue.
4. Build your tree structure by clicking on the corresponding drop-down box beside each digit and selecting one of the following actions/conditions/interactive tree for each DTMF digit.
5. Continue to assign actions to each telephone digit in any sub menus you create.
   NOTE: DTMF Actions which have yet to be configured are displayed in red. Configured DTMF Actions are displayed in black.
6. After you create your tree structure, click **Answer (Main Menu)** and configure the options that will govern the menu.
   The Configure DTMF Option tab opens.
   See Figure 18 - 1.

Figure 18 - 1 Configure DTMF Options tab



7. To rename the **Answer (Main Menu)** DTMF Option, type a new name under **DTMF Option Details**.
8. Click **Save DTMF Option** after configuring each option.
9. Select your DTMF Options: **Greeting**, **# of attempts, Timeout (sec), No digit**, **Invalid digit**, **Error message, Transfer call, and Force Greeting**.
   See Table 18 - 1.

Table 18 - 1 DTMF options

Option	Action Taken
Greeting	Plays the main greeting when a call is received.
# of attempts	Defines the number of attempts to press the correct digit a caller is allowed before one of the following actions is taken by Intelligent Queue: Error message is played (if the Error message option is selected) Call is transferred; (if the Transfer call option is selected) System hangs up. (if Hang up is selected by default)
Timeout (seconds)	Defines the length of time the system will wait for a DTMF response before timing out. **NOTE:** Each timeout registers as one attempt.
No digit	Plays a message that no digit has been entered.
Invalid digit	Plays a message that an invalid digit has been entered. **NOTE:** Each invalid digit registers as one attempt.
Error message	Plays a message when the number of attempts exceeds the limit set in the **# of attempts** option.
Force greeting	Forces the caller to listen to the greeting before the caller can transfer to a selection offered on the menu.

10. If you select **# of attempts** and **Timeout**, you can accept the default values or specify your own.
    NOTE: The # of attempts and Timeout fields are required for the interactive tree to function properly.
11. If you select **Transfer call**, Hang up is the default setting.
    NOTE: The Transfer call option will be executed only if selected and if the number of attempts has been exceeded.
12. After you configure the **Answer (Main Menu) DTMF Option Details**, click **Save DTMF Option**.
13. Continue to configure each of the following options under the **Answer (Main Menu)** and any submenus you've created: Callback, Collect Digits, Go To, Management, Play Message, Replay Greeting, Sub Menu, and Transfer.
14. To change the name of a DTMF option, type a new name in the text field.
15. Remember to click **Save DTMF Option** after configuring each DTMF Option.
16. Click **Save** once again to save the tree structure.

Setting up messaging plans

Intelligent Queue answers a call and plays a predefined .wav file. Messages can be prerecorded phrases (static), or messages that are made up of a set of concatenated phrases (dynamic). Dynamic messages deliver queue statistics and are usually combined with static messages.

NOTE: You set up messaging plans before you set up management plans.

To create a message plan

1. Click **Manage=>Actions=>Message**.
   The Create Message Plan tab opens.
2. Click **New**.
3. Under **Plan Name**, type a unique plan name.
4. After **Select a folder**, select the language of the message you want to create.
5. After **Pre-recorded phrase**, select a pre-recorded phrase and click **Insert**.
6. If you want to create a dynamic message that displays queue statistics:
   - After **Contact Center Management Queue/Path**, select a path.
   - Click **Refresh queue** at anytime to refresh the field.
   - After **Queue Condition**, select a queue statistic.
   - Click **Insert**.

   NOTE: If you are using French or Spanish phrases, after **Gender of the noun**, select the gender of the noun that **Queue Condition** quantifies. For example, in the French phrase “La temps d’attende est estime a une minute” (The estimated wait time is one minute), select the gender of *minute* to ensure the number, in this case *une*, uses the correct gender.
7. To move a message up or down in the **Message List**, select the message and click the up or down arrow.
   NOTE: The phrases are played in the order you list them. The **Play** value represents the static part of the message, for example, "The longest call waiting is ...". The **Say** value represents the dynamic part of the message (the value of the statistic) retrieved from the Remote Server (as long the Contact Center Management server is running and configured).
8. To delete a message string, in the **Message list** box, click the string and click the **X** icon.
9. Click **Save** to save the message plan.
10. Click **New** to clear the fields and create another message plan.

To manage messages

1. From the **Manage=>Actions=>Message** window, click the **Manage Files** tab.
2. Select a language folder from the drop-down list box.
   NOTE: With Intelligent Queue, you can create language folders. If you accepted the default settings during installation, the default path will be Program Files\Mitel Networks\Intelligent Queue\Voice\US English. You can create a new directory on the Intelligent Queue server, such as Program Files\Mitel Networks\Intelligent Queue\Voice\Latin. If you are also playing dynamic messages, you will need to add system files (1.wav, 2.wav, ...), such as Program Files\Mitel Networks\Intelligent Queue\Voice\Latin\System.
3. Click a .wav file to select it, and then click **Rename** to enter a new name for the message on the server, or click **Delete** to remove messages from the language directory.
4. Click **Save**.

To upload files

1. From the **Manage=>Actions=>Message** window, click the **Upload Files** tab.
2. Select the appropriate language folder from the drop-down list box.
   US English is selected by default.
3. Click **Browse** to navigate to the directory containing messages that have been created.
4. Click a .wav file to select it and click **Add** to add the selected file to the Upload File List.
   NOTE: Intelligent Queue requires .wav files to be in a specific format.
   See "Recording voice prompts" on page 632 for more information.

5. Click **Remove** to remove any file from the Upload File List. Click **Remove all** to remove all files from the Upload File List.
6. Click **Upload**.
   NOTE: You can upload one message file at a time. You can, however, copy multiple messages files directly into the appropriate language directory.

Configuring emergency messaging

You can configure Intelligent Queue to enable supervisors to call in and activate emergency messaging over the phone from remote locations.

To configure Intelligent Queue so that supervisors can activate emergency messaging over the phone you must

1. Set up a management plan
2. Set up an emergency message plan
3. Set up an emergency call flow
4. Apply the emergency call flow to your port group.

Supervisors can then activate emergency messaging over the phone. See "Activating emergency messaging over the phone" on page 607.

Setting up an emergency message plan

To set up an emergency message plan

1. Click **Manage=>Actions=>Message**.
2. Click **New**.
3. Under **Plan name**, type a unique plan name.
4. After **Select a folder**, select the language of the message you want to create.
5. After **Pre-recorded phrase**, select a pre-recorded emergency message phrase and click **Insert**.
6. Click **Save** to save the message plan.

Setting up an emergency call flow

To set up an emergency call flow

1. Click **Manage=>Call flows**.
2. Under **Call flow name**, type a unique call flow name.
3. Click the **Default action** tab.
4. Select **Action**.
5. After **Choose an action**, select a message plan type.
6. After **Select a plan,** select the emergency message plan you created.
7. Select the **Check the box if this call flow is used in an emergency state** check box to designate the call flow as an emergency call flow.
8. Click **Save**.

Applying the call flow to your port group

To apply the call flow to your port group

1. Click **Manage=>Port groups.**
2. Under **Port groups**, select the port group to which you will apply the emergency message plan.
3. Under **Assign call flows**, after **Emergency state**, select the emergency call flow you created.
4. Click **Save**.

Setting up management plans

You can configure a management plan for your interactive tree that allows supervisors to call in and interact with Intelligent Queue over the phone. After you configure a management plan (assign ports for future use), supervisors can call in and put messaging port groups into Emergency mode (or back into Normal mode) and can record messages over the phone from remote locations. When you configure a management plan, you need to enable the **Changing system mode via phone** option. This enables supervisors to call in and invoke the plan over the phone.

NOTE: You set up messaging plans before you set up management plans.

To set up a management plan

1. Click **Manage=>Actions=>Management**.
2. After **Plan name**, type a new plan name or select an existing plan.
3. On the **Settings** tab, under **Record Prompts**, after **Recording Prompts via phone is**, select **Enabled** to allow a supervisor to record prompts over the phone.
4. After **<drive>**, type the destination you wish to save the recordings to.
   CAUTION: Typing 0 enables the supervisor to record infinitely long messages which can consume large amounts of hard drive space.
5. After **Recording Timeout (seconds)**, type the time limit within which the supervisor must record the message (in seconds).
   The default value is 120 seconds. The value can range from 1 to 3600 seconds.
   When determining the duration of the message remember that the longer the message, the more port resources are used.
6. Type the name of the subdirectory where the files you record will be saved. If you accept **Inbox** as the default setting, any files that you record will be saved to the Inbox folder of Voice.The default path is **C:\Program Files\Mitel Networks\Intelligent Queue\Voice\Inbox**.
7. Under **Change system mode**, after **Changing system mode via phone is**, select **Enabled** to permit supervisors to put selected port groups into Normal mode or Emergency mode over the phone.
8. Under **Available Messaging Port Groups**, select the port groups that can be placed into Emergency mode, by moving them from the **Available messaging port groups** box, to the **Selected messaging port groups** box.
   - Click **>>** to add all port groups to the list.
   - Click **>** to add a selected port group to the list.
   - Click **<** to remove a selected port group from the list.
   - Click **<<** to remove all port groups from the list.

Defining the messages within your management plan

To define the messages within your management plan

1. On the **Manage=>Actions=>Management** window, click the **Options** tab.
2. After **Password prompt**, select a message plan to prompt the caller to enter a password using their DTMF keypad.
3. After **Management menu**, select a message plan to offer menu options to callers.
   Please consult Table 18 - 2 for a sample Management Plan configuration.

Table 18 - 2 Sample management plan configuration

To do the following...	Press this digit
Record system prompts	1
Change the system mode	2
If you have chosen to change the system mode:	
Change the system into Normal Mode	1
Change the system into Emergency Mode	2

4. After **Recording instructions**, select a message plan to provide recording instructions that allow callers to record system prompts
5. After **Recording completed message**, select a message plan to provide a message to callers that their recording has completed.
6. After **Change system mode instructions**, select a message plan to provide instructions on how to change the system's operating mode using the telephone keypad.
7. After **Normal mode selected message**, select a message plan to specify a message that plays when the system is placed into Normal Mode.
8. After **Emergency mode selected message**, select a message plan to specify a message that plays when the system is placed into Emergency Mode.
9. After **Invalid digit**, select a message plan to specify the message that plays when an invalid digit is pressed.
10. After **Password access**, type a password that is comprised of digits (0-9, *, #) and related to the Telephone User Interface (TUI) of your telephone.
11. After **Digit timeout**, type a number (of seconds) the system will wait for a DTMF response before timing out.
    The default is 5 seconds.
12. Click **Save**.

Activating emergency messaging over the phone

To activate emergency messaging remotely over the phone

1. Using your telephone, dial into the Intelligent Queue server management port group.
2. Type your user name and password.
3. Listen to the message options and press the number indicated to change your system mode.
4. When you are prompted to specify the message mode, press the number indicated to activate the emergency mode.

Setting up routing plans

Three types of routing plans allow you to route calls to another queue path or extension.

- *Redirected* means the call is not answered, no greeting plays, and the call immediately redirects. For example, a call might be redirected if the number of calls waiting in queue is exceeded.
- *Blind* transfer means the call is answered, a greeting is played (optional), and the call is transferred to the destination. After transferring, the extension performing the transfer hangs up and does not wait to determine the outcome of the call. The advantage of a blind transfer is that the immediate release to the PBX frees the port for a new call.

- *Supervised* transfer means the call is answered, and then put on hold while being transferred. The advantage of a supervised transfer is that, because they are on hold, customers cannot hear the phone ringing during the transfer. However, if the Timeout expires (the duration that the call is kept on hold) before the call is transferred, the caller can hear the phone ringing during the transfer. The Intelligent Queue port is not available to take a new call until the Timeout expires or the destination answers the call.

To create a routing plan

1. Select **Manage=>Actions=>Routing**.
   The Routing parameters window opens.
2. Under **Plan name**, type a new plan name or click an existing plan under **Plans**.
3. To redirect a call immediately without playing a message
   - Click **Redirect**.
   - After **Routing destination**, type an extension number.
4. To perform a blind transfer
   - Click **Blind**.
   - Select a greeting from the drop-down list box (if desired).
   - After **Routing destination**, type an extension number.
5. To perform a supervised transfer
   - Click **Supervised**.
   - Select a greeting from the drop-down list box (if desired).
   - After **Routing destination**, type an extension number.
   - After **Timeout (seconds)**, type the maximum duration the call will be placed on hold (between 10-1000 seconds).

Managing Conditions: Assigning conditions to call flows

NOTE:

- Do not use the same condition for both the condition and the subcondition. This will create loops within your conditions. For example, you will create a loop if you select a weekday plan as your condition, a time plan as your subcondition, and then the weekday plan as another subcondition.
- When you save a condition, the Intelligent Queue services require at least 20 seconds to save your changes to the server. The length of time is based on the complexity of the call flows in the condition. You can continue working during this period.

Under every type of condition, you can create a new condition, delete a condition, or save the current condition. If a condition is matched or met, the condition is true. If a condition is not matched or met, the condition is false. You can select from three courses of action:

- You can do nothing, which forces Intelligent Queue to go back to the call flow and test for the next condition.
- You can select to perform an action, which terminates the call flow.
- You can select a subcondition to be tested (and override the default action in a condition that is false).

To view the actual conditions present for a particular call, view the call logs. This will also help you to define/refine the conditions.

Creating ANI conditions

The Automatic Number Identification (ANI) is the number from which a call originates. ANI can represent a telephone number and an area code, for example.

The ANI condition compares an incoming call on an associated port group to a list of defined digit patterns. If an ANI pattern matches, the associated action follows. Otherwise, the default action for a plan executes. If the default action of a plan is set to None, control returns to the call flow and the next condition is tested.

- If the condition is met (True), an action or subcondition that is defined and associated with the ANI plan occurs.
- If the condition is not met (False), a default condition or action that is defined and associated with the ANI plan occurs.

To create an ANI pattern

1. Select **Manage=>Conditions=>ANI**.
   The ANI Conditions tab opens by default.
2. Type a new plan name, or click an existing ANI plan to populate the **Plan Name** field.
3. Under **ANI Pattern**, type digits from 0-9, *, and ?.
   The * can be used at the end of a digit string or together at the beginning and end of a digit string, to match any number of digits. You cannot use the asterisk as a leading or embedded wildcard as this will cause an error. The ? can be used anywhere in the digit string to match one digit. (See Table 18 - 3.)

Table 18 - 3 Wildcard examples

Digits Entered	Would match the following digits …
*416	Will cause an error.
41*6	Will cause an error.
416*	416 ’555555555 ...’, 416 ’123’, 416 ’0’, et cetera
?416	’1’ 416, ’2’ 416, ’3’ 416, ’4’ 416, ’5’ 416, ’6’ 416, et cetera It would not match ’11’ 416, as ? can only represent one digit.
41?6	41 ’1’ 6, 41 ’2’ 6, 41 ’3’ 6, 41 ’4’ 6, et cetera
416?	416 ’5’, 416 ’7’, 416 ’2’, et cetera

4. Click **>** to add it to the ANI Pattern List.
5. Click **Remove** to delete any ANI patterns from the list.
6. After you have configured your ANI condition, click **Save**.
7. Click the **Action to take** tab.
8. After **Condition Matched**, select an action to take if the ANI pattern matches.
   - If you select **None**, control returns to the call flow and the next condition is tested.
   - If you select **Action**, select an action type and then select an action plan from the list box.
   - If you select **Condition**, select a condition type and then select a condition plan from the list box.
9. After **Default Action**, select an action to take if the ANI pattern does not match.
   - If you select **None**, control returns to the call flow and the next condition is tested.
   - If you select **Action**, select an action type and then select an action plan from the list box.
   - If you select **Condition**, select a condition type and then select a condition plan from the list box.
10. Click **Save** to save your configuration, **New** to clear the fields and create a new ANI plan, or **Delete** to remove an ANI plan.

NOTE: If you click **Delete**, a confirmation dialog box will ask you to confirm before deleting an ANI Plan. If you try to delete an ANI plan with associated plans, a more detailed confirmation box opens that allows you to view the associated plans, before you can proceed with the deletion. Deleting the selected plan will only remove the reference to the associated plan.

Creating DNIS conditions

Dialed Number Identification Service (DNIS) is the digits dialed or the number called into the telephone system, including any extensions.

The DNIS condition compares the digits dialed to the DNIS pattern list. If a pattern matches, the associated action follows. Otherwise, the default action for the plan executes. If the default action of the plan is set to None, control returns to the call flow and the next condition is tested.

- If the condition is met (True), an action or subcondition that is defined and associated with the DNIS plan occurs.
- If the condition is not met (False), a default condition or action that is defined and associated with the DNIS plan occurs.

To create a DNIS Plan

1. Select **Manage=>Conditions=>DNIS**.
   The DNIS Conditions tab opens by default.
2. Type a new plan name, or click an existing DNIS Plan to populate the **Plan Name** field.
3. Under **DNIS Pattern**, enter digits from 0-9, *, and ?.
   The * can be used only at the end of a digit string to match any number of digits. You cannot use the asterisk as a leading or embedded wildcard as this will cause an error. The ? can be used anywhere in the digit string to match one digit.
4. Click **=>** to add it to the DNIS Pattern List.
5. Click **Remove** to delete any DNIS patterns from the list.
6. After you have configured your DNIS condition, click **Save**.
7. Click the **Action to take** tab.
8. After **Condition Matched**, select an action to take if the DNIS pattern matches.
   - If you select **None**, control returns to the call flow and the next condition is tested.
   - If you select **Action**, select an action type and then select an action plan from the list box.
   - If you select **Condition**, select a condition type and then select a condition plan from the list box.
9. After **Default Action**, select an action to take if the DNIS pattern does not match.
   - If you select **None**, control returns to the call flow and the next condition is tested.
   - If you select **Action**, select an action type and then select an action plan from the list box.
   - If you select **Condition**, select a condition type and then select a condition plan from the list box.
10. Click **Save** to save your configuration, **New** to clear the fields and create a new DNIS plan, or **Delete** to remove a DNIS plan.

Creating emergency conditions

An emergency condition does not put the system or any port groups into Emergency mode. It provides the flexibility to execute an action or test another condition if an emergency condition is required.

If the emergency condition's operating mode is set to Emergency, the associated action occurs. Otherwise, the default action of the plan executes. If the default action of the plan is set to None, control returns to the call flow and the next condition is tested.

To create an Emergency Plan

1. Select **Manage=>Conditions=>Emergency**.
   The **Emergency conditions** tab opens by default.
2. Enter a new plan name or click an existing plan to populate the **Plan Name** field.
3. Select one of the following operating modes:
   - **Normal** follows a default action.
   - **Emergency** follows an associated action.
4. After you have configured your emergency condition, click **Save**.
5. Click the **Action to take** tab.
6. After **Condition Matched**, select an action to take if the Emergency condition is true.
   - If you select **None**, control returns to the call flow and the next condition is tested.
   - If you select **Action**, select an action type and then select an action plan from the list box.
   - If you select **Condition**, select a condition type and then select a condition plan from the list box.
7. After **Default Action**, select an action to take if the Emergency condition is false.
   - If you select **None**, control returns to the call flow and the next condition is tested.
   - If you select **Action**, select an action type and then select an action plan from the list box.
   - If you select **Condition**, select a condition type and then select a condition plan from the list box.
8. Click **Save** to save your configuration, **New** to clear the fields and create a new Emergency plan, or **Delete** to remove an Emergency plan.

Creating queue conditions

The queue condition checks the **Number of calls waiting**, Longest wait time, Path DND (Do Not Disturb), Agents available, Call load, and Agents idle conditions. If any of these conditions exceed the tolerance entered, then the condition is true, and the associated action occurs. Otherwise, the default action of the plan executes. If the default action of the plan is set to **None**, control returns to the call flow and the next condition is tested.

- If the condition is met (True), an action or subcondition that is defined and associated with the queue plan occurs.
- If the condition is not met (False), a default condition or action that is defined and associated with the queue plan occurs.

NOTE: The Call Load statistic uses the following formulas: if there are one or more agents available, Call Load = Calls Waiting / Agents Available. If there are 0 agents available, Call Load = Calls Waiting.
To create a queue plan

1. Select **Manage=>Conditions=>Queue**.
   The Queue conditions tab opens by default.
2. Type a new plan name or click an existing plan to populate the **Plan Name** field.
3. Select one of the following conditions:
   - Number of calls waiting
   - Longest wait time
   - Path DND (Do Not Disturb)
   - Agents available
   - Call Load
4. Enter the **Maximum Number of Calls**.
   If the maximum is exceeded, the condition is true and the associated action will be followed, otherwise, the default action will be executed.
   - If you select **None**, then control is passed back to the call flow where the next condition will be tested.
5. Select a Contact Center Management Queue/Path from the drop-down list box.
6. Click **Refresh Queue** to refresh the Contact Center Management Queue/Path drop-down list box.
7. After you have configured your queue condition, click **Save**.

8. Click the **Action to take** tab.
9. Under **Condition Matched**, select **None**, **Action**, or **Condition**. **None** is selected by default.
   - If you select **None**, control is passed back to the call flow where the next condition will be tested.
   - If you select **Action**, select an Action and then select an Action Plan from the drop-down list boxes. The selected action will be followed if the condition is matched, and therefore, true.
   - If you select **Condition**, select a condition and then select a plan from the drop-down list boxes.
   - The selected sub-condition will be followed if the condition is matched, and therefore, true.
10. Repeat the previous step for **Default Action**.
11. Click **Save**.

Creating redirection conditions

The redirection condition checks to see if the call was redirected from another queue or device against the patterns in the Redirection list. If a pattern matches, the associated action occurs. Otherwise, the default action of the plan executes. If the default action of the plan is set to **None**, control returns to the call flow and the next condition is tested.

To create a Redirection Plan

1. Select **Manage=>Conditions=>Redirection**. The **Redirection conditions** tab opens by default.
2. Enter a new plan name or click an existing plan to populate the **Plan Name** field.
3. Under **Redirection Pattern**, enter digits from 0-9, *, and ?
   The * can only be used at the end of a digit string to match any number of digits. You cannot use the asterisk as a leading or embedded wildcard as this will cause an error. The ? can be used anywhere in the digit string to match one digit.
4. Click **=>** to add it to the **Redirection Pattern List**.
5. Click **Remove** to delete any redirection patterns from the list.
6. After you have configured your redirection condition, click **Save**.
7. Click the **Action to take** tab.
8. Under **Condition Matched**, select **None**, **Action**, or **Condition**. **None** is selected by default.
   - If you select **None**, control is passed back to the call flow where the next condition will be tested.
   - If you select **Action**, select an Action and then select an Action Plan from the drop-down list boxes. The selected action will be followed if the condition is matched, and therefore, true.
   - If you select **Condition**, select a condition and then select a plan from the drop-down list boxes. The selected sub-condition will be followed if the condition is matched, and therefore, true.
9. Repeat the previous step for **Default Action**.
10. Click **Save**.

Creating schedule conditions

There are three different schedule plans to configure. You can configure schedules to offer different options, based on the following values:

- Time of day
- Day of the week
- Specific calendar dates

If a condition is true

The *Time schedule* checks the current time. If the current time is between the start and stop times, the condition is true, and the associated action occurs.

The *Day schedule* checks the current day of the week. If the day is selected, the condition is true, and the associated action occurs.

The *Date schedule* checks the current date. If the date is selected, the condition is true, and the associated action occurs.

If a condition is not matched

If the condition does not match, the default action of the plan executes. If the default action of the plan is set to **None**, control returns to the call flow and the next condition is tested.

Overview of schedule plan creation

- Create a Date schedule, create an action to take, and save it.
- Create a Day schedule, create an action to take, and save it.
- Create a Time schedule, create an action to take, and save it.

To create a schedule plan

1. Select **Manage=>Conditions=>Schedule**. The **Schedule conditions** tab opens by default.
2. Enter a new plan name or click an existing plan to populate the **Plan Name** field.
   Select one of the following schedule types:
   - Time Schedule (checks to see whether the current time falls between start and stop times)
   - Day Schedule (checks to see whether the current day matches a selected day, Monday through Sunday)
   - Date Schedule (checks to see whether the current date matches selected dates)
3. Configure the schedule type you have selected:
   - For a Time schedule, enter the start and stop times.
   - For a Day schedule, select the appropriate day or days.
   - For a Date schedule, click the hyperlinks to change the month and click the appropriate dates within the selected month. The present month is selected by default. You can go back one month, or advance one month in the calendar year. To delete any dates you have selected, click **Remove**.
4. **Check Callback test condition** if you want to use this schedule plan as a test condition for a Callback plan. If you want to use this as a callback condition, you will only be able to select from other Schedule Plans that are used for callback conditions.
5. After you have configured your schedule condition, click **Save**.
6. Click the **Action to take** tab.
7. Under **Condition Matched**, select **None**, **Action**, or **Condition**. **None** is selected by default.
   - If you select **None**, control is passed back to the call flow where the next condition will be tested.
   - If you select **Action**, select an Action and then select an Action Plan from the drop-down list boxes. The selected action will be followed if the condition is matched, and therefore, true.
   - If you select **Condition**, select a Condition and then select a plan from the drop-down list boxes. The selected sub-condition will be followed if the condition is matched, and therefore, true.
8. Repeat the previous step for **Default Action**.
9. Click **Save** to save your configuration. Click **New** to clear the fields and create a new Schedule Plan. Click **Delete** to remove a Schedule Plan.

Managing call flows

Essentially, a call flow is created from the bottom up. When you plan to create a call flow, think in terms of first assigning actions to conditions, then conditions to call flows, and finally, call flows to port groups.

The messaging engine that handles the call tests the conditions for a call flow. If the current test condition is false, the engine returns to the call flow to test the next condition. If all conditions are false, a default action for the call flow occurs. The default action also occurs if none of the conditions in the call flow result in an action. If the engine tests for a default action and you have not configured a default action, the call terminates.

Overview of creating a call flow

The creation of a call flow consists of the following steps:

- Assigning actions or subconditions to conditions
- Assigning conditions to call flows
- Assigning call flows to port groups

As you create a call flow, you can save your conditions and then select and review the entire call flow in order to revise it.

To create a call flow

1. Select **Manage=>Call Flows**. The Build Call Flow tab opens by default.
2. Enter a new name or select an existing call flow to populate the Call Flow Name field.
3. Select a Condition from the drop-down list box. View the related plans in the Select a Plan field.
4. Assign Conditions to call flows:
   - Click **Add** to add the selected conditions to the end of call flow.
   - Click **Add All** to add all of the conditions listed to the end of the call flow.
   - Click **Insert** to insert the selected conditions above the selected call flow condition.
   - Click **Insert All** to insert all of the conditions listed above the selected call flow condition.
5. To change the order of your call flow, click a call flow condition and then click the up or down arrow to move the position of the item up or down in the call flow.
6. Click the **X** icon beside the **Call Flow Conditions** text box to delete an item from the call flow.
7. Click the **Default Action** tab.
8. Under DEFAULT ACTION, select **None** or **Action**. **None** is selected by default.
   The default action will be followed if none of the conditions in the call flow result in an action.
   - If None is accepted, the call will be terminated.
   - If you select **Action**, select an Action and then select an Action Plan from the drop-down list boxes.
9. Under EMERGENCY CALL FLOW, check the box if the call flow is to be used when the system or port group is in an emergency mode.
10. After you have set the parameters of your plan, click **Save** to save your configuration. Click **New** to clear the fields and create a new Collect Digits Plan. Click **Delete** to remove a Collect Digits Plan.
11. To browse selected call flow Conditions, click the magnifying glass in the upper right corner of the Call Flow Conditions field.
12. Select any condition or action to view its particulars.
    See Table 18 - 4 for the meanings of icons and text colors used in the expanded view.

Table 18 - 4 Call flow condition legend

Symbol	Meaning	Meaning of Text Color
	Condition	Selected conditions are displayed in black, including the 'do nothing' condition. If no condition has been selected for Condition Matched, text is displayed in red.
	Action	Selected actions are displayed in blue, including 'do nothing' action. If no action has been selected for Default Action, text is displayed in red.

Symbol	Meaning	Meaning of Text Color
		
	Circular reference error	Please review your selection to avoid the creation of a loop.

Managing port groups: updated position in queue, messaging, callback, and recording ports

A port can only be assigned to one port group. The behavior of the port depends on the behavior assigned to the port group. You configure port groups in Manage=>Port Groups.

You can configure four types of ports:

- Updated position in queue ports.
- Messaging ports handle incoming calls to the PBX.
- Callback ports handle outgoing callback calls from the agents to the callers.
- Recording ports handle the recording of calls between agents and callers.

You need to configure most of your ports as messaging ports. You also need to configure at least one updated position in queue port, one callback port and at least one recording port, if you purchased these options. You can record one agent at a time on one recording port. If you want to record more than one agent at a time, you need to assign more than one of your ports as a recording port.

NOTE: When you save a port group, the Intelligent Queue services require at least 20 seconds to save your changes to the server. The length of time is based on the complexity of the call flows in the port groups. You can continue working during this period.

Configuring an updated position in queue port group

To configure an updated position in queue port group

1. Select **Manage=>Port Groups**. The Configure tab opens by default.
2. Enter a new name or select an existing Port Group to populate the Port Group Name field.
3. Select **UPiQ** under **PORT BEHAVIOR**.
4. Accept the default setting of 2,000 milliseconds (2 seconds) for the Audio Guard Timer.
   NOTE: The Audio Guard Timer reflects the timing of the messages. To adjust the timing, enter a number which is higher or lower than the default setting.
5. Click **Configure=>Updated Position in Queue**.
6. Select the queue to monitor from the **Available Queues** drop-down menu.
7. Click **Add**.
8. Click the **Assign Ports** tab.
9. Select a port or ports from the list of Available Ports.Click
   >> to add all available Ports to the Port Group.Click
   > to add selected Ports to the Port Group.Click
   < to remove selected Ports from the Port Group.Click

>> to remove all Ports from the Port Group.Click
Make All Ports Available to clear the port selections and begin again. This will remove all ports from all Port Groups, not just the selected Port Group.

10. After you have finished assigning ports to port groups, click **Save**.

Configuring a messaging port group

To configure a messaging port group

1. Select **Manage=>Port Groups**. The Configure tab opens by default.
2. Enter a new name or select an existing Port Group to populate the Port Group Name field.
3. Select **Messaging** under PORT BEHAVIOR.
4. Accept the default setting of 2,000 milliseconds (2 seconds) for the Audio Guard Timer.
   NOTE: The Audio Guard Timer reflects the timing of the messages. To adjust the timing, enter a number which is higher or lower than the default setting.
5. Assign Call Flows using the drop-down list boxes after **Normal State** and **Emergency State** under ASSIGN CALL FLOWS.
6. Under EMERGENCY STATE, select **Check the box to place the port group in an emergency state** if required.
   NOTE: This will already be checked if you have placed the selected port group in Emergency State under **Administration=>System Mode**. If you deselect it and click **Save**, the system mode will return to Normal State.
7. Click the **Assign Ports** tab.
8. Select a port or ports from the list of Available Ports.Click
   >> to add all available Ports to the Port Group.Click
   > to add selected Ports to the Port Group.Click
   < to remove selected Ports from the Port Group.Click
   >> to remove all Ports from the Port Group.Click
   Make All Ports Available to clear the port selections and begin again. This will remove all ports from all Port Groups, not just the selected Port Group.
9. After you have finished assigning ports to port groups, click **Save**.

Configuring a callback port group

To configure a callback port group

1. Select **Manage=>Port Groups**. The Configure tab opens by default.
2. Enter a new name or select an existing Port Group to populate the Port Group Name field.
3. Select **Callback** as the Port Behavior.
4. Assign Call Flows to Normal and Emergency States using the drop-down list boxes.
5. Check **Emergency State** to place the port group in an emergency state, if required.
   NOTE: This will already be checked if you have placed the selected port group in Emergency State under **Administration=>System Mode**. If you deselect it and click **Save**, the system mode will return to Normal State.
6. Click the **Assign Ports** tab.
7. Select a port or ports from the list of Available Ports.Click
   >> to add all available Ports to the Port Group.Click
   > to add selected Ports to the Port Group.Click
   < to remove selected Ports from the Port Group.Click
   >> to remove all Ports from the Port Group.Click
   Make All Ports Available to clear the port selections and begin again.
8. After you have finished assigning ports to port groups, click **Save**.

Configuring a recording port group

To configure a recording port group

1. Select **Manage=>Port Groups**. The Configure tab opens by default.
2. Enter a new name or select an existing Port Group to populate the Port Group Name field.
3. Select **Recording** as the Port Behavior.
   If you are supporting more than one PBX with Intelligent Queue, select the destination PBX.
4. Select a port group for the PBX.Only ports from this PBX can be used and they will only be able to record ports from that PBX.
5. Click the **Assign Ports** tab.
6. Select a port or ports from the list of Available Ports.Click
   >> to add all available Ports to the Port Group.Click
   > to add selected Ports to the Port Group.Click
   < to remove selected Ports from the Port Group.Click
   >> to remove all Ports from the Port Group.Click
   Make All Ports Available to clear the port selections and begin again.
7. After you have finished assigning ports to port groups, click **Save**.

Viewing system, port, and callback queue status

In this section, you will learn how to

- View system status
- View port status
- View callback queue status

Viewing system status

The System status window opens after you log on to Intelligent Queue. The System status window displays the current status (*Started or Stopped*) of all Intelligent Queue services. The Emergency status section of the System status window indicates the current system mode: Emergency or Normal.

NOTE: Before logging on (after initial setup), ensure that the services have been started. If you log on before the services have started, the system status will not be accurate.

To view system status

1. Select **Status=>System Status**.
2. Click **Start** to restart a stopped service.
3. Click **Stop** to stop a running service.
4. After **Port Groups** under EMERGENCY STATUS, click the number to view the port groups that are in Emergency mode.
5. To restart the services, click the **Restart Systems** button. You can also use this button to re-establish a Contact Center Management connection, if a connection is configured.

Viewing port status

To view port status

1. Select **Status=>Port Status**. The Select Ports tab opens by default.
2. Choose to view the status of all Port Groups or selected Port Groups. Only port groups with assigned ports will be displayed.
   Click **View All** to view the port status for all port groups.
   Click **View Selected** to view the port status for selected Port Groups

3. Choose to view the status of all Ports or selected Ports. Only ports assigned to port groups will be displayed.Click
   View All to view the port status for all portsClick
   View Selected to view the port status for selected ports
4. Click the **Port Status** tab to view your selection.
5. To navigate through multiple pages of listings, click **Previous** or **Next**.
6. Click **Stop** to stop Intelligent Queue from displaying port status information. Click **Continue** to allow the application to continue to display port status information.

Viewing callback queue status

You can view and manage callback queues in Status=>Callback queue. The four tabs within the Callback queue status window display data for Current, Completed, Incomplete, and All callbacks. Intelligent Queue lists callbacks in order of priority and latest date.

The possible callback queue status states, with their explanations, are as follows:

- NEW_REQUEST - starting state
- WAITING_FOR_SCHEDULE - The callback schedule condition was not met, so waiting
- WAITING_FOR_QUEUE - The queue condition was not met, so waiting
- WAITING_FOR_AGENT_NO_ANSWER - When the callback engine dialed the agent, the agent did not answer
- WAITING_FOR_AGENT_BUSY - When the callback engine dialed the agent, the agent's line was busy
- WAITING_FOR_CLIENT_NO_ANSWER - When the callback engine dialed the customer, the customer did not answer
- WAITING_FOR_CLIENT_BUSY - When the callback engine dialed the customer, the customer's line was busy
- AGENT_REQUEUED - The agent used the requeue option when the callback was offered to them
- IN_PROGRESS - The callback is currently being processed (This happens initially and then it transitions to another state)
- AGENT_REJECTED - The agent rejected the callback when the callback was offered to the agent
- EXPIRED - The callback engine tried to contact the client the maximum number of times and will not try again
- FAILED_INVALID_AGENT_DESINTATION - The agent destination was invalid (for example, it was an invalid path number)
- FAILED_INVALID_CLIENT_DESTINATION - The client destination was invalid (for example, they left a phone number with only six numbers)
- FAILED - General error
- COMPLETE - The callback is complete
- DIALING_CLIENT - The system is currently dialing the client

To view callback queue status

1. Select **Status=>Callback Queue**. The Current Callbacks tab opens by default.
2. Click the appropriate tab to view the status of the following:
   - Click the **Current callbacks** tab to view current callback queues. You can change the priority of the callback request using the list box.
   - Click the **Completed callbacks** tab to view successful callbacks.
   - Click the **Incomplete callbacks** tab to view failed callback requests. You can click **Requeue** to requeue a failed callback.
   - Click the **All callbacks** tab to view a snapshot of all callback queues.
3. To navigate through multiple callback pages, click **Previous** or **Next**.

4. Click an individual callback to view the following particulars:
   - Caller's name
   - Caller's phone number
   - Customer's IP Address (if the callback you selected is a Web Callback)
   - Message (click the hyperlink to listen to the recorded .wav file)
5. Click **Select All** to select all the displayed callbacks. Click **Unselect All** to de-select all the displayed callbacks.
6. Click **Refresh** to refresh the callback queue listing.
   To delete an individual callback listing or selected callbacks, click **Delete**.

Callback and recording plans

This section includes information on
- Managing outgoing calls
- Managing recording plans

Managing outgoing calls: Voice and Web Callbacks

In this section, you will learn how to
- Set up callback plans
- Assign caller messages to callback plans
- Assign agent messages to callback plans
- Assign agent options to callback plans
- Set callback plan parameters

Overview of voice and web callbacks

Callback requests allow Intelligent Queue to wait in queue for an agent, on a caller's behalf. The system can take callback requests from a voice call, from a web page, or the requests can be generated by a third party business application. A reusable callback action plan in the user interface defines the inputs that are required for a request.

Callback call processing

Intelligent Queue processes callback requests in a continuous loop using each of the ports that are dedicated to callback processing. Each callback request is submitted with a call "profile". This profile is an action plan that defines the ACD path to attempt, the client's telephone number, the client's name, queue thresholds to adhere to, and the language in which the call should be processed. The system processes calls in the order that they are received, but each call has a maximum number of attempts and a retry interval. If the client does not answer the call, the callback request requeues to a maximum number of attempts. The system does not attempt the callback until the retry interval is exceeded. Each callback structure also defines the maximum amount of time the callback port will wait for an agent to answer, before requeuing the call and moving on to the next request.

Upon receipt of a callback request, agents can listen to the caller's message, place the call, requeue, or reject the request.

A user with administrative privileges can view, prioritize, requeue, and delete callback requests from the user interface.

Voice callback requests

A voice callback request can ask the caller for the following information:

- A telephone number at which they can be contacted
- The caller's name (recorded as a .wav file for playback by an ACD agent)
- A confirmation to submit the request

Once the caller provides the information, Intelligent Queue hangs up and records the request in the database for processing.

For voice callbacks, you need to assign both caller messages and agent messages to your callback plans.

Web callback requests

A customer completes a Web callback request on an HTML/ASP page that is designed and hosted by the Intelligent Queue customer. You can see an example of a sample web page at Start=>Programs=>Mitel Networks=>Intelligent Queue=>Intelligent Queue DotNet Webcallback Example. A customer who wants to receive a callback from an ACD Agent fills out the following required information on the web form:

- The telephone number at which they can be contacted
- The customer's name (presented as a TTS rendition to the ACD agent)
- The target ACD path

Intelligent Queue then submits the information to the database for callback processing.

For Web callbacks, you need to assign only agent messages (not caller messages) to your callback plans.

Campaign callback requests

Campaign callback requests are requests that are originated by a business application used by an Intelligent Queue customer. A customer can make callback requests directly to Intelligent Queue by submitting a new record in the database. If the record includes the required information, the request is processed in the callback queue. The Campaign table of the database is password-protected to ensure that only authenticated applications can generate requests.

Configuring web callbacks in Windows Server 2003

NOTE: Web callbacks are not supported in virtualized environments.

To configure web callbacks in Windows Server 2003

1. Log on to the Intelligent Queue server.
2. Browse to the Intelligent Queue installation directory (<drive>:\Program Files\Mitel Networks\6160).
3. Copy the WebCallbackExample folder to a folder on your IIS Server.
4. To modify the web callback page to display your company logo and slogan, see "Customizing your Web Callback page" on page 466.
5. On the Intelligent Queue server, click **Start=>Administrative Tools=>Internet Information Services (IIS) Manager**.
6. Expand **<computer_name> (local computer)**.
7. Expand the **Web Sites** folder.
8. Right-click **Default Web Site** and select **New=>Virtual Directory...**
   The Virtual Directory Creation Wizard opens.
9. Click **Next >**.
10. Under **Alias**, type **webcallback** and click **Next >**.

11. Browse to the VBDotNet folder (<drive>:\Program Files\Mitel Networks\6160\WebCallbackExamples\VBDotNet) and click **OK**.
12. Click **Next >**.
13. Under **Allow the following permissions**, select **Run scripts (such as ASP)** and **Execute (such as ISAPI applications or CGI)** and click **Next >**.
14. Click **Finish**.
15. Browse to the VBDotNet folder (<drive>:\Program Files\Mitel Networks\6160\WebCallbackExamples\VBDotNet) and open **Web.config**.
16. In the **string value="http//localhost/6160/CallbackWebService.asmx"**, replace **localhost** with the computer name or the IP address of the Intelligent Queue server.
17. In the **string value="webCallback"**, replace webCallback with the name of the callback plan you configured in Intelligent Queue.
18. Click **File=>Save** and close the **Web.config** file.

Configuring web callbacks in Windows Server 2008

NOTE: Web callbacks are not supported in virtualized environments.

To configure web callbacks in Windows Server 2008

1. Log on to the Intelligent Queue server.
2. Browse to the Intelligent Queue installation directory (<drive>:\Program Files\Mitel Networks\6160).
3. Copy the WebCallbackExample folder to a folder on your IIS Server.
4. To modify the web callback page to display your company logo and slogan, see "Customizing your Web Callback page" on page 466.
5. On the Intelligent Queue server, click **Start=>Administrative Tools=>Internet Information Services (IIS) Manager**.
6. Expand **<computer_name> (local computer)**.
7. Expand the **Sites** folder.
8. Right-click **Default Web Site** and select **Add Virtual Directory...**. The Add Virtual Directory dialog box opens.
9. Under **Alias** type webcallback.
10. Under **Physical path:** browse to <drive>:\Program Files\Mitel Networks\6160\WebCallbackExamples\VBDotNet and click **OK**.
11. Browse to the VBDotNet folder (<drive>:\Program Files\Mitel Networks\6160\WebCallbackExamples\VBDotNet) and open **Web.config**.
12. In the **string value="http//localhost/6160/CallbackWebService.asmx"**, replace **localhost** with the computer name or the IP address of the Intelligent Queue server.
13. In the **string value="webCallback"**, replace webCallback with the name of the callback plan you configured in Intelligent Queue.
14. Click **File=>Save** and close the **Web.config** file.

Setting up callback plans

For voice callbacks, assign caller messages and then proceed to assign agent messages to your callback plans.

To create a callback plan

1. Select **Manage=>Actions=>Callback**. The Conditions tab opens by default.
2. Under **Plan Name**, enter a new plan name or click an existing Callback Plan under **Plans** to populate the **Plan Name** field.

