

MiCONTACT CENTER *for* *MICROSOFT SKYPE*

RELEASE 5.10.9

USER GUIDE



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MiContact Center *for Microsoft Skype* User Guide

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Chapter 1

MiCONTACT CENTER for SKYPE

About this user guide

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Document conventions

Troubleshooting assistance

*Required and optional software
components*

MiCONTACT CENTER for SKYPE

MiContact Center for Skype is a streamlined contact center solution that integrates with Microsoft Skype for Business. This voice media communication system supports soft phone and integrated hard phones and enables sophisticated ACD routing, agent presence, instant messaging, and real-time and historical reporting for the 100 - 200 seat contact center.

The familiar Microsoft look and feel inherent in MiContact Center for Skype helps make it an ideal contact center solution. Reports are produced in Microsoft Excel and proficiency is quickly gained by both agents and supervisors due to the familiar and easily navigable user interface. As your business grows, MiContact Center for Skype grows with you; it is easy to expand by adding agent seats and functionality.

ABOUT THIS USER GUIDE

To report an issue with this document, please email micctechpubs@mitel.com.

The following describes the information included in each section of the user guide.

MiContact Center for Skype

This section describes

- The features and benefits of MiContact Center for Skype
- The layout of the user guide
- Document conventions

Contact Center Planning and Management

This section 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

Services and Database Administration

This section describes how to 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

Configuration

This section describes how to

- Configure contact center devices so you can view real-time activity and generate reports on these devices
- Perform Active Directory Synchronization
- Configure alarms
- Create Business Hour Schedules
- Implement security measures to restrict user access to specific application areas and devices

Real-Time Monitors

This section 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
- Chat online with agents or supervisors
- Silent monitor calls

Skype for Business and Ignite for Skype

This section describes Skype for Business and Ignite for Skype functionality and details how to

- Handle calls
- Request help
- Send instant messages
- View agent status and availability
- View agent and queue statistics
- Communicate using the Emergency Routing Chat IVR

Reports

This section describes how to

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

Forecasting

This section describes how to

- Create forecasts
- Export forecasts to Excel

Data Mining

This section describes how to

- Search for agent and ACD queue event records
- Search for specific contact center events
- View the historical real-time events that occurred on a particular date, in the sequence they occurred

Data Collection

This section describes how to

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

Interactive Contact Center

This section describes how to

- Control the availability of agents and ACD queues

LOCATING THE LATEST VERSIONS OF OUR GUIDES

Mitel recommends you obtain the latest version the MiContact Center for Skype guides from the Resource Center at <http://micc.mitel.com>.

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 *MiContact Center for Microsoft Skype 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**.
The Table of Contents opens and the first instance of *ACD* is highlighted.
6. Under **Results**, click the **ACD** hypertext link to locate the next instance of ACD.

TROUBLESHOOTING ASSISTANCE

For the latest frequently asked questions and troubleshooting information, see the Mitel Knowledge Base at <http://micc.mitel.com/kb/Tags.aspx?Tag=Lync+Ignite>.

To further support the troubleshooting process, you can find log files at the following locations:

- The Enterprise Router Service logs are located here: C:\Program Files\prairieFyre Software Inc\CCM\Log.
- The SIP Listener Service logs are located on the Front End Server here: C:\Program Files\prairieFyre Software Inc\CCM\Log.
- All other Services log to here: C:\Program Files(x86)\prairieFyre Software Inc\CCM\Log.

REQUIRED AND OPTIONAL SOFTWARE COMPONENTS

MiContact Center for Skype Version 5.10.9 has a number of required and optional applications you install on client computers. These components are included in the installation or can be downloaded directly from Microsoft.

REQUIRED COMPONENTS

In order to use MiContact Center for Skype applications, the following components must be installed on client computers. For detailed information, see the *MiContact Center for Microsoft Skype Installation Guide*.

- Microsoft .NET Framework enables your computer to run applications created with .NET. All client computers must have .NET Framework 3.5 SP1 or greater installed.
- All client computers must have .NET Framework 4.5 installed.
- Microsoft Internet Explorer updates your browser software to the latest version. All client computers require Internet Explorer 8.0 or greater. If you are running IVR Routing, you require Internet Explorer 9, 10, or 11 in order to access the Callback Requests and IVR Endpoints monitors.
- 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 in .pdf format. You require Acrobat Reader to view the online user guides. If you have Microsoft Excel you can use it to view reports, which are in .xls format.

NOTE: Protected View is a Microsoft Office security feature that can impact your ability to view Excel reports. If you use Excel 2010 or 2013 to view reports, configure the following in Excel:

- Ensure the following Protected View options are not enabled:
 - Enable Protected View for files originating from the Internet
 - Enable Protected View for files located in potentially unsafe locations
 - Enable Protected View for Outlook attachments
 - Enable Data Execution Prevention mode
- Ensure that the following Trusted Location option is selected:
 - Allow Trusted Locations on my network (not recommended).

CLIENT COMPONENT PACK

Client Component Pack contains all of the Contact Center Management 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 Windows Clients.

The Client Component pack installs:

- Ignite for Skype
- Client Role Selector
- Contact Center Client
- YourSite Explorer

Chapter 2

CONTACT CENTER PLANNING AND MANAGEMENT

Step #1 Establish a corporate service objective

Step #2 Collect data

Step #3 Forecast the Call Load

Step #4 Calculate the resources required

Step #5 Schedule agents

Step #6 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 1 applies. It is the basic framework for achieving and maintaining your service objectives.

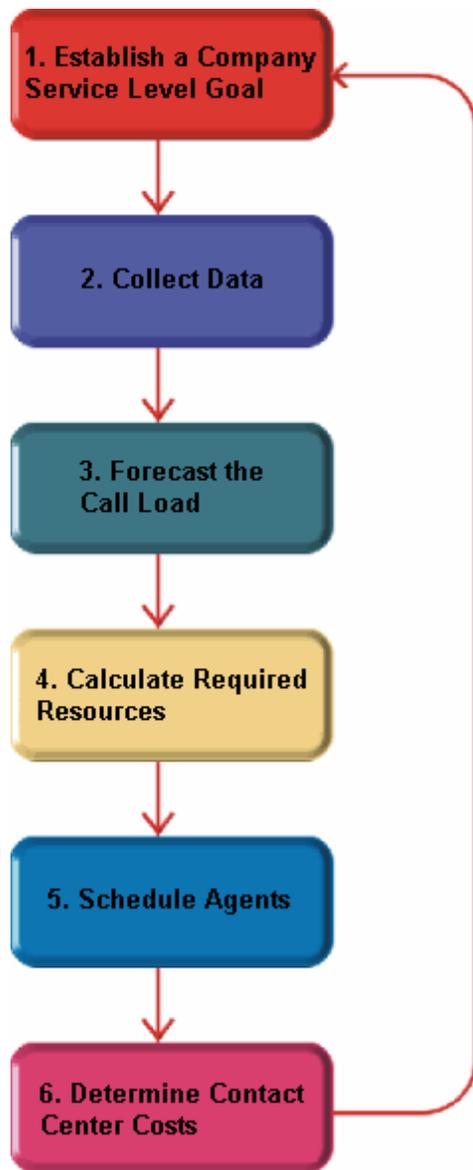


Figure 1: Planning cycle

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 receive 'good' service. Using the Service Level %, you can gauge the level of service that customers 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 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 assess 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 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).
- 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 12.

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 trunk use 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 2.)