3. Under **Schedule Condition**, click **Allow callbacks anytime, no schedule restrictions apply** to allow callbacks anytime.The Schedule Plan drop-down list box is disabled. However, if you wish to attach a Schedule Plan to your Callback Plan, leave the check box unchecked and select a schedule you have created from the Schedule Plan drop-down list box.
4. Under **Queue Conditions**, click **Allow callbacks anytime, no queue restrictions apply** to allow callbacks anytime, regardless of queue designation.The Contact Center Management Queue/Path drop-down list box, the Maximum calls waiting threshold and the Maximum longest call waiting threshold check boxes are disabled. However, if you wish to assign a queue condition to your Callback Plan, leave the check box unchecked and select a queue path from the Contact Center Management Queue/Path drop-down list box.
5. If you have not selected **Allow callbacks anytime, no queue restrictions apply**, you will be able to set thresholds for the maximum number of calls waiting and the maximum longest call waiting, if required.
6. To set the Maximum number of calls waiting threshold, select **Check against the maximum calls waiting threshold** and enter a number in the Maximum calls waiting threshold field.If the number of calls meets or exceeds the number you have entered, Intelligent Queue will not perform a callback. If the number of calls is lower than the number you have entered, Intelligent Queue will perform a callback.
7. To set the Maximum longest call waiting threshold, check **Check against the maximum longest call waiting threshold** and enter a number in the Maximum longest call waiting threshold (seconds) field.If the number of seconds meets or exceeds the number you entered, Intelligent Queue will not perform a callback. If the number of calls is lower than the number you have entered, then Intelligent Queue will perform a callback.
8. To perform a check for an available agent before submitting the callback to the queue, check **Check against the agents idle threshold** and enter a number in the Minimum agents idle threshold field. If the number of idle agents meets or exceeds the threshold number, Intelligent Queue will submit the callback to the queue. If the number of idle agents is lower than the threshold value, Intelligent Queue will not submit the callback to the queue.

Assigning caller messages to callback plans

For voice callbacks, first assign caller messages and then agent messages to your callback plans. You do not need to assign caller messages for Web callbacks.

To assign caller messages to callback plans

1. From the **Manage=>Actions=>Callback** window, click the **Messages** tab. The Messages tab opens.
2. Click the **Caller Messages** sub tab.The Caller Message sub tab opens.
3. Under **Caller Messages**, define the messages that a caller will receive when requesting a callback, using the drop-down list boxes.
4. After **Prompt for Telephone Number**, select a Message Plan you have created to enable callers to hear a message prompting them to leave their phone number. The static message you select could be, "Please use your telephone keypad to enter your seven-digit phone number, followed by the # (pound) key", for example.
5. Make your selections from the two drop-down list boxes after **Confirm Telephone Number**.
   - Step 1: Select the first pre-recorded phrase. The static message you select could be, "You have entered ...", for example.
   - Step 2: Select the second pre-recorded phrase. The static message you select could be, "Is this number correct? Press 1 for yes. Press 2 for no."
6. Select the playback language in which the caller's DTMF selection will be played back. US English is selected by default.

7. After **Record a Message,** select a Message Plan you have created to enable callers to leave a message. The static message you select could be, "Please leave a message after the tone", for example.
8. After **Request Confirmation**, select a Message Plan you have created to enable callers to hear a confirmation message. The static message you select could be, "Press 1 to Save your Callback Request. Press 2 to Cancel your Callback Request", for example. Saving the callback request submits it to the database. Cancelling the callback request means it will not be submitted to the database.
9. After **Request Submitted**, select a Message Plan you have created to enable callers to hear the message that their callback request has been submitted. The static message you select could be, "Your request has been successfully submitted", for example.
10. After **Request Cancelled**, select a Message Plan you have created to enable callers to hear the message that they have successfully cancelled their callback request. The static message you select could be, "You have successfully cancelled your request", for example.

Assigning agent messages to callback plans

For voice callbacks, once you have assigned caller messages, proceed to assign agent messages to your callback plans. For Web callbacks, proceed directly to assign agent messages to your callback plans.

To Assign Agent Messages to Callback Plans

1. From the **Manage=>Actions=>Callback** window, click the **Messages** tab. The Messages tab opens.
2. Click the **Agent Messages** sub tab.The **Agent Messages** sub tab opens.
3. Under **Agent Messages**, define the messages that agents will hear when establishing a callback, using the drop-down list boxes.
4. After **Agent Greeting**, select a Message Plan you have created to allow agents to hear a greeting once a connection to an agent is established.The default message for a Voice Callback Request (18.wav) is, "You have a Voice Callback request."The default message for a Web Callback Request (19.wav) is, "You have a Web Callback request."
5. After **Agent Instruction**, select a Message Plan you have created to offer menu selection to agents. The default message (20.wav) is, "To listen to the caller's message, press 1. To place this call, press 2. To requeue this request, press 3. To reject this request, press 4. To hear these options again, press star (*)."
6. After **Agent Connecting**, select a Message Plan you have created to allow agents to hear that the call is being established. The default message (22.wav) is, "Please wait while the call is established."
7. After **Client Greeting**, select a Message Plan you have created to allow callers to hear a message that they are being connected to an agent. The default message (26.wav) is, "You have a callback. We are connecting you to an agent now".
8. After **Client Failure**, select a Message Plan you have created to allow agents to hear that the callback could not be established. The default message (27.wav) is, "The callback could not be established."
9. After **Agent Rejected**, select a Message Plan you have created to allow callers to hear a message confirming that they have successfully cancelled their callback request.The default message (29.wav) is, "Your request has been cancelled. Goodbye."
10. After **Agent Requeue**, select a Message Plan you have created to allow callers to hear a message that they are being redirected to an available queue.
11. After **Agent Pre-Connect**, select a Message Plan you have created to allow callers to hear a message before being connected.

Assigning agent options to callback plans

After you have assigned agent messages for either voice or Web callbacks, you will need to assign agent options to your callback plans.

To assign Agent Options to Callback Plans

1. From the **Manage=>Actions=>Callback** window, click the **Agent Options** tab.
   The Agent Options tab opens.
2. Select a DTMF digit (0-9, *, #) that agents will type to invoke each of the following options:
   - Listen to caller's message/name. The default digit is 1.
   - Connect to the telephone number. The default digit is 2.
   - Requeue the callback request. The default digit is 3.
   - Reject the callback request (to delete the callback request from the queue). The default digit is 4.
   - Replay the agent instruction message. The default digit is 5.

Setting callback plan parameters

To set callback plan parameters

1. From the **Manage=>Actions=>Callback** window, click the **Parameters** tab.
2. After **Callback destination**, type the extension number or hunt group number to connect to an agent.
   If you are supporting more than one PBX with Intelligent Queue, select the callback destination PBX.
   CAUTION: Typing 0 enables the caller to record infinitely long messages which can consume large amounts of hard drive space.
3. After **Client Recording Timeout (seconds)**, type the time limit within which the caller must record the callback message (in seconds).
   The default value is 600 seconds. The value can range from 1 to 3600 seconds.
4. After **No answer timeout for agent**, type the time limit (in seconds) a callback port will wait for an agent to answer.
   The default is 120 seconds.
5. After **No answer timeout for clients**, type the time limit (in seconds) a callback port will wait for a client to answer.
   The default is 15 seconds.
6. After **Number of attempts to contact client**, type the maximum number of times Intelligent Queue will attempt to return the client's call.
   The default is three times.
7. After **Retry interval between contacting client**, type a number (of minutes).
   The default is 30 minutes.
8. After **Minimum number of digits required to place an external call**, type a number.
   The default is 7.
9. After **Leading digit(s) required to call back external clients**, type the digit required to access an external phone line, if required.
   The default is 9.
10. After **Minimum number of digits required for a valid callback**, type a number.
    The default is 7.
11. Select the **On requeue, retain original callback date/time stamp** check box to prioritize callbacks by the original date and time of the callback.
    NOTE: The oldest callbacks will always be offered to agents before newer callbacks, regardless of requeue.

12. For **Web Callbacks**, type the number of calls that the system will consider to be too many to process a callback to a queue after **Maximum number of simultaneous callback requests from single IP address**. Alternatively, select the **Check box for unlimited callback requests from a single IP address**.
    NOTE: Mitel Networks Corporation recommends that you type a maximum number to avoid being flooded by simultaneous callbacks from a single IP Address.
13. Click **Save** to save your configuration. Click **New** to clear the fields and create a new Callback Plan. Click **Delete** to remove a Callback Plan.

Managing recording plans

Call recording for quality monitoring purposes was introduced in Intelligent Queue version 3. This feature requires that ports be dedicated as recording ports to ensure availability and to avoid call collisions with incoming calls. You can initiate call recording from the Intelligent Queue user interface.

Using Intelligent Queue, a user with sufficient rights enters an Agent ID, extension number, or Agent Group ID to request that a current call, or the next call received, be recorded. Once the recording completes, the system notifies the user of the success (or failure) of the request, as well as the file name with which the call recording has been stored.

Please note the following conditions of the Agent call recording option:

- Only SUPERSET telephones with the ACD Silent Monitoring - Accept option enabled in their Class of Service can be recorded.
- An agent can only be recorded by one supervisor at a time.
- Recording is denied on a broker's call, because any agent who has a call on soft hold cannot be recorded.
- Agent call recording is not permitted on a non-prime line.
- A SUPERCONSOLE 1000 or SUPERSET 7000 console cannot be recorded.
- Networked ACD does not support agent call recording of remote agent subgroups from the Distributor system.
- Agent call recording is not supported on MSDN networks.

To record an agent

1. Select **Manage=>Recordings**. The Recording Queue tab opens by default.
2. Under **Directory number**, type the directory number you wish to record
3. Select the port group that uses the directory number.
4. Click **Record**.
5. Under **Recording Queue**, view the recordings in queue. To navigate through multiple pages of listings, click **Previous** or **Next**.
6. To remove a recording from a queue, click **Remove**.
7. To terminate the recording of a call, click the **Stop** button.
8. Click the **Download Recordings** tab to play or download a recording.
9. Follow the on-screen instructions:To play a recording, left click a recording to select it.To download a recording from the server and save it to your local hard drive, right-click a recording, select **Save Target As...**, and select a folder to which the recording will be saved.
10. Recordings are saved in a Recordings folder. Provided you accepted the default settings during installation, the folder can be found at the following location: Program Files\Mitel Networks\Intelligent Queue\Recordings
11. Click the **Completed Requests** tab to view completed or failed recordings.

Maintaining Intelligent Queue and Contact Center Management

This section includes information on

- Adding an Intelligent Queue media server to Contact Center Management
- Using Network Monitor with Intelligent Queue
- Configuring Intelligent Queue devices
- Creating reports
- Using Reporter

Adding an Intelligent Queue media server to Contact Center Management

To add an Intelligent Queue media server

1. Click **YourSite=>Enterprise.**
2. After **Name**, type the name of the media server.
3. After **Site**, select the site where this media server resides.
4. After **This media server is installed on the computer you have named**, select the computer on which the media server is installed.
5. Click **Save**.

Using Network Monitor with Intelligent Queue

You can use Network Monitor (located in Contact Center Client) to provide information on the status of real-time data collection on your Intelligent Queue media server. Network Monitor can verify if alarms are enabled for your media servers and if the media servers are reporting any alarms.

The following list includes some of the alarms Network Monitor provides:

- SQL Server down
- Messaging Service down
- Recording Service down
- Callback Service down
- Music Service down
- Mitel IP Service down
- No audio
- Bad audio file detected
- MiTAI down
- Low disk space on installation drive
- Invalid agent destination for callback detected

To configure Network Monitor for use with Intelligent Queue, you must

1. Add an Intelligent Queue media server to Contact Center Management.
   See "Adding an Intelligent Queue media server to Contact Center Management" on page 626.
2. Configure the data collection settings for the Intelligent Queue media server.
3. Configure Contact Center Management settings in Intelligent Queue.

For more information on using Network Monitor, see "Network Monitor" on page 343.

Configuring data collection settings for Intelligent Queue media servers

To configure the data collection settings for an Intelligent Queue media server

1. Open Contact Center Management and click **YourSite=>Enterprise**.
2. Expand the Enterprise Configuration tree and select the Intelligent Queue media server you want to configure.
3. Select the **Data collection** tab.
4. Select **IP address** and type the IP address of your Intelligent Queue server.
5. Click **Save**.

Configuring Contact Center Management settings in Intelligent Queue

To configure your Contact Center Management settings

1. Open Intelligent Queue and click **Configure=>Contact Center Management Settings**.
2. After **Address**, type the IP address of your Contact Center Management server.
3. Click **Save**.

Resolving Network Monitor alarms

When Network Monitor detects an alarm, it provides a general description of the alarm. Though the types of alarms can vary, you can resolve many alarms with the following methods:

- If a service is down, restart the service that is down.
- View the Intelligent Queue log in Event Viewer for more specific details about the alarm.
  See "Viewing event logs" on page 646.

For more information on troubleshooting Intelligent Queue alarms in Network Monitor, see "Recording voice prompts" on page 632.

Configuring Intelligent Queue devices

NOTE: You must have the Intelligent Queue application and an Intelligent Queue media server at your site before you can view the Intelligent Queue option on the YourSite Configuration menu.

Intelligent Queue Smart Choice layers

You can configure your ports to act as options or Smart Choice message trees. Each option plays a user-defined message and transfers the caller to a user-defined destination, or allows the customer to create a voice callback, if this option has been purchased.

Viewing Intelligent Queue Smart Choice layers in the YourSite database

To view Intelligent Queue Smart Choice layers in the YourSite database

- Click **YourSite=>Configuration=>Intelligent Queue=>Smart Choice=>Smart Choice layer**
  The Intelligent Queue Smart Choice layer window opens.
  Under **Name**, the Intelligent Queue Smart Choice layer names are listed.
  Under **Reporting,** the Intelligent Queue Smart Choice layer reporting numbers are listed.

Adding Intelligent Queue Smart Choice layer groups to the YourSite database

To add an Intelligent Queue Smart Choice layer group to the YourSite database

1. Click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice layer group**.
   The Smart Choice layer group window opens.
2. Click **Add**.
3. After **Reporting**, type the reporting number of the Smart Choice layer group.
4. After **Name**, type the name of the Smart Choice layer group.

Adding Intelligent Queue Smart Choice layers to an Intelligent Queue Smart Choice layer group

To add Intelligent Queue Smart Choice layers to an Intelligent Queue Smart Choice layer group

1. Click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice layer group**.
   The Smart Choice layer group window opens.
2. Across from the record of the Smart Choice layer group just created, click **Members**.
3. Under **Available members**, select the check boxes of the members you want to add to the group and click **>>**.
4. Click **Save**.

Intelligent Queue ports

In this section, you will learn how to use Intelligent Queue ports.

Viewing Intelligent Queue ports in the YourSite database

To view Intelligent Queue ports in the YourSite database

1. Click **YourSite=>Configuration=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice port**
   The Intelligent Queue Smart Choice port window opens.
2. Under **Media server**, the media server associated with each Intelligent Queue port is listed.
3. Under **Reporting number**, the Intelligent Queue port reporting numbers are listed.
4. Under **Name**, the Intelligent Queue port names are listed.
5. Under **Dialable number**, the dialable numbers are listed.

Adding Intelligent Queue port groups to the YourSite database

To add an Intelligent Queue port group to the YourSite database

1. Click **YourSite=>Configuration=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice port group**.
   The Intelligent Queue Smart Choice port group window opens.
2. Select **Add**.
3. After **Reporting number**, type the Intelligent Queue port group reporting number.
4. After **Name**, type the Intelligent Queue port group name.

Adding Intelligent Queue ports to an Intelligent Queue port group

To add Intelligent Queue ports to an Intelligent Queue port group

1. Click **YourSite=>Configuration=>Intelligent Queue Smart Choice=>Intelligent Queue Smart Choice port group**.
   The Intelligent Queue Smart Choice port group window opens.
2. Across from the record of the Intelligent Queue Smart Choice port group just created, click **Members**.
   The Edit Intelligent Queue Smart Choice port group members window opens.
3. Under **Available Intelligent Queue Smart Choice ports**, select the check box of the member you want to add to the group and click **>>**.

Intelligent Queue exit codes

Exit Codes trigger each exit from a queue or from the auto attendant. They apply to Smart Choice message queues, RAD queues, and routing queues.

Viewing Intelligent Queue Smart Choice layer exit codes in the YourSite database

To view Intelligent Queue Smart Choice layer exit codes in the YourSite database

- Click **YourSite=>Configuration=>Intelligent Queue=>Intelligent Queue Smart Choice layer exit code**.
  The Intelligent Queue Smart Choice layer exit code window appears.
  Under Reporting number, the Intelligent Queue exit code reporting numbers are listed.
  Under Name, the Intelligent Queue exit code names are listed.

Creating reports

You must have Contact Center Management (version 4 or greater), a Contact Center Management Enterprise Node license, and Excel to view reports. They all must be installed **prior** to installing Intelligent Queue.

Before you can produce a report

The Intelligent Queue server must point to both of the following:

- Contact Center Management server
- Contact Center Management Enterprise Node (requires the Enterprise Node license)

The Contact Center Management database automatically synchronizes with the paths, ports, and exits information provided by Intelligent Queue. From the real-time SMDR and ACD, Intelligent Queue data is generated that drives the reports.

NOTE: If you want to produce reports on agents (Intelligent Queue ports), you must create unique employee IDs and then associate these employee IDs to the agents.

Report types

The reports are found at www.prairiefyre.com (requires Internet Explorer 6 or greater). You can create two types of reports: Smart Choice Layer reports and Smart Choice Port reports.

Smart Choice reports

The Smart Choice reports consist of the following types:

- **Smart Choice Layer Reports**
  Smart Choice Layer reports provide statistics on layer use.
  - Smart Choice Layer Group by Layer
  - Smart Choice Layer Group by Exit Code
  - Smart Choice Layer Group by Layer by Exit Code
- **Smart Choice Port Report**
  Smart Choice Port reports provide statistics on the calls routed through ports associated with Smart Choice messaging.
  - Smart Choice Port Group Performance by Port

Smart Choice Layer Group by Layer

The Smart Choice Layer Group by Layer report shows call statistics for each layer associated to the layer group. (See Table 18 - 5.)

Table 18 - 5 Smart Choice Layer Group by Layer

Report Field	Description
Total calls entering layer	the total number of calls that reach the layer in the decision tree
Total number of repeats	the total number of repeats that occurred on this layer
Total true calls entering calls	the number of distinct calls entering the layer
Total calls exiting layer	the total number of calls that exit the layer to go to another layer or answering point (path, extension, or voice mailbox)
Total calls terminating in layer	the total number of calls abandoned on the layer
Total duration in layer (hh:mm:ss)	the total duration of calls, from the time they enter the layer to the time they exit the layer
Average duration in layer (hh:mm:ss)	the average duration for calls in the layer, from the time they enter the layer to the time they exit the layer

NOTE: The prairieFyre Maintenance Manager deletes ANI records that are 15 days or older each night at 2:00 A.M. In addition, ANI records are deleted chronologically when the number of records in the database exceeds 10,000.

Smart Choice Layer Group by Exit Code

The Smart Choice Layer Group by Exit Code report shows calls statistics for each exit code selected inside a layer. Smart Choice Layer Group by Exit Code report provides the following information: (See Table 18 - 6.)

Table 18 - 6 Smart Choice Layer Group by Exit

Report Field	Description
Total count	the total number of calls that leave the layer group by selected code

Report Field	Description
Total duration (hh:mm:ss)	the total duration of calls, from the time they are picked up by the port to the time they exit the layer
Average duration (hh:mm:ss)	the average duration of calls, from the time they are picked up by the port to the time they exit the layer
Total	the total of each of the columns

Smart Choice Layer Group by Layer by Exit Code

The Smart Choice Layer Group by Layer by Exit Code report shows calls statistics for each exit code selected inside a layer, for each layer associated to the layer group.

Smart Choice Layer Group by Exit Code report provides the following information. (See Table 18 - 7.)

Table 18 - 7 Smart Choice Layer Group by Layer by Exit Code

Report Field	Description
Exit code number	the number of the exit code
Exit code name	the name of the exit code
Total count	the total number of calls that leave the layer group by selected code
Total duration (hh:mm:ss)	the total duration of calls, from the time they are picked up by the port to the time they exit the layer
Average duration (hh:mm:ss)	the average duration of calls, from the time they are picked up by the port to the time they exit the layer

Smart Choice Port Group Performance by Port

The Smart Choice Port Group Performance by Port report shows call statistics for each port associated with the Smart Choice Tree selected. (See Table 18 - 8.)

Table 18 - 8 Smart Choice Port Group Performance by Port

Report Field	Description
Total Smart Choice calls	the total number of calls that reach the layer that are Smart Choice (automated attendant guided) calls
Total duration (hh:mm:ss)	the total duration of calls, from the time they are picked up by the port to the time they exit the layer
Average duration (hh:mm:ss)	the average duration of calls, from the time they are picked up by the port to the time they exit the layer

Report Field	Description
Average menu choices per call	the average number of menu choices callers select while in the Smart Choice tree
Total calls ending in Smart Choice	the total number of callers that hang up while in the Smart Choice tree
Total calls transferred out from Smart Choice	the total number of calls that are transferred out of the Smart Choice tree to another answering point such as Path or Extension

Recording voice prompts

You can record unique messages, use the provided messages (in US English, UK English, NA French, EU French, EU Spanish, LA Spanish, Dutch) or replace voice prompts provided by Intelligent Queue with your own messages. Your .wav files must have the following format:

- Bitrate: 64 kbps
- Audio sample size: 8 bit
- Channels: 1 (mono)
- Audio sample rate: 8kHz
- Audio format: CCITT u-Law

We suggest you keep messages short. The longer the message, the greater the number of ports the system requires. If all of the ports are busy playing messages to callers, new callers have to wait until the previous message finishes before they are answered.

Recording messages

There are two ways to record Intelligent Queue messages: use a microphone or a telephone. The quality of the messages is higher if you record messages with a microphone, rather than a telephone.

Recording messages with a microphone

To record messages with a microphone, follow the directions that come with your recording software. Save the audio files in the .wav format. Intelligent Queue requires a specific type of .wav file. To convert them to the format that Intelligent Queue requires, see "Converting .wav files" on page 633.

Recording messages with a phone, using Intelligent Queue

To record a message with a phone

1. On the **Manage=>Actions=>Management** window, click the **Options** tab.
2. After **Recording prompts via phone is...** select **Enabled**.
3. Click **Save**.
4. If you have set up your management plan, skip to step 6. If you have not, see "Setting up management plans" on page 606.
   See "Defining the messages within your management plan" on page 606.
5. On your phone, dial your password to enter Intelligent Queue.
6. Press **1** to record a message.
7. Record your message.

8. Press any number to stop recording a message.
   Your recorded messages, by default, **are saved under the Voice folder, Inbox.** The name of the recorded message is: month, day, year, hour, minute, second.wav. For example, 11-2-2006 - 8hr 28m 46s.wav.
9. Locate the recorded message and click on it to listen to the message.
10. If you want to keep the message, rename the message to something meaningful now. For example, if it is the greeting, rename it “Greeting.” Or, if you want to replace a voice prompt provided with Intelligent Queue, re-name the message you recorded with the name of the message you want to replace.
11. Move the message to the appropriate location **C:\Program Files\Mitel Networks\Intelligent Queue\Languages\[Language Name]**.
12. Design your call flow.
    See "Managing call flows" on page 613.

Converting .wav files

If you created your voice recordings on an external source, you must convert your .wav files to the format Intelligent Queue requires.

To convert .wav files to the correct format

1. Click **Start=>Programs=>Accessories=>Entertainment=>Sound Recorder**.
   The Sound Recorder window opens.
2. Click **File=>Open** and select the file you want to convert.
3. Click **Open**.
4. Click **File=>Save As**.
   The Save As window opens.
5. Click **Change**.
   The Sound Selection window opens.
6. After **Format**, select **CCITT u-Law**.
7. After **Attributes**, select **8.000 kHz, 8 Bit, Mono 7 kb/sec**.
8. Click **OK**.
9. If you do not want to overwrite the original file, change the file name.
10. After **Save as type**, verify that **Sounds (*.wav)** is selected.
11. Click **Save**.

Readback .wav file names

Dollars, cents, euros, pence, pounds, negative numbers, and decimal numbers, although supported in all languages, are provided in US English and UK English only. You must record your own .wav files if you want them in additional languages. The files are located in the following directory: \\Voice*language*\System\. There are ten language folders: US English, UK English, NA French, EU French, EU Spanish, LA Spanish, Dutch, Brazilian Portuguese, Simplified Mandarin Chinese, and Italian. See "Recording voice prompts" on page 632. (See Table 18 - 9).

Table 18 - 9 Smart Choice Port Group Performance by Port

.wav files	Example
Dollars.wav (plural)	For example “two dollars.”
Dollars-singular.wav	For example “one dollar.”

.wav files	Example
Cents.wav (plural)	For example “two cents.”
Cents-singular.wav	For example “one euro.”
Euros.wav (plural)	For example “two euros.”
Euros-singular.wav	For example “one euro.”
Negative.wav	For example “negative three.”
Pence.wav (plural)	For example “two pence.” (When you record the .wav file, you must save it as Pence.wav and Pence-singular. wav to be used in both the singular and plural instance.)
Pence-singular.wav	For example, one pence. (When you record the .wav file, you must save it to be used in both the singular and plural instance.)
Point.wav	For example “point 45."
Pounds.wav (plural)	For example “two pounds.”
Pounds-singular.wav	For example “one pound.”

Recorded phrases

The phrases are located in **C:\Program Files\Mitel Networks\Intelligent Queue\Languages\[Language Name]**. You can enter a message defined using the Voice Prompts tab.

NOTE: The UK English .wav file scripts are identical to the US English .wav file scripts. (See Table 18 - 10.)

Table 18 - 10 Included .wav files

File Name	Script
FR-1.wav	Tous nos représentants sont présentement occupés. On vous répondra dès qu'un d'entre eux sera disponible.
FR-2.wav	Bonjour! Merci de votre appel. Tous nos représentants sont présentement occupés. On vous répondra dès qu'un d'entre eux sera disponible.
FR-3.wav	***Exact same recording as FR-2***
FR-4.wav	Merci de votre appel. En raison du nombre d’appel actuel, le temps d’attente sera d’environ...
FR-5.wav	Merci de votre appel. En raison du nombre d’appel exceptionnellement élevé, le temps d’attente sera d’environ...

File Name	Script
FR-6.wav	Minute
FR-7.wav	Merci de votre appel. Le temps d'attente est présentement de cinq à dix minutes. Veuillez patienter pour conserver votre priorité d'appel. Merci de votre compréhension.
FR-8.wav	Merci de votre appel. En raison du nombre d'appel exceptionnellement élevé, le temps d'attente excède dix minutes. Veuillez patienter pour conserver votre priorité d'appel. Merci de votre compréhension.
FR-9.wav	Cette option n'est pas disponible.
FR-10.wav	Merci de votre appel. Nos bureaux sont présentement fermés. Veuillez rappeler du lundi au vendredi de 8h à 17h.
FR-11.wav	Merci de votre appel. Nos bureaux sont présentement fermés en raison du jour férié. Veuillez rappeler du lundi au vendredi de 8h à 17h.
FR-12.wav	Merci de votre appel. En raison du nombre d'appel exceptionnellement élevé, on vous répondra dès qu'un représentant sera disponible. Merci de votre compréhension.
FR-13.wav	Veuillez composer un numéro de téléphone où vous joindre, suivi du carré.
FR-14.wav	Vous avez composé le...
FR-15.wav	Si ce numéro est exact, faites le un. Autrement faites l'étoile.
FR-16.wav	Veuillez enregistrer votre nom après la tonalité. Lorsque vous aurez terminé l'enregistrement, faites le un.
FR-17.wav	Pour soumettre cette demande de rappel, faites le un. Pour l'annuler et quitter le système, faites l'étoile.
FR-18.wav	Vous avez une demande de rappel vocale.
FR-19.wav	Vous avez une demande de rappel internet.
FR-20.wav	Pour écouter le message de l'appelant, faites le un. Pour écouter cet appel, faites le deux. Pour replacer cette demande en file d'attente, faites le trois. Pour la rejeter, faites le quatre. Pour écouter ces options de nouveau, faites l'étoile.
FR-21.wav	Pour écouter le nom de l'appelant, faites le un. Pour écouter cet appel, faites le deux. Pour replacer cette demande en file d'attente, faites le trois. Pour la rejeter, faites le quatre. Pour écouter ces options de nouveau, faites l'étoile.
FR-22.wav	Veuillez patienter pendant que nous effectuons l'appel.
FR-23.wav	Connexion en cours.
FR-24.wav	Il y a d'autres demandes de rappel.

File Name	Script
FR-25.wav	Il n'y a pas de demande de rappel en attente.
FR-26.wav	Votre rappel. Nous vous communiquons à un représentant maintenant.
FR-27.wav	Le rappel n'a pu être établi.
FR-28.wav	Votre appel est acheminé. Un moment s'il vous plait.
FR-29.wav	Votre demande a été annulée. Au revoir.
FR-30.wav	Merci de votre appel. On vous répondra dès qu'un représentant sera disponible. Au revoir.
FR-31.wav	Veuillez s'il vous plait composer votre mot de passe de gestionnaire.
FR-32.wav	Pour enregistrer les invitations du système, composez le un. Pour changer le mode d'opération de ce système, composez le deux.
FR-33.wav	Commencez à parler après la tonalité. Quand vous aurez terminé, appuyez sur n'importe quelle touche.
FR-34.wav	Enregistrement terminé. Votre enregistrement a été sauvegardé dans votre boîte de réception.
FR-35.wav	Pour configurer vos ports d'accès, en mode normal, composez le un. Pour les configurer en mode d'urgence, composez le deux.
FR-36.wav	Vos faisceaux d'accès fonctionnent maintenant en mode normal.
FR-37.wav	Vos faisceaux d'accès fonctionnent maintenant en mode d'urgence.
FR-38.wav	Cette sélection n'est pas valide.
FR-39.wav	Le nombre d'appelants en attente est de...
FR-40.wav	Votre rang dans la file d'attente est...
FR-41.wav	Votre demande a été mise dans la file d'attente...
FR-42.wav	D'attente la plus longue est de...
NA-1.wav	All of our representatives are busy helping other callers. Your call will be answered as soon as an agent becomes available.
NA-2.wav	Good morning, and thank you for calling. All of our representatives are busy helping other callers. Your call will be answered as soon as an agent becomes available.
NA-3.wav	Good afternoon, and thank you for calling. All of our representatives are busy helping other callers. Your call will be answered as soon as an agent becomes available.
NA-4.wav	Thank you for calling. Based on current call volumes, the expected wait time is...

File Name	Script
NA-5.wav	Thank you for calling. Due to the unusually high number of calls, the expected wait time is...
NA-6.wav	...minutes.
NA-7.wav	Thank you for calling. The current wait times are between 5 and 10 minutes. Please continue to hold to maintain your call priority. We thank you for your patience.
NA-8.wav	Thank you for calling. Due to the unusually high volume of calls, the current wait times are greater than 10 minutes. Please continue to hold to maintain your call priority. We thank you for your patience.
NA-9.wav	That option is not available.
NA-10.wav	Thank you for calling. Our offices are now closed. Please call back Monday to Friday.
NA-11.wav	Thank you for calling. Our offices are now closed for the holiday. Please call back Monday to Friday, between the hours of 8 A.M. and 5 P.M.
NA-12.wav	Thank you for calling. We are currently experiencing an unusually high volume of calls. Your call will be answered as soon as an agent becomes available. We thank you for your patience.
NA-13.wav	Please enter a telephone number where you can be reached, followed by the pound sign.
NA-14.wav	You have entered...
NA-15.wav	If this is correct, press one. If this is not correct, please press the star key.
NA-16.wav	At the tone, please record your name. When you have finished recording, press one.
NA-17.wav	To submit this callback request, press one. To cancel this request and leave the system, please press the star key.
NA-18.wav	You have a voice callback request.
NA-19.wav	You have a Web callback request.
NA-20.wav	To listen to the caller's message, press one. To place this call, press 2. To requeue this request, press 3. To reject this request, press 4. To hear these options again, press star.
NA-21.wav	To listen to the caller's name, press one. To place this call, press 2. To requeue this request, press 3. To reject this request, press 4. To hear these options again, press star.
NA-22.wav	Please wait while the call is established.
NA-23.wav	Connecting now.
NA-24.wav	There are additional callback requests.
NA-25.wav	There are no outstanding callback requests.

File Name	Script
NA-26.wav	You have a callback. We are connecting you to an agent now.
NA-27.wav	The callback could not be established.
NA-28.wav	Your call is being routed. One moment please.
NA-29.wav	Your request has been cancelled. Goodbye.
NA-30.wav	Thank you for calling. Your call will be answered as soon as an agent becomes available.
NA-31.wav	Please enter your management password.
NA-32.wav	To record system prompts, press 1. To change the system's operating mode, press 2.
NA-33.wav	Begin speaking after the tone. When finished, press any digit.
NA-34.wav	Recording complete. Your recording has been saved in your inbox.
NA-35.wav	To put your ports in normal mode, press 1. To put your ports in Emergency mode, press 2.
NA-36.wav	Your port groups are now operating in normal mode.
NA-37.wav	Your port groups are now operating in emergency mode.
NA-38.wav	That selection is invalid.
NA-39.wav	The number of calls waiting is…
NA-40.wav	Your position in queue is…
NA-41.wav	Your request has been requeued…
NA-42	The longest call waiting is…

Web Callback

With Web Callback, callers can submit callback requests from the company website. Each caller must type a telephone number, name, and time frame within which the call should be returned. You can download an example of a Web Callback page and edit it for use by company. (See Figure 18 - 2.)

Viewing the Web Callback example page

You can view the Web Callback example page at *<installation_drive>:\ Files\Mitel Networks\6160\WebCallbackExamples\VBDotNet*.

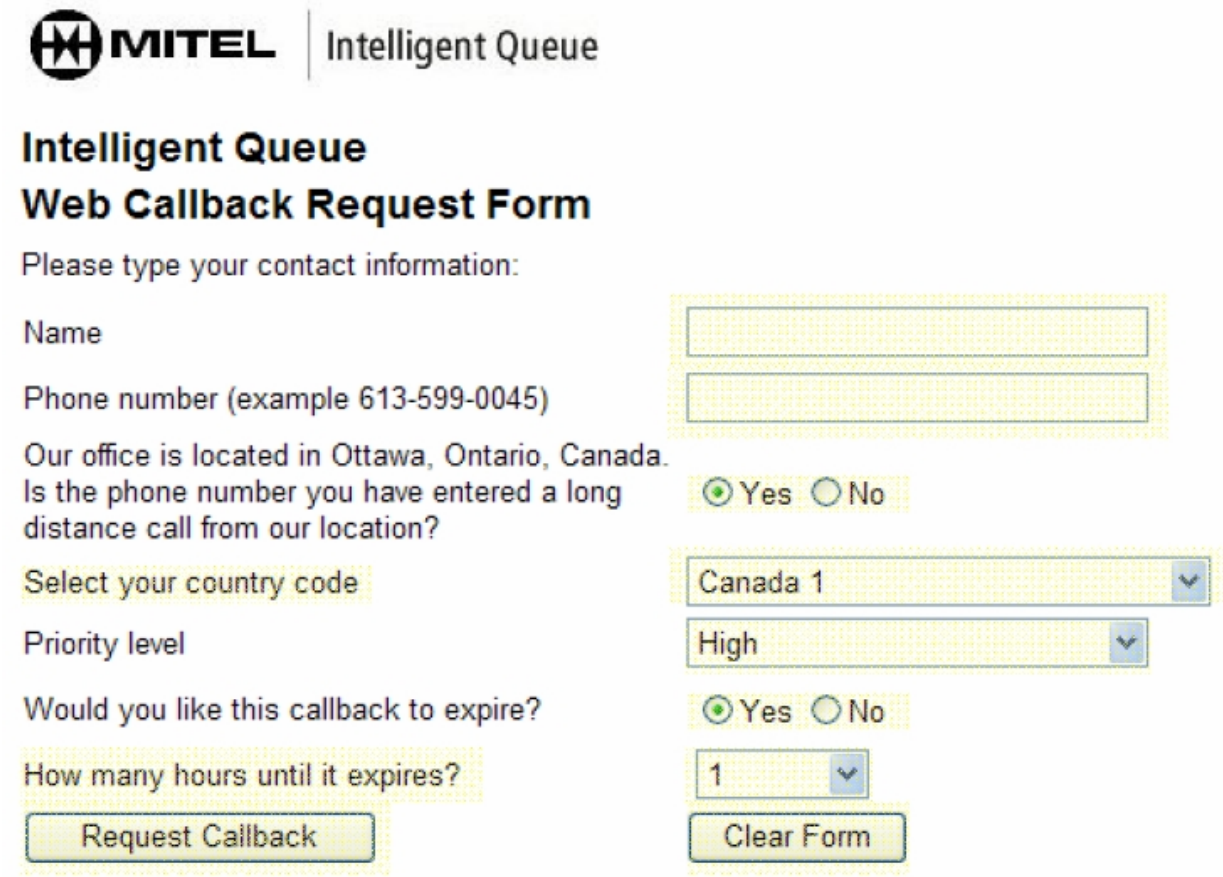
Customizing your Web Callback page

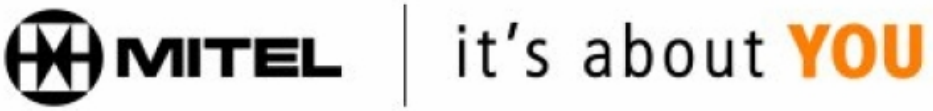
You edit elements of the Web Callback example to create your own customized Web Callback page.

You can edit the following files

- Header.aspx
- Footer.aspx
- Styles.aspx
- Web.config
- WebCallback.aspx

Figure 18 - 2 Web Callback





Customizing the header

In the example, the header consists of the Mitel logo and the words “Intelligent Queue.”

To edit the header image

1. Create a .gif image to replace the Mitel header.
2. Under **WebCallback\IMAGES** folder, save the file as **header_product_mitel_iq.gif**.
   The new image will replace the Mitel header.

Customizing the footer

In the example, the footer consists of the Mitel logo with the words “It’s about YOU.”

To edit the footer image

1. Create an gif image to replace the Mitel footer.
2. Under **WebCallback\IMAGES** folder, save the file as **MitelLogo_ABOUT_YOU_20percent.jpg**.
   The new image will replace the Mitel footer.

Customizing the Cascading Style Sheet

The Cascading Style Sheet (CCS) defines how HTML elements are displayed. CCS enables you to control the style and layout of multiple Web pages all at once.

To edit the CCS

1. Open **Styles.css**.
2. Edit the heading and body font sizes and styles, or spacing.
3. Click **Save**.

Customizing the Web configuration

This is the configuration file for the Web Callback page. Review the following settings to ensure the Web Callbacks function properly.

The following settings are used in the Web Callback example. (See Figure 18 - 3.)

Figure 18 - 3 Web Callback example.

```
<appSettings>
            <add key="WebCallbackService.CallbackWebService" value="http:,
localhost/6160/CallbackWebService.asmx"/>
            <add key="WebCallbackPlanName" value="webCallback"/>
            <add key="YourCountryCode" value="1"/>
            <add key="IDDInternationalDialingPrefix" value="011"/>
                        </appSettings></configuration>
```

To edit the Web configuration

1. Open **Web.config**.
2. If you use SSL, add an **s** after http in **<add key="WebCallbackService.CallbackWebService" value="http://localhost/6160/CallbackWebService.asmx"/>** and modify localhost to what was specified in the CSR request under Common Name (CN).
3. After **“WebCallbackService.CallbackWebService” value=”** ensure it states your Intelligent Queue website address.
   The default value provided is correct unless you changed the default name of the virtual directory when you installed Intelligent Queue.

4. After **"Web Callback Plan Name" value="** replace **webCallback** with the name of the callback plan you defined in Intelligent Queue.
   The plan will be executed when the user submits a Web callback.
5. After "**YourCountryCode" value="** replace **1** with your country code.
6. After **"IDDInternationalDialingPrefix" value="** replace **011** with the international prefix your company uses as part of the telephone number to return the callback.
   This value is used only when the callback request destination IDD is different from your IDD.
7. Click **Save**.

Customizing the content of the Web Callback page

You can change the content of the Web Callback page to reflect your business, however, below is a list of critical elements that you must not change or remove. (See Table 18 - 11.)

Table 18 - 11 Critical elements that must not be changed or removed

Variable	Function
txtName	This is the text box for the client's name.
RequiredFieldNameValidator	This is the required field validator for txtName.
txtPhoneNumber	This is the text box for the phone number.
phoneNumberRegexValidator	This validates whether the value in txtPhoneNumber is a valid phone number.
RequiredFieldPhoneNumberValidator	This is the required field validator for txtPhoneNumber.
nonNorthAmericanNumberRegexValidator	This validates whether the value in txtPhoneNumber is a valid phone number outside of north America.
rblLongDistance	This is the radio button list for choosing whether the phone number is long distance.
RequiredFieldLongDistanceValidator	This is the required field validator to ensure the user has said Yes or No to whether the phone number entered is long distance.
lblCountryCode	This is the corresponding label for ddlCountryCode drop down list and this can not be deleted because it's visibility is toggled based on if you choose yes or no to whether the call is long distance or not. However, the label's text can be changed to say anything.
ddlCountryCode	This is the drop down list for the country codes.
ddlPriority	This is the drop down list to select the priority of the callback.
rlbExpire	This is the radio button list for choosing whether this callback should expire.

Variable	Function
lstHours	This is the list box for selecting the value for the number of hours till this callback expires.
btnSubmit	This is the submit button.
btnNewRequest	This is the 'clear form' button.
ValidationSummary	This is where any validation errors or submit errors will be displayed.

To edit Web Callback page content

1. Open **WebCallback.aspx**.
2. Edit the content.
3. Click **Save**.

Troubleshooting Intelligent Queue issues

This section includes information on troubleshooting

- The database
- Event logs
- Web access to Intelligent Queue
- Intelligent Queue music and telephony services
- Intelligent Queue installation from a local or shared hard drive
- Updated position in queue
- Internet Explorer WebControls
  See Table 18 - 12.

Table 18 - 12 Troubleshooting

Problem	Reason	Possible Solution
"Invalid username and password" when logging in with the default username and password.	The password might be incorrect.	Double check the password with attention to the use of upper and lower cases.
The RAD message does not play the complete message file.	The Answer Plus Message Length Timer and the expected Offhook Timer in the Class of Service Options Assignment form are incorrect.	See "Configuring ports" on page 584. See "Types of messages" on page 576 and "Length of messages" on page 577.
The ACD paths are not shown under Time in Queue settings of	You have not purchased Contact Center Management	Purchase the application.

Problem	Reason	Possible Solution
RAD ports in Administration.	version 5 and the Time in Queue Option.	
	Intelligent Queue and Contact Center Management are not communicating.	Type the correct IP address for the Contact Center Management server if Intelligent Queue is a remote installation. See "Configuring Contact Center Management settings" on page 585. The host name should be found if the server address is entered correctly.
	Intelligent Queue and Contact Center Management are located on different subnets.	Type the gateway information in your TCP/IP properties. Test your connection to the gateway with the ping utility.
The ACD paths are not shown in the menu when creating a Queue plan.	The Time In Queue Settings were not applied.	See "To create a queue plan" on page 611.
No messages will be shown under my plans when defining messaging plans.	You have not associated any messages with this plan.	See "Setting up messaging plans" on page 603.
You do not have audio or DTMF reception, or your ports do not work.	The Intelligent Queue Server must be on the same subnet as the PBX.	Put the Intelligent Queue Server on the same subnet as the PBX.

Troubleshooting using the configuration wizard

You can perform the following actions using the configuration wizard. (See Table 18 - 13.)

Table 18 - 13 Troubleshooting using the configuration wizard

Action	Reason
Re-register DLLs	Music volume cannot be controlled.
Log cleanup	Logs are taking up too much hard drive space.
Database cleanup	Database errors.
IIS Reconfiguration	Website errors.
Restart all Intelligent Queue services	Severe telephony issues or the database will not refresh.

Action	Reason
Port enumeration	Ports are added. See "Configuring ports" on page 584.
Database migration	Database upgrade.

Establishing a connection to the database

If you try to start Intelligent Queue and are unable to establish a connection to the database, the Database Error window opens. (See Figure 18 - 4.)

Figure 18 - 4 Database Error window

There are a couple of ways to troubleshoot the database.