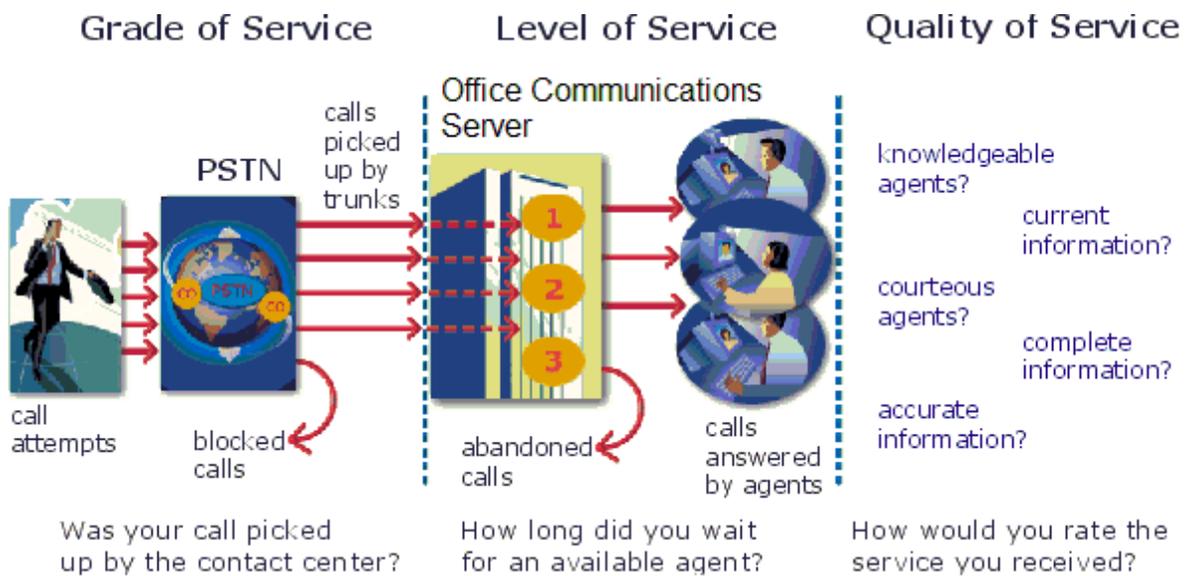


Figure 2: Service criteria

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 similar companies in the same industry. 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
- Minimizes the number of abandoned calls (ideally under five percent)
- Minimizes expenses and maximizes revenue
- Satisfies the expectations of support staff, 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. 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 SYSTEMS AND TOOLS

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

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.

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.

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 that 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 178.

STEP #4 CALCULATE THE RESOURCES REQUIRED

You calculate the agent requirement in conjunction with the telephone system requirement. The number of available agents affects the likelihood and length of delay experienced by callers. The delay affects the load the telephone system must carry. Because the number of available agents impacts the telephone system requirement, 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 and as such you should 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 three 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 $60 \times 60 = 3,600$ 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.

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.

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. See "Understanding reports" on page 160.

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 $60 \times 60 = 3,600$ 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 $(\text{average call duration} + \text{average delay}) \times \text{calls per hour} \div 3600$. 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 $60 \times 60 = 3,600$ 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.

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 an 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.

	Base Staff Required on Phones	Break	Absent	Research & Unscheduled Non-ACD Work	Scheduled	Shrink Factor
13:00 - 13:30	50	12	5	4	71	1.1
13:30 - 14:00	54	0	5	7	66	1.22
14:00 - 14:30	48	8	5	3	64	1.33

Shrink Factor = $\frac{\text{Scheduled Staff}}{\text{On Phone Agents}}$

Figure 3: 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 judgment 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.

Figure 4 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.

Calls Handled	Call Duration	Average Delay	Required Agents
300	280s	20s	28
300	280s	15s	29
316	280s	20s	29

Figure 4: 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.

Employee 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 an 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 queueing 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 3

SERVICES AND DATABASE ADMINISTRATION

*Specifying enterprise maintenance
functions*

Backing up data

Management Console

SERVICES AND DATABASE ADMINISTRATION

This chapter includes specifying maintenance functions, backing up data, and describing Management Console functionality (updating server IP addresses, importing configuration data using the Quick Configuration Wizard, running the maintenance routine immediately, summarizing data, creating a support package, and controlling services).

SPECIFYING ENTERPRISE MAINTENANCE FUNCTIONS

The Enterprise Server is the server computer on which you installed the Contact Center Management server software.

To specify an enterprise maintenance function

1. In YourSite Explorer, click **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 number of days after which reports will be discarded.
5. After **Delete maintenance logs older than**, select the number of days after which maintenance logs will be discarded.
6. After **Delete configuration backup files older than**, select the number of days after which configuration backup files will be discarded.
7. After **Time maintenance service runs**, select the time at which the maintenance service summarizes data. The maintenance service is set to run at 2:00 A.M. by default. Select a time for the maintenance manager to run when your company is closed or is the least busy.
8. Click **Save**.

BACKING UP DATA

NOTE: We recommend you back up the SQL server data files, YourSite Database configuration data files, and raw telephone 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://msdn.microsoft.com/en-us/library/ms175477%28v=sql.100%29.aspx>

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

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 a complete overview of SQL Server recovery models, see [http://msdn.microsoft.com/en-us/library/ms175987\(SQL.90\).aspx](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 are backed up on a regular basis, as these files are used in the summarization process to re-generate historical data.

MANAGEMENT CONSOLE

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

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. Click **Start=>All Programs=>prairieFyre Software Inc=>Contact Center Client**.
2. Type your user name and password.
3. Click **Log on**.
The Contact Center Client window opens.
4. On the main toolbar, click **Administration=>Management**.
The Management Console window opens.

See Figure 5.

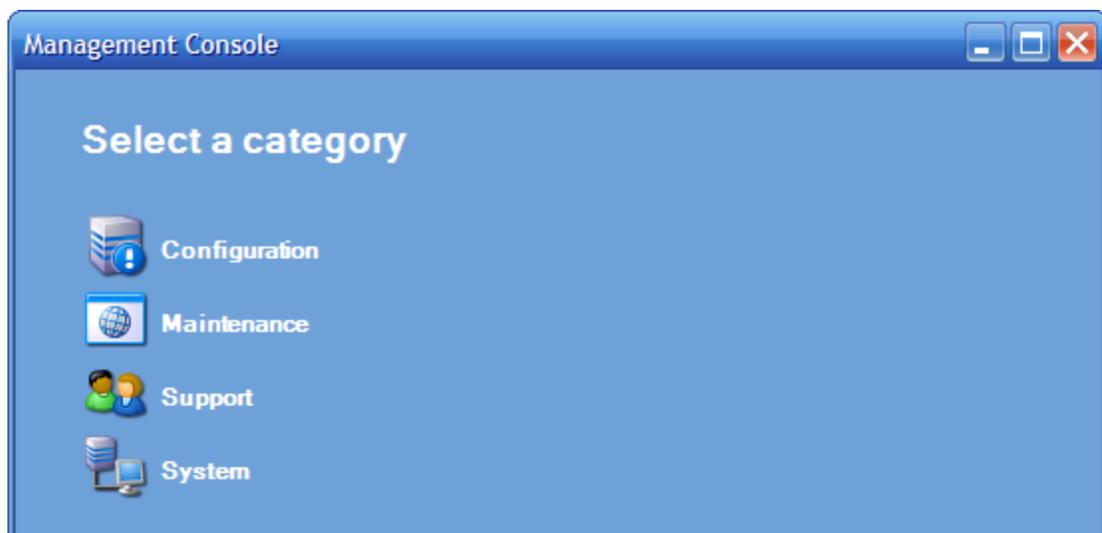


Figure 5: Management Console

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 Mitel applications, you use the Update Server IP Address Wizard.

To apply the IP address change to all Mitel applications

1. In Management Console, click **Configuration**.
2. Click **Configuration**.
3. Click **Update server IP address**.
4. 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

The Mitel Maintenance Service automatically runs at 2:00 A.M., by default. However, you can manually invoke the Mitel 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 Mitel 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 Mitel 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. In the Management Console, click **Support**.
2. Click **Create a support package**.
3. Follow the steps in the Support Package Wizard to package your system records and configuration data.
4. Click **Finish**.

Viewing contact information

Should you need to contact Mitel 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.

Controlling services

Services Manager controls all Contact Center Management services and mandatory system services. These include the prairieFyre .Net Enterprise Server, prairieFyre Auditor Service, prairieFyre CCS Service, prairieFyre Collector Service (v5), prairieFyre Config Service, prairieFyre Data Processor Service, prairieFyre Data Synchronization Service, prairieFyre Maintenance Service, prairieFyre Reporting Service, prairieFyre SQL Writer Service (v5), prairieFyre Updater Service, the prairieFyre Server Monitoring Agent, and Microsoft's IIS Administration Service.

NOTE: If you must restart the Enterprise Router, we recommend you do so outside of business hours. Otherwise, calls could be lost.

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.

Chapter 4

CONFIGURATION

YourSite Explorer

Enterprise setup

Configuring devices and device groups

Active Directory synchronization

Applying configuration settings to client computers

Security roles

ANI and DNIS call routing

CONFIGURATION

MiContact Center for Skype configuration is done in both the Contact Center Management website (CCM Web) and in YourSite Explorer.

Security settings are specified in the YourSite database, under YourSite, in CCM Web. All other configuration is done in YourSite Explorer.

NOTE: MiContact Center for Skype requires the following Skype for Business Server settings under Voice Routing=>Trunk Configuration enabled:

- Enable forward call history
- Enable forward P-Asserted-Identity date

The phrasing and location for these settings is from Lync Server 2013. This may vary depending on your version of Skype for Business or Lync Server.

To set up the YourSite database you must configure the

- Enterprise settings
- Media servers
- Site
- SMTP Server (optional)
- Optional additional servers
- Schedules
- Node alarms (optional)

See "Enterprise setup" on page 40.

Next, you must configure devices and device groups as follows.

1. Add employees and employee groups.
2. Associate the employees with the employee groups.
3. Add employee divisions.
4. Associate employee groups with employee divisions.
5. Add agent groups.
6. Associate employees with agent groups.
7. Set up queue announcements.
8. Set up music on hold playlists.
9. Add queues.
10. Associate agent groups with queues.
11. Add queue groups.
12. Associate queues with queue groups.
13. Add extension groups.
14. Associate extensions with extension groups.
15. Add extension divisions.
16. Associate extension groups with extension divisions.

17. Add teams.
18. Associate agent groups with teams.
19. Add Make Busy and Do Not Disturb Reason codes.

See "Configuring devices and device groups" on page 54.

YOURSITE EXPLORER

YourSite Explorer is a configuration interface that simplifies data management by enabling you to configure and administer all devices in a single 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.

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.

STARTING YOURSITE EXPLORER

To start YourSite Explorer

- Click **Start=>All programs=>prairieFyre Software Inc=>YourSite Explorer**.

NOTE: Launching client-side applications from the task bar causes them to bypass the Updater Service process. To ensure successful updates from the Enterprise Server, after an upgrade close all client-side applications for 15 minutes or reopen them from the Start menu/Start screen.

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 and Employee groups—first and last name and reporting number
- Extension groups—name and reporting number
- Agent groups—agent group ID, name, and reporting number
- Queues and Queue groups—dialable number, name, and reporting number

To search for a specific word or number

- In the Search box, type the word or number you want to find.
A list of devices that match the search criteria appears.

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 or numerically.

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 right side of the page bar.
- **Ribbon**
The ribbon is located at the top of the user interface. The ribbon includes Home, View, Configuration, Tools, and Active directory tabs and enables you to add devices, change the view (horizontal, vertical, or data grid), and re-synchronize and reset clients. Ribbon attributes change depending on the area you are viewing.

To hide the filter bar

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

To hide the page bar

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

To minimize the ribbon

1. Right-click the ribbon.
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 39.

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 appears 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. See "Making multiple changes" on page 40.

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.

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.

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

ENTERPRISE SETUP

To set up your enterprise structure you must configure the following, using YourSite Explorer

- Enterprise
- Media server
- Site
- SMTP Server
- Servers
- Schedules
- Node Alarms

CONFIGURING ENTERPRISE SETTINGS

To set up the enterprise, you configure Enterprise server settings, some maintenance services, and email alarms.

Configuring Enterprise server settings

To configure Enterprise server settings

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Click the **Enterprise** tab.
3. After **Name**, type the name of the enterprise.
4. After **IP address**, verify the IP address of the Enterprise Server.
5. If the IP address is incorrect, after **IP address**, type the IP address of the Enterprise Server.
6. 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.
7. If you use Secure Socket Layer, select the **This server uses Secure Socket Layer (SSL)** check box.
8. If you want to be notified when your warranty is about to expire, select the **Display warranty warning and expiration message** check box.
9. If you want client applications to be automatically updated, select the **Auto update client applications** check box.
10. Click **Save**.
11. Specify enterprise maintenance functions.
See "Configuring Enterprise maintenance functions" on page 41.

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. Click **Save**.

Configuring email alarms

MiContact Center for Skype can send email alarms indicating when the Enterprise router or the SIP Listener services are experiencing difficulty. Users also receive email notifications when the issue has been resolved. We recommend you configure MiContact Center for Skype to send the email alarms to your Contact Center Management administrators.

Email alarms notify users of:

- The severity of the alarm
- The alarm that has been triggered
- When the alarm was triggered
- Details specific to the alarm

For example, an email alarm will indicate that the Enterprise router's server certificate authenticating it to Skype for Business's server is nearing its expiration date or has expired. You can then renew the certificate to continue operations. When the certificate is renewed, you will receive an email notification that the alarm has been cleared. For details on configurable alarms and troubleshooting information for specific email alarms, see the Mitel Knowledge Base.

Enabling, disabling, and configuring email alarms takes place in YourSite Explorer. You can configure the SMTP Mail Server address, the intervals at which email alarms are sent, and the email addresses receiving the alarms.

Before you configure your email alarms, you must have SMTP servers configured. For more information, see "Configuring the SMTP server in YourSite Explorer" on page 52. If you want to alarm on a site, you must add the same SMTP server as the email alarms to that site. For more information, see "Configuring the site" on page 51.

NOTE:

- You receive a single email alarm for a single router issue. However, if the router experiences additional difficulties, you will receive the original alarm message along with subsequent email alarms. The original alarm message will be in a list of active alarms. The most recent alarm will be at the top of the list.
- The severity of alarms is pre-set and cannot be changed.