- Using the Control Panel to verify that SQL Server has been started
- Viewing the tray icon to verify that SQL Server has started

Scenario 1: Using Control Panel to verify SQL Server has started

To verify that SQL Server has started

1. From the Start Menu, select **Settings/Control Panel/Administrative Tools/Services**.
2. Scroll down to MSSQLSERVER and verify that the service has started.
   NOTE: The start icon in the toolbar has been disabled.
   The Services window opens with MSSQLSERVER started.
   See Figure 18 - 5.
3. To start, stop, or restart the service, click the corresponding icons in the toolbar. Or click the **Action** menu, and then click the appropriate icon from within the dialog box.

Figure 18 - 5 Services window with MSSQLSERVER started

Scenario 2: Viewing the tray icon to verify SQL Server has started

To verify that SQL Server has started

1. Locate the SQL Server Service icon in your tray.
   - A tower icon with a green arrow means that the service is running.
   - A tower icon with a red square means that the service has stopped.
2. Double-click the tray icon or right-click to select **Open SQL Server Service Manager** menu.
   If the SQL Server is running, the SQL Services are running window appears.
   If the SQL Server is not running, the SQL Services have stopped window appears.
   NOTE: Accept the default selection to **Auto-start service when OS starts**.

Viewing event logs

From the Control Panel, you can access the following Administrative Tools:

- Event Viewer
- Internet Services Manager
- Services

Logging events

Event Viewer is used to view and manage logs of system, application, and security events on your computer. Event Viewer gathers information about hardware and software problems, and monitors Windows security events.

To view logs

1. Click **Status=>Log Viewer**
2. Click the **Call Logs** tab.
   The Call Logs tab appears.

Event logging applies to all incoming and outgoing calls on the Intelligent Queue system. Logging begins when a call is first detected and ends when the call is terminated by transfer, or hang-up. Each log contains a plain English record of the event. The following events will cause an event to be logged:

Call Received

When a call is first received by Intelligent Queue, all known properties of the call will be logged, including the following properties: the date/time stamp of the call, caller's telephone number, digits dialed, redirection information, caller's name, and the Intelligent Queue port that received the call.

For 5000/Axxess configurations that use CT Gateway, time stamps are based on the Enterprise Server's PC clock. If the 5000/Axxess configuration includes Remote Servers, then time stamps are based on the Remote Server's PC clock. For the 3300 ICP, time stamps are based on the telephone system clock.

Action Plan Selected

Once an action plan has been selected, the plan, as well as the selection criteria used, will be written to the logs.

System Action

All actions taken by the Intelligent Queue port will be written as logs. System actions include any function that affect the call, such as answering or redirecting a call, playing or recording a message, beginning a transfer, dialing or hanging up.

Caller Action

All actions taken by a caller while connected to an Intelligent Queue port will be logged. Caller actions include the following: pressing a DTMF digit, and recording a voice message.

Agent Action

The actions that an agent takes during a callback will be logged. Agent actions include the following: answering, hanging up, and pressing a digit.

Callback Action/ Callback Event

All Callback actions/ events will be logged including the following: Agent Attempted, Agent Accepted, Agent Rejected, Agent Re-queued, Caller Attempted, Caller Answered, Callback Connected, Callback Failed (and the reason the callback failed).

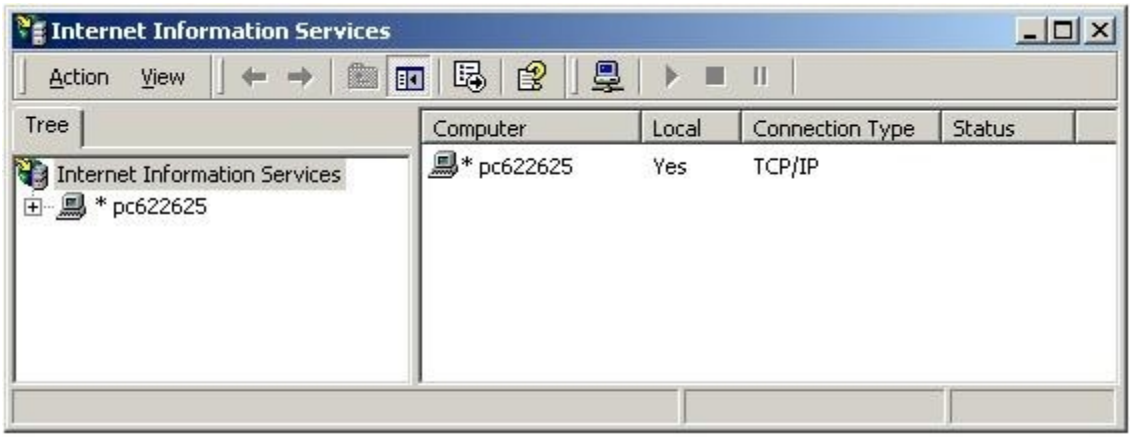
Gaining Web access to Intelligent Queue

You can use the Internet Services Manager to manage your Internet Information Services (IIS) which enables web access to Intelligent Queue. Intelligent Queue is a web-based application and IIS is the Windows component that makes it easy to publish information and bring business applications to the Web. With IIS, you can create a strong platform for network applications and communications.

If you are having difficulty gaining Web access to Intelligent Queue, troubleshoot your IIS:

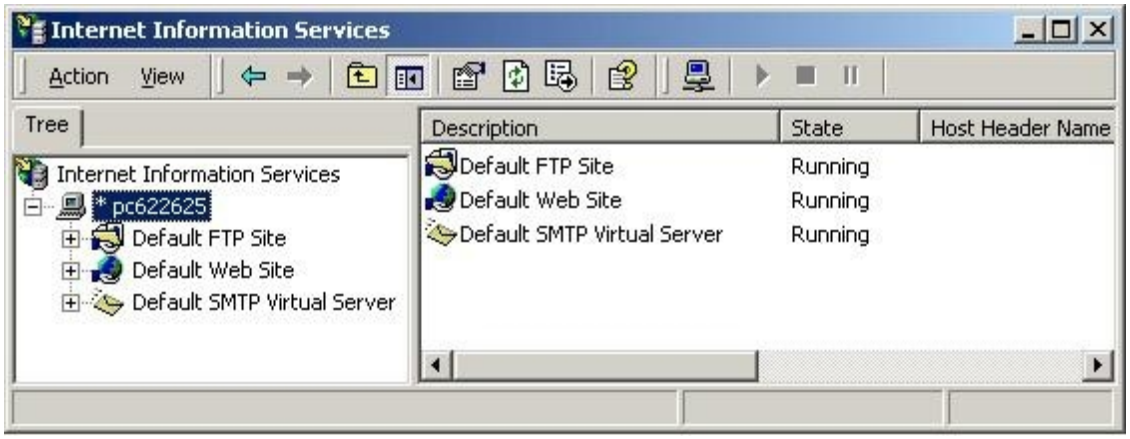
1. From the Start Menu, click **Settings/Control Panel/Administrative Tools/Internet Services Manager**.
2. Verify that your PC is connected.
   See Figure 18 - 6.

Figure 18 - 6 Internet Information Services window with connected PC



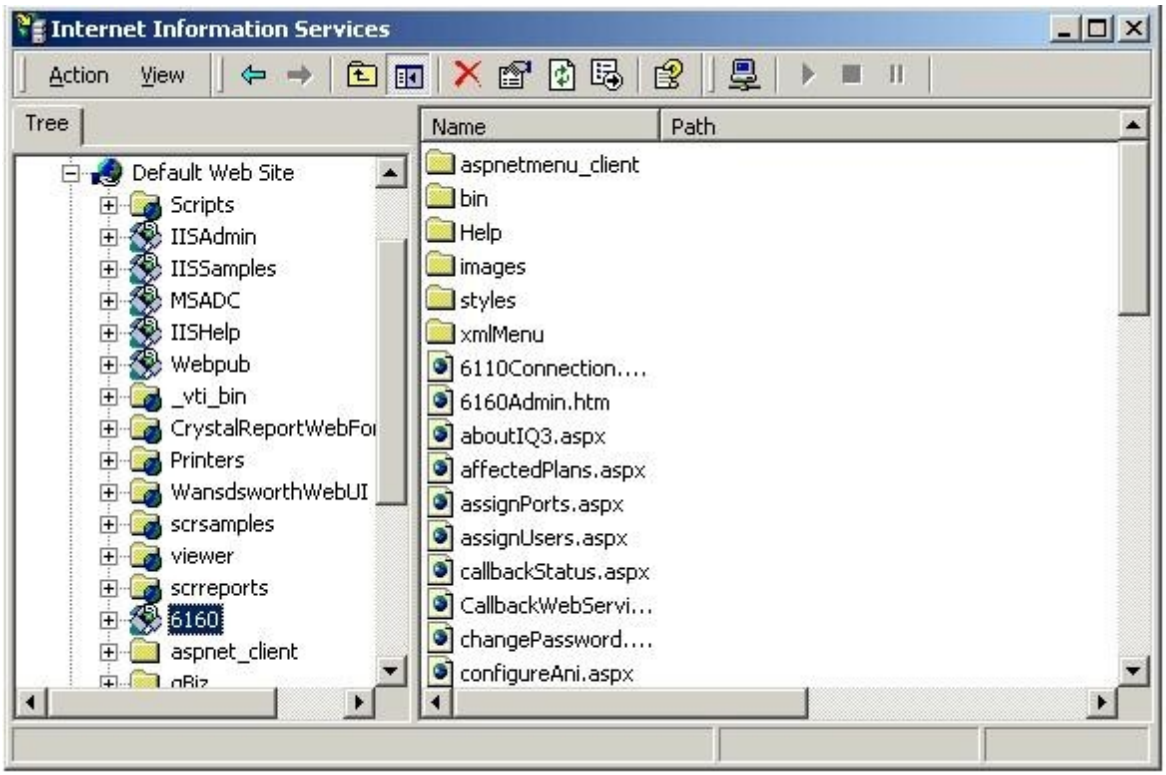
3. Click the PC to expand the tree view
4. Verify whether the Default FTP Site, Web Site, and SMTP Virtual Server are running.
   See Figure 18 - 7.

Figure 18 - 7 Internet Information Services window with defaults



5. Click any of these defaults and click the Intelligent Queue folder to view the details. The Intelligent Queue folder contains the same files as the Webroot folder.
   See Figure 18 - 8.

Figure 18 - 8 Internet Information Services window with Intelligent Queue folder expanded



Troubleshooting the login

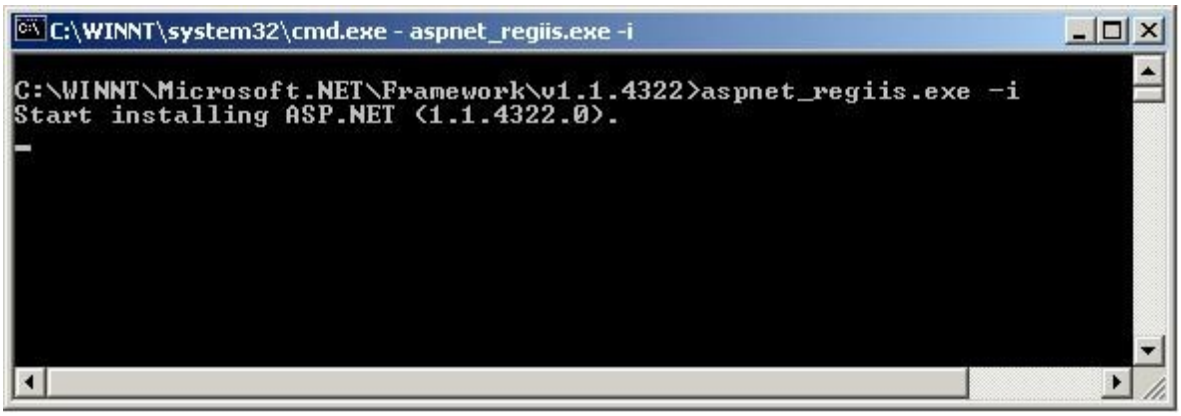
Inability to see the login window when launching Intelligent Queue might be the result of one or more of the following problems:

- If you are seeing a page of HTML code instead of the login window, you will need to use to the aspnet_regiis.exe tool.
- If you are seeing a white page instead of the login window, you need to verify that the ASP.NET State Service is present and running.
  NOTE: You can have multiple versions of the .NET framework on your PC. The versions are located in the following directory: **systemroot\Microsoft.NET\Framework\v1.x.xxxx**. Intelligent Queue tests for the presence of version 1.14322.

Using the aspnet_regiis.exe tool

1. In Windows, open the command prompt window.
2. At the > prompt, type in **cd C:\WINNT\Microsoft.NET\Framework\v1.1.4322** and press **Enter**.
   NOTE: If your System Drive is on another drive, the installation would have defaulted to that drive.
3. At the > prompt, type in **aspnet_regiis.exe -i**.
   See Figure 18 - 9.

Figure 18 - 9 Running the aspnet_regiis.exe tool



Verifying the ASP.NET State Service

During installation, the Intelligent Queue setup application tests for the presence of the ASP.Net State Service. If it is missing, an error message appears.

If ASP.NET State Service is not installed

This error represents a potential problem with the .NET framework. Some possible solutions are as follows:

- Restart the PC
- Open the Services control panel and check for the presence of **ASP.NET State Service**. Start the service if required.
- If you are unable to find the **ASP.NET State Service**, you might want to remove the .NET Framework and reinstall it.

If ASP.NET State Service is not started

During installation, the Intelligent Queue setup application changes the ASP.NET State Service startup mode to Automatic. When the user restarts the PC after the installation, the ASP.NET Service should start automatically. If it does not, use the following procedure to start ASP.NET:

1. Open the Services Control Panel.
2. Look for the ASP.NET State Service.
3. Start the service.
4. Change the startup type to "Automatic" if required.

If ASP.NET State Service cannot be started due to error message “Could not start ASP.NET State Service”

See the following Microsoft Knowledge Base article:

- http://support.microsoft.com/default.aspx?scid=kb;en-us;827189

Setting the Intelligent Queue Web session timer

The Intelligent Queue Web session timer default value is five minutes. After five minutes of inactivity, you will be logged out.

NOTE: The Web session timer value must be between 1 and 20 minutes.

To increase the Web session timer threshold value

1. Browse to **<Intelligent Queue Installation folder>\XML\CONFIG**.
2. Open **GlobalSetttings.xml**.
3. Locate the **<SESSION_TIMEOUT>5</SESSION_TIMEOUT>** tag.
4. Change the Web session timer from the default (5) to a value you specify.
   NOTE: The Web session timer value must be entered in minutes.
5. Save the file.

Using the Services tool

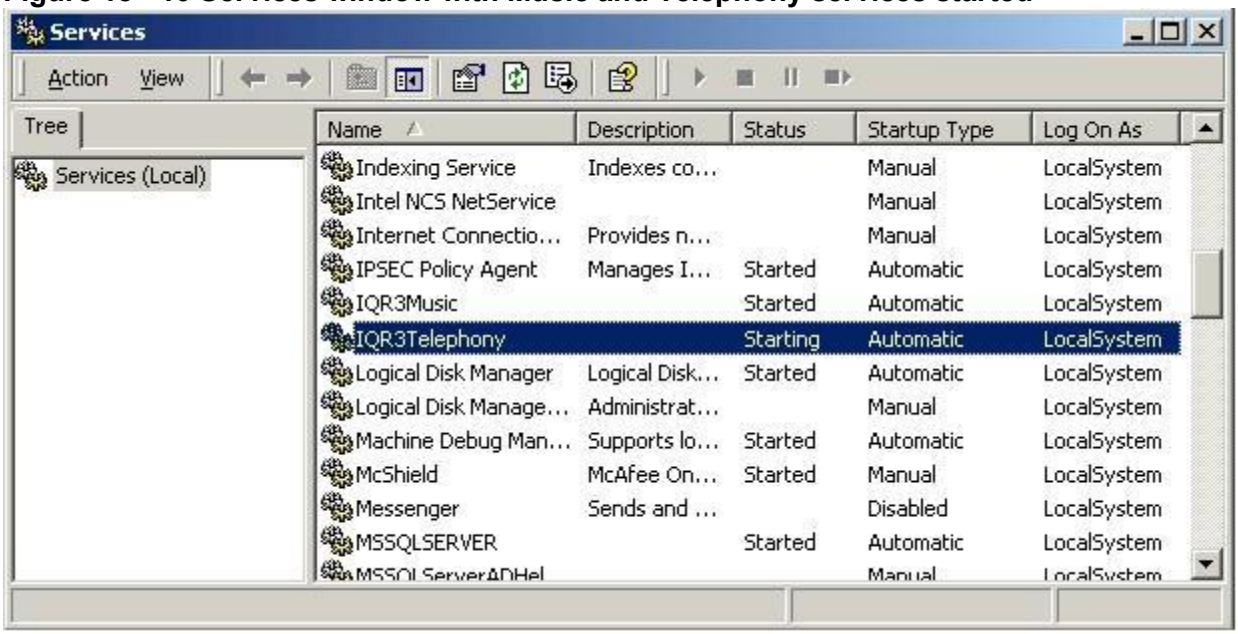
You can use the Services tool to manage the Intelligent Queue Music and Telephony Services on your computer, to set recovery actions to take place if a service fails, and to create custom names and descriptions for services so that you can easily identify them.

Services are used to manage the services on your computer, set recovery actions to take place if a service fails, and to create custom names and descriptions for services that are easily identifiable.

To troubleshoot Intelligent Queue Music and Telephony Services

1. In Windows, navigate to **Services**.
2. Select **Settings/Control Panel/Administrative Tools/Services**.
3. View the IQR3 Music and IQR3 Telephony and verify that they are running.
4. You can click the appropriate icon in the taskbar to start, stop, or restart the services.
   NOTE: Pause is not supported in Intelligent Queue Release 3.0.
   See Figure 18 - 10.

Figure 18 - 10 Services window with Music and Telephony services started



Installing Intelligent Queue from a shared or local drive

If you attempt to install Intelligent Queue from a shared or local drive, you might experience the following issues.

Scenario 1: Receiving a System IO Error

If you are installing Intelligent Queue from a directory with a long path or a path name which includes spaces, you might receive a System IO Error which will halt the installation.

Solution: Use a short directory name without spaces, such as C:\6160Install.

Scenario 2: Being unable to install Microsoft .Net Framework

If the Microsoft .Net Framework is not present when you are installing Intelligent Queue and a popup appears asking if you want to install it now, the installation of the Microsoft .Net Framework might not initialize when you click **Yes**.

Solution: Run the dotnetfx.exe from the NetFramework directory.

Receiving an Updated position in queue message

If your caller does not receive an Updated position in queue message, it could be because of one of the following two reasons:

- There are too many Updated position in queue messages for the switch to process.
- There are not enough ports to provide a message to each caller who is programmed to receive a Updated message in queue.

There are too many Updated position in queue messages

The number of Updated position in queue messages (tap internal calls) your switch can handle is 1500 or less. If the number of Updated position in queue messages exceeds the recommended number, some messages will be delayed or might not play at all. You will need to reduce the number of Updated position in queue messages, or increase the number of ports.

There are not enough ports

If you do not have an adequate number of ports to run Intelligent Queue, as programed, your callers might not receive Updated position in queue messages. Intelligent Queue provides queues with the greatest priority ports first. If you run out of ports, it is queues with lower priorities that would not receive the Updated position in queue messages.

If Updated position in queue is running low on ports you will receive an error message. If you run out of ports you will receive a critical error message. In the event that you receive either of these messages, you can take one of the following actions to make more ports available:

- Purchase more ports as required.
- Decrease the frequency of queue updates.
- Decrease the number of users updated in the queue.
- Reduce the number of queues being monitored.
- Reduce the number of Updated position in queue messages.
- Reassign ports to Updated position in queue.

You can use the port sizing tool to determine the number of ports you require to run Intelligent Queue. See "Planning the number of ports you require" on page 573.

Your callers hear only a position, not a message

If your callers hear only their position in queue, for example, “3” or “2,” you did not record the Updated position in queue message. Intelligent Queue Updated position in queue will provide the position but will not provide the message. If you want the callers in queue to hear a messages, for example, “Your call will be answered next” or “You are in position...” you must record the message. See "Recording voice prompts" on page 632.

Updated Position in Queue and RAD messages do not play when expected

Updated Position in Queue logic is handled directly by Intelligent Queue whereas RAD logic is handled by the telephone system; therefore there is an inherent limitation when combining the two technologies. Updated Position in Queue functionality interferes with the way a RAD operates. To prevent the interference, when Updated Position in Queue and RAD messages are played for the same queue, you must program the initial Updated Position in Queue message to play before the first RAD message, and subsequent Updated Position in Queue messages to play after the last RAD message.

Configure Intelligent Queue messages in the following order:

1. Updated Position in Queue 1: 5 seconds
2. RAD1: 20 seconds
3. RAD2: 20 seconds
4. RAD3: 30 seconds
5. Updated Position in Queue 2: 2 minutes

Removing Internet Explorer WebControls from a workstation

To remove the Internet Explorer WebControls from a workstation, perform the following

1. In Windows, navigate to the **Control Panel**.
2. Double-click **Add/Remove Programs**.
3. In the Add/Remove Programs properties dialog box, select **Internet Explorer WebControls** and then click **Add/Remove**. The InstallShield wizard will appear.
4. Select **Remove** and click **Next**. The uninstall wizard will then remove the Internet Explorer WebControls.

Chapter 19

Workforce Scheduling Schedule Adherence and Employee Portal

Workforce Scheduling

Workforce Scheduling is an optional application that works in conjunction with Contact Center Management and the Mitel 3300 ICP, SX-200 ICP, 5000 CP, and Axxess. You configure employees in YourSite Explorer and schedule them with Workforce Scheduling. Using historical data from Contact Center Management, Workforce Scheduling forecasts the number of employees required to meet your contact center's Service Level objectives. Using Workforce Scheduling, you can build schedules with forecast information. If you enter employee payroll information in YourSite Explorer, Workforce Scheduling can use this information for scheduling and budgeting purposes.

To install Workforce Scheduling, select the Workforce Scheduling option in Client Role Selector.

NOTE: In order to access Workforce Scheduling, you require the May manage Workforce Scheduling security role. For more information on configuring security roles, see "Creating and applying security roles" on page 178.

Using Workforce Scheduling in conjunction with Contact Center Management, you can

- Customize schedules
- Forecast scheduling requirements
- Match an employee's skills to those skills required for jobs in each schedule
- View the distribution of employees across each schedule
- Print schedule reports

There are two optional applications that work in conjunction with Workforce Scheduling: Schedule Adherence and Employee Portal. For more information on these applications, see "Schedule Adherence" on page 693 and "Employee Portal" on page 699.

Before installing Workforce Scheduling

Before you install and run Workforce Scheduling or view Schedule Adherence monitors in Contact Center Client, you must enable remote SQL Server connections and grant SQL Server permissions to Workforce Scheduling users.

Enabling remote SQL Server connections

To enable remote SQL Server 2005 connections

1. On the Enterprise Server, in the **Microsoft SQL Server 2005** program folder, navigate to the **SQL Surface Area Configuration** tool.
2. Under **Configure Surface Area for localhost**, click **Surface Area Configuration for Services and Connections**.
3. Expand the **<SQL Server name>** tree to Database Engine and select Remote Connections.
4. Select **Local and remote connections**.
5. Select **Using both TCP/IP and named pipes**.
6. Expand the **SQL Server Browser** tree and select **Service**.
7. After **Startup type**, select **Automatic**.
8. Click **Apply**.
9. Click **Start**.
10. Click **OK**.

To enable remote SQL Server 2008 or remote SQL Server 2012 connections

1. On the Enterprise Server, in the **Microsoft SQL Server 2008** or the **Microsoft SQL Server 2012** program folder, navigate to the **SQL Server Configuration Manager**.
2. Under SQL Server Configuration Manager (Local), expand SQL Server Network Configuration and click Protocols for <SQL Server instance name>.
3. In the right pane, right-click **Named Pipes** and click **Enable**.
4. In the right pane, right-click **TCP/IP** and click **Enable**.
5. Under **SQL Server Configuration Manager (Local)**, click **SQL Server Services**.
6. In the right pane, right-click **SQL Server (<SQL Server instance name>)** and click **Restart**.
7. In the right pane, right-click **SQL Server Browser** and click **Properties**.
8. Click the **Service** tab and after **Start Mode**, select **Automatic**.
9. Click **Apply**.
10. Click **OK**.
11. In the right pane, right-click **SQL Server Browser** and click **Start**.

Granting SQL Server permissions

NOTE:

- If your enterprise uses remote SQL and SQL Authentication, you can skip this step, because the required credentials are provided during the configuration of Contact Center Management
- If you do not currently have a copy of Microsoft SQL Server Management Studio installed, you can download a free copy from http://www.microsoft.com/downloads/details.aspx?FamilyId=C243A5AE-4BD1-4E3D-94B8-5A0F62BF7796&displaylang=en

To grant SQL Server 2005 permissions

1. In Windows, open the **Microsoft SQL Server 2005** program folder and go to **SQL Server Management Studio**.
2. Connect to the desired SQL Server.
3. In the left pane, expand the **Security** tree and select **Logins**.
4. If the desired user is not listed, right-click **Logins** and select **New Login**.
5. After **Login name**, type the name of the new user.
   Optionally, click **Search** to search for the user name.
6. If you have users configured in groups on your domain, you can optionally add the group to add all users at once.
   If you want to grant SQL Server permissions to a domain group, you must click Search, click Object Types, and select the Groups check box.
7. Click **User Mapping**.
8. Under **Users Mapped to this login**, select **CCMData**.
9. Click **OK**.
10. Under **Database role membership for: CCMData**, select **db_owner**.
11. Click **OK**.
12. Repeat steps 5-11 for all Workforce Scheduling users.

To grant SQL Server 2008 or SQL Server 2012 permissions

1. In Windows, open the **Microsoft SQL Server 2008** or the **Microsoft SQL Server 2012** program folder and go to **SQL Server Management Studio**.
2. Connect to the desired SQL Server.
3. In the left pane, expand the **Security** tree and select **Logins**.
4. If the desired user is not listed, right-click **Logins** and select **New Login**.
5. After **Login name**, type the name of the new user.
   Optionally, click **Search** to search for the user name.

6. If you have users configured in groups on your domain, you can optionally add the group to add all users at once.
   If you want to grant SQL Server permissions to a domain group, you must click Search, click Object Types, and select the Groups check box.
7. Click **User Mapping**.
8. Under **Users Mapped to this login**, select **CCMData**.
9. Click **OK**.
10. Under **Database role membership for: CCMData**, select **db_owner**.
11. Click **OK**.
12. Repeat steps 5-11 for all Workforce Scheduling users.

Upgrading from Contact Center Scheduling to Workforce Scheduling

NOTE:

- Before you upgrade to Workforce Scheduling Version 6.0.2 from Contact Center Scheduling Version 5.3 or earlier, we recommend you backup your configuration data and store it on a shared storage drive or CD-ROM/DVD-ROM.
- After upgrading from Contact Center Scheduling to Workforce Scheduling, you may need to delete extra holidays that are added to the database during the upgrade. For example, if you previously had three holidays configured in Contact Center Scheduling for Canada Day (July 1 2007, 2008, and 2009), you would have four holidays configured after the upgrade (the three previously configured holidays plus the default holiday configured in Workforce Scheduling).

If you were previously using Contact Center Scheduling Version 5.3 or earlier, when you upgrade to Workforce Scheduling Version 6.0.2, your schedule configuration data and scheduled shifts previously created in Contact Center Scheduling are automatically re-created in Workforce Scheduling.

Installing Workforce Scheduling

NOTE: Workforce Scheduling can only be installed on client computers that are part of the same Windows domain as the SQL Server.

To use Workforce Scheduling, you must first install Contact Center Management Version 6.0.2. Workforce Scheduling is installed during the installation of Contact Center Management Version 6.0.2. To install Workforce Scheduling on a client computer, you must install Client Component Pack. You then install Workforce Scheduling and can then begin configuring scheduling options.

To install Workforce Scheduling

1. In Contact Center Management, click **Help=>Software downloads/Installations**.
2. To install Client Component Pack, click **Client Component Pack**.
3. Follow the steps in the wizard to install Client Component Pack.
4. On a client computer, open the **Client Role Selector**.
5. Using a **Supervisor** or **Power User** role, install **Workforce Scheduling**.

Using Workforce Scheduling

Before you start using Workforce Scheduling read the following sections on how to

- View the Workforce Scheduling user interface
- Understand forecasting concepts
- Understand the Workforce Scheduling process

Viewing the Workforce Scheduling user interface

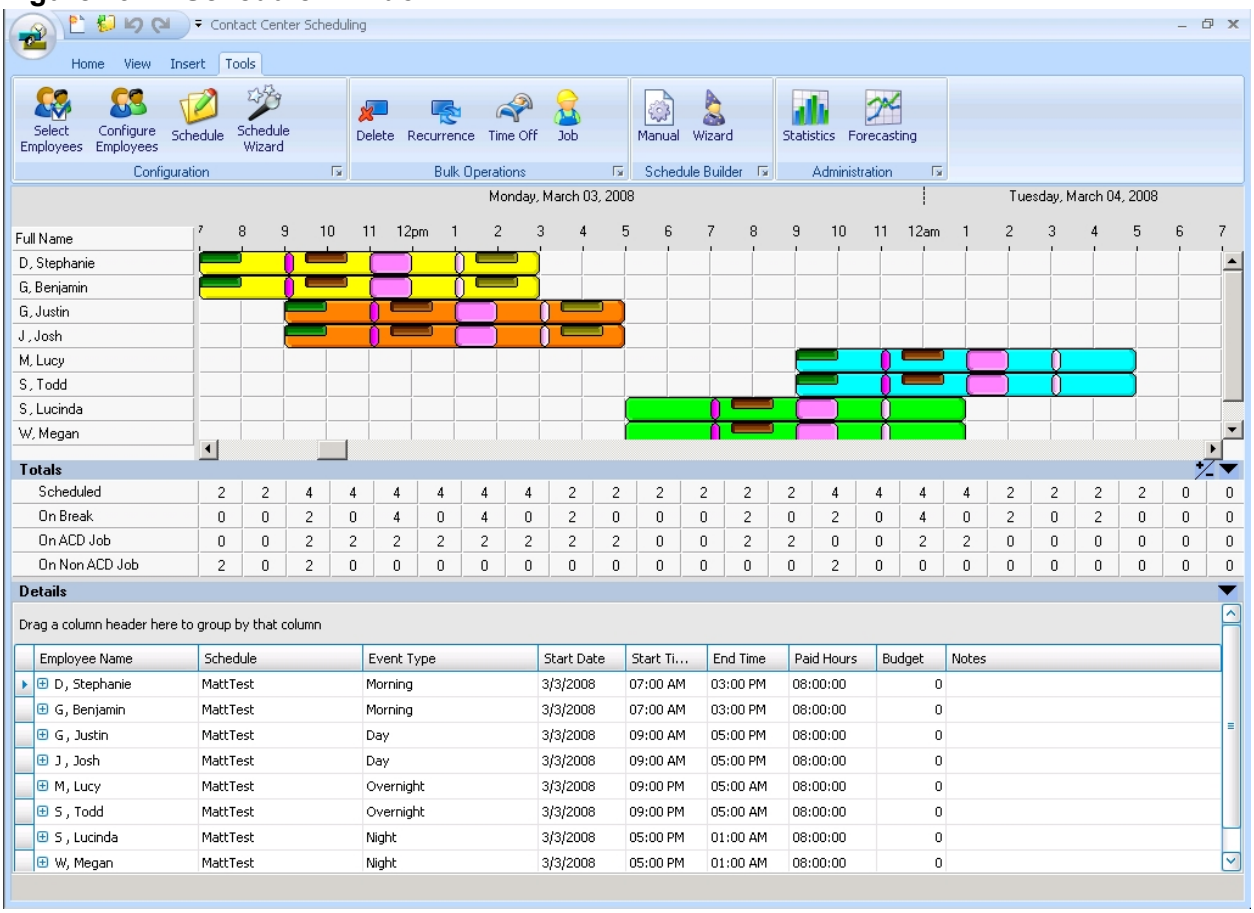
Figure 19 - 1 displays scheduling information, such as the employees who are scheduled, employee shift start and end times, the time interval shift totals, and the shift details for each employee.

NOTE: The Scheduling and Forecasting buttons in the Tools>Administration window are used to toggle between these two views.

The Workforce Scheduling user interface is comprised of the following panes:

- People pane
- Time bar pane
- Totals pane
- Schedule details pane

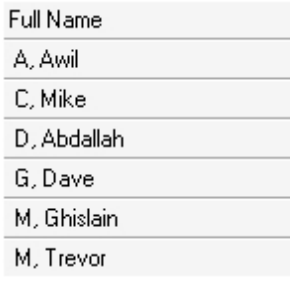
Figure 19 - 1 Scheduler window



People pane

The people pane is located in the upper-left portion of the scheduler window. The people pane lists the employees included in the schedules you are viewing. (See Figure 19 - 2.)

Figure 19 - 2 People pane

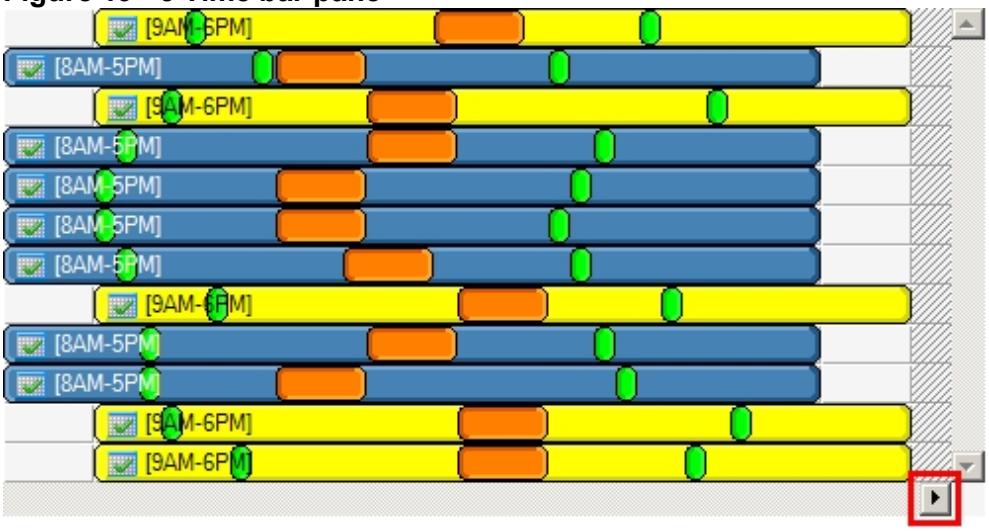


Time bar pane

The time bar pane is located in the upper-right portion of the scheduler window. The time bar pane displays a time bar for each scheduled employee. Time bars display the shifts, breaks, jobs, time off, and unavailable periods for employees listed in the people pane. You can view the time bar pane in the following time intervals: 6 hours, 12 hours, 1 day, 2 days, 1 week, 2 weeks, and 1 month. (See Figure 19 - 3.)

You can view previous or upcoming dates using the horizontal scroll bar under the time bar pane. If you reach the end of the month and want to view dates for the next month, you can click the arrow on the scroll bar to load the schedule for the next month (as indicated by the red square in the following image).

Figure 19 - 3 Time bar pane



Totals pane

The totals pane appears when you select event totals to view. The totals pane is located in the center of the scheduler window. Each value represents the total number of employees scheduled for an event. (See Figure 19 - 4.)

Figure 19 - 4 Totals pane

Totals														
Scheduled	0	0	0	0	0	0	0	0	5	5	5	5	5	4
On Break	0	0	0	0	0	0	0	0	0	0	0	0	0	0
On ACD Job	0	0	0	0	0	0	0	0	0	0	0	0	0	0
On Non ACD Job	0	0	0	0	0	0	0	0	0	0	0	0	0	0
At Work	0	0	0	0	0	0	0	0	5	5	5	5	5	4
Over/Under	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overtime	0	0	0	0	0	0	0	0	0	0	0	0	0	0

You can view the following event totals:

Forecasted

The *Forecasted* total displays after you apply a forecast to the schedule. This total represents the forecasted number of employees required to handle contact requests and meet the Service Level objectives you specify. You can optionally adjust the Forecasted total in the totals pane. See "Modifying forecast totals in the event totals pane" on page 688.

Scheduled

The *Scheduled* total represents the number of employees scheduled for the time you are viewing.

On break
The *On break* total represents the number of employees scheduled for a break at a specific time.

On ACD Job
The *On ACD Job* total represents the number of employees scheduled to perform ACD work.

On Non-ACD Job
The *On Non-ACD Job* total represents the number of employees scheduled to perform non-ACD work.

At work
The *At work* total represents the number of employees scheduled to handle contact requests.

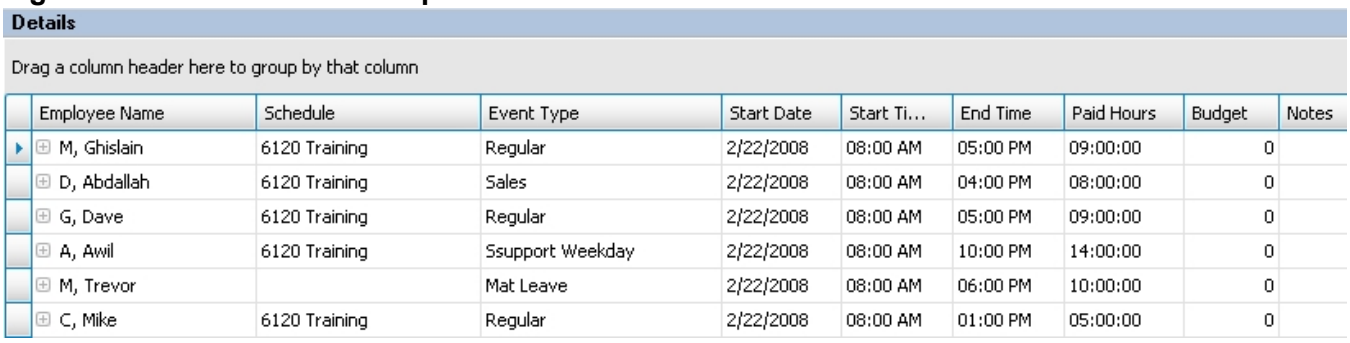
Over/Under
The *Over/Under* total represents the difference between the number of employees at work compared to the number of employees forecasted. A value of 4 means 4 additional employees are working compared to the forecasted requirement. A value of (4) means 4 fewer employees are working compared to the forecasted requirement. When you book annual leave for employees, you can preview the result on shift coverage by using the over / under function, before updating changes.

Overtime
The *Overtime* total represents the number of employees scheduled to perform overtime work.

Schedule details pane

The schedule details pane is located at the bottom of the scheduler window. It displays details on scheduled employees. You can modify the start and end times of scheduled events in the schedule details pane. For example, you can adjust the length of a scheduled break. See "Modifying event times and notes in the schedule details pane" on page 688. (See Figure 19 - 5.)

Figure 19 - 5 Schedule details pane



You can sort the information in the schedule details pane by organizing the headings. The schedule details column headings are as follows:

- **Employee name**—the employee to which the specified time event is scheduled
- **Schedule**—the schedule to which the specified time event is scheduled
- **Event type**—the events to which the specified time event is scheduled
- **Start date**—the start date of each scheduled event. You can modify this parameter in the schedule details pane. Changes are immediately reflected in the time bar pane
- **Start time**—the start time of each scheduled event. You can modify this parameter in the schedule details pane. Changes are immediately reflected in the time bar pane

- **End time**—the end time of each scheduled event. You can modify this parameter in the schedule details pane. Changes are immediately reflected in the time bar pane
- **Paid hours**—the total number of paid hours for the scheduled shift
- **Budget**—the total cost of the scheduled shift
- **Notes**—the notes on scheduled events you enter in this field

Understanding forecasting concepts

Workforce Scheduling assists you in scheduling employees for work and holiday periods. It offers an integrated forecasting component that uses historical data to partially automate the scheduling process. Scheduling is not entirely automated. You may have to modify employee schedules and enter shift and employee variables manually after creating a schedule based on forecasted data.

You schedule employees so the number of incoming calls at any given time typically exceeds the number of employees currently available. This ensures callers experience a slight delay before employees answer their calls. The expected number of incoming calls forecasted for the time of day and day of the week influence scheduling decisions when trying to find the right balance between call volume and available staff.

For detailed information on forecasting variables and how to improve forecasting accuracy, see "Step #3 Forecast the Call Load" on page 23.

For detailed information on Service Level variables and how to calculate the Service Level Percent, see "Understanding the Service Level" on page 17.

Understanding the Workforce Scheduling process

The flowchart in Figure 19 - 6 provides an overview of how to schedule employees with Workforce Scheduling, such as adding employees to a schedule, configuring schedule parameters, and building a schedule.

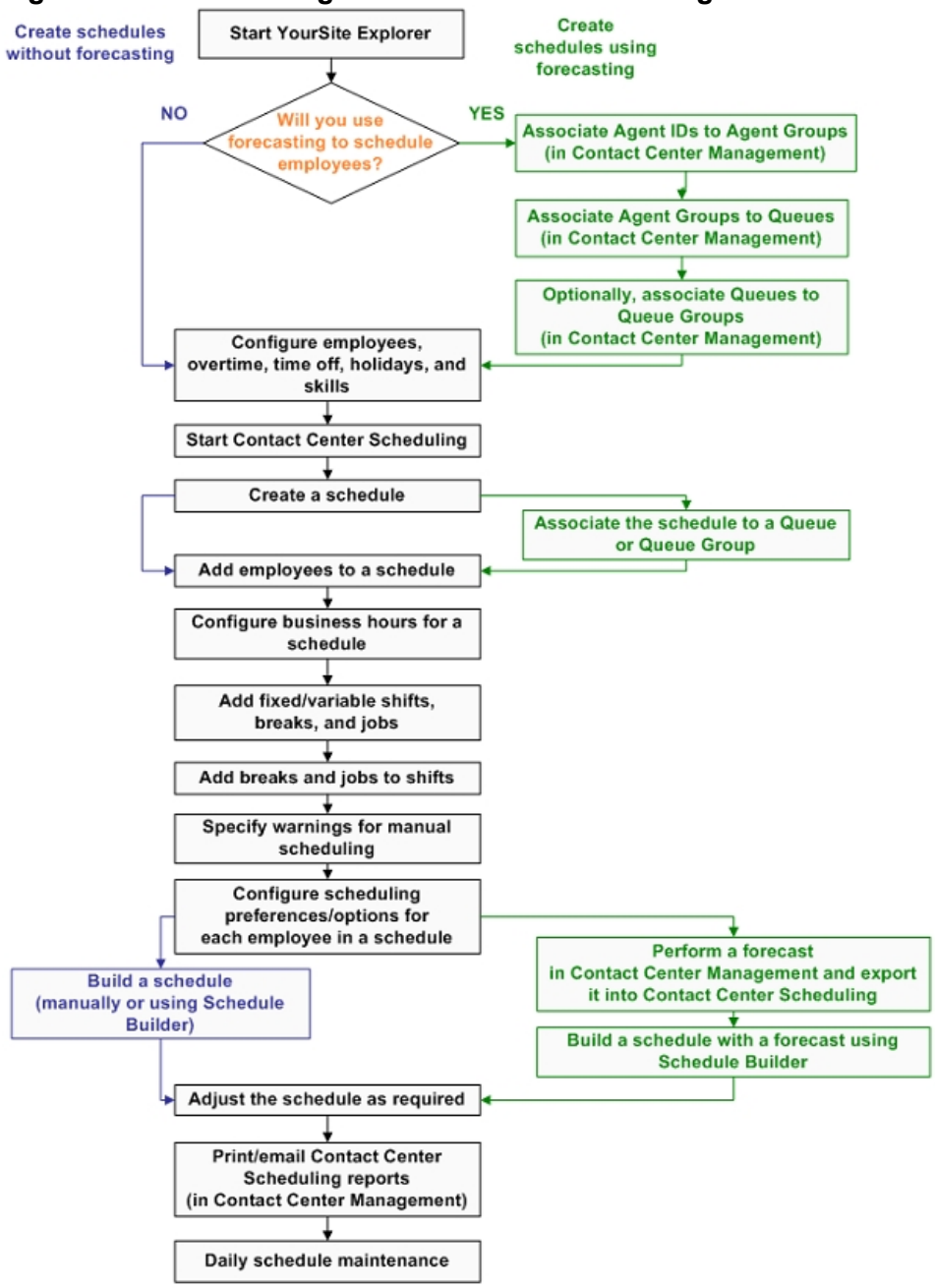
You configure employees, agent IDs, agent groups, queues, queue groups, overtime types, time off types, holidays, and skills in YourSite Explorer. After you configure these devices, you must decide if you will use forecasted data to build your schedules. When you build a schedule in Workforce Scheduling using forecasted data, we recommend you associate the schedule with the queue group you will use to perform the forecast. You must ensure that the employees you want to schedule are associated with the queue group you associate to the schedule. In Contact Center Management, you must associate the agent IDs with agent groups, associate the agent groups to queues, and associate the queues to the queue group associated with the schedule. This is recommended so employees in the schedule align with forecasted data. You can optionally associate a schedule to a queue group with different employees, which can be useful for scheduling a new group of employees based on the forecasted data of other employees.