To configure email alarms

1. In YourSite Explorer, click **YourSite=>Enterprise**.
The Enterprise pane opens.
2. Click the **Email alarms** tab.
3. After **SMTP Mail Server address**, click the ... button, select the IP address of the mail service provider, and click **OK**.
NOTE: The SMTP server must be configured in Your Site Explorer in order for MiContact Center for Skype to send email alarms. For more information, see "Configuring the SMTP server in YourSite Explorer" on page 52.
4. After **Email notification interval minutes**, select from the drop-down list the number of minutes between email alarms.
NOTE: Notifications of critical alarms are sent immediately after the router detects the issue.
5. After **Send Enterprise Server alarms to the following address(es)**, type the email addresses that will receive email alarms.
NOTE: Separate multiple email addresses with commas. We recommend you type the email addresses of Contact Center Management administrators.
6. To enable or disable email alarms, select or deselect the **Enable email alarms** check box.
7. On the ribbon, click **Save**.
8. If you have not already, add your SMTP server to your sites to enable alarming on those sites. See "Configuring the site" on page 51.

Configuring Contact Center Screen Pop

Contact Center Screen Pop is an application for MiContact Center for Skype that provides caller and queue information on an agent’s screen before the agent answers a call. This feature helps agents provide customers with personalized and responsive service.

Table 1 lists the variable from which Contact Center Screen Pop can contain information.

Table 1: Contact Center Screen Pop variables

NAME	VARIABLE	IVR ROUTING ACTIVITY REQUIRED	DESCRIPTION
Caller Name	%PFCALLERNAME%	N/A	The name of the caller
ANI	%PFANI%	N/A	The telephone number or SIP address of the caller
DNIS	%PFDNIS%	N/A	The telephone number the caller dials
Queue	%Queue%	N/A	The queue from which the call originated
Collect Caller Entered Digits	%PFVERIFIEDCOLLECTEDDIGITS%	Collect Digits	The digits the caller enters for identification purposes, such as a customer site key, held in the IVR Routing LastCollectedDigits variable. This variable can display up to 50 digits. (MiContact Center for Microsoft Skype – IVR Routing required. This variable requires a Contact Center Solutions Version 7.1.2 or greater Enterprise Server)

Table 1: Contact Center Screen Pop variables (continued)

NAME	VARIABLE	IVR ROUTING ACTIVITY REQUIRED	DESCRIPTION
Query Results	%PFQUERYRESULT%	Query or Execute	The last Query activity or Execute activity result in the IVR Routing LastQueryResult variable. %PFQUERYRESULT% can display up to 500 characters. (MiContact Center for Microsoft Skype – IVR Routing required. This variable requires a Contact Center Solutions Version 7.1.2 or greater Enterprise Server)

You configure Contact Center Screen Pop in YourSite Explorer. You can specify the information that the pop-up displays and whether a custom application or custom Web page launches Contact Center Screen Pop. In YourSite Explorer you can verify Contact Center Screen Pop configuration using the sample Contact Center Screen Pop application file, ScreenPopDisplayTestForm.exe, included in MiContact Center for Skype . Agents can also enable or disable Contact Center Screen Pop using the Ignite for Skype icon on their desktops or task bars.

To configure Contact Center Screen Pop

1. In YourSite Explorer, click **YourSite=>Enterprise**.
The Enterprise pane opens.
2. Click the **Screen Pop** tab.
3. To enable Contact Center Screen Pop, select the **Launch an application or Web page when agents answer ACD calls**.
4. To disable Contact Center Screen Pop, deselect the **Launch an application or Web page when agents answer ACD calls**.
5. To launch the screen pop using an application, under **Contact Center Screen Pop will launch this application or Web page:**, type the application's file path.
For example: C:\MyProgram\CustomerManagement.exe.
6. If you do not specify the path, you must drop the .exe file into your Ignite for Skype program folder as follows:
 - For a 32-bit Windows system, go to **C:\=>Program Files=>prairieFyre Software Inc=>CCM=>Applications=>Ignite**.
 - For a 64-bit Windows system, go to **C:\=>Program Files (x86)=>prairieFyre Software Inc=>CCM\Applications=>Ignite**.

7. To launch the screen pop using a Web address, under **Contact Center Screen Pop will launch this application or Web page:**, type the Web address.
For example, `http://myintranetsite.business.com/`
8. After the file path or Web address you entered, type the names of the variables between percentage signs.
For example: `C:\MyProgram\CustomerManagement.exe "%PFCALLERNAME%" "%PFANI%" "%PFDNIS%" "%QUEUE%" "%PFVERIFIEDCOLLECTEDDIGITS%" "%PFQUERYRESULT%"` will display the caller name, the number or SIP address from which the caller dialed, the number the caller dialed, the queue from which the call originated, the caller entered collected digits, and the IVR Routing query result.

NOTE:

- Variables must be enclosed within quotation marks and percentage signs, as in the example above. Multiple variables must be separated by a space.
- With the exception of QUEUE, variable names must be preceded by PF.

To verify Contact Center Screen Pop configuration

1. In YourSite Explorer, click **YourSite=>Enterprise**.
2. Click the **Screen Pop** tab.
3. Under **Contact Center Screen Pop will launch this application or Web page:**, type the following file path:
**C:\Program Files\prairieFyre Software
Inc\CCM\Applications\Ignite\ScreenPopDisplayTestForm.exe.**
4. After the file path, type the names of the variables you want to display in a screen pop as in the following example: `C:\Program Files\prairieFyre Software
Inc\CCM\Applications\Ignite\ScreenPopDisplayTestForm.exe "%PFCALLERNAME%" "%PFANI%" "%PFDNIS%" "%QUEUE%" "%PFVERIFIEDCOLLECTEDDIGITS%" "%PFQUERYRESULT%"`.
NOTE:
 - Variables must be enclosed within quotation marks and percentage signs, as in the example above. Multiple variables must be separated by a space.
 - With the exception of QUEUE, variable names must be preceded by PF.
5. On the ribbon, click **Save**.
6. Place a call to a queue. If screen pop is configured correctly, the toaster should display, with the variables you configured, on the agent's desktop when the call rings through to them.

To enable or disable Contact Center Screen Pop in Ignite for Skype

1. Right-click the Ignite for Skype application icon on your task bar or desktop.
2. To enable Contact Center Screen Pop, select **Turn Screen Pop On**.
3. To disable Contact Center Screen Pop, select **Turn Screen Pop Off**.

CONFIGURING THE MEDIA SERVER

You must first add the media server and then configure its location settings, system defaults for queues and agents, routing and presence settings, SIP Listener settings, data summary options, and Network Monitor.

We do not recommend making configuration changes on the Front End media server in YourSite Explorer during working hours. If configuration changes are made while ACD calls are being routed to agents, agents who are in the ACD state may become 'stuck' in that state and not be able to receive or handle calls again until the Enterprise Router is restarted. You can optionally configure a timeout duration during which queues will no longer accept calls and will display as 'offline'. Ongoing ACD calls will continue until completion. When the timeout duration ends, the Router will attempt to apply configuration changes. If there are ACD calls still in progress at this time, the Router will be unable to save the configuration changes and will need to be restarted to allow ACD agents to commence receiving calls. For information on setting the timeout duration, see the following Knowledge Base article: <http://micc.mitel.com/kb/KnowledgebaseArticle52410.aspx>.

NOTE: Pools are treated as media servers in YourSite Explorer. All pool configuration options are located under media servers in YourSite Explorer.