As soon as you start Workforce Scheduling, you can begin creating your schedules. After you log in, you are asked to create or select a schedule. You create a schedule by assigning it a name. If you are using a forecast to build the schedule, you associate the schedule with a queue group.

After you create the schedule, you configure schedule parameters, such as shifts, breaks, jobs, and scheduling preferences/options for each employee.

You can automate the schedule building process with the Schedule Builder tool. It helps you quickly build a schedule, with or without a forecast. If you build schedules using forecasted data, we recommend you use Schedule Builder. Alternately, you can build a schedule manually. This involves inserting or removing events (shifts, breaks, jobs, time off, unavailable periods) and making events recur. You can manually build a schedule based on forecast totals in the Totals pane. After you build a schedule using Schedule Builder, you may need to make a few adjustments.

Figure 19 - 6 Scheduling with Workforce Scheduling



Workforce Scheduling and *your* contact center

Using Workforce Scheduling, you can schedule your employees to best suit your contact center needs. You can

- Customize schedules for your contact center groups
- Forecast scheduling requirements
- Match employee skills to the skills required for each schedule
- View the distribution of employees across schedules
- Print schedule reports

For information on scheduling considerations, and how to calculate the Shrinkage Factor and optimize scheduling, see "Step #5 Schedule agents" on page 28.

Using Workforce Scheduling, you can create schedules for your contact center using a variety of options. Depending on your contact center, some options may be more suitable than others. To help your company use Workforce Scheduling most effectively, we have created configuration scenarios that describe how to implement Workforce Scheduling, based on the type of scheduling used in your contact center.

Each Workforce Scheduling configuration scenario provides a description of the scheduling method and an example of contact centers that typically use that method. Each scenario also provides some tips on how to configure Workforce Scheduling for each style of scheduling. The scenarios include the following scheduling configurations:

- Assigned shift
- Availability
- Rotational
- Forecast

Assigned shift-based scheduling configuration scenario

The assigned shift scheduling method uses fixed shifts staffed by employees who are permanently assigned to specific shifts. Contact centers that use assigned shift scheduling have consistent call volumes. Employees are primarily full-time staff and are guaranteed a specific number of hours of employment per week. Typically, you plan a schedule three to six months in advance with assigned shift scheduling.

Contact centers ideal for assigned shift scheduling

Assigned shift scheduling is best suited to contact centers that have a steady and predictable call volume, such as a contact center that runs a conventional “nine to five” operation. Examples of contact centers that use assigned shift scheduling include banks and government offices.

To configure Workforce Scheduling for an assigned shift scheduling environment

- Create fixed shifts
- Use shift names that describe a shift's purpose, such as "9 to 5 shift" or "1st shift"
- Use mass recurrence to repeat scheduled events for multiple weeks
- Configure employee hours using shift assignment by day of week

Availability-based scheduling configuration scenario

The availability scheduling method uses fixed shifts, but unlike assigned shift scheduling, the employees that work a given shift are not permanently attached to that shift. Contact centers that use availability scheduling fill shifts using a pool of employees.

A contact center supervisor sets staff availability based on day of week and time of day. When staffing a shift, the supervisor can assign any employee who is listed as available for that date and time to the shift. Typically, you plan a schedule two to four weeks in advance when you use availability scheduling.

Contact centers ideal for availability scheduling

Availability scheduling is best suited to contact centers driven by shifts, such as hotels or companies that focus on catalog sales. These contact centers have a specific number of shifts that can be filled by any qualified employees who are available. This type of schedule is frequently used with contact centers that operate 24/7.

To configure Workforce Scheduling for an availability scheduling environment

- Primarily use fixed shifts, but do not assign employees to specific shifts
- Assign employees all of the possible shifts they can work
- Set employee availability by day of week and time of day
- Use filters to assign the best employee available for a shift, based on skill set, seniority, or personal priority number

Rotational-based scheduling configuration scenario

The rotational scheduling method consists of two or more unique schedules that recur at defined intervals. For example, if a contact center rotates four schedules, the week one schedule repeats in week five, week nine, and so on. The rotational scheduling method enables contact center schedules to be consistent in the long-term, while allowing shifts to vary from week to week.

Contact centers ideal for rotational scheduling

Rotational scheduling is best suited to contact centers that require specific employees to cover unique periods of time, such as medical clinics that are open on weekends. If each contact center employee is required to work one weekend a month, a rotational schedule can ensure an even distribution of weekend work for each employee.

To configure Workforce Scheduling for a rotational scheduling environment

- Primarily use assigned shifts with defined employees. The staff changes from one schedule rotation to the next ensure fair coverage on nights, weekends, and holidays
- Recur the shifts multiple times based on the number of rotations
- Manually track and adjust which employees are assigned to each rotation; Workforce Scheduling does not create a balanced schedule so you will need to make changes if you want to ensure the schedule is fair
- Optionally use rotational scheduling in conjunction with other schedule types. For example, create a schedule that uses the assigned shift method to cover Monday to Friday shifts and a second schedule that uses the rotational shift method to cover shifts such as weekends or holidays

Forecast-based scheduling configuration scenario

The forecast scheduling method references historical data to create schedules. Contact centers that use forecast scheduling have call volumes that can change considerably over relatively short periods of time, resulting in inconsistent scheduling.

Forecast scheduling provides more flexibility than other scheduling methods since shifts are not defined. A contact center that uses forecast scheduling does not have a fixed staff or fixed hours, as both change based on the expected call volume. Typically, you plan a schedule one to two weeks in advance with forecast scheduling.

Contact centers ideal for forecast scheduling

Forecast scheduling is best suited to contact centers driven by call volume, such as companies that focus on sales campaigns, promotions, or seasonal sales.

To configure Workforce Scheduling for a forecast scheduling environment

- Generate historical data specific to the type of event you are scheduling (for example, to create a schedule for a winter sales campaign, use historical data from a previous winter campaign)
- Create shifts with flexible start and end times to provide Schedule Builder with the greatest number of options when populating the shifts with employees
- Remember that shift variables, such as start/end times and breaks, will vary for employees on a day-to-day basis
- Due to the variety of shift start and end times, create breaks based on the Time to qualify variable
- Do not configure availability or shift assignment

Before you start scheduling

You use Workforce Scheduling in conjunction with YourSite Explorer. Before you can schedule employees with Workforce Scheduling, you must add and configure them in YourSite Explorer.

To configure employee information for scheduling

1. Select the employee or employees you want to configure.
2. Specify the employee role.
   See "Configuring employee roles" on page 164.
3. Specify employee work hours.
   See "Configuring employee work hours" on page 164.
4. Specify employment status.
   See "Configuring employment status" on page 164.
5. Specify employee payroll information.
   See "Configuring employee payroll information" on page 164.
6. Assign shifts to the employee.
   See "Assigning shifts to employees" on page 677.
7. Specify employee availability.
   See "Configuring employee availability" on page 165.
8. Specify time off information
   See "Configuring employee time off" on page 165.
9. Specify employee skills
   See "Configuring employee skills" on page 166.

Before you can make schedules in Workforce Scheduling, you must configure the following scheduling options in YourSite Explorer

1. Holidays
   See "Configuring holidays" on page 166.
2. Overtime types
   See "Configuring overtime types" on page 167.
3. Time off types
   See "Configuring time off types" on page 167.
4. Skills
   See "Configuring skills" on page 168.

Selecting a scheduling method

You can build schedules in Workforce Scheduling:

- Using a forecast
- Manually

The setup you require depends on the scheduling method you choose. If you incorporate forecast data when you build a schedule, you must build the schedule using Schedule Builder.

Scheduling using forecast data

NOTE: When you use forecast data to build a schedule, you can apply historical data from any queue or queue group to the schedule. It is not necessary to use historical data from the queue group with which the schedule is associated. Forecast data is simply the number of required agents. It can be used in schedules which are not associated with a queue or queue group.

Before you build a schedule using a forecast, as a best practice, we recommend you associate your schedule with a queue group. You should also ensure that the employees to be scheduled are associated with this queue group.

In YourSite, you

1. Associate the agent IDs with an agent group.
   See "Associating agents with agent groups (in YourSite Explorer)" on page 134.
2. Associate the agent group with a queue.
   See "Associating agent groups with queues (in YourSite Explorer)" on page 137.
3. Associate the queue with the queue group (that you will associate with the schedule).
   See "Associating queues with queue groups (in the Contact Center Management website)" on page 148.

Scheduling manually

You have the most flexibility when you build a schedule manually. However, this can be time consuming if you must schedule a large number of employees or if you must create a schedule covering a long time period where shift assignments do not recur. You can also use manual scheduling to tweak schedules you build with Schedule Builder. See "Creating and adjusting schedules manually" on page 685.

Schedule setup and customization

NOTE: In order to access Workforce Scheduling, you require the May manage Workforce Scheduling security role. For more information on configuring security roles, see "Creating and applying security roles" on page 178.

In order to build a schedule in Workforce Scheduling, whether you build your schedule with forecasting or you build it manually, you must perform the following tasks to set up and customize your schedule:

1. Start YourSite Explorer.
2. Configure employees, overtime types, time off types, holidays, and skills.
3. Start Workforce Scheduling.
4. Configure schedule options.
5. Configure shifts, breaks, and jobs.
6. Assign shifts to schedules.

7. Assign shifts to employees.
8. Specify scheduling preferences/options for each employee in the schedule.
9. Specify schedule warnings.

Starting Workforce Scheduling on a client computer

To log on to Workforce Scheduling

1. Open **Workforce Scheduling**.
   The Login window appears.
2. Type your user name and password.
3. Verify or type the IP address of the Enterprise Server.
4. Optionally, select the **Remember my credentials** check box.
5. Click **Login**.
   The first time you log on, or if you have not created any schedules, the scheduler window appears. See "Configuring schedule options" on page 669.
   Otherwise, if schedules exist, the Load schedule window appears.
   See "Loading schedules" on page 685.

Configuring schedule options

NOTE:

- If you associate a schedule with a queue group, only those employees included in the selected queue group can be configured in the schedule. (Agents are members of agent groups, which are associated with queues that are members of queue groups.)
- If you do not associate a schedule with a queue group, you can schedule any employee whose profile enables you to schedule them in Workforce Scheduling. See "Adding employees" on page 123.

Before you can build a schedule, either manually or using Schedule Builder, you must create a new schedule.

On the New Schedule window, you must:

- Name the schedule
- Associate the schedule with a queue or queue group (optional)
- Add employees to the schedule
- Configure business hours for the schedule
- Activate/Deactivate the schedule

You can create new schedules and configure all Workforce Scheduling options using the Schedule wizard. Optionally, use the Schedule tool to add, delete, rename, and activate/deactivate schedules. Within the Schedule configuration window, you can click Apply at any time to apply changes to the schedule without closing the Schedule configuration window.

Configuring scheduling options using the Schedule wizard

You can create new schedules and configure all Workforce Scheduling options using the Schedule wizard.

To configure scheduling options using the Schedule wizard

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule wizard**.
3. Follow the steps in the Schedule wizard to configure schedules, business hours, employees, fixed/variable shifts, fixed/variable breaks and jobs, and fixed/variable shift assignments.
4. Click **Finish**.

Creating schedules

To create a schedule

1. On the Application menu or ribbon, click **New schedule**.
2. After **Schedule name**, type a name for the schedule.
3. Under **Employee association**, select either **All employees, Employees associated with this queue group only,** or **Employees associated with this queue only**.
   - If you select Employees associated with this queue group, select a queue group from the list.
   - If you select Employees associated with this queue, select a queue from the list.
4. If this schedule will be an active schedule, select the **This schedule is active** check box. Otherwise, select the **This schedule is used for planning purposes only** check box.
5. Click **OK**.
6. Select the check boxes of the employees to add to the schedule.
7. Click **OK**.

Adding employees to schedules

Schedules that contain fewer than 100 employees are easiest to manage. Each employee should belong to one active schedule only. However, if employees belong to more than one schedule, you can still view the shifts for which they are scheduled.

To add an employee to a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Select employees**.
3. After **Schedule**, select a schedule.
4. If you want to group employees in the list by supervisor, select the **Group by supervisor** check box.
5. Select the check boxes of the employees to add to the schedule.
6. Click **OK**.

Configuring business hours for schedules

You can specify different business hours for each schedule. By default, you are warned if you try to schedule shifts outside business hours.

To configure the business hours of a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, select **Schedules**.
4. Under **Schedules**, select the schedule to modify.
5. After **First day of the schedule week**, specify the day that the schedule will begin.
6. After **Annual calendar start date**, specify the date the calendar year begins.
   The information in this field is used to calculate annual minimum and maximum hours for employees. January 1st is the default date.
7. Specify business hours for the schedule.
   - If you want to schedule employees 24 hours a day, seven days a week, under Business hours, click **Open 24/7**.
   - After **Open**, select the check boxes of the days of the week to schedule.
   - After **From**, specify the start times for each day of the week to schedule.
   - After **To**, specify the end times for each day of the week to schedule.
8. Click **OK**.

Renaming schedules

You can rename a schedule without losing any information associated with the schedule.

To rename a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Under **Schedules**, select the schedule to rename.
4. Click **Rename**.
5. After **Name**, type a new name for the schedule.
6. Click **Rename**.
7. Click **OK**.

Deleting schedules

CAUTION: Deleting a schedule deletes all of the information associated with that schedule. This cannot be undone.

To delete a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Under **Schedules**, select the schedule to delete.
4. Click **Delete**.
5. Click **Yes**.
6. Click **OK**.

Activating / De-activating schedules

You can activate or deactivate a schedule at any time. Deactivating schedules is useful for performing “what-if” scenarios, for seasonal schedules, and for retaining schedules to be used at a later time.

To activate or deactivate a schedule

1. On the Application menu or ribbon, click Activate / Deactivate.
   The Activate / Deactivate Schedule dialog box opens.
2. Select the schedule that you want to activate / deactivate.
3. You can load multiple active schedules. However, if you load an inactive schedule, all other schedules close.
4. Click Activate to activate an inactive schedule or Deactivate to deactivate an active schedule.
5. Click Close.

Configuring shifts

A shift represents work hours on a given day for an employee. You can assign shifts to specific employees for any day of the week. You can create several shifts for one or more schedules. There are two types of shifts: fixed shifts and variable shifts. Fixed shifts have a fixed start time and duration. Variable shifts are based on the following shift variables:

- **Typical hours**—the number of work hours for the shift
- **Minimum hours**—the minimum number of hours for the shift
- **Maximum hours**—the maximum number of hours for the shift
- **Minimum start**—the time of day after which the shift must start
- **Maximum start**—the time of day by which the shift must start
- **Color**—the color in which the shift appears in the time bar pane

You configure the following shift options using the Schedule tool:

- Add fixed shifts
- Add variable shifts
- Rename shifts
- Delete shifts

Adding fixed shifts

To add a fixed shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Shifts**.
4. In the right pane, click the **Fixed Shifts** tab.
5. In the right pane, click **Add**.
6. After **Name**, type a name for the fixed shift.
7. Click **Create**.
8. Under **Start time**, type the start time of the fixed shift.
9. Under **Duration**, type the duration of the fixed shift.
10. Under **Color**, select a color for the fixed shift.
11. Click **OK**.

Adding variable shifts

To add a variable shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Shifts**.
4. In the right pane, click the **Variable Shifts** tab.
5. In the right pane, click **Add**.
6. After **Name**, type a name for the variable shift.
7. Click **Create**.
8. Under **Minimum hours**, type the minimum number of hours in a day you can schedule the shift.
9. Under **Typical hours**, type the typical number of hours in a day you can schedule the shift.
10. Under **Maximum hours**, type the maximum number of hours in a day you can schedule the shift.
11. Under **Minimum start**, type the time of day after which the shift must start.
12. Under **Maximum start**, type the time of day by which the shift must start.
13. Under **Color**, select a color for the variable shift.
14. Click **OK**.

Renaming shifts

You can rename fixed/variable shifts without losing any information associated with the shifts.

To rename a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click the **Shifts** tab.
4. If you want to rename a fixed shift, click the **Fixed shifts** tab. Otherwise, to rename a variable shift, click the **Variable shifts** tab.
5. Under **Name**, click the name of the shift to rename.
6. Type a new name for the shift.
7. Click **OK**.

Deleting shifts

CAUTION: Deleting a shift deletes all of the instances of that shift, including those inserted in schedules.

To delete a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click the **Shifts** tab.
4. If you want to delete a fixed shift, click the **Fixed shifts** tab. Otherwise, to delete a variable shift, click the **Variable shifts** tab.
5. Under **Name**, select the shift to delete.
6. Click **Delete**.
7. Click **Yes**.

Configuring breaks

You configure the following break options using the Schedule tool:

- Add fixed breaks
- Add variable breaks
- Rename breaks
- Delete breaks

Examples of common breaks are morning break, lunch, afternoon break, and dinner break.

Adding fixed breaks

To add a fixed break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Breaks**.
4. In the right pane, click the **Fixed Breaks** tab.
5. Click **Add**.
6. After **Name**, type a name for the break.
7. Click **Create**.
8. If the break is a paid break, enable the check box under **Is paid**.
9. Under **Start time**, type the time at which the break must start.

10. Under **Duration**, type the amount of time allotted for the break.
11. Under **Color**, select a color for the break.
12. Click **Ok**.

Adding variable breaks

To add a variable break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Breaks**.
4. In the right pane, click the **Variable Breaks** tab.
5. Click **Add**.
6. After **Name**, type a name for the variable break.
7. Click **Create**.
8. Under **Duration**, type the amount of time allotted for the break.
9. If the break is a paid break, select the check box under **Paid**.
10. Under **Time to qualify**, type the minimum duration of a shift before you can schedule the break.
11. Under **Must start time**, type the amount of time from the beginning of the shift that employees must work before they are entitled to the break.
12. Under **Must end time**, type the amount of time from the beginning of the shift by which employees must complete the break.
13. Under **Minimum time** before end of shift, type the amount of time before the end of the shift that the break must end.
14. Under **Color**, select a color for the shift.
15. Click **OK**.

Renaming breaks

You can rename a break without losing any information associated with the break.

To rename a break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Breaks**.
4. If you want to rename a fixed break, in the left pane, click the **Fixed Breaks** tab. Otherwise, to rename a variable break, click the **Variable Breaks** tab.
5. Under **Name**, click the name of the break to rename.
6. Type a new name for the break.
7. Click **OK**.

Deleting breaks

CAUTION: Deleting a break deletes all of the instances of the break, including those inserted in schedules.

To delete a break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. If you want to delete a fixed break, in the left pane, click **Fixed shifts**. Otherwise, to delete a variable break, click **Variable shifts**.
4. Click the **Breaks** tab.

5. Under **Name**, select the name of the break to delete.
6. Click **Yes**.
7. Click **OK**.

Configuring jobs

Use jobs in a schedule to differentiate the non-ACD tasks that employees perform. You create jobs for a specific shift. If the job requires a specific set of skills, you can associate skills to jobs. After you associate skills to jobs, you can compare the skill (and skill level) of the employees to the skill required to perform a job. This will ensure the employees you schedule have the appropriate skills for their assigned jobs.

You configure the following job options using the Schedule tool:

- Add fixed jobs
- Add variable jobs
- Rename jobs
- Delete jobs

Adding fixed jobs

To add a job for a fixed shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. In the right pane, click the **Fixed Jobs** tab.
5. Click **Add**.
6. After **Name**, type the name of the job.
7. Click **Create**.
8. If the job involves work on ACD calls, ensure the check box under **Is ACD** is selected.
9. Under **Start time**, type the time at which the job must start.
10. Under **Duration**, type the duration of the job.
11. Under **Color**, select a color for the job.
12. Click **OK**.

Adding variable jobs

To add a job for a variable shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. In the right pane, click the **Variable Jobs** tab.
5. Click **Add**.
6. After **Name**, type the name of the job.
7. Click **Create**.
8. If the job involves work on ACD calls, ensure the check box under **Is ACD** is selected.
9. Under **Color**, select a color for the job.
10. Click **OK**.

Renaming jobs

You can rename a job without losing any information associated with the job.

To rename a job

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. If you want to rename a fixed job, click the **Fixed Jobs**. Otherwise, to rename a variable job, click the **Variable Jobs** tab.
5. Under **Name**, click the name of the job to rename.
6. Type a new name for the job.
7. Click **OK**.

Deleting jobs

CAUTION: Deleting a job deletes all of the instances of the job, including where it is inserted in schedules.

To delete a job

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. If you want to delete a fixed job, click the **Fixed Jobs**. Otherwise, to delete a variable job, click the **Variable Jobs** tab.
5. Under **Name**, select the name of the job to delete.
6. Click **Delete**.
7. Click **Yes**.

Adding breaks or jobs to shifts

To add a break or a job to a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click **Assignments**.
4. In the right pane, click the **Breaks and Jobs** tab.
5. Under **Shifts**, select the shift for which you will add shifts to.
6. Under **Breaks**, select the break to add to a shift.
7. Click **>** to assign the break to the shift.
8. Under **Jobs**, select the job to add to a shift.
9. Click **>** to assign the job to the shift.
10. Click **OK**.

Removing breaks and jobs from shifts

To remove a break or a job from a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click **Assignments**.
4. In the right pane, click the **Breaks and Jobs** tab.
5. Under **Shifts**, select the shift for which you will remove breaks/jobs from.
6. Under **Breaks**, select the break to remove from the shift.

7. Click **<** to remove the break from the shift.
8. Under **Jobs**, select the job to remove from the shift.
9. Click **<** to remove the job from the shift.
10. Repeat steps 5-9 to remove additional breaks and/or jobs from shifts.
11. Click **OK**.

Assigning shifts to schedules

NOTE: Schedule Builder uses the shifts you assign, combined with the employees' availability and shift assignment, to schedule shifts (or variations of them).

To assign shifts to schedules

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Assignments**.
4. In the right pane, click the **Shifts** tab.
5. Under **Schedules**, select the schedule to which you will add shifts.
6. Under **Fixed Shifts**, select the fixed shift to add to the schedule.
7. Click **>** to assign the shift to the schedule.
8. Under **Variable Shifts**, select the variable shift to add to the schedule.
9. Click **>** to assign the shift to the schedule.
10. Repeat steps 6-9 for each shift you want to add to a schedule.
11. Click **OK**.

Assigning shifts to employees

To assign a shift to an employee

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Configure employees**.
3. In the left pane, under **Schedules**, select the schedule containing the employee(s) to which you will assign shifts.
4. Under **Employees**, select the employee to which you will add shifts.
5. Under **Shift Assignment**, select the check boxes of the shifts that will be available to this employee.
6. Repeat steps 4-6 for each employee to which you will assign shifts.
7. Click **OK**.

Configuring event display preferences

To make events easy to identify at a glance, you can specify how you want to display the scheduled events.

You can specify the following event display preferences:

- **Time bar content display—**provides descriptions, notes, or icons for scheduled events in the time bar pane
- **Smallest scheduling interval—**the smallest increment with which you insert events into the time bar pane
- **Default shift color—**the color for all of the shifts in the time bar pane. To override the default shift color, see "Configuring shifts" on page 672
- **Default break color—**the color for all of the breaks in the time bar pane. To override the default break color, see "Renaming breaks" on page 674
- **Default job color—**the color for all of the jobs in the time bar pane. To override the default job color, see "Configuring jobs" on page 675
- **Default time off color—**the color for all of the time off types in the time bar pane. To override the default job color, see "Configuring time off types" on page 167

- **Unavailable color—**the color for unavailable periods in the time bar pane
- **Tool tip display—**provides event information in tool tips on the time bar pane. The tool tip appears as a series of brackets depending on the information criteria you select
- **Time display—**the time format of the time bar pane. For example, 3 o'clock in the afternoon appears as 3 P.M. if you select *12 Hours*, or 15 if you select *24 Hours*

Configuring the time bar display

You can select from the following three time bar display options:

- **Icon—**refers to the icons of the scheduled shifts, time off events, and unavailable periods in the time bar pane
- **Type name—**refers to the names of the scheduled jobs in the time bar pane
- **Type notes—**refers to the notes of the scheduled jobs in the time bar pane

To specify how events display in the time bar

1. On the application menu, click **Preferences**.
2. Click the **Display** tab.
3. Under **Time bar content display**, select the time bar content to display for Shifts, Jobs, Breaks, Time off, and Unavailable periods.
4. Click **OK** to save and close the Preferences window.

Configuring the smallest scheduling time interval

By default, events are snapped to the time bar grid in 30 minute increments. However, you can adjust the snap-to-grid interval to 5, 15, 30, or 60 minutes. Set the smallest scheduling time interval to the minimum number of minutes you want to insert events into a schedule. For example, if you select 15 minutes as the smallest scheduling interval, you cannot insert events for an employee in increments smaller than 15 minutes.

The default scheduling interval is 15 minutes, which we recommend, as changing this to a smaller interval will increase the amount of time it takes for Schedule Builder to build schedules.

To configure the smallest scheduling time interval

1. On the application menu, click **Preferences**.
2. Click the **General** tab.
3. Under **Scheduling preferences**, after **Smallest scheduling interval**, select the snap-to-grid time interval.
4. If you want to prevent the user from manually making any change that would trigger a warning, select the **Warnings are hard limits for the user** check box.
5. Click **OK** to save and close the Preferences window.

To prevent users from manually making changes that trigger warnings

You can configure Workforce Scheduling to prevent users from making changes that trigger warnings.

To prevent users from manually making changes that trigger warnings

1. On the application menu, click **Preferences**.
2. Click the **General** tab.
3. Select the **Warnings are hard limits for the user** check box.
4. Click **OK** to save and close the Preferences window.

Configuring the default colors on the time bar

To configure the default colors used for events on the time bar

1. On the application menu, click **Preferences**.
2. Click the **Display** tab.
3. Under **Default time bar colors**, after **Default shift color**, select a color.
4. Repeat step 3 for **Default break color**, **Default job color**, **Default time off color,** and **Unavailable color**.
5. Click **OK** to save and close Preferences window.

Configuring the time format

There are two time formats you can select from: the 24 hour international format or the 12 hour format which uses A.M. and P.M. to indicate morning and afternoon. For example, 3 o'clock in the afternoon appears as 15 if you select the 24 hour time format or 3 P.M. if you select the 12 hour time format.

To configure the time format

1. On the application menu, click **Preferences**.
2. Click the **General** tab.
3. After **Hour format**, select either **12 hours** or **24 hours**.
4. Click **OK**.

Configuring tool tip display

You can specify the following information in tool tips for shifts, jobs, breaks, time off events, unavailable periods, and shadow events:

- **Schedule name—**provides the name of the schedule in which the event appears.
- **Is recurring**—displays if the event recurs.
- **Type—**provides the name of the event.
- **Type name—**states if the event is a shift, job, break, time off event, unavailable period, or shadow event.
- **Start/End Time—**provides the start and end time of the event.
- **Event Notes—**provides any notes from the detail grid for the event.

To configure the tool tip display

1. On the application menu, click **Preferences**.
2. Click the **Display** tab.
3. Under **Tool tip display**, select the check boxes for the tool tips to display.
4. Click **OK**.

Configuring warnings

Warnings notify you when you try to schedule events outside of your scheduling parameters.

You can set the following warnings:

- Schedule warnings
- Shift warnings
- Break warnings
- Job warnings
- Overtime warnings
- Time Off warnings

- Employee scheduling warnings
- Schedule Builder warnings
- Employee selection warnings

To configure warnings

1. On the application menu, click **Preferences**.
2. Click the **Warnings** tab.
3. Ensure the check boxes of the warnings you want to configure are selected.
   See Table 19 - 1.
4. Click **OK**.

Table 19 - 1 Warnings

Warning	Description
Scheduling work on company holidays	notifies you when events are scheduled on company holidays
Scheduling work outside business hours	notifies you when you try to schedule events outside of your contact center's business hours
When scheduling outside employee's availability	notifies you when you try to schedule employees who are not available at the specified time
Violates length of service qualifications	notifies you when an employee has worked fewer or more months required to qualify for a specific type of time off
Exceeds accrued hours	notifies you when an employee is scheduled for more time off hours than is available to that employee at that time
Exceeds maximum scheduling limit	notifies you when an employee is scheduled for more time off hours than specified for that type of time off
Less than minimum scheduling limit	notifies you when an employee is scheduled for fewer time off hours than specified for that type of time off
Employee does not have required skills	notifies you when an employee does not have the required skills for the job for which they are scheduled
Exceeds daily maximum work hours	notifies you when an employee is scheduled for more hours in a day than defined by the parameter for that shift
Below daily minimum work hours	notifies you when an employee is scheduled for fewer hours in a day than defined by the parameter for that shift
Exceeds weekly maximum work hours	notifies you when an employee is scheduled for more hours in a week than defined by the parameter for that shift
Below weekly minimum work hours	notifies you when an employee is scheduled for fewer hours in a week than defined by the parameter for that shift
Exceeds yearly maximum work hours	notifies when an employee is scheduled for more than the annual

Warning	Description
	maximum hours required
Below yearly minimum work hours	notifies you when an employee is scheduled for less than the annual minimum hours required
Start time outside of specified range	notifies you when an employee's shift is scheduled to start before (minimum) or after (maximum) the parameters defined for that shift
Within minimum time between shifts	notifies you when an employee is scheduled to start another shift too soon following the one previously completed
Below hours worked to qualify	notifies you when an employee is scheduled for a break before working enough hours after the last break in that shift to qualify for another break
Starting before earliest start time	notifies you when an employee is scheduled for the first break in a shift before a break can be taken
End after latest end time	notifies you when an employee is scheduled for the last break in a shift after a break can be taken
Removing an employee from a schedule	notifies you when you attempt to delete an employee from the schedule
Accepting a generated schedule	notifies you when you attempt to save a schedule you have built
Scheduled shift will cause overtime	notifies you when a shift qualifies an employee for overtime

Schedule creation

You can create and customize schedules in Workforce Scheduling using specific parameters that suit the needs of your contact center. You can build schedules manually or with the Schedule Builder tool. Schedule Builder automates the schedule building process. It uses pre-defined employee and schedule options to create schedules. See "Schedule setup and customization" on page 668.

Schedule Builder helps you build a schedule with or without forecast data. However, you must use the Schedule Builder if you want to build a schedule with forecast data. See "Forecasting tool" on page 293.

You can also use manual scheduling to modify schedules you build with Schedule Builder. See "Creating and adjusting schedules manually" on page 685.

NOTE: After you generate a schedule with Schedule Builder, you must accept or reject schedule changes before you can generate another schedule.

Schedule Builder uses the following parameters to create a schedule automatically:

- Date/time range
- Shifts
- Breaks

- Forecast data
- Business hours
- Employees
- Employee scheduling preferences
- Scheduling options
- Shift options
- Schedule algorithm options

Building schedules with Schedule Builder

NOTE: After you generate a schedule with Schedule Builder, you must accept or reject schedule changes before you can generate another schedule.

To build a schedule with Schedule Builder

1. Click the **Tools** tab
2. In the Schedule Builder group, click **Manual**.
3. Under **Schedule name**, select a schedule.
4. Specify the scheduling parameters on each tab of the Schedule Builder tool.
5. Click **Build**.
   A dialog box appears reminding you that changes to the schedule will not be committed to the database until you click Accept Schedule.
6. Click **OK**.
   The Accept Schedule and Reject Schedule buttons appear in the toolbar.
7. Verify the schedule.
8. Make any required modifications manually.
9. Click **Accept schedule** to save the new schedule.
   NOTE:
   - After you click Accept Schedule, the schedule is live in the database and the Accept Schedule button disappears. If you click Reject Schedule, the automatically generated schedule and any manual modifications are deleted from the schedule. See "Creating and adjusting schedules manually" on page 685.
   - If there are any conflicts, a dialog box appears stating the number of conflicts. You cannot save a schedule with conflicts. Click Yes to delete the conflicts and accept the schedule, or click No to adjust the schedule. When you have resolved the conflicts, click Accept Schedule again to save the schedule.

Configuring the date and time range

To configure the date and time range for a schedule using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Dates and times,** on the **Date / Time** tab, select the date range of the schedule.
3. Under **Time**, select either **Use business hours, 24/7,** or **Custom**.
4. If you selected **Custom** in the previous step, select the time the schedule starts and ends each day.
5. If you want to exclude dates from the schedule, click the **Exclusion** tab.
6. Hold down **CTRL** and then click the dates to exclude.

Scheduling shifts

To schedule shifts using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule/Optimize**, select the **Shifts** check box.
3. Under **Event selection**, on the **Shift selection** tab, select the check boxes of the shifts to add to the schedule.
4. Click the **Shift, Break, & Job options** tab.
5. Under **Shift options**, specify how shifts will be distributed.
   - If you want to count existing shifts when determining the number of employees to be scheduled, select the **The Schedule Builder counts existing shifts when determining the number of employees which must be scheduled** check box.
   - If you want to optimize existing unlocked shifts, select the **Allow Schedule Builder to optimize existing unlocked shifts** check box.
   - If you want to optimize existing locked shifts, select the **Allow Schedule Builder to optimize existing locked shifts** check box.
   - If you want to schedule unassigned shifts for times when there are not enough employees available to satisfy the scheduling requirements, select the **Generate unassigned shifts when not enough employees are available to satisfy the schedule requirements** check box.
   - If you want to ignore employee shifts assignments when building the schedule, select the **Ignore employee shift assignments** check box.

Scheduling breaks

To schedule breaks using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule/Optimize**, select the **Breaks** check box.
3. Under **Event selection**, on the **Break selection** tab, select the check boxes of the break types to add to the schedule.
4. Click the **Shift, Break, & Job options** tab.
5. Under **Schedule/Optimize breaks**, select the check boxes of the shift types to apply breaks.
6. If you want to schedule employees to cover for breaks, select the **Cover for breaks** check box.
7. Under **Distribution**, specify how breaks will be distributed.
   - If you want to reduce the number of concurrent breaks, select **Reduce the number of concurrent breaks**.
   - If you want to distribute breaks using a fixed offset, select **Schedule breaks** and specify the number of minutes apart.

Scheduling jobs

To schedule jobs using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule/Optimize**, select the **Fixed Jobs** check box.
3. Under **Event selection**, on the **Fixed Job selection** tab, select the check boxes of the job types to add to the schedule.
4. Click the **Shift, Break, & Job options** tab.
5. Under **Schedule fixed jobs on**, select the check boxes of the job types to apply shifts.

Generating schedules with forecast data

To build a schedule with forecast data using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule Builder method**, after **Method**, select **Forecasted data**.
3. If you want fewer employees scheduled than are forecasted, move the slider towards **Under schedule**.
4. If you want more employees scheduled than are forecasted, move the slider towards **Over schedule**.
5. If you want to adjust the number of forecasted employees, next to **Increase/decrease the number of forecasted employees by**, enter a number.

Generating schedules without forecast data

To build a schedule without forecast data using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule Builder method**, after **Method**, select **Explicit**.
3. After **Number of employees to schedule**, enter a number.
4. If you want fewer employees scheduled than are forecasted, move the slider towards **Under schedule**.
5. If you want more employees scheduled than are forecasted, move the slider towards **Over schedule**.

Generating schedules for your entire workforce

To build a schedule for your entire workforce using Schedule Builder, regardless of employee availability

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule Builder method**, after **Method**, select **Entire workforce**.
3. If you want to enable employee filtering, select the **Enable employee filtering** check box.

Selecting employees

To select the employees you want to schedule using Schedule Builder

1. In **Schedule Builder**, click the **Employee filtering** tab.
2. If you want to filter employees by agent group, under **Agent group**, select the check boxes of the agent groups to schedule.
3. If you want to filter employees by their skills, under **Skill**, select the check boxes of the required skills. Otherwise, skip to step 6.
4. Under the list of available skills, select an operand.
   - If the employees must have a skill level greater or equal to the skill level required, select **>=**.
   - If the employees must have a skill level lower or equal to the skill level required, select **<=**.
   - If the employees must have a skill level exactly equal to the skill level required, select **=**.
5. If you want to filter employees by name, under **Select employees with this name**, type an employee's name.
6. If you want to select specific employees, under **Selected employees**, select the check boxes of the employees to schedule.
7. Click the **Employee sorting** tab.
   NOTE: You must configure the employee payroll information in order to select the seniority and pay rate parameters.
8. If you want to prioritize how shifts are distributed to employees, select the **Use employee sorting** check box, and select the criteria with which to sort employees.
9. If you want to assign or edit employee priority numbers, under **Employee priority**, select an employee.
10. Under **Priority**, type a personal priority number.
11. Click the **Overrides** tab.

12. If you want to override employee work hour preferences, under **Work hours**, select the check boxes to override daily work hours, weekly work hours, and the minimum time between shifts.
13. If you want to override employee availability, under **Availability**, select the check boxes to override employee availability and unavailable events currently applied to the schedule.
14. If you want to override scheduled time off, under **Time off**, select the **Override time off events currently applied to the schedule** check box.

Configuring scheduling options

To configure schedule options Schedule Builder uses to create a schedule

1. In **Schedule Builder**, click the **Advanced options** tab.
2. Under **Schedule algorithm performance**, specify the settings Schedule Builder will use to build the schedule.
3. If you want to optimize break distribution, under **Optimization types**, select the **Optimize break distribution** check box.
4. If you want to optimize shift placement, select the **Optimize shift placement** check box.
5. If you want to optimize shift size, select the **Optimize shift size** check box.
6. If you want to balance the distribution of employee shifts over the week, select the **Balance over the week** check box.
   Selecting this option ensures that Schedule Builder does not completely fill the requirements of the first few days of the schedule and understaff employee requirements by the end of the week.

Creating and adjusting schedules manually

You can create entire schedules manually. However, if you must schedule a large number of employees it can be quite complicated and time consuming. Schedule Builder automates the process and builds schedules for you. You can manually adjust schedules created with Schedule Builder. You can create and adjust schedules manually in the following ways:

- Load a schedule
- Populate a schedule with events
- Drop insert an event
- Drag insert an event
- Recur an event
- Mass recur an event
- Mass delete an event
- Mass apply time off
- Modify a forecast total
- Modify event times or notes

Loading schedules

NOTE: Your access rights determine which schedules you can view, modify, or manage.

To load a schedule

1. On the Application menu or ribbon, click **Load schedules**.
2. Under **Please select the schedule(s) you want to download**, select the schedule(s) to load.
3. If you want to load all schedules, select the **Select all** check box.
4. Click **Load**.

Populating schedules with events

NOTE:

- Your access rights determine which schedules you can view, modify, or manage.
- For ease of use and accuracy when inserting events, select a schedule view of less than 1 week (View=>Schedule View) prior to insertion.

You can manually insert the following events into a schedule:

- Shifts
- Breaks
- Jobs
- Time off
- Unavailable periods

You can insert events in a schedule by either dropping or dragging them on an employee's time line on the time bar pane. You can optionally drop insert breaks or jobs into already existing fixed shifts. Drop inserting events is most useful for fixed events, as the duration of the shift is predefined. Drag inserting events is most useful for variable shifts, as the duration can vary depending on the defined parameters for a specific event.

NOTE: To accommodate for last minute scheduling changes, you can optionally schedule time off and unavailable events in the middle of scheduled shifts or schedule a shift in the middle of time off and unavailable events.

Drop inserting events

To drop insert an event

1. Click the **Insert** tab.
2. Click **Drop**.
3. Under **Event**, select the event to add to the schedule.
4. Under **Schedule**, select the schedule to add events to.
5. Under **Event name**, select the name of the event to add to the schedule.
6. On the time bar pane, click the employee's time line to insert the event .
   The event is added to the schedule.
7. Repeat steps 3-6 for every event to add to the schedule.

Drag inserting events

NOTE: Drag insert is not available in the 1 month schedule view.

To drag insert an event

1. Click the **Insert** tab.
2. Click **Drag**.
3. Under **Event**, select the event to add to the schedule.
4. Under **Schedule**, select the schedule to add events to.
5. Under **Event name**, select the name of the event to add to the schedule.
6. On the time bar pane, click the employee's time line and drag the cursor from the start time to the end of the event.
7. Repeat steps 3-6 for every event to add to the schedule.

Recurring events

You can recur shifts, time off, and unavailable events.

To make an event recur

1. On the time bar pane, on the employee's time line, right-click the event to recur.
2. Click **Recurring**.
3. Click **Daily**, **Weekly**, **Monthly**, or **Yearly recurring**.
4. Specify the pattern and range of the recurrence.
5. Click **OK**.

Mass recurring events

You can use the Mass recurrence wizard to create multiple recurrences for several events automatically. The wizard allows you to mass recur shifts, time off, and unavailable periods based on either a daily or weekly template.

NOTE: Manual or mass deletion is required to remove the generated events.

To mass recur events

1. Click the **Tools** tab.
2. In the **Bulk operations** group, click **Recurrence**.
   The Mass Recurrence wizard opens.
3. Click **Next**.
4. Follow the steps in the wizard to specify the parameters of the events to mass recur.
5. Click **Finish**.
6. Click **Yes**.

Mass deleting events

You can delete one or more scheduled events (shifts, time off periods, unavailable periods, breaks, and jobs) at a time with the Mass delete option. Only the selected events are deleted from the schedules.

To mass delete scheduled events

1. Click the **Tools** tab.
2. In the **Bulk operations** group, click **Delete**.
3. Specify the date range affected, event types to delete, and the schedules to delete events from.
4. Click **OK**.

Mass applying time off

You can apply time off to any or all agents in a schedule simultaneously.

To mass apply time off

1. Click the **Tools** tab.
2. In the **Bulk Operations** group, click **Time Off**.
   The Timeoff Mass Insert dialog box opens.
3. Select a schedule from the **Schedules** drop-down list.
4. Hold down **CTRL** and then click the agents to which you want to apply the time off type. If you want to select all agents, click **Select All**.
5. Under **Time off**, select the time off type from the list.

6. Select the start and end dates, days of the week, and start and end times for the time off type.
7. After selecting the time off time, select **Mark remaining periods of the day as unavailable** if you want the hours outside of the start and end times to be unavailable for scheduling.
8. Click **OK**.

Modifying forecast totals in the event totals pane

If you build schedules with forecast data, you can adjust the forecast totals on the event totals pane. On the events totals pane, you can change forecast totals in time intervals as small as 15 minutes. The schedule view you select determines the time interval of the forecast totals. See "Changing the time interval of the time bar pane" on page 690.

For example, if you select the 8 hour schedule view, you can change the forecast data in 15 minute intervals. However, if you select the 1 day schedule view, you can change the forecast data in 1 hour time intervals. When you change the forecast data in an interval larger than 15 minutes and then change the view to smaller intervals, you will notice that the change applies to each of the smaller intervals.

NOTE: Schedule Builder uses the latest forecast data to calculate the number of employees required.

To change the forecast totals in the events totals pane

1. After **Totals**, click **+**.
2. Select the **Forecast** check box and the check boxes of any other event totals to view.
3. Click **-**.
4. Click the **View** tab.
5. Under **Schedule view**, select a time interval.
   See Table 19 - 2.
6. Click the **+** before **Forecasted** to expand the forecast tree.
   The event totals for the loaded schedules appear.
   NOTE: You can use the Tab key to select cells to the right, and the Shift+Tab keys to select cells to the left.
7. Click a cell in the forecast event total grid and type the new forecast total for this time interval.

Modifying event times and notes in the schedule details pane

The changes you make to event start times and end times in the schedule details pane are immediately reflected in the time bar pane.

To modify the start and end times of events in the schedule details pane

1. On the schedule details pane, click the start or end time of an event.
2. Type the new time.
   The new time is immediately reflected in the time bar pane.
3. Repeat for any other event times to modify.

To modify the start and end times of events in the time bar pane

1. Click the **Insert** tab.
2. Click **Select**.
3. On the time bar pane, select the event to modify.
4. Drag and drop the event to adjust its start and end times.
   The new time is immediately reflected in the time bar pane.
5. Repeat for any other event times to modify.

To add/edit a note for a scheduled employee

1. On the schedule details pane, click the note field for an employee.
2. Click the **...** button.
   The Notes editor appears.
3. Type/edit a note.
4. Click **OK**.

Schedule distribution

You can specify viewing preferences, specify access rights to schedules, and run and print reports.

Viewing schedules

You can specify how you view the time bar pane. Use the scroll bar to view other days and times in the schedule. If you reach the end of the month and want to view dates for the next month, you can click the arrow on the scroll bar to load the schedule for the next month. By default, events you insert into a schedule are snapped to the grid in 30 minute increments.

To view a specific date

1. From any tab in Workforce Scheduling, click **Select date**.
2. Click the date to view.
   The time bar will display the date you selected to view.

Viewing scheduled events

NOTE: If employees belong to more than one schedule and you are viewing only one of the schedules to which the employees belong, any events scheduled in the other schedule will appear as a shadow event (grey bar) in the time bar view.

You select how event time bars appear in **Configuration=>Preferences**. You can isolate shifts, time off, and unavailability to view them separately in the time bar pane. You must view breaks and jobs with shifts. You cannot isolate breaks and jobs in the time bar pane. See "Configuring event display preferences" on page 677.

To view shifts

- On the **View** tab, in the **Show/Hide** group, select the **Shift** check box.

To view jobs

- On the **View** tab, in the **Show/Hide** group, select the **Job** check box.

To view breaks

- On the **View** tab, in the **Show/Hide** group, select the **Break** check box.

To view time off

- On the **View** tab, in the **Show/Hide** group, select the **Time off** check box.

To view unavailable periods

- On the **View** tab, in the **Show/Hide** group, select the **Unavailable** check box.

To view shadow events

- On the **View** tab, in the **Show/Hide** group, select the **Shadow** check box.

Changing the time interval of the time bar pane

You can view schedules in the time bar pane over 8 hour, 12 hour, 1 day, 2 day, 1 week, 2 week, or 1 month time intervals. The default view is the 12 hour view.

To change the time interval in the time bar pane to one week

1. Click the **View** tab.
2. In the **View options** group, under **Schedule view**, select the interval to view.
3. Optionally, under **Group view**, select **Supervisor** to group employees in the time bar pane by schedule.

Viewing event totals

Event totals represent the total number of employees for an event. You can view event totals in 15 minute, 30 minute, 1 hour, 4 hour, or 1 day time intervals. Table 19 - 2 displays the event total time intervals that correspond to the schedule views.

Table 19 - 2 Schedule views and corresponding event total time intervals

Schedule view	Event totals time interval
8 hour	15 minute
12 hour	30 minute
1 day	1 hour
2 day	4 hour
1 week	1 day
2 week	1 day
1 month	1 day

You can select from the following event totals:

Forecast—appears only after you have applied a forecast to a schedule. This total represents the number of employees required to meet your specified Service Level objectives.

Scheduled—represents the number of employees scheduled at that time

Over/Under—represents the excess (over) or inadequate (under) number of employees scheduled when compared to the number of employees forecasted.

On Break—represents the number of employees scheduled for a break at a certain time

ACD Jobs—represents the number of employees scheduled to perform ACD jobs

Non-ACD Jobs—represents the number of employees scheduled to perform non-ACD jobs

At work—represents the number of employees scheduled to handle contact requests

Overtime—represents the number of employees scheduled for overtime

To view event totals

1. In the **Totals** pane, click **+**.
2. Select the check boxes of the event totals to view.
3. Click -.
   The totals pane appears with the event totals you selected.

Viewing schedule details

To group information in the schedule details pane

- On the schedule details pane, drag and drop the column header to organize to the **Drag a column header here to group by that column** area on the window.

To sort information in the schedule details pane alphabetically

- On the schedule details pane, click the header of the column to sort alphabetically.

To filter information in the schedule details pane

1. On the schedule details pane, click the arrow on a column header.
2. Select the filter criteria.

Synchronizing views

You can synchronize the people pane, time bar pane, and totals pane with the order of the information in the schedule details pane. Once you have organized the details of your schedules (sorting, filtering, and grouping) in the schedule details pane, synchronize views to reflect the order you have selected. For information on how to sort, filter, or group schedule details, see "Viewing schedule details" on page 691.

To synchronize views

1. Click the **View** tab.
2. Select the **Synchronize time bar view with details view** check box.
3. Optionally, select the **Vertical scrolling** check box.

Running schedule reports

The Workforce Scheduling reports are produced in Microsoft Excel format. You must run and print the following Workforce Scheduling reports from Contact Center Management. See the *Contact Center Solutions Enterprise Edition Reports Guide* for more information.

You can produce on-demand reports and scheduled reports for the following reports:

- Detailed Schedule by Employee with Totals
- Schedule by Employee by Time Off by Day of Week
- Employee Configuration
- Summary Schedule by Employee
- Totals Pane
- Work Hours Summary Schedule by Employee

Running on-demand reports

To run an on-demand report

1. In Contact Center Management, click **Reporter=>Workforce Scheduling=>Schedules**.
2. Under **Report type**, select a report.
3. After **Device type**, select one of the following:
    - Employee — only the employees selected will appear in the report
    - Supervisor — only the employees associated with the selected supervisor will appear in the report
    - Employee group — only the employees who are members of the selected employee group will appear in the report
    - Schedule — only the employees associated with the selected schedule will appear in the report
4. Select one or more devices from the table.
5. Under **Start date**, select the start date of the report.
6. Under **End date**, select the end date of the report.
7. Optionally, click the **Filter** tab and specify the report filter options for the Workforce Scheduling report.
8. Click the **Advanced** tab.
9. If you want to create a separate report for each day in the selected date range, select the **Create one report for each day in the selected date range** check box.
10. After **Report output language**, select the language for the report.
11. After **Reader type**, select either **Excel** or **PDF**.
12. If you want to email the report, under **Excel distribution**, select the **Email the report to** check box and specify the contact group, contact, and/or email address.
13. If you want to print the report, select the **Print the report** check box.
14. Click **Submit**.

Running scheduled reports

If you need the same reports at the same time on a regular basis, you can schedule Workforce Scheduling reports to run at a specific time of day, such as:

- Every day
- On a specific day of the week
- On the first or last day of the month
- Each weekday

You can run scheduled reports to span the following time frames:

- Current or previous day
- Previous five or seven days, including or excluding the run day
- Current month to date
- Previous month
- Current year to date
- From a given start date to the current date
- Next five days to six months, including the run day

NOTE: You must create a report schedule before you can add reports to it.

Creating report schedules

To create a report schedule

1. In Contact Center Management, click **Reporter=>Scheduled reports**.
2. Click the **Workforce Scheduling report schedules** tab.
3. Click **Next**.
4. After **Schedule name**, type the name of the report schedule.
5. After **Schedule will run**, select when the schedule will run.
6. After **at**, select the time of day.
7. After **Reports time span**, select the time frame the report will cover.
8. Click the **Distribution** tab.
9. Select the groups to which you will email scheduling reports.
10. Click **Save**.
11. Click **Add a report**.
12. Click the **Workforce Scheduling** tab.
13. Click **Workforce Scheduling scheduled reports**.
14. After **Report type**, select a report.
15. After **Schedule**, select a schedule.
16. After **Employee** select an employee.
17. Optionally, click the **Filter** tab and specify the report filters options for the Workforce Scheduling report.
18. Click the **Advanced** tab.
19. After **Output language**, select the language for the report.
20. Click **Save** or **Execute now**.

Modifying report schedules

To modify a report schedule (for example, add a report)

1. In Contact Center Management, click **Reporter=>Scheduled reports**.
2. After **Select a schedule**, select a schedule.
3. Click **Manage schedule properties**.
4. Click the **Properties** tab and modify when the schedule runs the reports.
5. Click the **Distribution** tab and modify how the reports are distributed.
6. Click the **Reports** tab and modify the reports included in the schedule.
7. Click **Save**.

Schedule Adherence

Mitel Schedule Adherence is an optional application that works in conjunction with Contact Center Management and Workforce Scheduling. Schedule Adherence resides in the Contact Center Client real-time monitors and enables you to view the real-time state of contact center employees scheduled in Workforce Scheduling. Schedule Adherence compares the current activities of employees to the configured schedule and alerts you in real time when employees are out of adherence. Employees are considered out of adherence if they are early or late for their scheduled events or if they are not performing scheduled activities.

Schedule Adherence is made available in Workforce Scheduling and Contact Center Client when you are licensed for Contact Center Management, Workforce Scheduling, and Schedule Adherence.

Once you have configured a schedule in Workforce Scheduling, you

- Configure adherence preferences in Workforce Scheduling
- View adherence monitors in Contact Center Client
- Set adherence alarms on the Employee State by Position/Time monitors (optional)
- Run reports on employee adherence to scheduled activities

Configuring adherence preference

You can configure adherence thresholds for shifts, breaks, and jobs. You can set parameters for each event type to suit the needs of your business. You select employee states and assign them to relevant events and specify event time tolerance levels. You can optionally configure groups of employee states and then associate them to relevant employee events.

NOTE:

- Schedule Adherence will handle two or more overlapping adherence thresholds in one of the following ways. If only one of the events is valid for the current employee state, that event will be used. If more than one event is valid for the current employee state, the first event, using start time, will be used.
- If no states are specified for an event type, all states will be considered in adherence.

Configuring adherence parameters

To configure adherence parameters

1. In Workforce Scheduling, click the **Configuration** tab.
2. In the **Adherence** group, click **Adherence Configuration**.
   The Adherence Parameters window opens.
3. In the left pane, expand the event type list and select the event to which you want to add relevant adherence states.
4. Under **Event start tolerance (hh:mm)**, specify the times before and after which an employee state will be reported on as out of adherence.
5. Under **Event end tolerance (hh:mm)**, specify the times before and after which an employee state will be reported on as out of adherence.
6. Under **Available states**, select the states which are relevant for the specified event type and click **>** to move the state to the **Assigned states** list.
7. Repeat steps 2-6 for each event type for which you want to configure adherence parameters.
8. Click **OK**.

Configuring state groups

To configure a state group

1. In Workforce Scheduling, click the **Configuration** tab.
2. In the **Adherence** group, click **State groups**.
   The State groups window opens.
3. Click **Add**.
4. Type a name for the state group and click **Create**.
5. Under **Available states**, select the states that are relevant for the state group and click **>** to move the state to the **Assigned states** list.
6. Repeat steps 2-5 for each state group you want to configure.
7. Click **OK**.

Viewing adherence monitors in Contact Center Client

Schedule Adherence includes two Contact Center Client monitors that enable you to monitor employee adherence to schedules in real time. The Schedule Adherence monitors alarm on employees who are not adhering to schedules based on the thresholds you specify in Workforce Scheduling and the alarms you configure in Contact Center Client. You can optionally set adherence alarms on the Employee State by Position/Time monitors.

Adherence Detail Grid monitor

The Adherence Detail Grid monitor provides a drill-down view of employee scheduled activities, expected states, and event totals. It enables you to easily compare expected employee states and actual employee states in real time.

There are three levels to the Adherence Detail Grid monitor. The first level provides a high level overview of employee adherence. The second level has two grids. The first lists all of the embedded events (breaks and jobs) for the shift and the associated adherence information. The second grid lists the out of adherence record for the shift. The final level has only one grid, which represents the out of adherence record for the embedded events.

You can set Adherence Detail Grid alarms based on the following variables:

- Out of adherence
- Scheduled
- Expected states
- Actual state
- Actual start
- Current out of adherence
- Total out of adherence
- Shift time
- % out of adherence

Table 19 - 3 details provides column heading definitions for the Adherence Detail Grid monitor.

Table 19 - 3 Adherence Detail Grid monitor headings

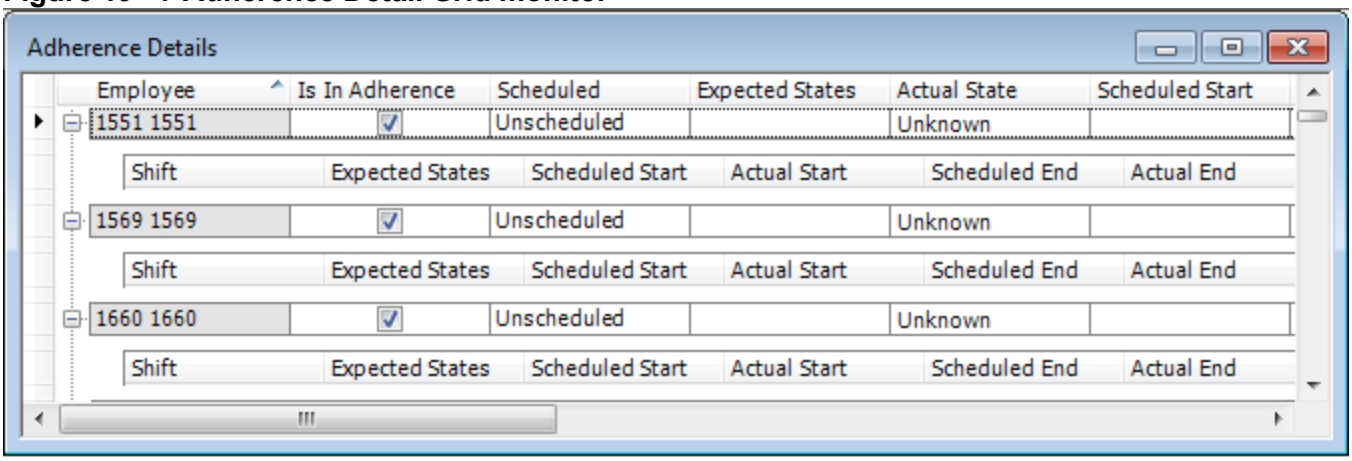
Heading	Definition
Employee	the name of the employee being monitored
Is in Adherence	the check box is enabled when the employee is adhering to the schedule
Scheduled	the type of event (shift, break, or job) the employee is performing, whether in or out of adherence
Expected States	the employee states that are relevant for the type of scheduled activity the employee is scheduled to perform
Actual State	the current employee state. If this is one of the expected states, the employee is adhering to the schedule
Scheduled Start	the time at which the employee is scheduled to start the scheduled activity
Actual Start	the time at which the employee started the scheduled activity. This column may be blank if the employee has not come into adherence for the scheduled event
Scheduled End	the time at which the scheduled event is to end
Current Out Of Adherence	the amount of time the employee has been out of adherence for the scheduled activity. This column will be blank if the employee is adhering to the schedule
Total Out Of Adherence	the total amount of time the employee has been out of adherence for all scheduled activities for the current shift
Shift Time	the duration of time the employee has been working the current shift
% Out Of Adherence	the percent of time the employee has been out of adherence for the elapsed portion of the scheduled shift
Shift	the name of the shift for which the employee is scheduled
Embedded	the name of the embedded event type (break or job)
Start	the time at which the employee went out of adherence
End	the time at which the employee came back into adherence

To open the Adherence Detail Grid monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. From the drop-down arrow in the **Adherence** column, select **Detail Grid**.
   The Add/Remove device IDs window opens.
3. Select the **Employees** or **Schedules** for which you want to review Adherence.

4. Click **OK**.
   The Adherence Details monitor opens.
   See Figure 19 - 7.

Figure 19 - 7 Adherence Detail Grid monitor



To set an Adherence Detail Grid monitor alarm

1. Right-click the Adherence Detail Grid monitor and click **Set Alarms**.
   NOTE: You can select the Apply the alarm thresholds to all devices displayed on the monitor option to apply the threshold settings for performance variables across all employees. Alternatively, you can select Apply the alarm thresholds to a specific list of devices to apply the threshold settings for performance variables to a list of employees.
2. If you selected **Apply the alarm thresholds to a specific list of devices**, under **Devices**, select the employee(s) to which you want to apply the alarm thresholds.
3. Under **Performance variables**, select the performance variable to which you want to set an alarm.
4. Under **Alarm threshold**, click **Add a threshold** and specify the font color, background, sound, pop-up, bring to front, and email alarm options you want to apply to the alarm threshold.
5. Click **OK**.

Adherence Timebars monitor

The Adherence Timebars monitor provides a schedule time bar, based on the employee time bar and event colors configured in Workforce Scheduling, for each employee's scheduled activities. The current time is identified by a green line on the employee time bar and past events are shaded purple.

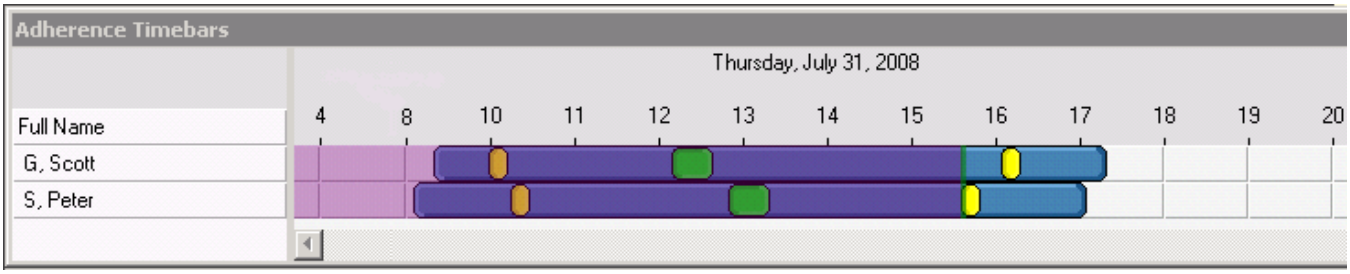
You can set Adherence Timebar alarms based on the following variables:

- Shift out of adherence
- Break out of adherence
- Job out of adherence

To open the Adherence Timebar monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. From the drop-down arrow in the **Adherence** column, select **Timebars**.
   The Add/Remove device IDs window opens.
3. Under **Schedules**, select a schedule to include in the monitor or under **Employees**, select the employees to monitor.
4. Click **OK**.
   The Adherence Timebars monitor opens.
   See Figure 19 - 8.

Figure 19 - 8 Adherence Timebars monitor



To set an Adherence Timebar monitor alarm

1. Right-click the Adherence Timebar monitor and click **Set Alarms**.
   NOTE: You can select the Apply the alarm thresholds to all devices displayed on the monitor option to apply the threshold settings for performance variables across all employees. Alternatively, you can select Apply the alarm thresholds to a specific list of devices to apply the threshold settings for performance variables to a list of employees.
2. If you selected **Apply the alarm thresholds to a specific list of devices**, under **Devices**, select the employee(s) to which you want to apply the alarm thresholds.
3. Under **Performance variables**, select the performance variable to which you want to set an alarm.
4. Under **Alarm threshold**, click **Add a threshold** and specify the background, sound, pop-up, bring to front, and email alarm options you want to apply to the alarm threshold.
5. Click **OK**.

Employee State by Position/Time monitors

You can now optionally alarm on employees who are not adhering to schedules on the Employee State by Position/Time monitors.

To set an adherence alarm on the Employee State by Position/Time monitors

1. Right-click an Employee State by Position/Time monitor and click **Set Alarms**.
   NOTE: You can select the Apply the alarm thresholds to all devices displayed on the monitor option to apply the threshold settings for performance variables across all employees. Alternatively, you can select Apply the alarm thresholds to a specific list of devices to apply the threshold settings for performance variables to a list of employees.
2. If you selected **Apply the alarm thresholds to a specific list of devices**, under **Devices**, select the employee(s) to which you want to apply the alarm thresholds.
3. Under **Performance variables**, select the performance variable to which you want to set an alarm.
4. Under **Alarm threshold**, click **Add a threshold** and specify the background, sound, pop-up, bring to front, and email alarm options you want to apply to the alarm threshold.
5. Click **OK**.

Running adherence reports

The Schedule Adherence reports are produced in Microsoft Excel format. You must run and print the following Schedule Adherence reports from Contact Center Management. See the *Contact Center Solutions Enterprise Edition Reports Guide* for more information.

You can produce on-demand reports and scheduled reports for the following reports:

- Employee and Employee Group Adherence Trace
- Employee Group Time Out of Adherence by Employee by Day of Week
- Employee Group Time Out of Adherence by Day of Month
- Employee Group Adherence by Period

You run Schedule Adherence reports in the Contact Center Management website, under **Reporter=>Schedule Adherence**.

Employee Portal

Mitel Employee Portal enables employees to view and trade shifts online and request changes to schedules for time off, shifts, and availability. Employee Portal enables schedulers to view employee requests, perform what-if scenarios, quickly approve or deny requests, and automatically update schedules.

Employee Portal is made available in Workforce Scheduling and the web-based user interface when you are licensed for Contact Center Management, Workforce Scheduling, and Employee Portal.

Employee Portal is available only to employees who have the correct permissions configured in YourSite Security. The following permissions currently exist:

- May access Employee Portal
- May trade shifts
- May trade time off
- May request changes to availability

For specific details on configuring employee roles and security options, see .

Employee functionality

Using Employee Portal, employees can

- View their currently scheduled shifts and the shifts of other employees who share their schedule
- View messages from supervisors and employees and receive updates about the status of their requests on the home page
- Offer shifts to the bulletin board for other employees to take or trade
- Remove shifts from the bulletin board
- Propose to take shifts from the bulletin board
- Propose to trade shifts from the bulletin board
- Accept or reject employee proposals to take or trade your shift
- Request time off
- Request changes to your availability

The Employee Portal home page provides links to the bulletin board, view and offer your scheduled shifts for take or trade, view your pending offers, request time off, and request availability changes. Any Employee Portal alerts that require your attention also display on the home page. These include

- You have approved shift requests
- You have denied shift requests
- You have shift requests pending supervisor approval
- You have shift proposals pending your acceptance
- You have shift proposals pending acceptance or that have been rejected
- You have time off requests pending supervisor approval
- You have notes regarding your availability

If a home page alert is red, it requires your attention. Click View to view the alert and any employee or supervisor notes in detail.

Starting Employee Portal

To start Employee Portal

1. Open **Employee Portal**.
2. Type your username and password.
3. Click **Log on**.

Creating a desktop shortcut to Employee Portal

To create a desktop shortcut to Employee Portal

1. Open**Employee Portal**.
2. Enter your login credentials and click **Log on**.
3. Drag and drop the Employee Portal web address from the address bar to your computer desktop.

Viewing currently scheduled shifts

To view your currently scheduled shifts

1. In Employee Portal, click **My shifts**.
2. If you want to view shifts starting on a specific calendar day, select the start date from the calendar.
3. Optionally, to view the break and job details for a specific shift, under **Details**, click **Select**.

Viewing the shifts of other employees in your schedule

You can view the shifts for other employees in your schedule to help you determine potential shift swaps.

To view the shifts of other employees in your schedule

1. Click **My Schedules**.
2. To view shifts starting on a specific day, select the start date from the calendar.
3. Click **Select** next to the employee for which you want to view the shift.
   The break and job details for the shift display below.

Offering shifts for other employees to take or trade

You can offer shifts to the bulletin board for other employees to take or trade. You can remove shifts from the bulletin board at any time as long as no employees have proposed to take or trade the shift. Shifts that have already begun cannot be posted to the bulletin board for other employees to take or trade.

To offer a shift for other employees to take or trade

1. Click **Offer my shifts**.
2. Next to the shift you want to offer for other employees to take or trade, click **Select**.
   The shift details display.
3. Click **Continue**.
4. Optionally, type a note to accompany your offer.
5. Click **Submit**.

Removing shifts from the bulletin board

You can remove shifts from the bulletin board at any time as long as no employees have proposed to take or trade the shift. If a proposal has been made, you will need to reject it first before you can remove the shift from the bulletin board.

To remove a shift from the bulletin board

1. Click **My pending offers**.
2. Next to the shift you want to remove from the bulletin board, click **Select**.
   The shift details display.
3. Click **Continue**.
   The shift offer is removed from the bulletin board.

Proposing to take shifts

To propose to take a shift

1. Click **Bulletin board**.
2. Next to the shift you want to take, click **Select**.
   The shift details display.
3. Click **Continue**.
4. Click **Next**.
5. Optionally, add a note to accompany your proposal.
6. Click **Next**.
7. Click **Submit**.

Proposing to trade shifts

To propose to trade a shift

1. Click **Bulletin board**.
2. Next to the shift you want to take, click **Select**.
   The shift details display.
3. Next to the shift you want to propose for trade, click **Select**.
4. Optionally, add a note to accompany your proposal.
5. Click **Next**.
6. Click **Submit**.

Accept or reject an employee proposal to take or trade your shift

To accept or reject an employee proposal to take or trade your shift

1. On the Employee Portal home page, next to **You have <#> shift proposals pending your acceptance**, click **View**.
   The Proposals window displays.
2. Next to the proposal you want to view, click **Select**.
   The proposal details display with any relevant employee notes.
3. Click **Accept** to accept the proposed shift change. Otherwise, click **Reject** to reject the proposed shift change.

Requesting time off

To request time off

1. Click **Request time off**.
   The Request time off window displays, including a list of any time off you have already scheduled.
2. Click **Request time off**.
3. Select a time off type from the list.
4. Click **Next**.
5. Specify the time off start and end times.
6. Click **Next**.
7. Optionally, add a note to accompany the time off request.
8. Click **Next**.
   The time off request summary displays.
9. Click **Submit**.

Requesting availability changes

NOTE: You can click Clear request at any time to reset the Request availability change window to your currently configured availability.

To request an availability change

1. Click **Request availability change**.
   The Request availability change window displays with your current availability.
2. If you need to change existing availability, under **Update current availability**, select a day of the week and click **Remove**. Otherwise, continue to step 3.
3. Under **Change availability**, specify the dates and times you are available to work.
   - After **Day of week**, specify the day of week you are available.
   - If you are only available during certain hours, select **Part of the day,** and specify the times at which you are available.
   - If you are available to work at any time during the day, select **Full day**.
4. Click **Add** to add the new availability to the request.
5. You can optionally select a currently configured availability day or time in the **Update current availability list** and click **Remove** to remove it from the list.
   NOTE: The Add button is for adding new availability to the Update current availability list only and not for replacing specific dates and times from the currently configured availability list.
6. Optionally, under **Employee note**, add a note to accompany your request.
7. Click **Accept**.
   The Confirm availability change window displays.
8. Specify the date that your requested availability will take effect.
9. Click **Submit**.

Supervisor functionality

Using Employee Portal, supervisors can
- View employee scheduling requests
- Preview the effect of approving or denying employee shift change requests
- Approve or deny employee proposals to take or trade shifts
- Approve or deny employee requests for time off
- Approve or deny employee requests for availability changes

Handling employee scheduling requests

NOTE: If you attempt to approve an employee's request for time off for a period where a schedule has yet to be built, time off will not be decremented properly and the time off will be entered as an unavailable event in the schedule.

To view, approve, or deny employee scheduling requests

1. Open **Workforce Scheduling**.
2. Log on to Workforce Scheduling.
3. Load an active schedule.
4. Click the **Employee Portal** tab.
5. Click the **Request mode** icon.
6. In the details pane, click the **Shift changes**, **Time off**, and **Availability** tabs to view any employee scheduling requests pending your approval.
7. Next to **Approve**, click the **+** to view the scheduling request details.
8. If you are viewing the Shift change tab, click **View timebar** to view the scheduled shift.
9. In the Employee requests group, click **Preview** to view the effect of approving the request.
10. In the Employee requests group,
    - Click **Approve** to approve the request.
    - Click **Deny** to deny the request.

    The schedule is automatically updated and employees are notified of the schedule request status.

Employee Portal reports

The Employee Portal reports are produced in Microsoft Excel format. You must run and print the following Employee Portal reports from Contact Center Management. See the *Contact Center Solutions Enterprise Edition Reports Guide* for more information.

The following reports are available with Employee Portal:
- **Employee Portal Availability Requests**
  Provides a detailed summary of employee requests for availability changes
- **Employee Portal Time Off Requests**
  Provides a detailed summary of employee requests for time off
- **Employee Portal Shift Requests**
  Provides a detailed summary of employee requests to take or trade shifts
- **Employee Portal Shift Change Status**
  Provides a detailed summary employee requests that have been approved or denied

You run Employee Portal reports in the Contact Center Management website, under **Reporter=>Workforce Scheduling=>Employee Portal**.

Chapter 20

Traffic Analysis

Using Traffic Analysis

Traffic Analysis

Traffic Analysis is an optional application that works with Call Accounting and Contact Center Solutions. Traffic Analysis works in conjunction with the 3300 ICP telephone system.

In order to have summarized data for Traffic Analysis reports you must wait until the nightly maintenance routine runs the summary (at midnight each night). The data for these reports is derived from the traffic stream. Traffic Analysis reports are not available in real-time.

For detailed information about traffic reports, refer to the *Contact Center Solutions Reports Guide*. Traffic reports provide call statistics on DTMF receivers, route lists, route plans, routes, and trunks. You can create the following on-demand and scheduled traffic reports:

- Attendant Console Traffic by Interval report
- Attendant Traffic by Interval
- Attendant Group Traffic by Interval
- DTMF Receiver Group Traffic by Interval
- Route List Traffic by Interval
- Route Plan Traffic by Interval
- Route Traffic by Interval
- Trunk Traffic by Interval
- Trunk Busy Hour Traffic by Day of the Week
- Trunk and Trunk Group Traffic Usage by Day of the Week
- Trunk Group Outgoing Traffic by Interval
- Trunk Group Outgoing Traffic Usage by Day of the Week
- Trunk Group Outgoing Busy Hour Traffic by Day of the Week

Using Traffic Analysis

Before you generate Traffic Analysis reports you must configure data collection for Traffic Analysis.

To configure data collection for Traffic Analysis

1. Set up the telephone systems to collect traffic data
2. Configure the media servers in Contact Center Management for traffic data collection (YourSite=>Enterprise).

Setting up telephone systems to collect traffic data

You can collect traffic data from a 3300 ICP telephone system over TCP/IP.

Setting up the 3300 ICP

You must specify traffic data options on the 3300 ICP Traffic Options Assignment form in order to collect traffic data and produce reports with the Traffic Analysis application.

The Traffic Options Assignment form is a form-driven method to obtain time-based traffic reports on telephone system usage. You can generate reports that cover attendant usage, channel utilization, system activity, data station usage, delay to dial tone, extension-to-extension calls, feature usage, and trunk use.

NOTE:

- You can define up to six different time slots.
- If the start and stop time are blank while the time slot is active, an error message is displayed when the commit operation is attempted; in this case, the changes will not be committed.
- No two traffic slot stops should be less than 5 minutes apart. This time is required for the system time to generate the previous report.
- Making changes to the data in this form and recommitting interrupts a traffic report that is running.

Programming the Traffic Options Assignment form

To program the Traffic Options Assignment form

1. Log onto the 3300 ICP telephone system.
2. Browse to the **Traffic Options Assignment** form.
3. Click **Change**.
4. Configure the traffic options as described in Table 20 - 1.

Table 20 - 1 3300 ICP Traffic Options Assignment form

Option	Value
Time Slot Active	Select Yes to start a traffic session at the time specified in Start Time field and finish at the Stop Time field for each of up to six different slots. The report is resumed the next day at the same time. Select No to suspend the traffic report for the associated time slot. The traffic report will not run until Yes is entered and the form recommitted. Default is No. There can be no overlapping of ACTIVE time slots. **Select: Yes**
Start Time (-Hours, -Minutes)	Select the time the traffic report is to start running. Default is blank. The start time must be assigned for active time slots; it can be blank for inactive time slots. If the start time equals the stop time then the time period is 24 hours. **Select: 00:00**
Stop Time (-Hours, -Minutes)	Select the stop time for the report. If the session is to run for 24 hours, enter the same time as the start time. Default is Blank. The stop time must be assigned for active time slots; it can be blank for inactive time slots. If the start time equals the stop time then the time period is 24 hours. **Select: 24:00**
Period Length	Select the length of time(15, 30, or 60 minutes) that data is to be collected for the session before a traffic report is formatted and output. Default is 60 minutes. **Select: 15**
Usage Units	Select the type of units the report will use. Default is Erlangs. **Select: Erlangs**
Autoprint	Select Yes to spool the traffic report to the printer assigned to this

Option	Value	
	function in the Application Logical Port Assignment form. Default is No. We will be using the LPR1 Port 1754 to output traffic. **Select: Yes**	
Maximum Number of Traffic Files	Enter the maximum number of traffic reports to be stored in disk. Default is 10. **Select: 10**	
Sections to include in Traffic Report	Select Yes to enable the collection of data for each resource group you want to include in the traffic report. The default is No.	
	Route Plans	Yes
	Route Lists	Yes
	Routes	Yes
	Trunk Groups	Yes
	Trunks	Yes
	Links	No
	Groups of Links	No
	Channels	No
	DTMF Receivers	Yes
	Data Transceivers	No
	Modem Groups	No
	Data Station Groups	No
	Attendant Groups	Yes
	Attendant Consoles	Yes
	Attendants	Yes

Assigning ports

You must assign a port to the 3300 ICP to output traffic data.

To enable traffic data output

1. Log on to the 3300 ICP telephone system.
2. Browse to **Application Logical Port Assignment**.
3. Select **Traffic Report Port**.

4. Click **Change**.
5. Under **Port Physical Name**, type **LPR1**.
6. Click **Save**.

Verifying the traffic output

Before you configure traffic collection settings for the 3300 ICP, verify traffic data is being output through port 1754.

To verify traffic is being output through port 1754.

1. Click **Start=>Programs=>Accessories=>Communication=>Hyperterminal**.
2. After **Name,** type **Traffic**.
3. Click **OK**.
4. After **Host address**, type the IP address of the 3300 ICP
5. After **Port number,** type **1754**.
6. After **Connect using**, select **TCP/IP**.
7. Click **OK**.
8. Wait the interval time you selected in the Traffic Options Assignment, for example 15, 30 or 60 minutes. The traffic should then output to your screen.
9. After the output is complete, you can disconnect and close the hyper terminal window.

Configuring media servers in YourSite

You must configure traffic collection settings in YourSite for the media servers from which you collect traffic data.

3300 ICP

You do not require a dataset to collect traffic data from a 3300 ICP. The traffic data is directed to the printer port, 1754, on the 3300 ICP telephone system. See "Configuring data collection settings for 3300 ICP media servers" on page 78.

Verifying traffic data is saved on the Enterprise Server

To verify the traffic collection for the 3300 ICP

1. Double click the Contact Center Management Enterprise Server icon on your desktop.
2. Using an administrative username and password, log on to the Contact Center Management website.
3. Click **YourSite=>Enterprise**.
4. Expand the tree of the site for which you want to configure traffic options.
5. Click a **3300 ICP** media server.
6. Click the **Data Collection** tab.
7. Verify the **Traffic Analysis** check box is selected and the port is 1754.
8. Wait the interval time you selected in the Traffic Options Assignment, for example 15, 30 or 60 minutes.
9. On the Enterprise Server, browse to **<drive letter:>\program files\prairieFyre Software Inc.\CCM\Data Directory\Node_0X**.
   This is the directory of the media server for which you configured traffic options.
   You should see a new file with the following naming convention, TYYYYMMDD.txt. For example, T20050127.txt, where YYYY is the year, MM is the month, and DD is the day.
10. Double-click the file to open it and view the traffic data.

Chapter 21

Multimedia Contact Center

Multimedia Contact Center

Multimedia Contact Center distributes emails, SMS messages, chats (customer-initiated, Internet-based chat sessions), and faxes to contact center agents, and tracks handling across media types. Agents access Multimedia Contact Center from Microsoft Outlook. When your corporate email server is a Microsoft Exchange Server, agents view both Multimedia Contact Center and Microsoft Office Outlook email inboxes in one window.

NOTE: The Multimedia Contact Center plug-in is not supported for use with Mitel Border Gateway.

Before you use Multimedia Contact Center for the first time on your client computer, you must

1. Install Client Component Pack.
   See "Installing Client Component Pack using an administrative procedure" on page 38.
2. Run Client Role Selector.
   See "Using the Client Role Selector to select your Contact Center Client role" on page 40.
3. Start Contact Center Management and configure security options for Multimedia Contact Center.
   See "Starting Contact Center Management" on page 37.
4. Start YourSite Explorer to configure all devices that are not configured in Contact Center Management.
   To see where specific devices are configured, refer to "Configuration" on page 52.
5. Start Contact Center Client and log on and then log off.
   See "Starting Contact Center Client" on page 191.
6. Start Outlook and log on to Multimedia Contact Center.
   See "Starting Multimedia Contact Center on a client computer" on page 712.
7. In Outlook, specify real-time server connection parameters for Multimedia Contact Center.
   See "Verifying real-time server connection parameters" on page 713.

Statement of support for social media integration

Multimedia Contact Center offers integration with third-party social media monitoring applications to provide uniform, knowledgeable, and responsive messaging to social media sites, industry blogs and wikis, knowledge bases, and forums. Using a third-party social media monitoring application, businesses can use advanced text analytics to detect relevant key words and phrases on social media sites and send notifications to a skilled Multimedia Contact Center agent who can respond accordingly. This enables businesses to protect and promote their brand by identifying demoting, promoting, and influencing your business while measuring and managing the agent activity while they are responding to social media posts using the advanced real time and reporting capabilities of Multimedia Contact Center. For example, you could designate a specific agent (acting as representative of your company) to handle social media responses, set a service level objective on social media responses, and then monitor and report on that agent's handling of social media responses using Multimedia Contact Center.

The Multimedia Contact Center Social Media integration leverages existing Contact Center and Multimedia Contact Center infrastructure to minimize startup costs. Customers only need an account with a third-party social media application to integrate with Multimedia Contact Center.

A case study was recently performed with Mitel Multimedia Contact Center and Yupiq, a social media application that monitors and filters social media sites for relevant posts and activity which can then distributed to Multimedia Contact Center agents and/or queues to review the posts and respond as necessary. Using Multimedia Contact Center, in conjunction with Yupiq, enables businesses to:

- Monitor corporate public Facebook Fan pages and LinkedIn sites
- Report tweets on Twitter that match filter conditions
- Specify public email addresses where Facebook, LinkedIn, and Twitter posts are sent
- Distribute social media posts to agents who can respond to posts
- Generate reports on social media posts handled by agents

While the Social Media integration for Multimedia Contact Center has currently been validated with Yupiq, more third-party social media partners are planned to be announced in future releases of Contact Center Solutions software.

Using Multimedia Contact Center

You use Multimedia Contact Center in conjunction with Contact Center Management. Multimedia Contact Center integrates all media types in Contact Center Management for multimedia reporting and real-time monitoring. Before you use Multimedia Contact Center you must configure options in Contact Center Management, YourSite Explorer, and Outlook.

Multimedia Contact Center options

You must configure enterprise settings, relevant devices, Network Monitor, schedules, and security before you can use Multimedia Contact Center. For information on how to configure your system, see "Configuration" on page 52.

Ensure you configure the following Multimedia Contact Center options:

- Multimedia Contact Center Email, SMS, WebChat, and/or Fax media servers, and queues and queue groups.
  See "Adding a Multimedia Contact Center Email media server" on page 89.
  NOTE: Before you configure user settings you must disassociate email addresses before applying them to Multimedia Contact Center queues.
  See "Adding employee groups" on page 130.
- Multimedia Contact Center user settings for employees.
  See "Employee Quick Setup" on page 113.
- Employee personal details.
  See "Adding employees" on page 123.
- Multimedia Contact Center Email, SMS, WebChat, and Fax queues.
  See "Adding queues" on page 135.

When you configure agent IDs, you can use the same agent ID across voice, email, SMS, chat, and/or fax media types. For example, you could add Agent 1000 and associate Agent 1000 with voice, email, SMS, chat and/or fax media types.

If you want each of your employees to have only one agent ID, then you must set up your contact center as described in Configuration scenario 1. See "Configuration scenario 1" on page 97. If you want your employees to have an agent ID for each agent group to which they belong, then you must set up your contact center as described in Configuration scenario 2. See "Configuration scenario 2" on page 99.

Disassociating email addresses

If you want the same company email addresses that you used prior to purchasing Multimedia Contact Center, for example, *support@yourcompany.com*, to arrive in your Multimedia Contact Center agent inboxes, then you must first disassociate the email addresses from their original associations. Once they are disassociated, you can then configure these email addresses for Multimedia Contact Center.

To disassociate an email address

1. In Windows, navigate to **Microsoft Exchange** and open **Active Directory Users and Computers**.
2. Expand the tree until you see the **Users** folder.
3. Click the **Users** folder.
   The Users folder opens.
4. In the right pane, double-click **Support**.
   The Support window opens.
5. Click the **Email Addresses** tab.
6. Select *support@yourcompany.com*.
7. Click **Edit**.
8. Change *support@yourcompany.com to support1@yourcompany.com*.
9. Click **OK**.
10. Click **OK**.
11. Close the **Active Directory Users and Computers** window.

Starting Multimedia Contact Center on a client computer

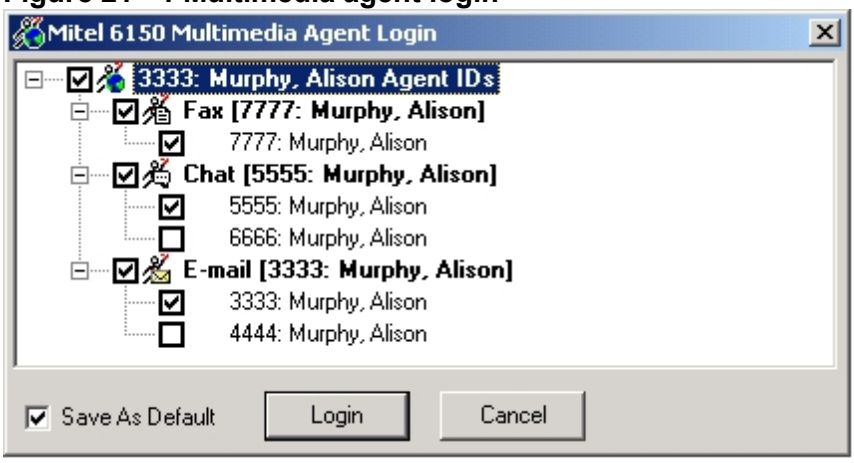
NOTE:

- The first time you start Outlook, you will be asked if the Multimedia Contact Center plug-in should be installed each time you start Outlook. Select the Yes check box.
- You must configure real-time server parameters in order to be able to log in as a Multimedia Contact Center agent. See "Verifying real-time server connection parameters" on page 713.