Adding a media server

To add a media server

1. In YourSite Explorer, click **Media servers**.
2. Click **Add**.
3. After **Name**, type the name of the media server.
4. After **Site**, select the site where the media server resides.
5. After **Server**, select the computer name.
6. After **Maintenance start time** and **Maintenance end time**, select the time the SIP Listener and Enterprise Routers will process updates.
If you install updates during the day, they are not processed until this time.
7. After **Licensing**, select the licenses to use for the media server.
If you are not licensed for a product, the check box for that product will not display. If you have no remaining licenses, although the check box still displays, an error message indicates that all available licenses have been used.

8. Under **Pool**

- After **Pool Domain**, type the distinguished name of the pool object in Active Directory. Check **Override Default Sip Domain** if required.
- After **Pool FQDN**, type the fully qualified domain name of the pool. The pool is either the default pool created by Skype for Business Standard or the pool you created for Skype for Business Enterprise. An IP address is not allowed. The Pool FQDN must match the Pool FQDN from the Skype for Business Server topology. The certificate for the Skype for Business pool must match the Pool FQDN for routing to function.
- After **Pool Type**, specify whether this is an Enterprise or a Standard Pool. If it is an Enterprise Pool, use FEPool. If it is a Standard Pool, use HomeServerPool

9. Under **System Port Configuration**, type the port numbers used for the following:

- **Ignite Port** - default port is 15073
- **Collector Data Port** - default port is 15072
- **Enterprise Router Port** - default port is 5071
- **Listener Port** - default port is 15070
- **Communications Port** - default port is 5061

10. After **Music On Hold Playlist**, click ... to select the playlist to apply to the media server.

11. Configure the location settings.
See "Configuring location settings" on page 47.

Configuring location settings

To configure location settings for the media server

1. Click the **Location** tab.
2. After **Country**, click ... and select the country where the media server is located.
3. Click **OK**.
4. After **Area**, click ... and select the area code where the media server is located.
5. Click **OK**.
6. Configure the System Defaults.
See "Configuring system defaults" on page 47.

Configuring system defaults

Default queue settings for timers and default agent ACD policy settings are configured under the System Defaults tab.

ACD policy settings determine how agents are made available to agent groups. (See Table 2.)

NOTE: Default queue settings for requeue timer and work timer will only be applied to queues that have queue timers enabled. See "Adding queues" on page 63.

Table 2: ACD Policy settings

ACD POLICY	DESCRIPTION
No Presence Control	The agent cannot control their presence options. When they log into their computer and open Ignite for Skype, they are automatically logged into their default agent groups and available to answer ACD calls. The agent will not be able to change their ACD settings via Ignite for Skype.
Agent Presence Control	Agents can control their own presence options. The administrator can designate default agent groups with which agents are automatically associated with upon login. However, these agents can remove or add themselves to other groups as needed. NOTE: If an agent has been assigned to one or more agent groups but has not been marked as default in any of them, when they log into the system they will be designated as 'Logged into System' but not be available to any ACD groups.
Third-party Presence Control	This setting is intended to give supervisors additional control over agent presence. Currently, this control operates in the same way as Agent Presence control (both from an agent and supervisor perspective).

You can customize ACD policy settings for specific agents in YourSite Explorer=>Employees. See "Adding employees" on page 55.

To configure system defaults

1. Click the **System Defaults** tab.
2. Click the **Queue Settings** tab.
3. After **Default time before requeue**, select the amount of time you want a call to ring on an agent's desktop before being sent back to the queue. By default, the time before requeue is 3 minutes.
When the call is requeued the initial agent is placed in Make Busy and is unable to answer ACD calls. The agent remains logged in and can receive non-ACD calls and instant messages.
4. If you want to apply the set time against all new and existing queues, click **Update**.
5. If you want to apply the set time to new queues only, click **Save**.
6. After **Default work timer**, select the amount of time you want agents to remain in the Make Busy/Work Timer state.
When an agent is in work timer they cannot receive calls. At any time, either in Ignite for Skype or Contact Center Client, an agent can cancel work timer. However, if an agent removes themselves from work timer they cannot place themselves back into work timer.
7. If you want to apply the set time against all new and existing queues, click **Update**.
8. If you want to apply the set time to new queues only, click **Save**.
9. Click the **Agent Settings** tab.

10. Select the default agent ACD policy settings by choosing either **True** or **False** for each type of control.
See Table 2.
11. Configure Routing and presence settings.
See "Configuring routing and presence settings" on page 49.

Configuring routing and presence settings

To configure routing and presence settings, you configure presence settings, routing, and the SIP Listener.

Configuring presence settings

You can configure overriding agent presence states that are applied when agents

- Select Busy in Skype for Business
- Select Do Not Disturb in Skype for Business
- Enter a transition state

To ensure agents in transition states do not receive calls, supervisors can use the overriding presence state option to automatically place them in System Make Busy with an associated Make Busy code.

We recommend that agents set their presence in Ignite for Skype, rather than in Skype for Business. In Ignite for Skype, agents can set their own Make Busy or Do Not Disturb reason code, ensuring accurate records of agent activities are produced.

NOTE: By default, overriding agent presence state settings are not enabled.

To configure presence settings

1. Click the **Routing and Presence** tab.
2. Click the **Presence** tab.
3. Select the check box(es) for the **Overriding Presence State(s)** you want to enable.
4. Click ... and select a code.
5. Click **OK**.

Configuring routing settings

The Routing tab displays all of the information used in registering the Enterprise Routers to Microsoft Skype for Business. If this information is blank, the Routers have not been registered.

The following information is automatically populated during installation. If your system configuration changes, you can update these fields as required.

- **Globally Routable User Agent URI** - the registration URI from Skype for Business that validates you are authenticated with Skype for Business
- **SIP Address** - the SIP address of the Routers

To configure routing settings

1. Click the **Routing and Presence** tab.
2. Click the **Routing** tab.
3. After **Router FQDN**, type the Fully Qualified Domain Name for the Router location.
NOTE: You must configure the Routing FQDN before queues can be provisioned and calls routed.
4. Under **Default Settings**, after **Maximum Number of Forward Hops**, specify the maximum number of times you want calls to route between queues while waiting to be answered. This option sets a limit on the number of times a call can be rerouted or interflowed.
5. Click **Save**.

SIP Listener settings

The SIP Listener tab contains a listing of the registration fields used by the SIP Listener. The following fields are read-only and are automatically populated by the SIP Listener after it has successfully registered with Skype for Business.

- **Application ID**- the registered ID of the SIP Listener in Skype for Business
- **Application URI**- the registered URI of the SIP Listener in Skype for Business
- **Application Marked as Critical**- if this check box is selected, Skype for Business will not start until MiContact Center for Skype starts
- **Application Enabled** - if this check box is selected, MiContact Center for Skype and Skype for Business are running consecutively

Configuring data summary options

To configure data summary options

1. Click the **Data summary options** tab.
2. If you want to use Trace reporting, enable the **Inbound/Outbound/Make Busy Trace reporting** check box.
3. If your business operates around the clock, enable the **This enterprise operates 24 hours a day** check box.
NOTE: If you do not enable the **This enterprise operates 24 hours a day** check box, but have agents logged in to 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, enable the **Credit unanswered outbound calls** check box.
5. Under **ACD Options**, to store ACD redundant events, select the **File all ACD stream redundant events** 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 **Change the agent state from Ringing to Idle after**, select the number of minutes or hours after which you want the agent state to change from Ringing to System Make Busy.
9. 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.
10. Configure Network Monitor settings.
See "Configuring Network Monitor" on page 51.

Configuring Network Monitor

To configure Network Monitor settings

1. Click the **Network Monitor** tab.
2. After **Alarm name**, click ...and select an alarm from the list.
3. 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 node alarms" on page 53.
5. Click **Save**.

Deleting the media server

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

To delete a media server

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**.

CONFIGURING THE 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.

To configure a site

1. In YourSite Explorer, click **YourSite=>Site**.
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 **SMTP Server**, click ...
6. Select the SMTP server and click **OK**.
7. Click **Save**.

CONFIGURING THE SMTP SERVER IN YOURSITE EXPLORER

To configure an SMTP server in YourSite Explorer

1. In YourSite Explorer, click **YourSite=>SMTP Server**.
2. Click **Add**.
3. After **SMTP Server**, type the IP address or name of the SMTP server (for example, PFEXCHANGE).
4. Under **SMTP Port**, type the port number of the SMTP server.
NOTE: The default value of this port is 25.
5. After **From Email Address**, type the email address from which all Contact Center Management reports will be mailed.
NOTE: The field is mandatory as some email servers will not relay mail messages without a valid sender.
6. If the Mail server uses Secure Sockets Layer, select the **Use SSL** check box.
7. If the email server requires authentication, type the logon information in the **Username** and **Password** boxes.
8. Click **Save**.

CONFIGURING SERVERS

To add a server, other than the front-end media server and the SMTP server, you do so in YourSite Explorer=>Servers.

To configure a server

1. In YourSite Explorer, click **Servers**.
2. Click **Add**.
3. Type the **Name** and **IP Address\DNIS Name** of the server.
4. Click **Save**.

CONFIGURING SCHEDULES

You create schedules that accurately reflect the business hours of your operation. You can create yearly or seasonal schedules. When you install MiContact Center for Skype, 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. You create schedules that describe the hours of operation for your business.

Scheduled business hours can be applied to a queue. Outside of business hours calls can be redirected to an external or internal number, another queue, or voicemail using either the Line URI (extension) or SIP address. For queues where a redirection point is not applicable a closed message can be configured.

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 configure a schedule

1. In **YourSite Explorer**, click **Schedules**.
2. Click **Add**.
3. After **Name**, type the name of the schedule (for example, type Fall 2014 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 53.
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**.

Managing schedule exclusion lists

To manage schedule exclusion lists

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.

Applying schedules

You can apply the schedules you create to

- Media servers—See "Configuring the media server" on page 46.
- Queues—See "Adding queues" on page 63.
- Network Monitor alarms—See "Configuring the media server" on page 46.

CONFIGURING NODE ALARMS

You can configure one or more node alarms for your media servers. You specify the days and times during which node 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.

To configure a node alarm

1. In **YourSite Explorer**, click **Node alarms**.
2. Click **Add**.
3. After **Name**, type the name of the node 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 data alarms are not activated after hours.
5. Click **OK**.
6. After **Low disk threshold**, select the value in MB for the threshold below which you want the node alarm to be activated. (For example, select 50. An alarm will be activated when the disk space is less than 50 MB).
7. 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.
8. 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 appear.
This setting relates to the SMDR Data timeout and ACD Data timeout Network Monitor alarms.
9. After **Certificate Expiry in Months**, select how far ahead of time, in months, you want to be informed before your Authentication Certificate expires.
10. Click **Save**.

CONFIGURING DEVICES AND DEVICE GROUPS

Using YourSite Explorer, you create and configure devices and device groups in order to be able to view real-time data and run reports.

You can configure devices manually or by using the Quick Setup option.

You can also add a range of devices using comma-separated values (.csv) import.

To configure devices and device groups, you

- Add employees.
- Add employee groups.
- Associate employees with employee groups.
- Add agent groups.
- Associate employees with agent groups.
- Configure queue announcements.
- Set up music on hold playlists.
- Add queues.
- Associate agent groups with queues.
- Add queue groups.
- Associate queues with queue groups.
- Configure queue announcements.
- Configure music on hold playlists.
- Add extension groups.
- Associate extensions with extension groups.
- Add extension divisions.
- Associate extension groups with extension divisions.

- Add teams.
- Associate agent groups with teams.
- Add Make Busy Reason codes.
- Add Do Not Disturb Reason codes.

CONFIGURING DEVICES AND DEVICE GROUPS MANUALLY

NOTE:

- When you configure reporting numbers for groups, use numerical characters only. 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 Agent groups 5001 to 5005, if the system detects you have already added Agent group 5002, then it will not add Agent group 5002 or any subsequent Agent groups in the series (that is, Agent groups 5003 to 5005) to the database.

Adding employees

You must add all employees (agents, supervisors, managers) in YourSite Explorer so you can run reports on employee activities and view employee performance in real time.

All employees are automatically assigned an extension for non-ACD reporting and real-time monitoring purposes. This extension number cannot be modified. An employee's extension is the same as their employee ID. You can view extension information in YourSite Explorer=>Employees=>Extension.

Employees can be configured as either contact center or general business employees.

When you designate an employee as *reporting only* reports can be created for that employee but they cannot be monitored in real time. The following issues should be considered when designating employees for reporting only.

Retiring an Employee

If you want to retire and reuse an employee ID, for example, when an employee leaves the company, the following applies: If a retiring employee's ID (Employee A) is issued to a new employee (Employee B) and a report is run for the period when Employee A was an active employee, Employee B's name will display in the report but the statistics will be those of Employee A.

Deleting an Employee

If you delete an employee you will not be able to select this employee in the Contact Center Management website in order to run reports for them. Furthermore, if you summarize historical data, the data for the deleted employee will be purged from the database.

Instead of deleting an employee, designate the employee as reporting only. Their statistics will not be deleted from the database and you will be able to continue to run historical reports for them.

NOTE:

- Summarizing historical data removes it from the database. If, after summarizing, you need to access this historical data, you can re-designate the employee as licensed for real time and reporting and re-summarize the data.
- MiContact Center for Skype does not support multiple lines for employees. Employees may only be configured with a single line.

Configuring general and licensing information

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**.
The Associate with user window displays.
4. Browse to the location of the Active Directory user you want to add as an employee, select the user, and click **OK**.
5. Under **General**, specify employee identification information.
You must provide the date the employee became an active part of the enterprise if you intend to generate administrative employee reports.
A unique employee ID number is generated for each employee.
6. Under **Licensing**, select the features and applications for which you want to decrement a license.
 - The **Reporting only** option enables you to run reports on the employee but not monitor the employee in real time.
 - The **Real-time and reporting option** enables you to run reports on the employee and monitor the employee in real time, and decrements one employee license.

NOTE:

- You cannot license an employee if no licenses remain.
 - Supervisors must be assigned an agent license to use supervisor-related features reliant on Skype for Business, such as silent monitoring, help, or conferencing.
7. Configure user account information.
See "Configuring user account information" on page 56.

Configuring user account information

When configuring employee user account information, you can view the employee's associated SIP address and Line URI, but these fields are not editable, as they are controlled from the associated Active Directory user account.

To configure user account information for an employee

1. Select an employee.
2. Click the **User account** tab.
3. Specify the **Username** and **Password** for the employee.
4. After **Site**, click ... and select the site to which the employee is associated.