To log on to Multimedia Contact Center

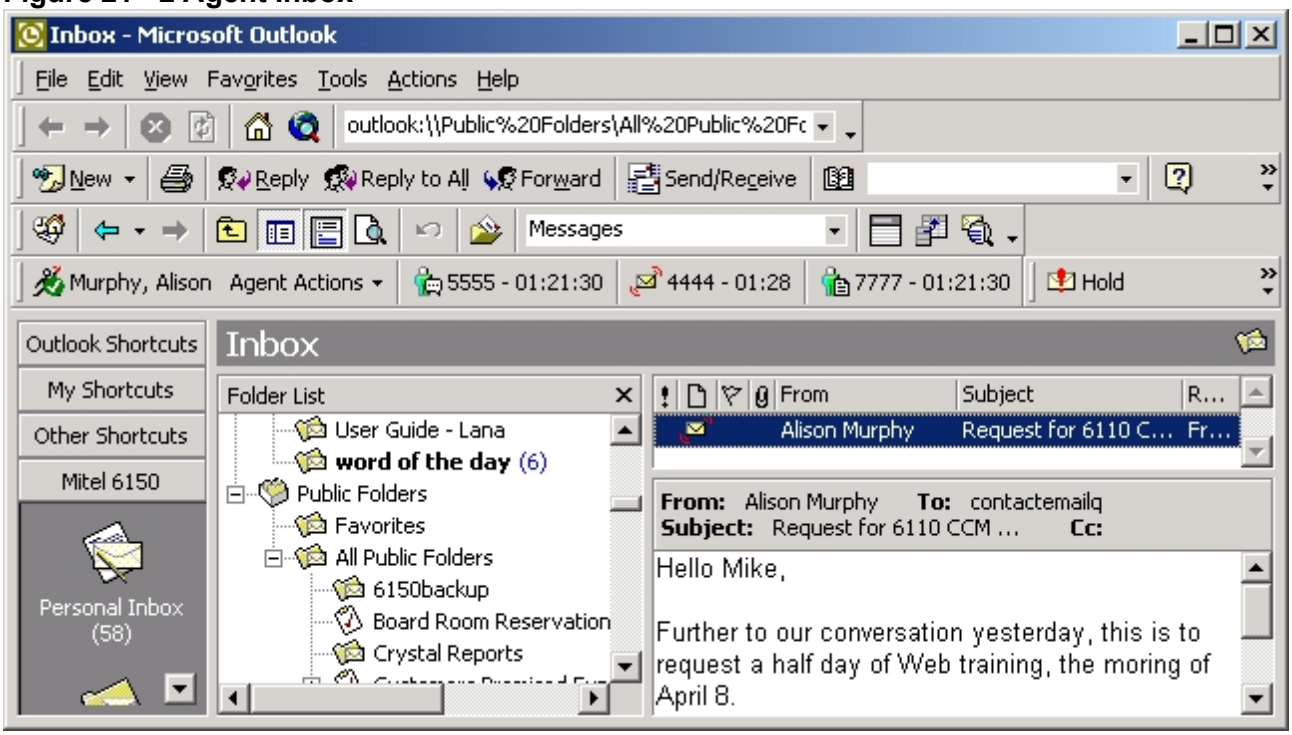
1. Click the **Outlook** desktop icon.
   The Multimedia Contact Center login window opens.
   NOTE: You use the same user name and password to start Multimedia Contact Center as you do to start Contact Center Management.
2. Type your user name and password.
   See Figure 21 - 1.

Figure 21 - 1 Multimedia agent login



3. Select the check box beside the agent IDs to which you are logging on, for one or more media types.
4. Select the **Save as default** check box.
5. Click **Log On**.
   Outlook starts and displays your Multimedia Contact Center inbox (Agent Inbox).
   See Figure 21 - 2.

Figure 21 - 2 Agent Inbox



Multimedia Contact Center options in Outlook

Before you use Multimedia Contact Center, you configure Multimedia Contact Center options in Outlook:

- Real-time server connection parameters
- Startup options
- Arrival options
- Agent Inbox columns

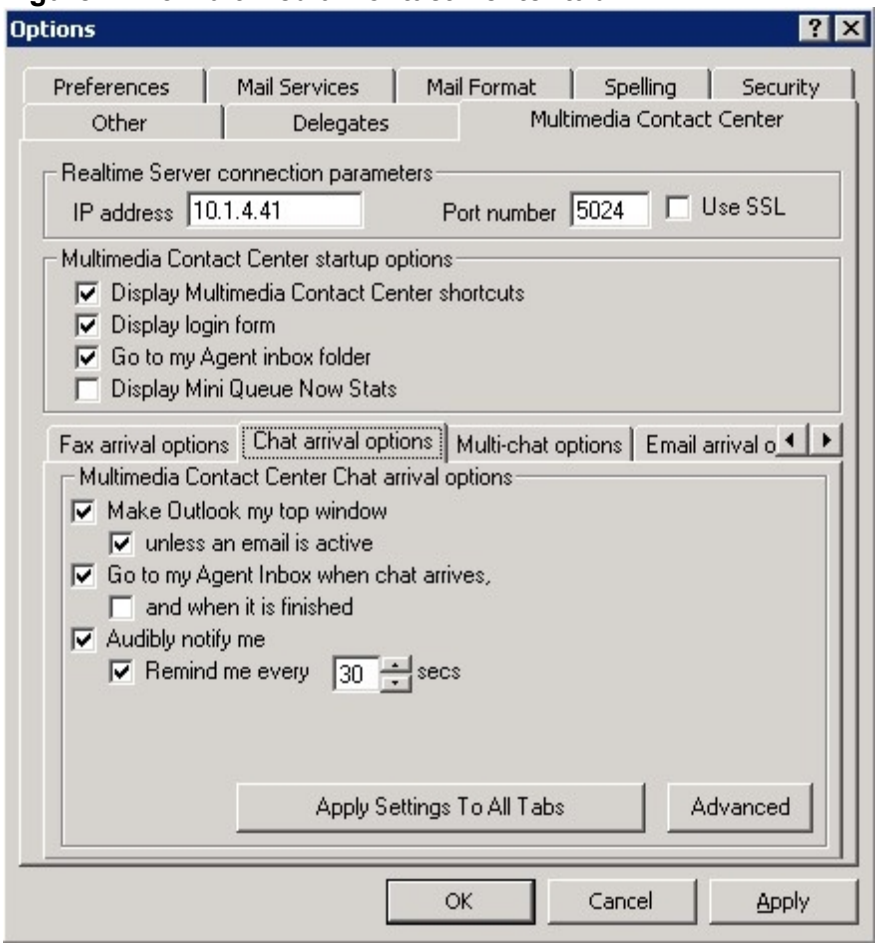
Verifying real-time server connection parameters

The real-time server connection parameters specify the IP address and port number used by Multimedia Contact Center. Multimedia Contact Center uses the same IP address as the Enterprise Server and the same port number as Contact Center Client.

To verify Multimedia Contact Center Server connection parameters

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
   See Figure 21 - 3.
2. Under **IP address**, type the IP address of the Enterprise Server.
   You can find the IP address under YourSite=>Enterprise on the Enterprise tab.
3. Under **Port number**, type the real-time port number.
   You can find the real-time port number under YourSite=>Enterprise, on the Enterprise tab.
   CAUTION: If you select SSL, ensure the IP address is the one you used when applying the SSL certificate.
4. If you use Secure Socket Layer, select **SSL**.
5. Click **OK**.

Figure 21 - 3 Multimedia Contact Center tab



Configuring Multimedia Contact Center startup options

You can specify Outlook displays

- Multimedia Contact Center shortcuts
- The Multimedia Contact Center agent login window when you start Outlook
- The Agent Inbox instead of your Personal Inbox when you start Outlook

Displaying shortcuts

The Multimedia Contact Center shortcuts window lists shortcuts to your Personal Inbox and Agent inbox. When you click the Agent Desktop shortcut, Outlook displays two panes.

- *Personal Inbox* displays emails you receive from friends and colleagues.
- *Agent Inbox* displays ACD emails, SMS messages, chats, faxes (contacts) you receive from customers.

To display Multimedia Contact Center shortcuts

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Under **Multimedia Contact Center startup options**, select the **Display Multimedia Contact Center shortcuts** check box.
3. Click **OK**.

Displaying the agent login window

You can specify the Multimedia Contact Center agent login window is displayed when you start Outlook. On the agent login window, you select an agent login ID for each media type to which you are logging on.

To specify the Multimedia Contact Center agent login window opens when you start Outlook

1. In Outlook, click Tools=>Options and select the Multimedia Contact Center tab.
2. Under **Multimedia Contact Center startup options**, select the **Display login form** check box.
3. Click **OK**.

Configuring which inbox opens when you start Outlook

When you start Outlook you can scroll up or down in the Mail Folders pane to view your inboxes.

To specify your Agent Inbox opens when you start Outlook

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Under **Multimedia Contact Center startup options**, select the **Go to my Agent Inbox folder** check box.
3. Click **OK**.

Displaying real-time queue statistics

You can specify that Outlook displays a toolbar of real-time ACD queue statistics.

To view real-time ACD queue statistics in Outlook

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Under **Multimedia Contact Center startup options**, select the **Display real-time queue statistics** check box.
3. Click **OK**.

Configuring Multimedia Contact Center arrival options

You can specify arrival options for contacts so you are notified when ACD contacts arrive in your inbox: you can configure Outlook to open on top of all other applications and play unique sound files when contacts arrive.

Displaying Outlook as your top window when contacts arrive

NOTE: You can apply this option to email/SMS, chat, and fax media types only.

To specify Outlook opens on top of all other open applications when emails arrive

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Click the **Email arrival options** tab, **Chat arrival options** tab, or **Fax arrival options** tab.
3. Select the **Make Outlook my top window** check box.
4. Select the **unless an email is active** check box.
5. If you want to apply this option to email/SMS, chat, and fax contacts, click **Apply settings to all tabs**.
6. Click **OK**.

Directing ACD contacts to your Agent Inbox

NOTE: You can apply this option to email/SMS, chat, and fax media types only.

To specify ACD contacts are sent to your Agent Inbox

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Click the **Email Arrival Options** tab, **Chat Arrival Options** tab, or **Fax Arrival Options** tab.
3. Select the **Go to my Agent Inbox when an email/SMS/chat/fax arrives** check box.
4. Select the **and when it is finished** check box.
5. If you want to apply this option to email/SMS, chat, and fax contacts, click **Apply Settings to All Tabs**.
6. Click **OK**.

Configuring contact arrival sounds

NOTE: You can apply this option to email/SMS, chat, multi-chat, and fax media types only.

To specify a Multimedia Contact Center contact arrival sound file

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Click the **Email Arrival Options** tab, **Chat Arrival Options** tab, **Multi-Chat Options**, or **Fax Arrival Options** tab.
3. Select the **Audibly notify me** check box.
4. Select the **every** check box and select the number of seconds.
5. Click **Advanced**.
6. Select the **Play sound for new message** check box.
7. If you want to play a beep, click **Play beep** and specify the tone and select the number of times the beep will repeat. Otherwise, click **Play wav file** and click the ellipses button and select the file.
8. Click **OK**.
9. If you want to apply this option to email/SMS, chat, and fax contacts, click **Apply Settings to All Tabs**.
10. Click **OK**.

To specify a Multimedia Contact Center multi-chat contact arrival sound file

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Click **Advanced**.
   The Multi chat options window opens.
3. Select the **Play sound for new message** check box.
4. If you want to play a beep, click **Play Beep** and specify the tone and select the number of times the beep will repeat. Otherwise, click **Play Wave File** and click the ellipses button and select the file.
5. Click **OK**.
6. Click **OK**.

Checking spelling

NOTE: You can apply this option to email/SMS, multi-chat, and fax media types only.

To specify Outlook checks the spelling of emails, SMS messages, and faxes before you send them

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Click the **Email Arrival Options** tab, **Chat Arrival Options** tab, or **Fax Arrival Options** tab.
3. Select the **Check spelling before sending** check box.
4. If you want to apply this option to email, SMS messages, and fax contacts, click **Apply Settings to All Tabs**.
5. Click **OK**.

Replying to faxes with the original fax request

NOTE: You can apply this option to fax only.

To include part or all of the original fax request when you reply to a fax

1. In Outlook, click **Tools=>Options** and select the **Multimedia Contact Center** tab.
2. Click the **Fax Arrival Options** tab.
3. Select the **When replying, send back** check box.
4. Click **first** and specify the number of pages of the original fax to include. Otherwise, if you want to include all pages of the original fax, click **all pages**.
5. Click **OK**.

Customizing the Agent Inbox columns

If you right-click the gray bar below Agent Inbox, and select Field Chooser, then select PF6150MCC.ACD, you can select column headers for the Agent Inbox. You drag and drop the columns you want to display. prairieFyre recommends you add the Ticket Number column header to the Agent Inbox.

The Field Chooser Forms list consists of the following column headers for email.

- *From* lists the name of the person who emailed you.
- *No Reply Needed* has a check box you enable if you want to remove a unopened email from your Agent Inbox.
- *Queue ID* lists the email address the customer used to contact your business (*support@prairieFyre.com*) and the queue that we have assigned to that email address (P505).
- *Last State Change* lists the date (YYYY-MM-DD) the email last changed.
- *Multimedia Contact Center status* lists the status of the email. Arrival status is 1, reply status is 2, and hold status is 3.
- *Client ID* lists customer (client) IDs. A client ID is assigned to a client the first time the client emails your company. The client keeps the same ID for as long as he does business with your company. You cannot manually select client IDs.
- *Agent ID* lists the email agent ID of the agent who receives the email request.
- *Ticket Number* lists a unique number for each email.
- *Subject* lists the subject for each email.
- *Received* lists the date and time the email arrived in the Agent Inbox.

The Field chooser forms list consists of the following column headers for WebChat.

- *Client Chat Name* is the name that the customer enters on the chat request form to initiate a chat session with your company.
- *Rand (Random) ID number* is a randomly generated number used by Multimedia Contact Center for tracking. The agent does not need this number. The agent needs the Session ID number to track the chat message.
- *Session ID number* is the number the agent uses to track the chat message. It is similar to the ticket number used for email contacts.

Agent actions

Agents use Multimedia Contact Center to control their availability to receive contacts, handle contacts, create and use Multimedia Contact Center templates, and view agent and queue statistics.

Performing agent actions

The Agent actions toolbar menu includes the following submenus:

Employee Control

You can log an agent on or off of all of the media types to which the agent is logged on and set or remove Make Busy Reason Codes for all of the media types to which the agent is logged on.

The Reconnect to the real-time server command reconnects you to the Enterprise Server should you become disconnected. When you click Reconnect to the real-time server, the Multimedia Contact Center login window opens.

Voice, Email/SMS, Chat, and Fax Actions

You can Log an agent on or off of the media type selected and set or remove Make Busy Reason Codes for the media type selected.

Force Forward

If an agent is responding to a contact receives a second contact, the agent can click Force Forward to place themselves in Make Busy and requeue the second contact (so it can be handled by another agent). For example, if an agent handling a call receives a chat request, the agent can click Force Forward to requeue the chat.

NOTE: If you accidentally close Outlook, Multimedia Contact Center requeues any contacts waiting in your Agent Inbox.

Logging on

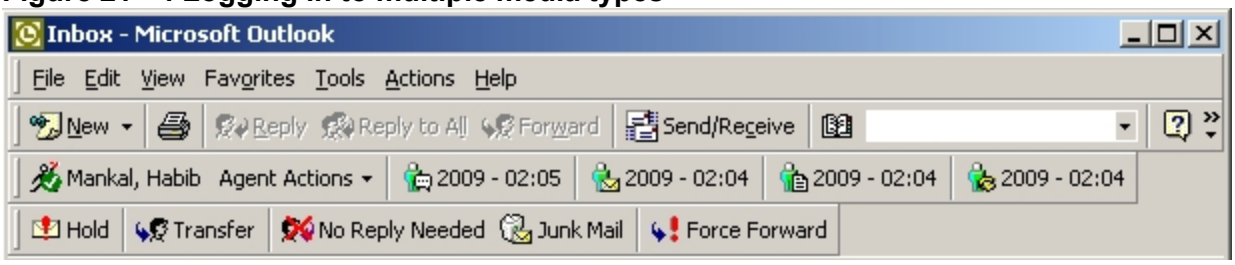
Multimedia agents can log on and off of email/SMS, chat, fax, and voice queues individually or simultaneously. Using Employee Control, agents can configure default logins that log them on to specific media types using specific IDs. See "Logging in to multiple media types" on page 719.

Logging in to multiple media types

To log in to voice, email/SMS, chat, and/or fax

1. In Outlook, click **Agent Actions=>Employee Control=>Log On=>Log On (Custom)**.
2. Select the check boxes of the agent IDs to which you will log on.
3. Select the **Save as default** check box.
4. Click **Log On**.
   The Outlook toolbar displays the IDs you used to log in, and the duration of time you have been logged in, for each media type.
   See Figure 21 - 4.

Figure 21 - 4 Logging in to multiple media types



Logging in to one media type at a time

To log in to voice, email/SMS, chat, or fax

1. In Outlook, click **Agent Actions=>Chat Actions/Email Actions/Fax Actions/Voice Actions=>Log On**.
2. Select the check box of the agent ID to which you are logging on, for the media type currently selected.
3. Click **Log On**.
   The Outlook toolbar displays the agent ID and the duration of time you are logged on to the media type selected.

Setting Make Busy Reason Codes

Multimedia agents can set and remove Make Busy Reason Codes for email/SMS, chat, fax, and voice individually or simultaneously. Using Employee control, agents can set Make Busy for multiple media types simultaneously. See "Setting Make Busy Reason Codes for multiple media types" on page 719.

Alternatively, you can set Make Busy for email/SMS, chat, fax, and voice individually. See "Setting Make Busy Reason Codes for one media type at a time" on page 720.

Setting Make Busy Reason Codes for multiple media types

To set Make Busy Reason Codes across multiple media types

- In Outlook, click **Agent Actions=>Employee Control=>Set Make Busy=>Break1**.
  Outlook places the agent IDs to which you are logged on, in Make Busy.
  See Figure 21 - 5.

Figure 21 - 5 Setting Make Busy

Setting Make Busy Reason Codes for one media type at a time

To set Make Busy Reason Codes for individual media types

- In Outlook, click **Agent Actions=>Chat Actions/Email Actions/Fax Actions=>Set Make Busy=>Break1**.
  Outlook places the agent ID to which you are logged in, in Make Busy, for the media type selected.

Requeuing contacts

To requeue a contact (place it back in the queue to be handled by another agent)

1. In Outlook, select your **Agent Inbox** and the email/SMS, chat or fax contact to be requeued.
2. Click **Agent Actions=>Force Forward**.
3. Click **OK**.

Contact management

NOTE: The times required to handle contacts differ across media types. You must configure the agent requeue time, hold time, and interflow time for each email, SMS, chat, and fax queue. See "Adding queues" on page 135 to configure handling times.

The Multimedia Contact Center agent handling features include

Replying to contacts

The Reply command displays a window in which you type a response or select a response template. The window provides agent handling options (for example, Account Codes, Hold, Transfer, No Reply Needed).

Applying Account Codes

The Account Codes command tags an email, Webchat, SMS, or fax contact with an Account Code (for example, to identify what service or product a customer is requesting, or to indicate if the customer is happy with the service). You can tag a contact with multiple account codes.

Placing contacts on Hold

The Hold command places an email, SMS, or fax contact on hold while you gather information or respond to another contact.

Transferring contacts

The Transfer command transfers an email, SMS, or fax contact to an another agent, to an external email address (a non-Multimedia Contact Center agent), or to a queue.

Setting No Reply Needed

The No Reply Needed command tags an email, SMS, or fax contact with *No Reply Needed* or *Junk Mail*. If an agent receives an email, SMS, or fax from a customer and no response is required, the agent can tag the contact with *No Reply Needed*. The No Reply Needed tag enables you to generate reports showing the contact as having been received, but not requiring a response. If an agent receives an email, SMS, or fax from an unsolicited sales organization, the agent can tag the contact with *Junk Mail*. The system removes contacts tagged with Junk Mail from the ACD Calls Offered and ACD Calls Handled pools so they are excluded from the reports.

Viewing a client's history

The Client history tab displays a client's contact history.

Creating and using Multimedia Contact Center templates

You can create a folder of response templates (standard company responses to frequently asked questions). You can use templates to optimize productivity, reduce response times, and ensure quality with uniform responses when you reply to email, SMS, and chat contacts.

Creating templates

To create a template

1. In Outlook, click the Folder List button below the left pane to view a list of Outlook folders.
2. Expand the Public Folder list, right-click **All Public Folders**, and select **New Folder**.
   The Create New Folder window opens.
3. Under **Name**, type **Multimedia Contact Center templates**.
4. Click **OK**.
   The Multimedia Contact Center templates folder opens in the All Public Folders, folder.
5. On the toolbar next to **New**, click the down arrow.
6. Select **Post in This Folder**.
   The Untitled - Discussion window opens.
7. After **Subject**, type the name of the queue for which you are creating the template (for example, type Support).
8. Type a response in the template.
9. Click **Post**.

Using templates

To select a template and reply to a contact

1. In Outlook, select your Agent Inbox and double-click an unanswered contact to select it.
2. Click **Reply**.
   The Reply window opens.
3. Click **Select Template**.
4. Click the Folder List button below the left pane to view a list of Outlook folders.
5. Expand the Public Folder list, click **All Public Folders**, and click **Multimedia Contact Center templates**.
6. Under **Multimedia Contact Center templates**, double-click a template to select it.
   The template information opens in the body of your message.
7. Type any additional information required.
8. Click **Send**.

Replying to emails/SMS messages

To reply to an email/SMS message

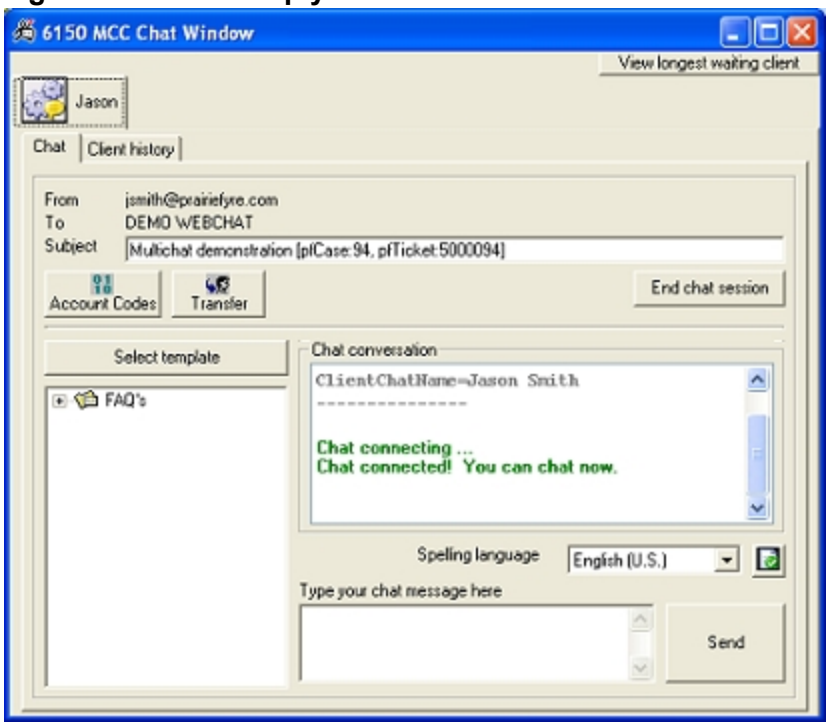
1. In Outlook, double-click an email/SMS message in your Agent Inbox to open it.
2. Click **Reply**.
   The Reply window opens.
3. Type a response and/or double-click a response template to insert the content into the body of the email/SMS message.
4. Click **Send**.

Replying to chats

To reply to a chat

1. In Outlook, double-click a chat request in your Agent Inbox to open it.
2. Click **Reply**.
   See Figure 21 - 6.
3. Type a response and/or double-click a response template to insert the content into the body of the email.
   See "Creating and using Multimedia Contact Center templates" on page 721.
4. Click **Send**.

Figure 21 - 6 Chat reply



To chat with multiple people

1. In Outlook, while you have a chat open in the chat window, click a second chat to open it.
2. Click the chat tabs to switch between the chat sessions.
   NOTE: You can click **View longest waiting client** to open the chat window of the client who has been waiting the longest for a chat reply.

Viewing faxes

When you open a fax contact in Outlook, it will open in the Multimedia Contact Center fax viewer. Within fax viewer, you can control the following options:

- **Zoom**
  Enables the user to zoom in and out of the selected page view.
- **Thumbnail viewer**
  Enables the user to preview pages in the left pane of the fax viewer.
- **Page selector**
  Enables the user to select which page of the fax will display in the right pane of the fax viewer.
- **Thumbnail toggle**
  Enables the user to show/hide the thumbnail pane.
- **Print**
  Enables the user to quickly print the fax document to the default printer.
- **Magnifier**
  Enables the user to zoom in to a specific section of the fax, which can be useful for viewing small text or smeared sections of the faxed document.

Replying to faxes

To reply to a contact

1. In Outlook, double-click a fax in your Agent Inbox to open it.
2. Click **Reply**.
   The Reply window opens.
3. Type a response.
   You can reply by email, SMS, or fax.
4. Click **Send.**.

Tagging contacts with Account Codes

You configure Account Codes in YourSite Explorer. See "Adding Make Busy Reason Codes" on page 158.

To tag a contact with an Account Code

1. In Outlook, double-click a contact in your Agent Inbox to open it.
2. Click **Reply**.
   The Reply window opens.
3. Click **Account Codes**.
4. Select the check box of the Account Code to be applied.
5. Click **Submit**.

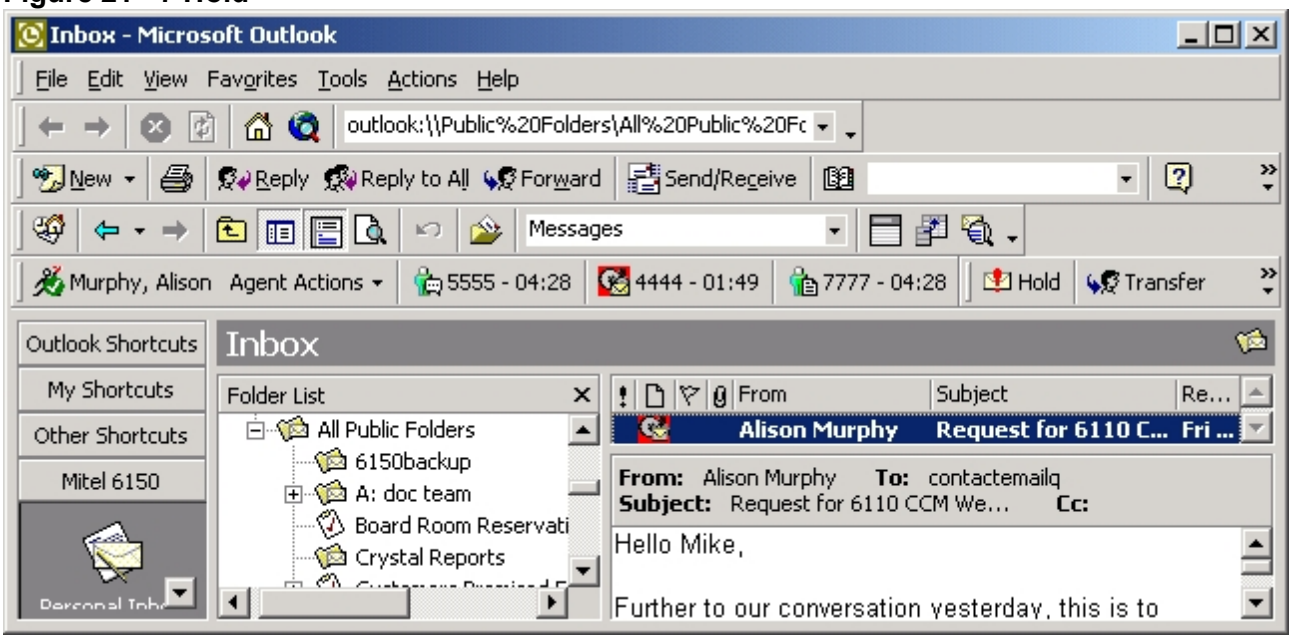
Placing contacts on hold

If you cannot answer a contact immediately, you can place it on hold temporarily. You can still receive other contacts while the initial contact is on hold. When you are ready to answer the contact, you select it, respond to it, and send it as you would a new contact.

To hold a contact

1. In Outlook, double-click a contact in your Agent Inbox to open it.
2. Click **Reply**.
   The Reply window opens.
3. Click **Hold**.
   The agent state icon changes to indicate the agent is holding the contact.
   See Figure 21 - 7.

Figure 21 - 7 Hold



Transferring contacts

To transfer a contact to an agent

1. In Outlook, double-click a contact in your Agent Inbox to open it.
2. Click **Reply**.
   The Reply window opens.
3. Click **Transfer**.
   The Multimedia Contact Center transfer window opens.
4. Select the check box of the Agent ID to which you are transferring the contact.
5. Click **Transfer**.

Setting No Reply Needed

To set No Reply Needed

1. In Outlook, double-click a contact in your Agent Inbox to open it.
2. Click **Reply**.
   The Reply window opens.
3. Click **No Reply Needed**.
   The Multimedia Contact Center Outlook Plug-in window opens.
4. Click **Yes**.

Viewing client history

A client history record displays case numbers, ticket numbers, and transcript for a case. You can view client history on the Client history tab of each Multimedia Contact Center contact.

The Client history tab displays contact history in the following ways

- All correspondence associated with the current case
- The entire history of all contacts, from and to customers
- The history of a specific contact (you request by typing the message ID of the contact)
- The transcript of the current message

Viewing current case history

To view all correspondence associated with the current case

1. In Outlook, double-click a contact in your Agent Inbox.
2. Click the **Client history** tab.
3. Click **Display current case**.
   The case and transcript numbers for the current case are highlighted.

Viewing entire contact history

To view the entire history of all contacts

1. In Outlook, double-click a contact in your Agent Inbox.
2. Click the **Client history** tab.
3. Click **Display entire history**.

Viewing a specific contact history

To view a specific email, SMS, chat, or fax

1. In Outlook, double-click a contact in your Agent Inbox.
2. Click the **Client history** tab.
3. Click **Display specific email/SMS/chat/fax**.
4. Type the message ID, proceeded by pf (for example, pf0000000029).
5. Click **OK**.

Chapter 22

Contact Center Management

Remote Servers

Collecting data with Remote Servers
Creating remote IVR Routing instances
Monitoring activity and viewing alarms
Viewing ACD/SMDR data collection
Updating Remote Servers
Displaying enterprise-wide statistics

Contact Center Management Remote Servers

A Remote Server enables you to perform many of the functions of the Enterprise Server without having to install an additional Enterprise Server or upgrade your licensing. You can configure and administer Remote Servers in YourSite Explorer.

Remote Servers enable you to

- Collect, stream, and buffer ACD/SMDR data to the Enterprise Server. This enables enterprise-wide reporting while protecting data from loss if the link between the Enterprise and Remote Servers goes down.
- Create a remote IVR Routing instance.This enables IVR Routing instances to continue to function if they lose access to the primary database or site.
- Monitor prairieFyre services activity and collect data on alarms
- View the status of data collection on the Remote Server.
- Update Remote Servers automatically following the upgrade of the Enterprise Server.
- Display real-time performance statistics and text messages from the Remote Server on LED wall signs.

For information on installing Remote Servers, see the *Contact Center Solutions Installation Guide*. For information on Remote Server hardware and software requirements, see the *Contact Center Solutions and Call Accounting System Engineering Guide*.

Collecting data with Remote Servers

Remote Servers enable you to collect and stream ACD/SMDR data from media servers, facilitating enterprise-wide monitoring and reporting. A Remote Server's ability to buffer data prevents data loss should the link to Enterprise Server go down.

Remote Servers collect and stream ACD/SMDR data from media servers to the Enterprise Server over TCP/IP. The Enterprise Server gathers, summarizes, and writes the data to a SQL database for monitoring and reporting purposes.

Should the link to the Enterprise Server go down, Remote Servers will buffer ACD/SMDR data until communication is restored and the data can be streamed. Note that if the link between the Enterprise Server and a Remote Server goes down, the managers and supervisors cannot view real-time data from the Remote Server until the connection is restored.

NOTE:

- You require a Contact Center Network License to collect data using a Remote Server. For more information, see the *Contact Center Solutions and Call Accounting System Engineering Guide*.
- A single Remote Server can collect ACD/SMDR data from up to 65 voice media servers. If you are attempting to collect data from more than 65 PBXs with a single Remote Server, you must contact prairieFyre Technical Support at 613-599-0045 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia pacific) for guidance.

Creating remote IVR Routing instances

Creating remote IVR Routing instances enables call flows to continue to operate if the connection to the Enterprise Server goes down, minimizing call disruption.

For information on how to install IVR Routing on Remote Servers, see the *Contact Center Solutions Installation Guide*.

NOTE: If the connection from Remote Servers to the Enterprise Server goes down, loss of real-time connectivity affects all call flow components that depend on data derived from real-time queue statistics including queue condition activities, Updated Position in Queue (UPiQ) messages, and prompts based on real-time statistics.

Monitoring activity and viewing alarms

The Remote Server can monitor its performance and notify the Enterprise Server when server states surpass configured alarm thresholds. You configure alarm thresholds and view alarms for Remote Servers in YourSite Explorer. For more information on server-side alarms, see "Monitoring and alarming subsystem" on page 171.

Viewing ACD/SMDR data collection

Using Network Monitor in Contact Center Client on a Remote Server enables you to view the status of real-time ACD/SMDR data collection from the Remote Server. You can also use Network Monitor to view alarms that the media server is reporting. For more information on using Network Monitor, see "Network Monitor" on page 343.

Updating Remote Servers

Remote Servers will automatically update when the Enterprise Server is upgraded, if you have configured the Enterprise Server accordingly. For more information, see "Configuring the Enterprise Server settings" on page 71.

Displaying enterprise-wide statistics

WallBoarder is an application that displays real-time performance statistics and text messages from the Enterprise Server on one or more LED reader boards. You can run WallBoarder on Remote Servers to keep agents and employees throughout your contact center aware of enterprise-wide statistics and key messages. For more information, see "WallBoarder" on page 249.

Chapter 23

CTI Developer Toolkit

CTI Developer Toolkit sample applications
Best practices for custom development
Common user scenarios and source code examples
Troubleshooting CTI Developer Toolkit issues

CTI Developer Toolkit

NOTE:
- CTI Developer Toolkit is currently supported for use with the 3300 ICP only.
- If you require the calculations used to populate Contact Center Management and Call Accounting reports to use in your custom application built with the CTI Developer Toolkit, a subset of these calculations can be found in the Advanced Data Access Guide, which can be found at ftp://www.prairiefyre.com/support/download-software/.

Mitel Computer Telephony Integration (CTI) Developer Toolkit is a programmable .NET C# Dynamic-link library (DLL) that can be used in any .NET 4.0 application or website. The CTI Developer Toolkit completes the migration from Mitel Agent Portal to Mitel Contact Center Screen Pop.

The CTI Developer Toolkit is offered in two forms: server side and client side license. The server side license provides the ability to insert custom real-time IVR collected data to each incoming call. It also uses the Contact Center Screen Pop infrastructure to deliver third-party data to agent desktops (using either the client side license or Contact Center PhoneSet Manager). The client side license provides basic telephony functions (answer, hang up, transfer, and hold), provides agent control (such as set/remove Make Busy) and delivers caller information such as ANI, DNIS, Collected Digits, and call notes in real time as calls arrive. The client side license may be used to display information in CRM, Microsoft Outlook, or custom applications.

If you want to route or screen pop on digits or other data sets collected from a third-party IVR, you must adhere to the following conditions:
- You must have a CTI Developer Toolkit Server license
- The third-party vendor must be a Mitel MSA Development partner. As a Mitel MSA Development partner, they must have completed a MiTAI (API) integration that allows them to pass the collected digits or other data set, along with a unique call ID provided by this API, enabling Mitel's Contact Center software to associate the collected digits to a particular call with unique call ID matching.
- If you want to route or screen pop on ANI or DNIS or on digits collected within the Mitel IVR, the above are not required.

For installation information and procedures, see the *Contact Center Management Installation Guide.*

NOTE: Once you have installed the CTI Developer Toolkit, typically to <installation_drive>:\Program Files\prairieFyre Software Inc\CTI Developer Toolkit, you can access the DLLs required to create customized applications in the CTI Developer Toolkit\Redist folder. You must include the entire Redist folder with your final compiled custom application or it will not function properly.

The CTI Developer Toolkit includes a number of sample applications, including source code, that can be used to test CTI Developer Toolkit functionality. For a complete overview of the sample applications included, see "CTI Developer Toolkit sample applications" on page 735.

The CTI Developer Toolkit is currently available with the following functionality:

- Connect and disconnect from the Contact Center Management Enterprise Server with user authentication
- Retrieve devices from the Contact Center Management configuration database, based on all
  - All agent devices for the user currently logged on to the system
  - All agent devices associated with employees
  - All extensions
  - All queues
- Set real-time monitors on agents, extensions, and queues to receive notification when
  - A call is received (including call detail information)
  - A device state changes (for example, idle, ACD, and hold)
- Set phone monitors on agents and extensions to receive notification when
  - A call is received (including call detail notification)
  - A call is made
  - A call is cleared
  - A call is transferred
  - A call is conferenced
  - A call is established
  - A call fails
- Control a device (for example, set/remove Do Not Disturb or Make Busy)
- Make calls from agent or extension devices
- Place calls on hold
- Retrieve calls that are on hold
- Remove calls from queues
- Redirect calls from queues to agents/extensions
- Transfer or conference calls between agent and extension devices
- Clear calls for agent and extension devices
- Add call detail information from third-party IVRs and dialers. This information is available to client applications in the Call Received event

Table 23 - 1 lists the major areas of functionality exposed with each version of the CTI Developer Toolkit. The version specified indicates the most recent version, including any service packs available to customers.

Table 23 - 1 Supported functionality by version

Functional Area	Version 5.4	Version 5.5	Version 5.6	Version 5.7	Version 5.8	Version 6.0.2
Application events						
• Connection state changes	x	x	x	x	x	x
• Configuration loaded			x	x	x	x
Device Information						
• Get all devices	x	x	x	x	x	x
• Get all extension	x	x	x	x	x	x
• Get all agents	x	x	x	x	x	x
• Get all queues			x	x	x	x
• Get agents by login	x	x	x	x	x	x
• Get agents for all employees	x	x	x	x	x	x
Device events[1]						
• Device state changed	x	x	x	x	x	x
Voice events[2]						
• Call info received	x	x	x	x	x	x
• Call delivered		x	x	x	x	x
• Call received		x	x	x	x	x
• Call cleared		x	x	x	x	x
• Call transferred			x	x	x	x
• Call established			x	x	x	x
• Call failed			x	x	x	x
• Call diverted				x	x	x

Functional Area	Version 5.4	Version 5.5	Version 5.6	Version 5.7	Version 5.8	Version 6.0.2
• Call originated				x	x	x
• Call retrieved				x	x	x
Extension events						
• Extension state changed			x	x	x	x
Agent events						
• Agent state changed			x	x	x	x
Queue events						
• Queue Now statistics			x	x	x	x
• Queue totals statistics			x	x	x	x
• Interactive Visual Queue delta			x	x	x	x
• Interactive Visual Queue snapshots			x	x	x	x
Voice control[3]						
• Make call	x	x	x	x	x	x
• Clear call	x	x	x	x	x	x
• Answer call		x	x	x	x	x
• Hold call		x	x	x	x	x
• Retrieve held call		x	x	x	x	x
• Conference call		x	x	x	x	x
• Transfer call		x	x	x	x	x
• Make consultation call				x	x	x

Functional Area	Version 5.4	Version 5.5	Version 5.6	Version 5.7	Version 5.8	Version 6.0.2
• Transfer consultation call				x	x	x
• Cancel consultation call				x	x	x
• Trade call						x
Agent control						
• Login	x[4]	x	x	x	x	x[5]
• Logout	x	x	x	x	x	x[5]
• Set Make Busy	x	x	x	x	x	x
• Remove Make Busy	x	x	x	x	x	x
• Set Do Not Disturb	x	x	x	x	x	x
• Remove Do Not Disturb	x	x	x	x	x	x
• Cancel work timer	x	x	x	x	x	x
• Cancel reseize timer						x[6]
• Conference call		x	x	x	x	x
Queue control						
• Redirect call			x	x	x	x
• Remove call			x	x	x	x
IVR integration						
• Add call detail[7]		x	x	x	x	x

1 Device events are supported by all device types.

2 Voice events are supported by extension and agent devices

3 Voice control is supported by extension and agent devices.

4 Only hot desk agent logins are supported in Version 5.4. Both hot desking and traditional agent logins are supported with Version 5.5 SP1 or greater.
5 Supports External hot desk agent and External hot desk user functionality.
6 The Cancel reseize timer agent control function requires External hot desk agent functionality.
7 The AddCallDetail method requires a CTI Developer Toolkit server license.

NOTE: The CTI Developer Toolkit may also be referred to as the prairieFyre.CallControl.Toolkit namespace throughout this chapter and in the CHM help file documentation, as the CHM help file included with the CTI Developer Toolkit is sourced from the source code, which refers to the namespace by this name.

Table 23 - 2 lists and describes the top level classes available with the CTI Developer Toolkit.

Table 23 - 2 Primary object classes

Class	Description
DeviceManager	This class contains functionality to manage the connection to the Enterprise Server and provides access to configured agents, extensions, and queues.
Device	This abstract class includes the core properties for all device types. Objects of this class may not be directly instantiated.
Voice	This class is derived from the Device class and serves as the base class for the agent and extension classes. It includes properties and functionality that is specific to devices with voice characteristics.
Agent	This class is derived from the Voice class. It represents both traditional ACD and hot desking agents. Specialized functionality handled in this class includes agent control operations, such as agent login and set/remove Make Busy.
Extension	This class is derived from the Voice class. It represents configured extensions.
Queue	This class is derived from the Device class. It represents configured queues. It includes properties and functionality that is specific to the queue device. Specialized functionality handled in this class includes set/remove Do Not Disturb, redirect call, and remove call.

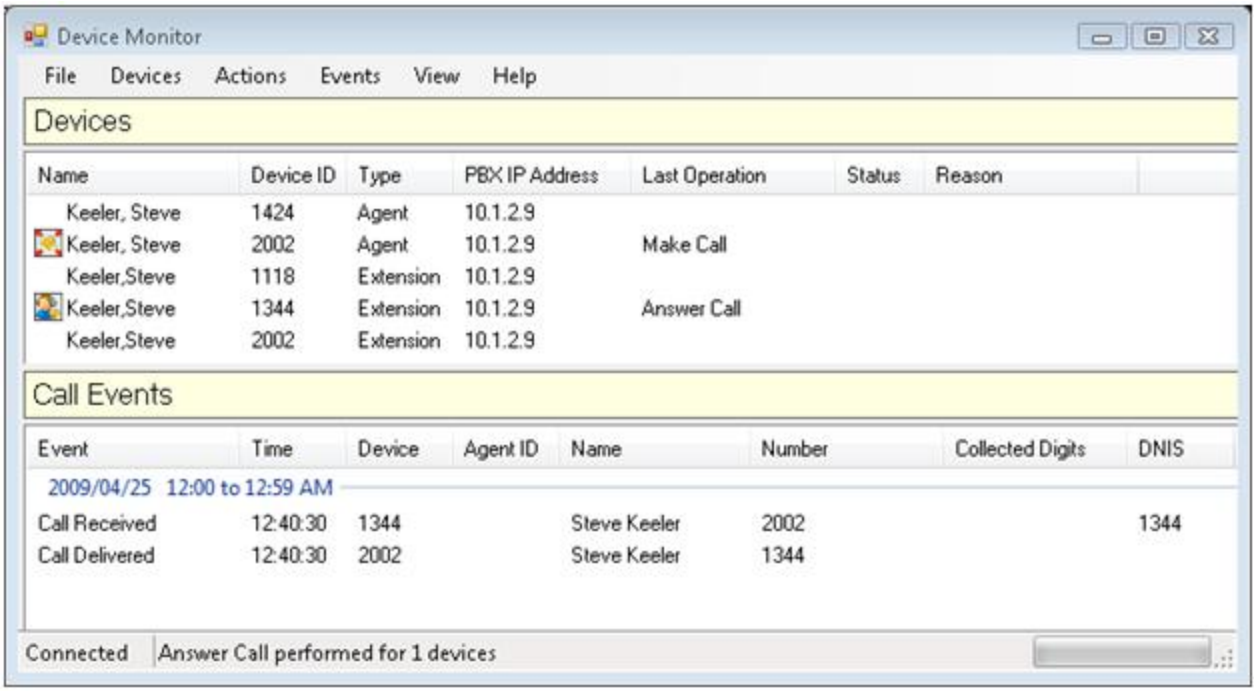
CTI Developer Toolkit sample applications

There are currently four sample applications, including source code, that are included with the CTI Developer Toolkit.