5. Click **OK**.
6. If the employee is a supervisor, select the **Is supervisor** check box.
NOTE: Supervisors must be assigned an agent license to use supervisor-related features reliant on Skype for Business, such as silent monitoring, help, or conferencing.
7. Under **Security**, click ... and select a security role for the employee.
The default security role permits users full access to all applications and devices.
8. Click **OK**.
9. 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.
10. Under **Communication Properties**
 - Right-click **Communication Properties** to optionally call, send an instant message, or start a video call with the selected employee.
 - If the employee is configured for Enterprise Voice in Skype for Business, the **SIP Address** and **Line URI** fields are automatically populated.
 - If you are configuring a contact center employee, select the **Enabled for SIP** check box.
 - If you want to configure this employee for real-time monitoring and reporting, select the **Enabled for ACD** check box. When this option is enabled, an agent ID is created and associated with the employee. The Enabled for ACD check box is disabled if you do not select the Enabled for SIP check box.
11. Configure employee details.
See "Configuring employee details" on page 57.

Configuring employee details

To configure details for an employee

1. Select an employee.
2. Click the **Details** tab.
3. Specify address, personal, and emergency contact information for the employee.
4. Configure agent login information.
See "Configuring agent login information" on page 57.

Configuring agent login information

NOTES:

- Employees are not enabled for ACD by default. You must select the enable for ACD option for each employee.
- If you have more than one pool, you must select each employee (the employee info will turn bold) to generate an extension for that employee. An extension will not be generated until this is completed.

To configure agent login information

1. Select an employee.
2. Click the **Agent Login** tab.
3. After **Media Server**, click ... and select the media server to which the employee is associated.
NOTE: The default media server used for each employee is the first media server in the list. If the employee is in the second pool (associated to the second media server), you must select the second media server from the list.
4. Click **OK**.
5. Under **Agent Availability**, select the appropriate **ACD Policy** from the drop-down list. For a description of ACD Policy settings, see "Configuring system defaults" on page 47.
6. Click **Save**.

Disassociating Line URI from historical employees

If you wish to reuse a Line URI from an employee who is no longer active at your contact center, such as from a former employee, with a new employee, you must make the employee historical and remove them from Lync using the Lync Control Panel. This will enable you to reuse their Line URI.

To disassociate Line URI from a historical employee

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employees**.
3. Select the employee you wish to make historical.
4. Under **Licensing** and real-time options, select the **Reporting only** button.
5. Click **Save**.
The Line URI is removed from the employee.
6. Open the Skype for Business control panel.
7. Click **Users**.
8. Select the historical employee whose Line URI you want to reuse.
9. Click **Action=>Remove from Skype for Business Server**.
The employee is removed from Skype for Business. The Line URI may be used with new employees.

Adding employee groups

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

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. Click **Save**.

Associating employees with employee groups

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. Click **Save**.

Adding agent groups

You add agent groups and then associate employees to these groups.

When you designate an agent group as *historical reporting only* reports can be created for that device but they cannot be monitored in real time.

Deleting agent groups

If an agent group is deleted, it is no longer a selectable device. If you want to be able to run historical reports, deleting agent groups is not recommended. Instead of deleting agent groups, designate them as historical reporting only but remember that if a historical summarization is performed this agent groups' data will be removed from the database.

NOTE: Summarizing historical data removes it from the database. If, after summarizing, you need to access this historical data, you can re-designate the agent group and its associated devices (employees/agents) as licensed for real time and reporting and re-summarize the data.

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. Under Reporting and real-time options, select
 - **Historical reporting only** if you want to run reports on an agent group without real time monitoring.
 - **Real time and reporting** if you want to run reports on an agent group and monitor it with basic real time functionality, such as ACD states and statistics and presence.
6. Click **Save**.

Associating employees with agent groups

To associate an employee 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 employee and click > to move the employee to the **Selected members** list.
The employees listed as available to be assigned to an agent group are those associated with the same media server to which the agent group is associated.
5. Under **Is Default**, select **True** if you want the employee to be associated by default to the agent group.
When an agent logs into Ignite for Skype they are automatically joined to their default agent group(s).
6. Click **Save**.

Configuring queue announcements

Announcements are assigned to queues and play to individual calls in queue at specified times. After you create announcements for a queue they can be re-used across all queues as required. If Music On Hold is configured for a queue, the music plays between announcements. If an agent is available when a call enters the queue, the caller is immediately routed to the agent and does not hear any queue announcements.

Audio files for announcements can be selected from the local file system or chosen from the media file library on the Enterprise server. Once a file is selected from the local file system, it is instantly added to the media file collection, copied to the shared media directory on the Enterprise server, and is made available to any queue.

NOTE: All queue announcements must be in .wma format. The codec required is 32kpbs, 44khz, 16-bit mono, and CBR (Constant Bit Rate).

The following announcement types can be played to callers waiting in queue:

- **Recorded announcements** - can be interspersed with other announcements and played at specified intervals in a defined order. There is no limit on the number of recorded announcements that can be configured to play on a queue.
- **Welcome greeting** - this announcement is played once when a caller enters the queue.
- **Estimated wait time message** - this announcement is played once when a caller enters the queue and tells the caller the estimated amount of time they will wait in queue before being answered. Estimated wait time (EWT) is calculated using real-time call handling statistics from the Enterprise Server. If there are agents available, the EWT is calculated as follows: average TALK TIME x # of calls in the queue. If there are no agents available when the call enters the queue then EWT = average handle time. EWT files are shipped with MiContact Center for Skype. The estimated wait time message will not play if EWT is equal to zero seconds.
- **Call load announcement** - this announcement plays when the number of calls waiting in the queue surpasses a specified threshold. Music On Hold (if enabled for the queue) and other configured announcements are interrupted and the caller is advised that there is a high volume of calls. The call load announcement can also be configured to play according to a specific time interval, for example, every 60 seconds.
- **Queue Closed Announcement** - this announcement plays when a call is directed to a closed queue. The queue closed announcement plays and the call is terminated.

To configure a queue announcement

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queue Announcements**.
3. Click **Add**.
4. Under **Queue announcement settings**, type a **Name** for this queue announcement configuration and, optionally, type descriptive information in the **Comment** text box.
5. To add a welcome greeting, after **Welcome greeting**, click ... to select a file from the media directory or click **Add file** to select a file from your local file system.
When you add a file from your local file system, it is automatically added to the media directory on the Enterprise server and is available to be selected for future queue announcement configuration.
6. If you want to remove the welcome greeting you have selected, click **Clear**.
7. To add an estimated wait time message, after **Estimated Wait Time Message**, click ...to select a file from the media directory or click **Add file** to add a file from your local file system.
8. If you want to remove the estimated wait time message you have selected, click **Clear**.
9. After **Time before next announcement**, specify the time interval between recorded announcements.
10. After **Call load before announcement is played**, specify a threshold for the number of calls that must be waiting in queue before the call load announcement will play.
11. After **Announcement**, click ... to select a file from the media directory or click **Add file** to add a file from your local file system.
12. If you want to remove the call load announcement you have selected, click **Clear**.
13. After **Play call load announcement every**, specify the time interval between call load announcements.
14. To add a queue closed announcement, after **Queue Closed Announcement**, click ... and select a file from the media directory or click **Add file** to add a file from your local file system.
15. If you want to remove the queue closed announcement you have selected, click **Clear**.
16. To add a recorded announcement, Under **Announcements, Available members**, click **Add** to select a file from your local file system.
The file is now accessible in the Available members list.
17. To preview the file, click **Play**.
18. To delete the file, click **Delete**.
19. To add the recorded announcement to the playlist, select the file in the **Available members** list and click > to move it to the **Selected members** list.
The files will play in the order in which they are placed in the Selected members list.
20. To change the order the files will be played in, click the up and down arrows in the right margin of the **Selected members** list.
21. Click **Save**.