Device Monitor

The Device Monitor sample application provides a graphical user interface that enables developers to connect to the Contact Center Solutions Enterprise Server, retrieve a list of devices, perform agent control activities on the retrieved devices (for example, login/logout, set/remove Make Busy, etc.), perform call control activities (for example, make call, answer call, clear call, etc.), and retrieve call event notifications. (See Figure 23 - 1.)

Figure 23 - 1 Device Monitor sample application



To use the CTI Developer Toolkit Device Monitor sample application

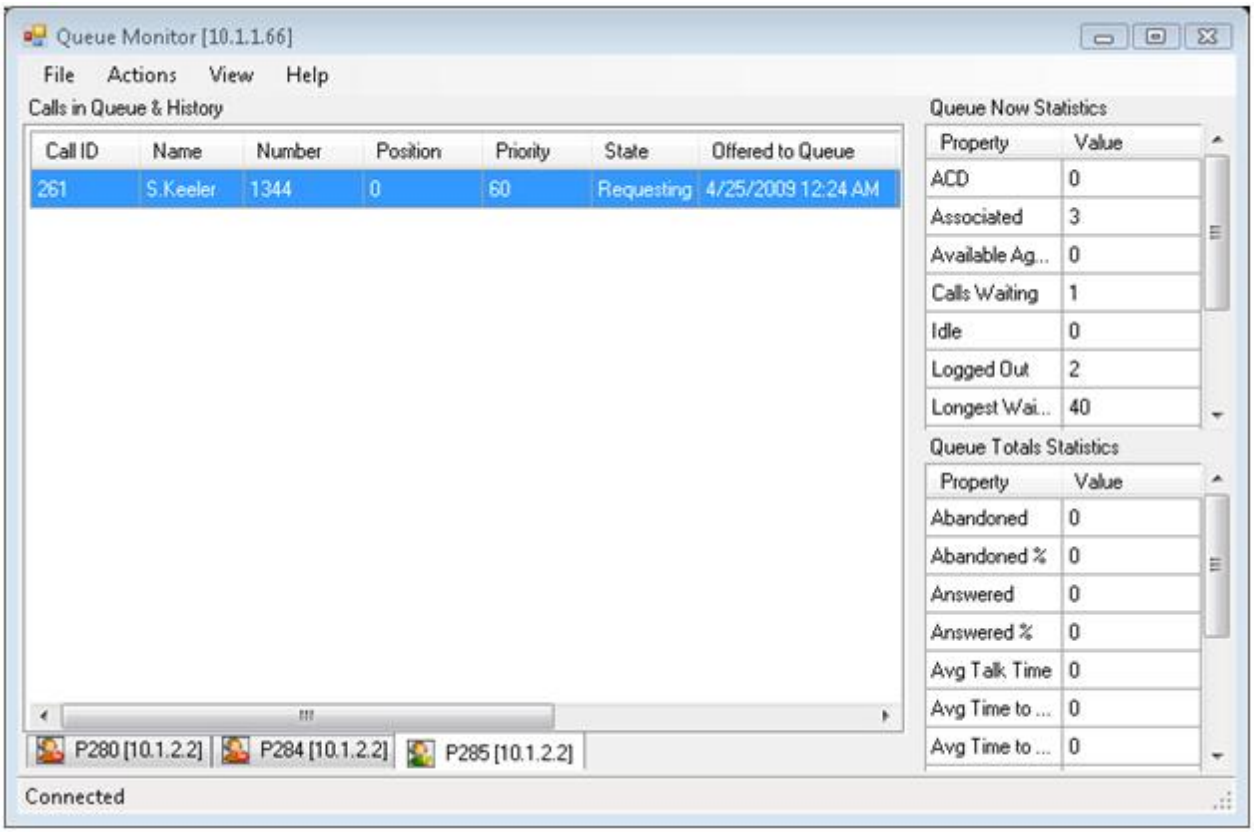
1. In Windows, navigate to the **CTI Developer Toolkit** and open **Device Monitor**.
2. Click **File=>Connect**.
3. Type the IP address of the Enterprise Server, user name, and password and click **OK**.
4. Click **Devices** and select one of the following options:
   - Retrieve agents for current login
   - Retrieve agents for all employees
   - Retrieve all agents
   - Retrieve all extensions
   - Retrieve all queues
   - Retrieve all devices
5. Once the devices you selected have loaded, you perform actions on the selected device(s) by clicking **Actions** and selecting an available action or by right-clicking and selecting an available action from the list:
   - Set monitor=>Phone, Real time, All
   - Remove monitor=>Phone, Real time, All
   - Login
   - Logout
   - Set Make Busy
   - Remove Make Busy
   - Set DND
   - Remove DND
   - Cancel work timer
   - Make call
   - Answer call
   - Hold call
   - Retrieve call
   - Transfer call

- Conference call
- Clear call
- Add call notes
- Make consultation call
- Transfer consultation call
- Cancel consultation call
- Trade call

Queue Monitor

The QueueMonitor sample application displays the functionality and support for queue device types included with the CTI Developer Toolkit. The QueueMonitor application is similar to the optional Interactive Visual Queue monitor that is housed in Contact Center Client. It enables developers to connect to the Contact Center Solutions Enterprise Server, load a set of queues, and view real-time call activity (calls entering and exiting queues) and queue statistics (for example, calls waiting, number of agents available, longest waiting, etc.). (See Figure 23 - 2.)

Figure 23 - 2 Queue monitor sample application



To use the CTI Developer Toolkit QueueMonitor sample application

1. In Windows, navigate to the **CTI Developer Toolkit** and open **Queue Monitor**.
2. Click **File=>Connect**.
3. Type the IP address of the Enterprise Server, user name, and password and click **OK**.
4. Click **Actions**.

5. Select one or more queues to open.
6. Click **OK**.
   If you selected multiple queues, you can toggle between them using the tabs at the bottom of the queue monitor.
7. Once the queues you selected have loaded, you perform actions on the selected device(s) by clicking **Actions** and selecting an available action or by right-clicking and selecting an available action from the list:
   - Open queue
   - Close queue
   - Set DND
   - Remove DND
   - Redirect call
   - Remove call

Console Call Monitor

The ConsoleMonitor sample application displays call received information for either single or multiple agents or extensions in a simple console application window. It is intended to be a very brief example, with little error handling, that can be used to demonstrate the basics of coding screen pop displays.

To use the CTI Developer Toolkit ConsoleCallMonitor sample application

1. In Windows, open the command prompt window.
2. Type **cd "<installation_drive>:\Program Files\prairieFyre Software Inc\CTI Developer Toolkit\Samples\ConsoleCallMonitor\bin"** and click **Enter**.
3. Type **ConsoleCallMonitor.exe Device Number/Telephone System IP Address/Type** and click **Enter**.
   The ConsoleCallMonitor application takes multiple parameters in the following form, Device Number/Telephone System IP Address/Type. For example, 2000/10.1.1.1/Agent 1800/10.1.1.10/Extension would invoke agent 2000 on telephone system 10.1.1.1 and extension 1800 on telephone system 10.1.1.10.

Console Queue Monitor

The ConsoleQueueMonitor sample application displays information on calls entering/exiting queues and queue statistics in a simple console application window. Similar to the Console Call Monitor application, it represents a minimal set of code required to build a real-time queue monitoring application.

To use the CTI Developer Toolkit Console Queue Monitor sample application

1. In Windows, open the command prompt window.
2. Type **cd "<installation_drive>:\Program Files\prairieFyre Software Inc\CTI Developer Toolkit\Samples\ConsoleQueueMonitor\bin"** and click **Enter**.
3. Type **ConsoleQueueMonitor.exe Queue/Telephone System IP Address** and click **Enter**.
   The ConsoleQueueMonitor application takes multiple parameters, in the following form: Queue/Telephone System IP Address. For example: P200/10.1.1.1 P180/10.1.1.10 would invoke monitoring calls on two queues, queue P200 on telephone system 10.1.1.1 and queue P180 on telephone system 10.1.1.10.

Best practices for custom development

The following best practices must always be followed when developing custom developments to work in conjunction with Contact Center Solutions software.

- Before you begin development
  - Verify that the CTI Developer Toolkit and Contact Center Solutions software are the same version and that you are properly licensed for all desired functionality
  - Verify that you have access to the Contact Center Management Enterprise Server
  - Verify that the Contact Center Solutions Enterprise Server has been properly set up and configured with the extensions, agents, and queues that you will be using with your custom application
  - Verify that the telephone system(s) in your enterprise has been properly set up and configured with the extensions, agents, and queues that you will be using with your custom application
  - Verify that all pre-installation and post installation steps have been completed. See the *Contact Center Management Installation Guide*.
  - Confirm the telephone system conforms to the guidelines stated in the Golden Rules document. In particular, aspects of the CTI Developer Toolkit rely on the ability to set MiTAI monitors on devices. As such, the "HCI Options" must be enabled for the Class of Service on all monitored devices. See http://www.prairiefyre.com/wp-content/rscs/documentation/Golden%20Rules.xls
  - Verify you have Microsoft .NET Framework Version 4.0 or greater installed on your workstation
  - Verify you have an IDE installed on your workstation, either Visual Studio 2005/2008 or SharpDevelop
- When developing custom applications and integrations
  - Verify the what you are attempting to build is possible by attempting the functions from an alternate client application, such as Contact Center Client, the Device Monitor sample application, or MiTAI Browser
  - Routinely check the log files of all related services, specifically the Enterprise Server, Collector, and MiTAI Proxy Server to ensure there are no unusual or unexpected warnings or errors
  - Routinely check the log files of alternative client applications for any unusual or unexpected warnings or errors (as listed in the previous bullet)

The following best practices must always be followed when developing custom connectors to third-party IVRs.

- Third-party IVR ports and Intelligent Queue ports must all be programmed in YourSite Explorer as an extension type=>Messaging Port or RAD Port. When configuring the extension as a port type, the disable real-time monitoring option will not be configurable.
- In addition to whatever custom data your third-party IVR is sending, it must also send the same data that Intelligent Queue does (using the same naming conventions). These are PFANI, PFCALLERNAME, and PFDNIS. This will ensure that the existing MiTAI record linking logic within the Contact Center Management Enterprise Server gets the correct information, which is typically at the first controller/port

Common user scenarios and source code examples

This section details the following common user scenarios for developing custom integrations and applications using the CTI Developer Toolkit

- Click to dial
- Call received notification
- Add call detail (using a third-party IVR)

Click to dial

NOTE: This code sample is not included in the sample project that is included with the CTI Developer Toolkit.

The following C# code fragment provides sample source code that can be used to build a console application with click-to-dial functionality.

```
static void Main()
{
 DeviceManager dm = DeviceManager.Instance;
 string pbxIpAddress = "10.1.1.10";
 string server = "the-CCM-server-IP-address-here";
 string username = "your-username-here";
 string password = "your-password-here";
 Voice extension;

 if (!dm.Connect(server, 5024, username, password))
 {
 Console.WriteLine("Uable to connect to server");
 return;
 }

 extension = dm.GetDevice("1100", pbxIpAddress, DeviceType.Extension) as Voice;

 if (extension == null)
 {
 Console.WriteLine("Unable to retrieve extension device");
 return;
 }

 if (!extension.SetMonitor())
 {
 Console.WriteLine("Unable to monitor extension");
 return;
 }

 extension.MakeCall("16135990045");

 dm.ReleaseAllDevices();
 dm.Disconnect();
 Console.WriteLine("Exit application");
}
```

This source code will connect to the specific Enterprise Server using the supplied username and password. It then initiates a call from extension 1100 on the telephone system with IP address 10.1.1.10 to the phone number 16135990045.

Call received notification

The following C# code fragment shows a condensed version of the source code provided with the ConsoleCallMonitor sample application that is shipped with the CTI Developer Toolkit.

```
static void Main()
{
 DeviceManager dm = DeviceManager.Instance;
 string pbxIpAddress = "10.1.1.10";
 string server = "the-CCM-server-IP-address-here";
 string username = "your-username-here";
 string password = "your-password-here";
 Voice extension;

 if (!dm.Connect(server, 5024, username, password))
 {
 Console.WriteLine("Uable to connect to server");
 return;
 }

 extension = dm.GetDevice("1100", pbxIpAddress, DeviceType.Extension) as Voice;

 if (extension == null)
 {
 Console.WriteLine("Unable to retrieve extension device");
 return;
 }

 if (!extension.SetMonitor())
 {
 Console.WriteLine("Unable to monitor extension");
 return;
 }

 device.CallInfoReceived += CallInfoReceivedHandler;

 Console.WriteLine("Listening for calls on extension 1100");
 Console.WriteLine("Press any key to end application.");
 while (!Console.KeyAvailable) ;

 dm.ReleaseAllDevices();
 dm.Disconnect();
 Console.WriteLine("Exit application");
}

static void CallInfoReceivedHandler(object sender, CallInfoReceivedEventArgs e)
{
 Console.WriteLine("-----------------------------------------");
 Console.WriteLine("Call Info Received:");
 Console.WriteLine(" Caller Name : " + e.Info.CallerName);
 Console.WriteLine(" Caller Number : " + e.Info.CallerNumber);
 Console.WriteLine(" DNIS : " + e.Info.DNIS);
 Console.WriteLine(" Collected Digits : " + e.Info.CollectedDigits);
}
```

Add call detail (using a third-party IVR)

The following C# code fragment shows a condensed version of using the AddCallDetail method to toolkit users can invoke to add custom key/value pairs into call information.

In summary, this code fragment does the following:

- Device_CallReceived is an event handler that is invoked whenever a monitored IVR extension/port receives a call. This is needed to acquire the MiTAI Call ID which is used to link these extra information records (--w records in ACD data files) to other call records
- When this event handler is invoked, it makes three sequential calls to the AddCallDetail method, adding call values for the following keys: PFANI, PFCALLERNAME, and PFDNIS
- The keys used above are the ones that the default screen pop display recognizes but developers can easily make up their own key names as well, provided they have toolkit code on the client side to pull the custom information from the CallInfoReceivedEvent notifications

```
public void Device_CallReceived(object sender, CallReceivedEventArgs e)
{
Device device = sender as Device;

DeviceManager.Instance.AddCallDetail(
e.CallingDevice.CallReferenceID, device.PBXIPAddress, device.DeviceID,
"PFANI", "6135990045");

DeviceManager.Instance.AddCallDetail(
e.CallingDevice.CallReferenceID, device.PBXIPAddress, device.DeviceID,
"PFCALLERNAME", "John Smith");

DeviceManager.Instance.AddCallDetail(
e.CallingDevice.CallReferenceID, device.PBXIPAddress, device.DeviceID,
"PFDNIS", "8001");
}
```

Troubleshooting CTI Developer Toolkit issues

Diagnosing any issues experienced while using the CTI Developer Toolkit requires a high level of familiarity with Contact Center Solutions and Call Accounting applications and CTI Developer Toolkit functionality. This section details several troubleshooting tips and tricks when encountering issues with CTI Developer Toolkit functionality.

The CTI Developer Toolkit and any custom applications created using it rely heavily on the proper configuration and operation of the Contact Center Solutions Enterprise Server. Ensuring that the server is operating correctly is the first diagnostic step that should be taken when troubleshooting CTI Developer Toolkit issues. This includes:

- Verifying that the CTI Developer Toolkit and Contact Center Solutions software are the same version and that you are properly licensed for the desired functionality
- Verifying that all pre-installation and post installation steps have been completed. See the *Contact Center Management Installation Guide*
- Checking the log files of all related services, specifically the Enterprise Server, Collector, and MiTAI Proxy Server to ensure there are no unusual or unexpected warnings or errors

- Attempting the same operation using an alternate client application. This can be any of the following, depending on the underlying issue:
  - Contact Center Client
  - Device Monitor sample application
  - MiTAI Browser
- Checking the log files of alternative client applications for any unusual or unexpected warnings or errors (as listed in the previous step)
- Confirming the telephone system conforms to the guidelines stated in the Golden Rules document. In particular, aspects of the CTI Developer Toolkit rely on the ability to set MiTAI monitors on devices. As such, the "HCI Options" must be enabled for the Class of Service on all monitored devices. See http://www.prairiefyre.com/wp-content/rscs/documentation/Golden%20Rules.xls

Troubleshooting specific issues

This section describes some specific problems that may be encountered when working with the CTI Developer Toolkit and provides any recommended steps for diagnosing issues and potential solutions.

Retrieve All commands does not display any devices

If any of the *Retrieve All* commands in the Device Monitor application return an empty list of devices, there may be a configuration problem with the *IPAddress* values stored in the *CCMData* database table named tblEnterpriseConfig_Node.

To troubleshoot this issue, run the following SQL query and pay particular attention to values in the [IP Address] column. This query simulates the query used by the CTI Developer Toolkit and will return a list of agents and extensions for all voice media servers.

```
SELECT node.Name AS [Node],
 node.IPAddress AS [IP Address],
 'Agent' AS [Type],
 device.FirstName AS [First Name],
 device.LastName AS [Last Name],
 device.Reporting AS [Reporting Number]
FROM tblConfig_Agent device INNER JOIN tblEnterpriseConfig_Node node
 ON device.FKNode = node.Pkey INNER JOIN tblLookup_NodeType NodeType
 ON node.FKNodeType = NodeType.Pkey
WHERE FKNodeFamily = 1
UNION
SELECT
 node.Name AS [Node],
 node.IPAddress AS [IP Address],
 'Extension' AS [Type],
 '' AS [First Name], -- No first name on extensions
 '' AS [Last Name], -- No last name on extensions
 device.Reporting AS [Reporting Number]
FROM tblConfig_Extension device INNER JOIN tblEnterpriseConfig_Node node
 ON device.FKNode = node.Pkey INNER JOIN tblLookup_NodeType NodeType
 ON node.FKNodeType = NodeType.Pkey
WHERE FKNodeFamily = 1
ORDER BY [Node], [Type]
```

The [IP Address] values in the query results should contain the IP address of the telephone system that is associated with the voice media server. If this value is incorrect or blank, use YourSite Explorer to set the IP address to the correct value.

GetDevice method fails or returns null unexpectedly

If a custom applications calls the *GetDevice* method and returns null even though the device is valid and programmed in Contact Center Management, there may be a timing issue with the Connect operation. When a custom application calls the *Connect* method in the CTI Developer Toolkit, the operation returns as soon as an authenticated connection has been established with the Enterprise Server. However, there may still be some basic configuration loading occurring in the background, which must complete before calls to *GetDevice* can be successful.

An event named *ConfigurationLoaded* is provided in the CTI Developer Toolkit, which is used to notify custom applications that background configuration loading has completed. In previous versions, the Device Monitor sample application used a workaround method of issuing a*Sleep* method call on the active thread to give background configuration loading time to complete.

Agent control actions succeed while call control actions fail

In this scenario, agent control actions (for example, login, logout, and set/remove Make Busy) succeed, while call control actions (for example, make call, answer call, and clear call) fail. The key difference between these two types of operations is that call control actions require a MiTAI monitor set on the device and agent control actions do not. Your investigation should start with an analysis of MiTAI related configuration, including:

- Verifying that the MitaiEnabled flag set properly for devices in the database
- Checking telephone system (for example, HCI Options enabled)
- Confirming the telephone system version is supported

Unable to set monitor on agent device

In some cases, using the Device Monitor to issue a Set Monitor operation on an agent will fail. If you have the Errors view open in the application, it displays a MiTAI error, indicating "Operation failed: MessageTag[8] ReturnCode [SXERR_FEATURE_NOT_ALLOWED]"
In this case, you should verify that the agent device is properly configured on the telephone system, including HCI Options enabled for the associated Class Of Service. If the problem persists, check to see if the CTI Developer Toolkit is Version 5.5 or earlier and if the agent is a traditional or hot desking agent. There was a known issue setting monitors on traditional ACD agents using the CTI Developer Toolkit that was corrected in 5.5 SP1. For earlier versions, one workaround is to set the monitor on the extension the agent logs in to.

Web service errors occurring in log files

If you encounter Web service error messages in log files and an application built with the CTI Developer Toolkit is experiencing errors, check to ensure that the Microsoft.Web.Services3.dll file is present under the Windows system directory or in the custom application directory.

"Softphone proxy did not respond after 30 seconds" error

If you encounter this message and the Contact Center Solutions software is Version 5.5 SP2 or earlier, there is a known licensing issue where the MiTAI Proxy Server will fail to send clients messages unless there is at least one Contact Center Softphone or Contact Center PhoneSet Manager license in your enterprise. This issue was corrected in version 5.5 SP3.

To work around this problem, contact prairieFyre Software technical support at 613-599-0045 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).and have them create new license files.

Chapter 24

Salesforce.com Connector

Using the Contact Center Salesforce.com Connector

Salesforce.com Connector

Salesforce.com Connector is an optional client application that works in conjunction with Contact Center Management and/or Call Accounting and requires an account with Salesforce.com (Enterprise and Professional editions of Salesforce.com), and, optionally, Intelligent Queue or IVR Routing (for Collect Caller Entered Digits only).

NOTE:

- Salesforce.com Connector is currently supported for use with the 3300 ICP only.
- Whether Salesforce.com is running on the cloud or on a server within your organization, agents must have the Contact Center Salesforce.com Connector installed and running on their client computers for Salesforce.com Connector to function properly.
- The Contact Center Salesforce.com Connector refers to the Contact Center Softphone application as it appears in Salesforce.com.
- If you use Internet Explorer, you must run Internet Explorer 8.0 or Internet Explorer 9.0 for Salesforce.com Connector to function properly.
- If you use Internet Explorer 8.0 or 9.0, ensure you have enabled the "Display mixed content" option in Internet Explorer's local intranet security settings before logging into Salesforce.com.

Salesforce.com Connector enhances the functionality of Salesforce by embedding your Mitel phone directly into the Salesforce user interface. This improves productivity by providing fast and easy access to accounts, contacts, cases, and other Salesforce objects directly related to incoming calls. Using Salesforce.com Connector enables your contact center agents to perform their job functions through a single user interface.

Salesforce.com Connector is compatible with the Salesforce.com Microsoft Outlook connector. Users can synchronize their Salesforce.com contacts, tasks, and calendar events, associate Outlook email messages, and map custom fields in Salesforce.com to fields in Outlook.

Salesforce.com Connector manages interactions between the Contact Center Management server and the hosted Salesforce.com server through the Salesforce user interface. Salesforce.com Connector offers a wide variety of enhancements and capabilities to agents, including

- **Unified login**
  Salesforce automatically retrieves agent IDs and extensions to enable users to log in to Contact Center Management directly from Salesforce.com.
- **Hot desking support**
  ACD hot desking agents and non-ACD general business hot desking extensions are supported for use with the Salesforce.com Connector.
- **Click to dial**
  Agents can save time and avoid misdialed calls by using click to dial to contact customers, co-workers, or extensions.
- **Screen pop**
  When an external call arrives, the relevant Salesforce customer record displays on the agent’s screen. If the call is subsequently transferred or joins a conference, the record displays on the screen of the agent receiving the transferred call or taking part in the conference. Immediate access to customer information increases agent productivity and improves customer satisfaction. Screen pop can be configured to work with Automatic Number Identification (ANI), Dialed Number Identification Service (DNIS), or Collect Caller Entered Digits (requires Intelligent Queue with the Collect Caller Entered Digits option or IVR Routing Premium ports).

Pertinent customer information also displays in the Salesforce user interface, for example, Caller Name, Collect Caller Entered digits, ANI, DNIS, and any search results you configure in the Salesforce soft phone layout. For information on configuring soft phone layouts in Salesforce.com, see the *Contact Center Management Installation Guide*.
NOTE: If Salesforce is not providing Collect Caller Entered Digits in a screen pop, ensure you disable caching if you use Internet Explorer.

- **Call control**
  Agents can save time by having all their typical desk phone functions embedded and available directly from the Salesforce user interface. With complete customer information on the screen, agents can quickly access alternate numbers for customers.
- **Call logging capabilities**
  Salesforce creates call tasks when agents make or receive internal or external calls. Use call tasks to log caller information including notes, phone numbers, and the date and time of a call. This assists compliance with your business processes by increasing consistency and providing improved reporting.
- **Make Busy codes and Wrap-up codes (ACD agents only)**
  Agents can place themselves in and remove themselves from Make Busy to show their availability to receive ACD calls. After agents indicate they are not ready for calls, they can select from a variety of Make Busy codes that describe their activity. After finishing an ACD call, enter the work timer state where they can select from a list of Wrap-up codes (also known as Call Classification codes) and insert comments about the call. Supervisors can use this information to track call activity and measure agent performance.
  NOTE: To enable agents to complete their call logs, do not select the “Cancel work timer once code is entered” check box in the Queues pane in YourSite Explorer. This enables an agent to stay in the work timer state and enter call log information until they click the Done button in their Contact Center Salesforce.com Connector. See "Configuring queues" on page 445.

Using the Contact Center Salesforce.com Connector

This section explains how to log into your Contact Center Salesforce.com Connector and discusses operations you can perform once logged in.

Logging into your Contact Center Salesforce.com Connector

The Contact Center Salesforce.com Connector refers to the Contact Center Softphone application as it appears in Salesforce.com. To integrate with Salesforce.com, you must first open Contact Center Client and load the Contact Center Salesforce.com Connector toolbar. This sets the MiTAI monitor on the extension and indicates to the telephone system that the extension is ready to make and receive calls. Following this action, you can minimize Contact Center Client and log in, log out, and perform all call control activities from within the Salesforce.com client.

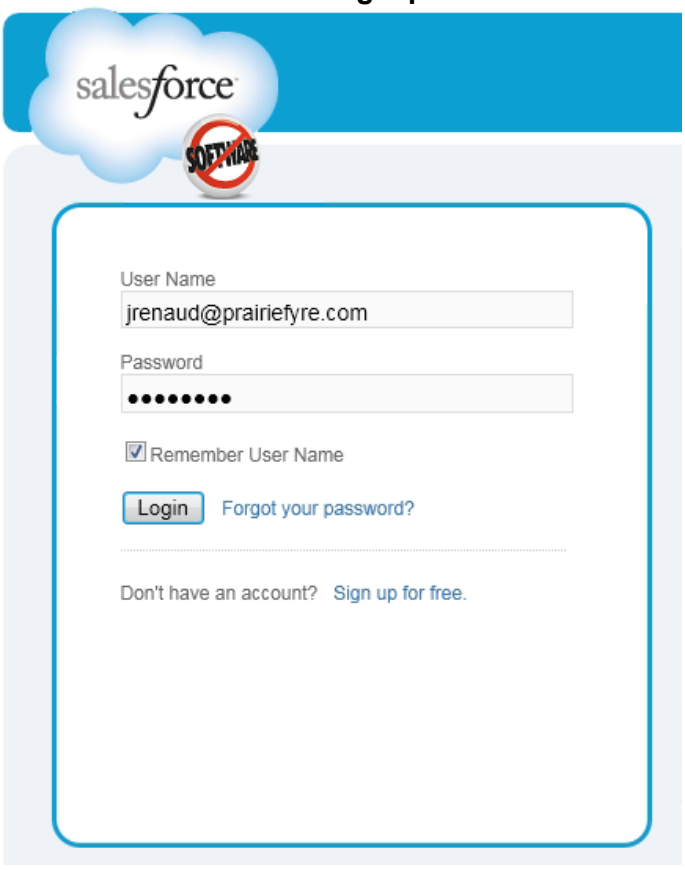
NOTE:

- The Salesforce.com Connector must be running before logging into the Salesforce.com website. Before logging into the Salesforce.com website, verify the Salesforce.com Connector is running in the system tray on your computer (next to the clock and volume controls). If the icon is displayed, the Salesforce.com Connector is open.
- If you are using a desk phone, you do not need to open Contact Center Client before loading the Contact Center Salesforce.com Connector toolbar.
- Your login for Salesforce.com is different than the login used for the Contact Center Salesforce.com Connector.
- The Contact Center Salesforce.com Connector is located in the left pane of the Salesforce user interface and appears only when you are assigned to a call center in Salesforce.
- If an employee is unlicensed, they will not be able to log in to the Contact Center Salesforce.com Connector through Salesforce. For more information on employee licensing, see the *Contact Center Solutions and Call Accounting System Engineering Guide*.

To log into your Contact Center Salesforce.com Connector

1. Start Internet Explorer and type **http://login.salesforce.com/**.
2. In the Login pane, type your Salesforce.com **User Name** and **Password**, and click **Login**. See Figure 24 - 1.

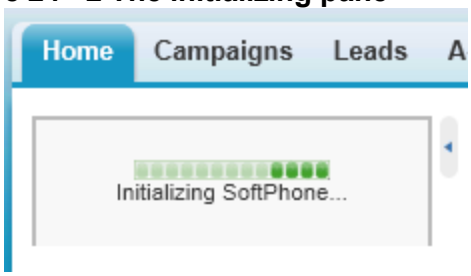
Figure 24 - 1 Salesforce.com login pane



After you log in, the Contact Center Salesforce.com Connector will initialize in the top-left section of the Salesforce.com webpage. (See Figure 24 - 2.)

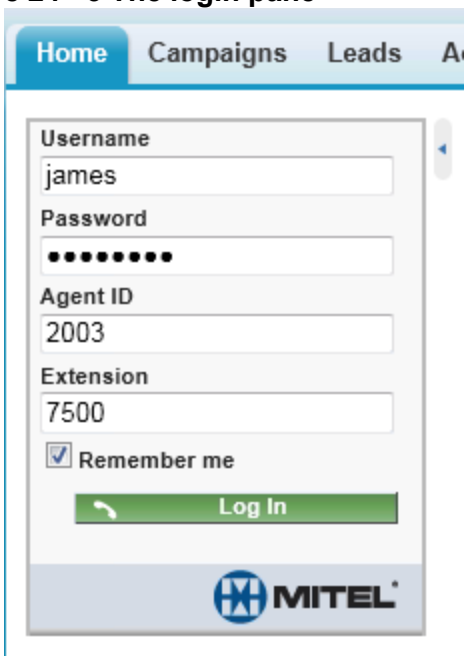
3. If you receive a message asking if you want to see the page content that was delivered securely, click **No**.
   NOTE: Clicking Yes or closing the window will disable the Contact Center Salesforce.com Connector.

Figure 24 - 2 The initializing pane



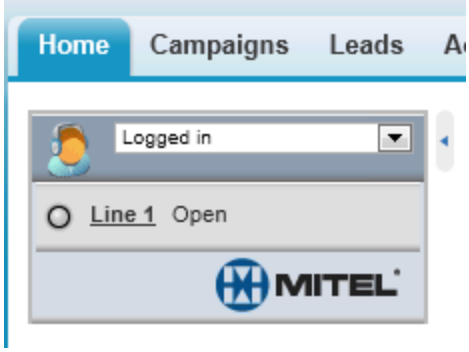
4. Type your call center **Username**, **Password**, **Agent ID**, and **Extension**.
   NOTE: If you do not have an agent ID associated with your employee ID, you will not have ACD functionality. However, you can continue to log in and use your desk phone or soft phone from within Salesforce for non-ACD calls.
5. To set Salesforce to remember your Contact Center Salesforce.com Connector login credentials every time you log into Salesforce, enable the **Remember me** check box.
   See Figure 24 - 3.

Figure 24 - 3 The login pane



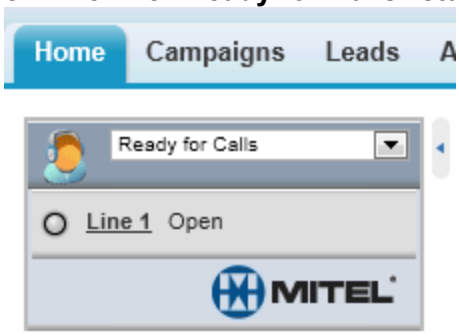
6. Click **Log In**.
   The Contact Center Salesforce.com Connector will display "Logged In" when you are logged in as an ACD agent.
   See Figure 24 - 4.

Figure 24 - 4 The "Logged In" status display



If no agent ID was provided with the login credentials and you are not logged in as an ACD agent, the Contact Center Salesforce.com Connector functions as a soft phone and displays "Ready for Calls". (See Figure 24 - 5.)

Figure 24 - 5 The "Ready for Calls" status display



To automatically log into your call center when logging into Salesforce

1. In Salesforce, click your username and select **Setup**.
2. Under **Personal Setup**, select **Call Center Settings =>My SoftPhone Settings**.
3. Enable the **Automatically log into your call center when logging into salesforce.com** checkbox.
4. Click **Save**.

Salesforce.com Connector functionality

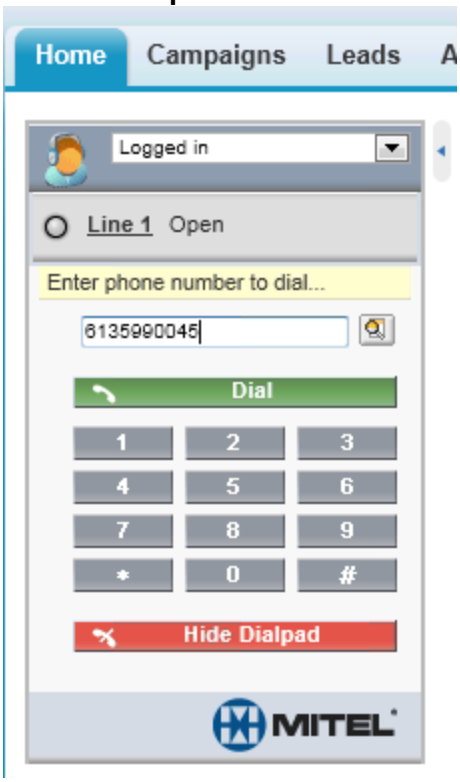
NOTE:

- If using a true soft phone, you must first open Contact Center Client, click View => Soft phone and configure soft phone options. You must keep Contact Center Client running in the background as you use Salesforce. If you are using a desk phone there is no need to open Contact Center Client.
- Caller ANI/DNIS information is not included when you transfer a call between telephone systems. When you transfer a call between telephone systems, the ANI/DNIS information that displays in the screen pop for the receiving agent is that of the transferring agent, not the caller.

You can use Salesforce.com Connector to perform the following functions:

- **Dial phone numbers**
  Dial a phone number by clicking Line 1, entering the number into the Contact Center Salesforce.com Connector and clicking Dial. (See Figure 24 - 6.)

Figure 24 - 6 Dialpad

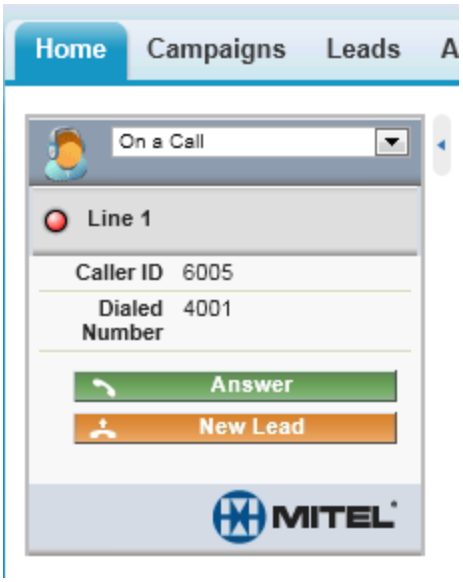


Alternatively, dial by clicking the icon next to a phone number associated with a contact, lead, activity, account, or any other phone field you have created. (See Figure 24 - 7.) ACD agents can dial by clicking on available employee or extension links. You can also dial numbers using the dial pad on your desk phone.

Figure 24 - 7 The icon to dial a contact, lead, activity, account, or other phone field

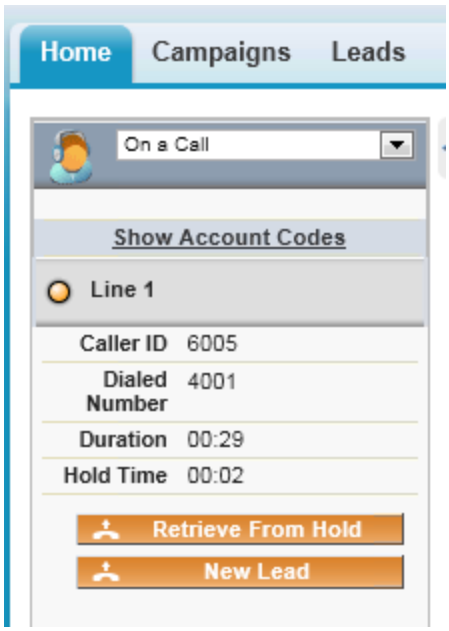
- **Answer phone calls**
  Answer a phone call by clicking Answer or using your desk phone. If the caller's number is in your Salesforce database, their customer information page appears. Salesforce.com Connector supports one incoming line per user. (See Figure 24 - 8.)

Figure 24 - 8 Answer



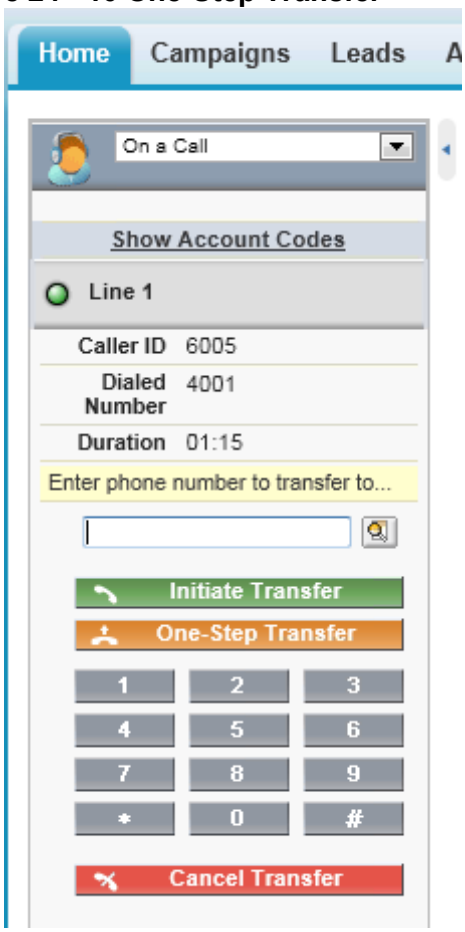
- **Place callers on hold**
  Place callers on hold by clicking Hold. Retrieve the call by clicking Retrieve from Hold. (See Figure 24 - 9.)

Figure 24 - 9 Retreive From Hold



- **Perform one-step transfers (cold transfers)**
  A one-step transfer (cold transfer) is when you transfer a caller without speaking to the third party destination first. Transfer a call directly to another number without speaking to the third party by clicking Transfer, entering the third party's phone number or extension, and clicking One Step Transfer to complete the transfer. (See Figure 24 - 10.)

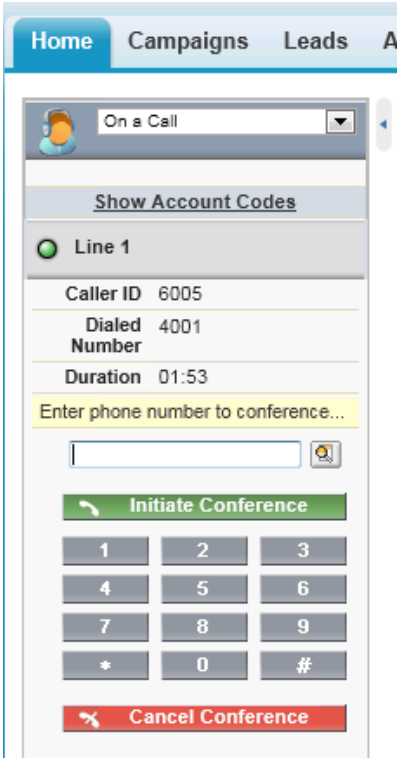
Figure 24 - 10 One-Step Transfer



- **Perform initiated transfers (warm transfer)**
  An initiated transfer (or warm transfer) is when you place a caller on hold and speak to the third party destination before transferring the call. To transfer a call directly to another number and speak with the third party before transferring the call, click Initiate Transfer. Speak with the third party and once the call is ready to be transferred click Complete Transfer to connect the caller and remove yourself from the call.

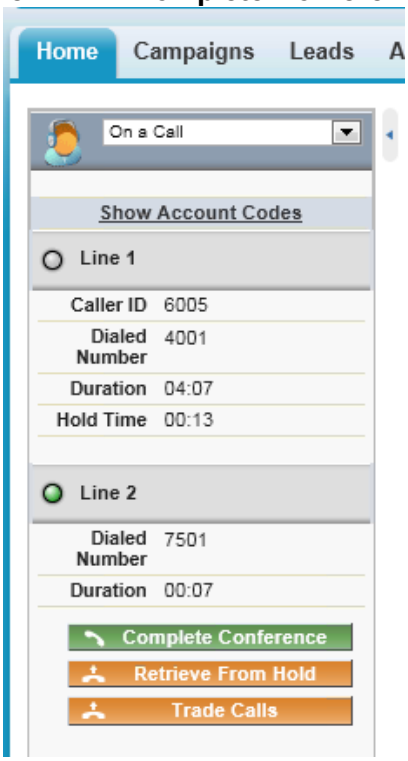
- **Initiate conference calls**
  Initiate a conference call by clicking the Conference button while on a call, entering the phone number to join to the conference and clicking Initiate Conference. Your caller is placed on hold while you dial the third party to be added to the call. (See Figure 24 - 11.)

Figure 24 - 11 Initiate Conference



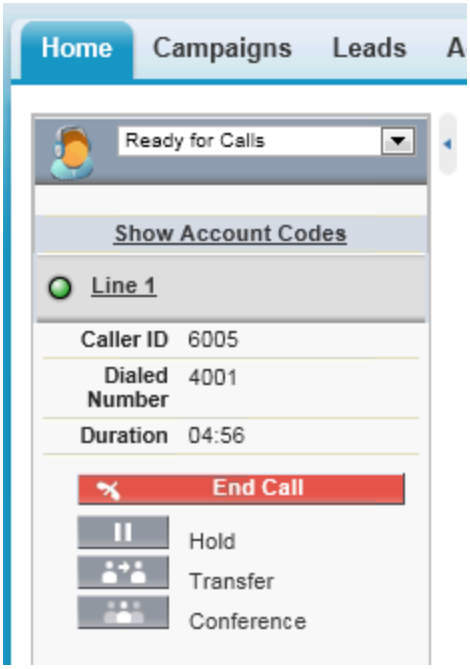
Once you have connected to the third party number, click Complete Conference to place all three parties on the same line. (See Figure 24 - 12.)

Figure 24 - 12 Complete Conference



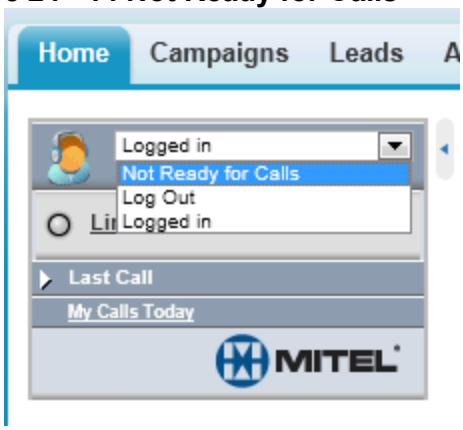
- **Ending calls**
  End a call by clicking End Call. (See Figure 24 - 13.)

Figure 24 - 13 End Call



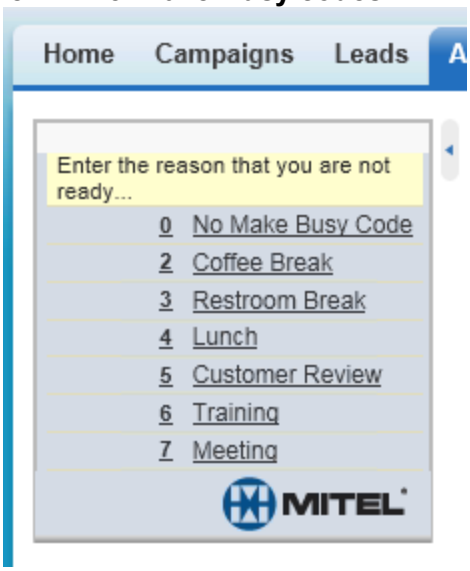
- **Set make busy codes (ACD agents only)**
  To set a Make Busy code, click on the arrow in the agent state bar and select Not Ready for Calls. (See Figure 24 - 14.) Make Busy codes are entered in YourSite Explorer and should be maintained by your YSE Administrator.

Figure 24 - 14 Not Ready for Calls



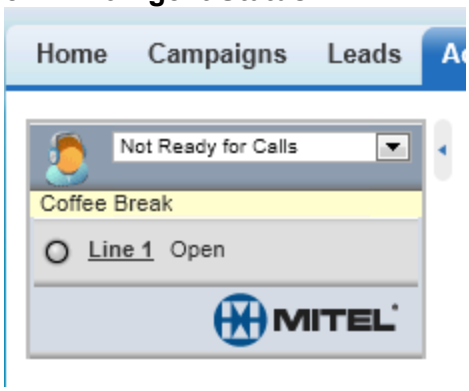
Select from the list of available Make Busy codes. (See Figure 24 - 15.)

Figure 24 - 15 Make Busy codes



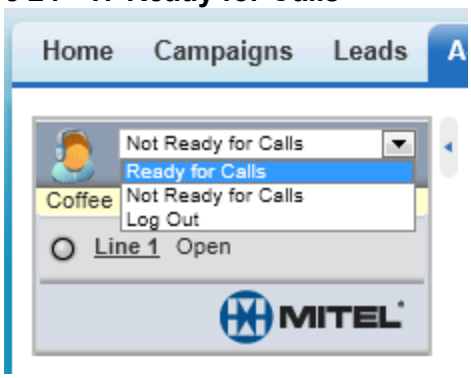
You will now appear as unavailable for calls. (See Figure 24 - 16.)

Figure 24 - 16 Agent Status



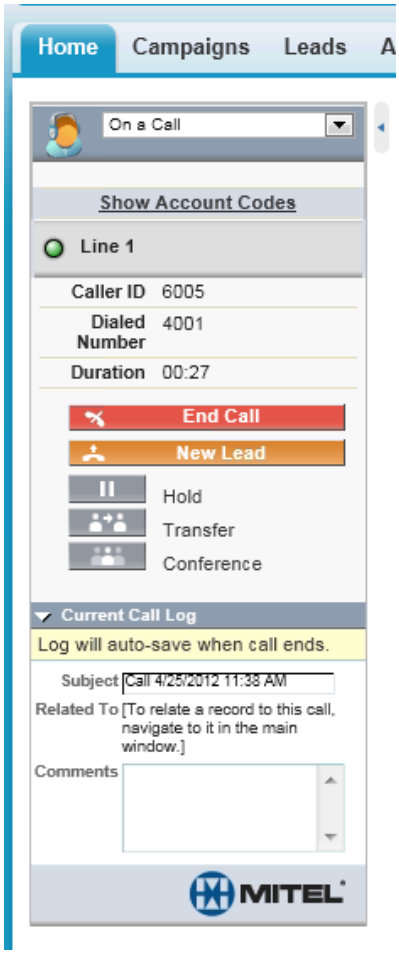
Remove the Make Busy code and make yourself available for calls again by clicking Ready for Calls in the agent state bar. (See Figure 24 - 17.)

Figure 24 - 17 Ready for Calls



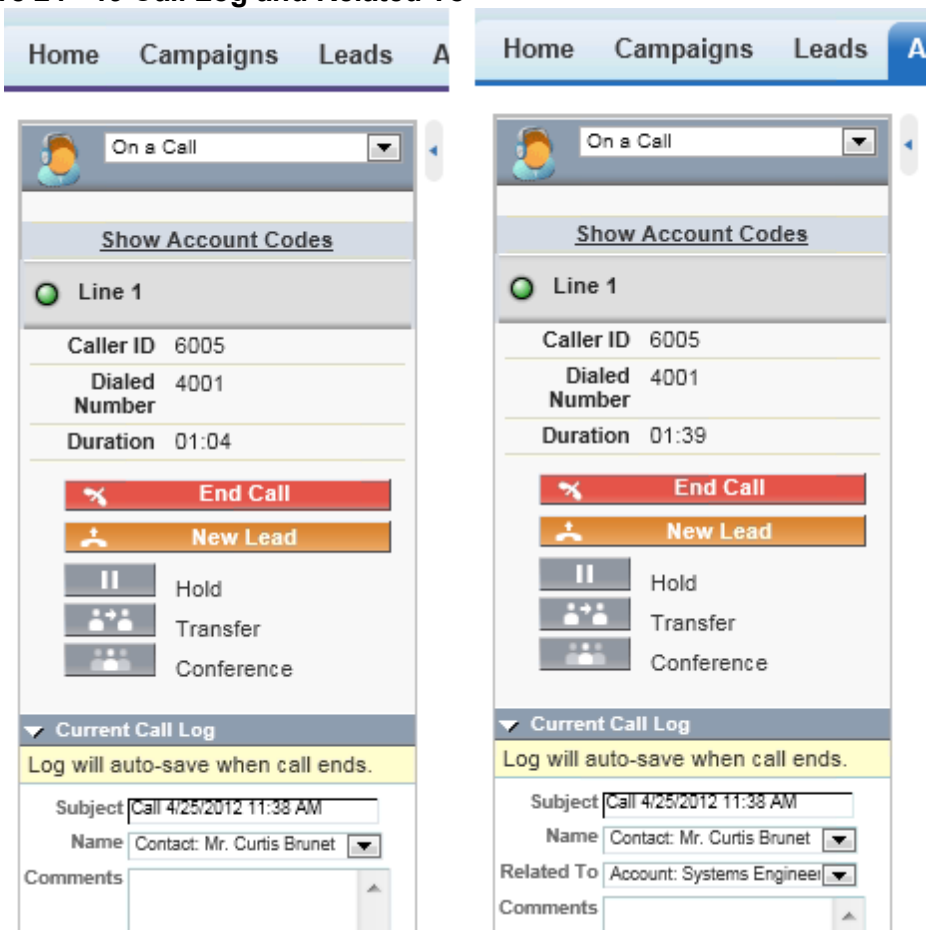
- **Create new leads while on calls**
  Once you have answered an internal/external call, the Contact Center Salesforce.com Connector will display a New Lead button. Click the New Lead button to open a new lead and auto-populate the Lead phone number field with the caller's phone number. (See Figure 24 - 18.)

Figure 24 - 18 New Lead



- **Relate Salesforce records to a call activity task**
  You can associate up to two records to a call. From the Related To list in the call log area, select the Account, Opportunity, or Case to which you will associate the call. To associate a Contact or Lead to the call, select it from the Name drop-down list in the call log area. (See Figure 24 - 19.)

Figure 24 - 19 Call Log and Related To

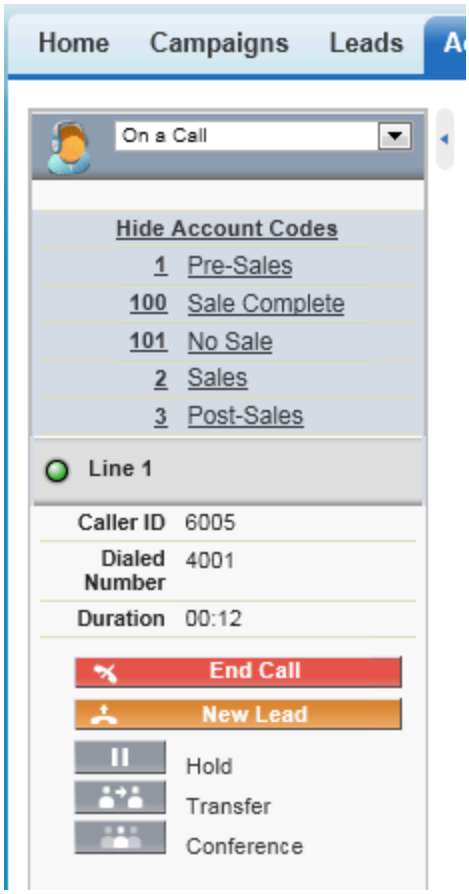


NOTE: The Related To record cannot be selected when Name is set to a Lead.

- **Search on outbound calls**
  Search results for outbound calls display in the Contact Center Salesforce.com Connector user interface, but do not generate screen pops.

- **Tag calls with account codes**
  Click on Show Account Codes to display a list of available Account Codes, then click on the account code link that you want to apply. (See Figure 24 - 20.)

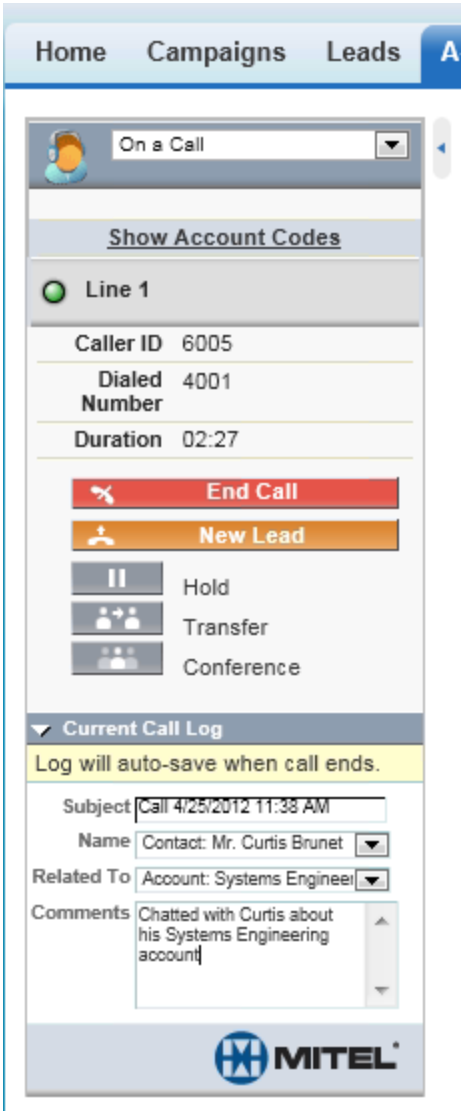
Figure 24 - 20 Account Codes



- **Set wrap-up codes (ACD agents only)**
  When an external ACD call ends, select an appropriate Wrap-up code (also known as a Call Classification code) from the Call Result list of the Current Call Log window.

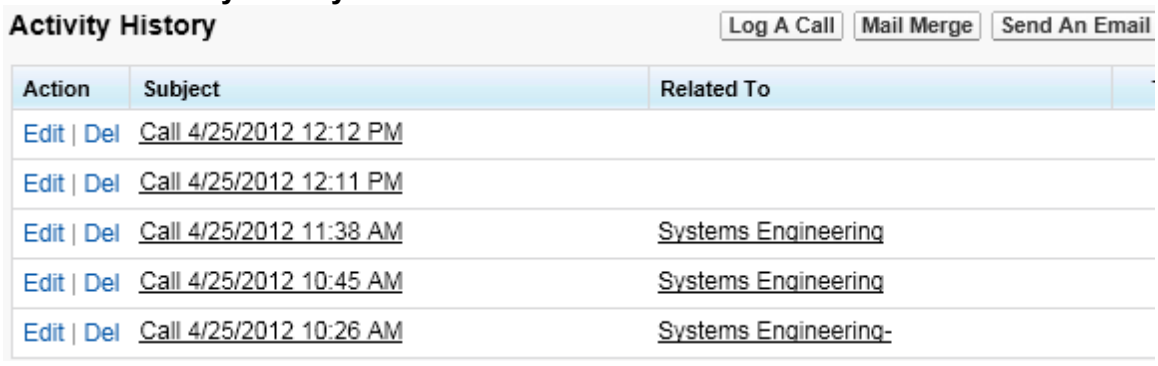
- **Attach comments to a call**
  Attach comments to a call by typing text into the Comments field. When the call ends, the comments are automatically saved. (See Figure 24 - 21.)

Figure 24 - 21 Attach comments to call



Call log information can be accessed from either the My Calls Today section of the soft phone or by scrolling to the Active History section of an object in Salesforce. (See Figure 24 - 22.)

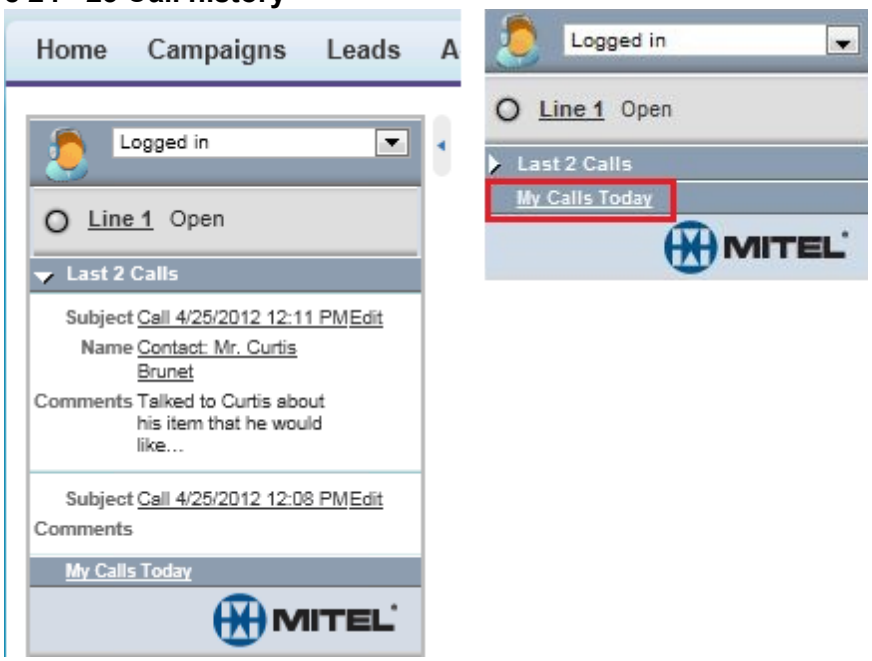
Figure 24 - 22 Activity History



- **View recent call activity**
  Access recent call activities by clicking Last Call or My Calls Today. To edit one of the last call activities created, click the Last Calls arrow in the Contact Center Salesforce.com Connector and enter the new comments you would like to add before clicking the Save button. Clicking My Calls Today will take you to the My Calls Today webpage where you can view all Call Activities that have been created for the entire day. (See Figure 24 - 23.)

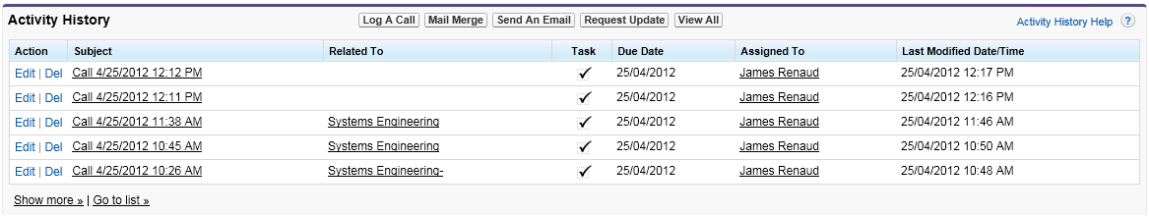
  NOTE: If call duration is not accurately displayed in My Calls Today, run Windows Update and install the most recent updates on your work stations. For more information on running Windows Update, see the *Contact Center Management Installation Guide*.

Figure 24 - 23 Call history



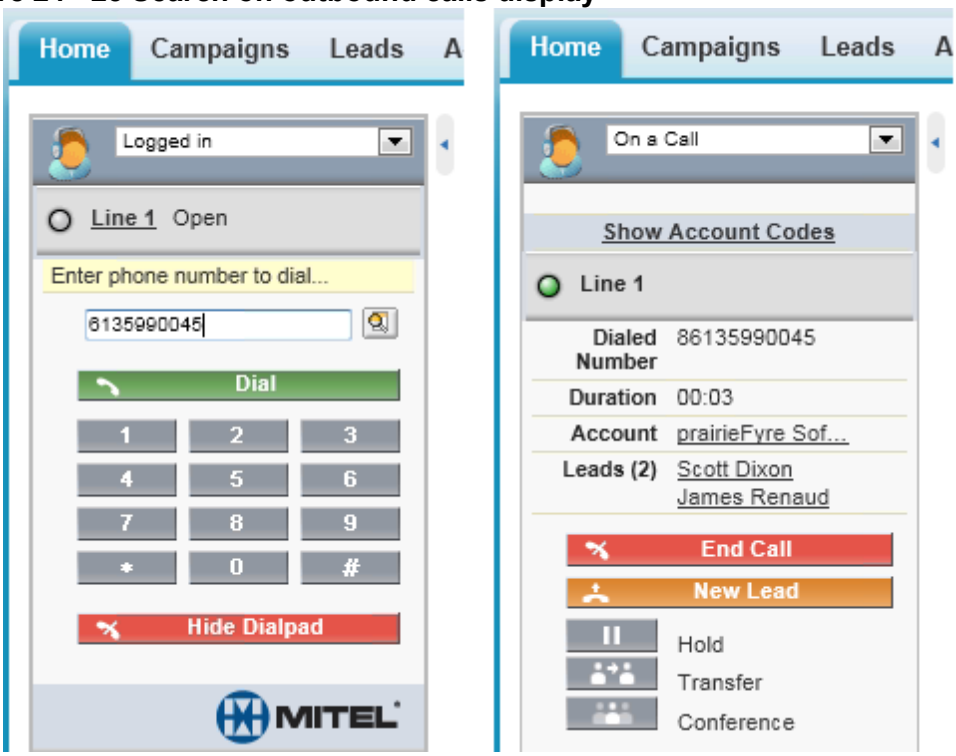
- **Edit completed call logs**
  Call logs are automatically created for all external calls an agent makes or receives. Edit a call log by clicking on the link to the call. (See Figure 24 - 24.)

Figure 24 - 24 Edit call logs



- **Search on outbound calls**
  Search results for outbound calls display in the Contact Center Salesforce.com Connector user interface within Salesforce, but do not generate screen pops. Enter the phone number into the dial pad and click Dial. The search will return results in the Contact Center Salesforce.com Connector interface. You can click Account, Contact, etc. to view the details of the search result. (See Figure 24 - 25.)

Figure 24 - 25 Search on outbound calls display



Contact Center Solutions terms and definitions

Abandoned call
An abandoned call is a call that the caller ends before the call reaches an agent.

Account Code
Account Codes are classifiers that can be applied to call records and used to identify unique attributes about the caller or call for individual departments, projects, or services to generate reports on them. As well, they can be used by agents as classification codes for incoming calls. Account codes can be verified, non-verified, fixed length, or forced.

See Classification Codes, Fixed Length Account Codes, Forced Account Codes, Non-Verified Account Codes, Verified Account Codes.

ACD (Automatic Call Distribution)
ACD (Automatic Call Distribution) is a call distribution mechanism that distributes calls to a pool of available agents, typically to the first available agent or the agent who has been idle the longest. ACD can also be configured to distribute calls based on skills or preferred customers.

ACD (state)
ACD is an agent state applied to an agent while they are handling an ACD call.

ACD calls handled
See Calls Handled.

ACD calls interflowed
See Interflow.

ACD calls offered
See Calls offered.

ACD calls requeued
See Calls requeued.

ACD handling time
ACD handling time is a parameter for Contact Center Management that provides the sum of all evens from answer to hang up of an ACD call.

Active Directory
Active Directory is a directory service created by Microsoft that is used for managing a domain. In Contact Center Solutions, Active Directory is synchronized with YourSite Explorer to align Active Directory security groups and users with Contact Center Solutions employees and employee groups within selected organizational units.

Agent
An agent is a contact center employee configured on the telephony system to receive ACD calls with an agent ID.

Agents available

Agents available is a real-time statistic indicating the current number of agents who are logged in and not in Make Busy or Do Not Disturb. If an agent is configured as a part of an agent group and is logged in, the agent is counted as available, even if they are not present in that agent group. This statistic can be used as a queue condition in IVR Routing.

ANI (Automatic Number Identification)

ANI (Automatic Number Identification) is a service that provides receivers of telephone calls with the caller information. ANI is used to create screen pops for agents, providing caller information or to route calls by caller phone numbers.

Answering points

An answering point is a single point of communication available to callers where they can contact a contact center or an agent , such as a queue, voice mail, or extension.

ASA

See Average Speed of Answer

Average Speed of Answer

Average Speed of Answer (ASA) is an ACD statistic measuring how long the average caller waits on hold in queue before their call is answered by an agent.

Auto-acknowledgement

An auto-acknowledgement is a Multimedia Contact Center-configured response received by customers after contacting a contact center via email or chat.

Average abandon time

The average abandon time is the average number of seconds callers wait in queue before they abandon a call.

Blocked call

A blocked call is a call that is unable to get into the contact center's telephone system because there are no trunks available. The caller receives a busy signal.

Busy hour

Busy hour is a statistic that highlights the busiest hour of operation of a business day.

Call abandoned parameter

The Call abandoned parameter is a queue configuration that defines short abandoned calls, determining what abandoned calls are included as abandoned in call statistics. The default the short abandon is configured at 6 seconds.

Call flow

Call flows are programed pathways using the IVR Routing application that control how calls coming into a contact center are handled, including how they are routed, the messages and prompts they hear, and the input options provided to a caller.

Call routing

Call routing is the set of instructions configured in Contact Center Solutions to automate the movement of calls to their intended answering points.

Call type

Call type categorizes calls agents receive, enabling them to be looked up in SMDR Inspector. Call types include ACD or non-ACD, abandoned, interflowed, requeued, unavailable, or outbound.

Callback

Callback is an optional feature of telephone systems that enables callers who are unable to reach an agent in a contact center to be called back by the contact center. Contact Center Solutions and IVR Routing offer several methods of providing callbacks, including Call me back, voice callbacks, web callbacks, and abandon callbacks.

Calls abandoned

Calls abandoned is a report field detailing the total number of calls that abandoned in queue or while the phone was still ringing at the agents' extensions. Calls abandoned ignores calls that were abandoned before the short abandoned parameter had been passed.

See Abandoned calls.

Calls abandoned (long)

Calls abandoned (long) are abandoned calls where the caller hung up after the short abandon parameter had been passed. By default, the short abandon is configured to be 6 seconds.

Calls abandoned (short)

Calls abandoned (short) are abandoned calls where the caller hung up before the short abandon parameter had been passed and are not included in the call statistics.

Calls answered

See Calls handled.

Calls handled

A handled call is a call that has been picked up and answered by an agent. A call that listens to in-queue RAD messages is not considered handled until it is answered by an agent.

Calls interflowed

See Interflow

Calls offered

1) Call offered are all calls received, regardless of how they are handled or routed, including calls handled and both short and long abandoned calls.

2) Calls offered is a forecasting parameter used to determine the agent requirement for a contact center’s Service Level percent and Service Level time targets through applying the Erlang C equation to the estimated Call Load and average ACD Handling Time.

Calls requeued

Requeued calls are all calls replaced back into the same queue and offered to another agent when an agent receives an ACD call and fails to answer it after a pre-configured number of rings.

Calls waiting

Calls waiting is the number of callers in a queue waiting for an agent to become available, including those listening to Music on hold or queue announcements.

Camp on

Camp on is a notification tool that enables callers to notify an employee, who is currently on a call, that they are waiting to be answeredl. The employee is notified by a series of audible beeps.

Classification codes

Classification codes are classifiers appended to calls to categorize them, enabling reporting to examine specific categories of calls, such as those relating to specific products or services.

Clustered environment

A clustered environment is a network environment where multiple telephone systems are linked together to function as a single system.

Computer Telephony Integration

Computer Telephony Integration (CTI) are technologies that merge computer functions and telephone systems, enabling PC-based telephone systems to deliver functions such as synchronized voice and data delivery, voice and data conferencing, automatic information retrieval for calls, caller-based messaging and routing, and desktop productivity tools.

CTI

See Computer Telephony Integration

Customer Relationship Management

Customer Relationship Management (CRM) is a model for customer management that relies on technology to streamline and manage interactions with customers.

Date stamp

See Date/Time stamp.

Date/Time stamp

A date/time stamp is an indicator attached to a record or statistic detailing when it was created.

Delayed call

A delayed call is a call that has been placed into an ACD queue to wait for an available agent because it cannot be immediately handled by an agent.

Dialable number

The dialable number is a digit or series of digits dialed by a caller to reach an answering point, such as an agent , an extension, a queue, or voice mail.

Dialed Number Identification Service (DNIS)

Dialed Number Identification Service (DNIS) is a telecommunication service that identifies the phone numbers dialed by inbound callers. DNIS can be used to route calls, enabling contact centers managing multiple product lines or businesses to direct calls into the appropriate product or business queue.

Division

A division is a grouping of several employee or extension groups that enable a single report to be run for several groups simultaneously.

DND

See Do Not Disturb (state).

DNIS

See Dialed Number Identification Service.

Do Not Disturb (state)

Do Not Disturb (DND) is an agent presence state that disables the agent's extension to prevent any calls from being routed to that extension.

Employee

An employee is a person who is employed by an organization and configured as an employee in Contact Center Solutions so that they have access to Contact Center Solution applications and may have their associated devices reported on.

Enterprise

An enterprise is both the single site where the Enterprise Server is installed and all the connected branch offices that comprise a company.

Enterprise Server

The Enterprise Server is the central server upon which Contact Center Solutions is installed and from which Contact Center Solutions runs.

Erlang

An Erlang is a unit of measure for telephone traffic equal to one hour or 3,600 seconds of telephone conversation, such as a single call lasting one hour or six calls lasting 10 minutes.

Erlang B

Erlang B is an equation used to estimate the number of trunks required by a contact center.

Erlang C

Erlang C is a forecasting equation that uses historical Call Load data, Service Level Percentage, Service Level Time, and Wrap up Time Used to predict the resources required to keep wait times within a contact center ‘s Service Level objective for the time interval and data range selected in a forecast.

Extension

An extension is a telephone system answering point that has a specific dialing number.

Fixed Length Account Codes

Fixed Length Account Codes are verified and non-verified Account Codes that are automatically submitted to the system when the correct number of digits has been entered.

Forced Account Codes

Forced Account Codes are verified and non-verified account codes that must be entered at a specific time in a call. Forced verified account codes must be entered as soon as the phone is off the hook. Forced non-verified Account Codes must be entered after the phone number is dialed. Systems may be configured to avoid the requirement of entering a forced non-verified Account Code when making a call that must not be charged (for example, dialing a leading digit such as 8 to make a call without entering an Account Code and dialing a leading digit such as 9 to make a call that requires an Account Code).

Grade of service

The grade of service (GOS) is a measure of the likelihood of an attempted call receiving a busy signal. GOS compares the number of trunks to the level of traffic and expresses the result as a decimal fraction. A GOS of P.02, for example, indicates that a caller would have a two percent chance of receiving a busy signal.

Handled by

Handled by is the real-time statistic for the number of calls answered by the first, second, third, and fourth answer points.

Handled %

Handled % is the real-time statistic comparing the calls handled to the calls offered.

Handling time

Handling time is the measure of how long a call took to be handled by an agent, from when the call is answered by the agent to when the call is finished. Handling time includes talk time, hold time, as well as transfers and conferences on the call.

Hot desking agent

Hot desking agents are employees configured with a hot desking agent ID that enables them to sit at any extension in a network and log on to that extension with all their regular work settings available. External hot desking agents can hot desk remotely using any phone or headset.

Hunt group

A hunt group is a series of telephone lines grouped by the telephone system that rotates incoming calls through the lines until an available line is found and the caller is connected.

Inbound

Inbound is a descriptive term applied to forms of contact or communication, such as calls or emails, to indicate that it is being sent to a contact center from an external source.

Inbound calls

See Inbound.

Interflowed

Interflow is a call flow mechanism that redirects a contact (such as a call, email, chat, or fax) waiting in a queue to another answering point after the contact has been waiting in queue longer than the system-configured interflow time. A contact may be interflowed repeatedly until it reaches an agent.

Interactive Voice Response

Interactive Voice Response (IVR) is a technology that enables callers to interact with a contact center's phone system by pressing keys or speech recognition while following IVR dialog.

Internal calls

Internal calls are calls made from within a system to other answering points within the same system.

LAN

A Local Area Network (LAN) connects multiple computers together over short distances. LANs typically operate within a building. The computers share information, applications, and peripherals, such as printers.

Logged on

Logged on is an agent state applied to agents who have signed into the ACD system.

Logged off

Logged off is an agent state applied to agents who have signed out of the ACD system.

Longest waiting

Longest waiting is the duration, in minutes and seconds, of the call that has been waiting the longest in queue.

Make Busy (state)

Make Busy is an agent presence state applied to prevent an agent who is busy from receiving ACD calls. While in Make Busy, an agent can receive calls dialed directly to their extension.

Media servers

A media server is a server or system, such as a telephone system, used to organize and distribute communications (phone calls, email, etc.) throughout a contact center.

MiTAI

MiTAI is a Mitel implementation of TAPI that is used to connect the telephone system/PCs running windows to external applications, such as ACD controllers.

Mitel OPS Manager

Mitel OPS Manager is a Mitel software application that provides network-wide administration and maintenance for MCD, 3300, and SX-2000 Network Elements or Nodes.

Non ACD (state)

Non ACD is an agent state that is applied to an agent handling a non-ACD call or making a call.

Non-verified Account Codes

Non-Verified Account Codes are numbers entered onto the SMDR record for billing and call management. During a call, non-verified Account Codes can be entered as often a required.

Outbound calls
Outbound calls are calls made from within a contact center to external answering points.

Overflow
Overflow is a call distribution mechanism that queues calls against two or more agent groups to limit the delay faced by callers. If a call in an ACD queue is not answered after the configured Overflow time, then it is placed into the queue of a second agent group in addition to the first queue.

PBX
See Telephone system.

Pooling principle
The pooling principle refers to the increased contact center efficiency gained by consolidating contact center resources.

Port
A port is a communications endpoint in Contact Center Solutions used to link services.

Probability of delay
The probability of delay is a statistic that measures the likelihood of a call being delayed in the ACD queue, comparing the number of agents/extensions to the level of traffic carried by the trunks.

PSTN
See Public Switched Telephone Network.

Public Switched Telephone Network (PSTN)
The Public Switched Telephone Network is a global collection of Central Offices (CO) interconnected by long distance telephone switching systems.

Quality of service
Quality of service is a reflection of an agent's ability to provide excellent assistance to each customer. Quality of service can be evaluated and managed through silent monitoring systems, IT support systems, CTI, ANI, and DNIS.

Queue number
A queue number is the address of a queue or other answering point used in the telephone system. The programming associated with the queue number defines the routing and timing options available to the call.

Queue unavailable
1) Queue unavailable is a routing option that reroutes calls to a queue answer point if the queue is unavailable due to no agents logged on or if a supervisor puts the path into Do Not Disturb.

2) Queue unavailable is a real-time statistic that counts how many calls were re-rerouted to other queues due to the queue being unavailable.

RAD
See Recorded announcement device.

Readerboard
See Wall sign.

Real-time adherence
Adherence refers to whether or not agents are performing the activities for which they are scheduled. Workforce management tools enable supervisors to be notified of discrepancies between agents' work schedules and the actual activities they perform.

Reason Code
Reason codes are descriptive classifiers applied to Make Busy and Do Not Disturb agent states to provide more detailed information as to why the agent applied the code.

Recorded announcement device
Recorded Announcement Device is an IVR Routing feature that provides prerecorded messages to callers waiting in the ACD queue.

Reporting number
A reporting number is the unique number assigned by the system to contact center resources for reporting purposes.

Service Level percent
The Service Level percent is the number of calls that are handled, abandoned, and interflowed before the Service Level time, compared to the total number of calls handled, abandoned, and interflowed.

Service Level time
The Service Level time is the specified time used in calculating the queue service objective in conjunction with the Service level percent, such as 80% (Service Level percent) of contacts answered within 120 seconds (Service Level time).

Silent monitoring
Silent monitoring is a Contact Center Solutions feature that facilitates the tracking of agents' call handling techniques by enabling supervisors to listen to the voice conversations of internal or external calls between agents and callers without alerting either the agent or caller.

Site
A site is a physical location of a contact center with one or more media servers. It may be the same location where the Enterprise Server is installed or a branch office.

Spectrum
Spectrum is a reporting feature configured for queues that provides a frequency distribution of calls abandoned, answered, or interflowed based on a defined time scale.

SQL
SQL is a standard query language used to enter, query, and change data in a database, as well as create and administer databases. Administration of YourSite Explorer is done using Microsoft's SQL Server.

Subroutines
Subroutines are portions of IVR Routing call flows that can be reused in multiple call flows.

Talk time
Talk time is the measure of the time an agent spends talking to callers, excluding time spent on hold.

TCP/IP
TCP/IP is the basic communication protocol of the Internet and is used as a communication protocol in private networks (intranets).

Telephone system
A telephone system is a private branch exchange (PBX) or business telephone switch used to process incoming and outgoing calls to a contact center.

Time to answer
Time to answer is the measure, in seconds, of how long an incoming call remained in queue before it was answered. It is primarily used as an SMDR data mining criteria.

Time stamp
See Date/Time stamp.

True talk time
See Talk Time.

Trunk
A trunk is a communication line between two telephone systems.

Trunk load
Trunk load is the duration of time from when a trunk receives a call to when the agent finishes handling the call and disconnects. Trunk load does not include Wrap Up Time.

Unavailable
Unavailable is an agent and employee state real-time column in Contact Center Client that includes agents unavailable to take calls due to being in Do Not Disturb, Make Busy, Work Timer, Reseize Timer, or Unknown.

Updated Position in Queue (UPiQ)
Updated Position in Queue (UPiQ) is a notification feature that provides messages to callers informing them of their position in queue and keeps them informed of their position if it changes, at preset intervals.

UPiQ
See Updated Position in Queue.

Verified Account Codes
Verified Account Codes are numbers entered before making a call to change the Class of Service or Class of Restriction at the station. When the call ends, the station returns to normal. Verified Account Codes can be tracked with SMDR for long-distance billing purposes and may be reported in Internal SMDR logs.

Wall board
See Wall sign.

Wall sign

A wall sign is an electronic sign used to display real-time ACD statistics to agents and supervisors in a contact center.

WAN

Wide Area Network (WAN) connects multiple computers over a wide geographic area. WANs operate over telephone carrier lines through bridges or routers. Router options enable communication between high speed LAN links and slower speed WAN links, which tie LAN segments together.

Workforce management

Workforce management is the scheduling of contact center agents to meet forecasted needs and the managing of agents to ensure they adhere to their scheduled activities.

Wrap Up Time

Wrap Up Time is a real-time statistic detailing the total time an agent spends in the Work Timer state.

Multimedia Contact Center terms and definitions

Agent Requeue Time

The *Agent requeue time* is the length of time a contact sits in the assigned agent's inbox before it is re-queued (put back into the same queue and offered to the next available agent).

When an agent receives a contact and fails to respond to the contact after X seconds, Multimedia Contact Center places the agent in Make Busy and re-queues the contact. This re-queued contact has priority over all others and will be the next contact message answered.

Auto-acknowledgment Message

The *Auto-acknowledgment message* is a message that is automatically sent to the client upon receipt of the clients email. For example, "Thank you for your interest in prairieFyre Software. We have received your email, and it is being handled by one of our agents. Please expect a reply shortly."

The response message is created with the Responses tab.

Hold Requeue Timeout

The hold requeue time is the length of time an email message sits in the assigned agent's queue before a warning is flashed to indicate that the email message will soon be reassigned to another agent's queue if not answered.

Interflow Queue

The *interflow queue* is the queue the email message is directed to when it first arrives at a company's email address.

Interflow Time

The *interflow* is the path along which the email message is directed. The *interflow time* is the length of time the email message will wait in the queue that the interflow directed it to. This ensures the email message does not go unanswered for long.

Media Server

The *media server* is where Multimedia Contact Center and Contact Center Management organizes and distributes email and phone calls throughout your company. If your company is large, you might have several media servers.

Name

The *name* is the queue name. For example, the name might be Q1.

Non Available Request Timeout

Multimedia Contact Center knows which agent answered which email. If a customer has already received a response from an agent but has further questions, the customer's next email is directed back to the original agent. However, that agent might not be available. The *non available request timeout* time is the length of time the email will sit in the original agent's queue before being forwarded to another agent. If the non available request timeout is 60 minutes, and an email is sent after office hours, then the email would be forwarded to another agent.

Overflow Agent Group

The *overflow agent group* is the agent group that an email message is forwarded to because the email message was not answered by the primary agent group within a set period of time (the overflow time). The email message is placed in the queue of the overflow agent group in addition to keeping its place in the first queue. The first available agent in either group answers the call.

If the email message is not answered by overflow agent group1 within the overflow time, it is placed in the queue of overflow agent group 2 in addition to keeping its place in the first queue (primary agent group) and second queue (overflow agent group 1). There are three possible overflow agent groups: overflow agent group 1, overflow agent group 2, and overflow agent group 3.

Overflow Time

The *overflow time* is the length of time an email will sit in the primary agent group queue before also being forwarded to a overflow agent group.

Primary Agent Group

The *primary agent group* is the group assigned to answer a particular email message first.

Priority

Priority assigns priority to queues. The highest priority is 1, and the lowest priority is 10. This allows you to answer queues of higher priority first.

Public Folder Name

The *public folder name* is the windows user name.

Public Mail Address

The *public mail address* is the company email address. This is the address the customers will use to email you.

Reporting Number (for a queue)

The *reporting number* is assigned for reporting purposes. This report number is referenced when creating a report about email data from a particular queue. A queue reporting number must start with P and have three digits following. For example, the reporting number for a queue might be P123.

Service Level

The term *service level* is the turn-around-time goal. For example, if the service level is 20 minutes, the agents provided excellent service if they can respond to all emails within 20 minutes of receiving them.

Mitel 5000/Axxess terminology compared

Table 27 - 1 compares Mitel Contact Center Solutions and telephone system terminology and the corresponding Mitel 5000/Axxess telephone system terminology and details any critical need-to-know differences between the terms.

Table 27 - 1 Mitel and 5000/Axxess terminology compared

Mitel term	5000/Axxess term	Definition / Differences
Media Server		*Media Servers* are the means by which the customer communicates with you (for example, an Mitel 5000 or Axxess telephone system).
Queue	Hunt group	5000/Axxess *hunt groups* are referred to as queues when discussing routing and call treatment options.
Agent Group	Hunt group	5000/Axxess *hunt groups* are referred to as agent groups when discussing membership roles.
Extension	Endpoint (5000) Station (Axxess)	5000/Axxess *endpoints* will be referred to as extensions, except when discussing 5000/Axxess telephone system programming.
Presence	Log in	*Presence* is a new Mitel term used when agents log in to specific queues. Previously, agents were logged in to all queues that they were associated with. Presence enables agents to control the queues they are present in.
Interflow	Overflow	The Mitel concept of *interflow* is the path along which a call is directed. The *interflow time* is the time before the system removes the call from the queue and redirects it to another answering point. The interflow timer runs independently of the Overflow timer.

Mitel term	5000/Axxess term	Definition / Differences
Overflow	N/A	While the 5000/Axxess telephone systems have a concept of *overflow*, the 5000/Axxess use of the term overflow is actually what Mitel refers to as *interflow* (see above for a definition). The Mitel concept of *overflow* is the mechanism that limits the delay faced by callers by queuing calls against two or more agent groups. An ACD call that cannot be answered immediately is placed in an ACD queue. If the call is not answered after a set amount of time (the overflow time), it is placed in the ACD queue of another agent group, in addition to keeping its place in the first queue. The first available agent in either group handles the call.
Recorded Announcement Device (RAD)	Call Routing Announcement	A *Recorded Announcement Device* (RAD) is a system that provides prerecorded messages to callers waiting in the ACD queue.
Reporting Number	N/A	The *reporting number* is the number assigned to contact center resources, such as trunks, devices, and ACD queues, for reporting purposes.
Dialable Number	Endpoint (5000) Station (Axxess)	The *dialable number* is the digit or series of digits a caller dials to reach an agent at an extension, an ACD queue, voice mail, or some other answering point.
Make Busy	Do Not Disturb (DND)	*Make Busy* is an agent state in which the agent removes himself/herself from the ACD queue. While in Make Busy, the agent does not receive any ACD queue calls, but can receive calls dialled directly to their extension.
Do Not Disturb (DND)	Do Not Disturb (DND)	*Do Not Disturb* (DND) is an agent state in which the agent disables their extension to prevent any calls from being routed there. 5000/Axxess concept of *Do Not Disturb* is more aligned with Mitel's concept of Make Busy, where an agent removes himself/herself from the ACD queue, but can still receive calls dialled directly to their extension.

Mitel/Contact Center Solutions and Call Accounting terminology and concepts compared

Table 28 - 1 compares Mitel telephony system concepts and terminology to Contact Center Solutions and Call Accounting concepts and terminology and details any critical need-to-know differences between the terms. For more information on specific terms, see "Contact Center Solutions terms and definitions" on page 765.

Table 28 - 1 Mitel/Contact Center Solutions and Call Accounting terminology compared

Contact Center Solutions and Call Accounting Term	Mitel Term	Definition / Differences
Agent group	Agent skill group	Agent group/Agent skill group is a group of agents who handle calls from ACD paths.
Classification codes	--	Contact Center Solutions and Call Accounting treats classification codes as a type of Account Code, which are used to categorize calls for reporting. Mitel does not use classification codes.
Employee / Agent	Agent	For Contact Center Solutions and Call Accounting, employees correlate to a person who works for your organization and requires a license for access to Contact Center Solutions and Call Accounting applications and to have their associated devices reported on. Mitel only recognizes agents, who have agent IDs and are associated with agent skill groups, which enable them to receive ACD calls from associated queues, be seen in real-time, and be reported on.
Extension groups	--	Extension groups are a Contact Center Solutions and Call Accounting feature that has no Mitel terminology equivalent.
Media server	PBX / Telephone System	A telephone system is a private branch exchange (PBX) or business telephone switch used to process incoming and outgoing calls to a contact center. A media server is a server or system, such as a telephone system, used to organize and distribute communications (phone calls, email, etc.) throughout a contact center.

Contact Center Solutions and Call Accounting Term	Mitel Term	Definition / Differences
Queue	Path	A queue/path is an ACD tool that delays calls rather than blocking them from entering the system, holding them until an available agent can handle them.
Queue groups	--	Queue groups are queues grouped primarily for reporting purposes. Contact Center Solutions feature that has no Mitel terminology equivalent.
--	Ring groups	Ring groups are an unsupported Mitel feature that provides the ability to ring all members of a group simultaneously or sequentially.
Work timer	Work timer	Work timer is a feature that places an agent into an unavailable state after completing a call to provide them with time to complete after call tasks before becoming available to handle more ACD calls. Mitel work timer is a feature on the controller, while prairieFyre work timer is a software feature.

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