Configuring Music On Hold playlists

Music is played to callers both waiting in queue or on hold in queues that are enabled to play Music On Hold. If a caller changes queues while listening to Music On Hold they will not notice a change in the music if both queues are enabled to play Music On Hold.

You can upload .wma files to the Enterprise Server and then add them to your playlist. Once the files have been added to the playlist you must associate the playlist to the media server and enable Music On Hold on the queues for which you want Music on Hold to be active. See "Adding queues" on page 63.

When a file is uploaded using YourSite Explorer, it is automatically synchronized to the server where the router is located, as these files must exist on the server that contains the prairieFyre Enterprise Router Service. There are no limits on the number or length of files that can be added to the server. However, all files must be in the .wma format. The codec required is 32kpbs, 44khz, 16-bit mono, and CBR (Constant Bit Rate).

To configure a Music On Hold playlist

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Music on Hold playlists**.
3. Click **Add**.
4. After **Playlist name**, type a name for the playlist.
5. Under **Available Members**, click **Add**, navigate to the location where your .wma files are stored, and select the files you want to make available to the playlist.
The .wma file is added to the list of **Music on Hold Files**
6. To listen to the .wma file, click **Play**.
7. To delete the .wma file, click **Delete**.
8. To place .wma files into the playlist, click **>** to move the files from the **Available members** window to the **Selected members** window.
9. Click **Save**.

Configuring Call Ringing

Call ringing plays a ring tone when a caller leaves the queue and their call is offered to an available agent. If a queue has no Music on Hold or queue announcements configured, then the ring tone will also play.

MiContact Center for Skype includes a default ring tone, but custom ring tones may be used as well. To use a custom ring tones, you must overwrite the RingingTone.wma file on both the Enterprise Server and the Router.

NOTE:

- Custom ring tones must be in .wma format.
- It is recommended that you choose a ring tone with a duration of 10 seconds or longer.
- It is recommended that you back up a copy of RingingTone.wma before overwriting it if you want to preserve a copy of the default tone.
- It is recommended that you place a test call after overwriting the default ringing tone file.

Replacing the default ring tone

To replace the default ring tone

1. Rename the custom ring tone .wma file RingingTone.wma.
2. Replace the existing RingTone.wma file with the custom RingingTone.wma file into <Server IP address>\MediaDirectory\SystemMedia\ folder on both the Enterprise Server and the Router.

Adding queues

You add queues and then associate agent groups to the queues. You can also create queue groups and associate queues with the queue groups. Every queue you create must have a valid Line URI and SIP address in order to receive calls. A newly created queue is available to Ignite for Skype and the Enterprise routers after it has been provisioned in Skype for Business.

When you designate a queue as *historical reporting only* reports can be created for the queue, but the queue cannot be monitored in real time or put back into service.

NOTE: If a queue is designated as historical reporting only and a historical summarization is performed this queue's data will be removed from the database. If, after summarizing you need to access this historical data, you can re-designate the queue as licensed for real time and reporting and re-summarize the data.

Configuring general information for queues

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. Under **Common**, specify the **Name** and **Reporting number** for the queue.
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. Click **OK**.
7. Under **Queue service objective**, specify the **Service Level goal** and the **Service Level time**.
8. 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 handle 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 a call that is abandoned in less than 5 seconds. **NOTE:** Short abandoned calls are not included in the Offered, Service %, or Average delay to abandon (hh:mm:ss) statistics.

10. Under **Reporting and real-time options**, select
 - **Historical reporting only** if you want to run reports on a queue without real time monitoring.
 - **Advanced real time and reporting** if you want to run reports on a queue and monitor it with basic real time functionality, such as ACD states and statistics and presence.
11. If you want to enable requeue timer for this queue select the **Use requeue timer** check box and specify the duration.
The value of the queue requeue timer must be equal to or less than the system requeue time configured on the media server. By default, the system requeue time is configured to be 3 minutes. See "Configuring system defaults" on page 47.
12. If you want to enable work timer for this queue, select the **Use work timer** check box and specify the duration.
The default work timer settings are configured on the media server.
See "Configuring system defaults" on page 47.
13. If you want to include work time as part of handling time, select the **Include work timer as part of handling time** check box.
14. Under **Connection Settings**, type the **SIP Address** and **Line URI** for the queue.
NOTE:
 - A queue's SIP address cannot be changed once the queue has been saved. To change a queue's SIP address, you must first delete and recreate the queue. You can then type the new SIP address.
 - In a multi-site installation of MiContact Center for Skype with multiple Enterprise Servers, there is the remote possibility that a queue will be provisioned that uses a Line URI in use at another Enterprise Server site's configuration. For troubleshooting assistance, consult the Knowledge Base for resolution.
15. Under **Media Options**, click ... and select a **Queue Announcement**.
See "Configuring queue announcements" on page 60.
16. Click **OK**.
17. If you want to enable Music on Hold, select **Use Music on Hold for this queue**.
Music on Hold settings are configured on the media server.
See "Configuring Music On Hold playlists" on page 61.
18. Configure business hours for the queue.
See "Configuring business hours for queues" on page 64.
NOTE: In order to apply a business hour schedule to queues, you must first create a business hour schedule. See "Configuring schedules" on page 52.

Configuring business hours for queues

You configure business hours for queues to determine when queues are available. Outside of business hours, calls can be:

- Redirected to another answer point, such as voicemail, another queue, or an external number
- Presented with a closed message
- Presented with a busy signal

To configure business hours for queues

1. Click the **Business Hours** tab.
2. After **Business-hour schedule**, click ... and select a schedule for the queue.
3. Click **OK**.
4. 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.
5. To apply the selected business-hour schedule to all queues associated with the media server, click **Submit**.
6. Configure routing options.
See "Configuring general routing options for queues" on page 65.

Configuring general routing options for queues

Longest idle routing ensures that the agent with the longest idle time always handles the next available call that is waiting in queue. If there are four agent groups configured for a queue, the first agent group is checked to see if there are any available agents. If no agents are available and the overflow timer is active, the next agent group will be included in the searching algorithm. Either way the agent with the longest idle time is selected and presented to the caller. The call will search all four agent groups until the interflow timer expires and then follow the interflow point directory number. If no interflow timer is present then the call will continue to queue until the caller abandons the call. (See Figure 6.)



Figure 6: ACD routing

To configure routing options for queues

1. Click the **Routing options** tab.
2. Under **General**, after **Priority**, select a priority for the queue.
Queue priority determines which calls are answered first. Queues with the same priority are answered based on longest-waiting call. One is the highest priority for a queue and 64 is the lowest priority. Callers in higher priority queues will be delivered before callers in lower priority queues. The call priority does not change for the duration of the call unless the call has interflowed to other queues where the interflow destination point has been set to change the call priority.
Default call priority is 64.
3. After **Queue unavailable answer point directory number**, type the Line-URI or SIP Address you want calls to be directed to if the queue is unavailable.
NOTE: In order for queues without logged in agents to be available during business hours, ensure you set the 'Allow calls to queue when no agents are present in this queue' option.
4. If you want calls to wait in the queue until an agent makes themselves available to a group associated with that queue, select the **Allow calls to queue when no agents are present in this queue** check box.
Calls that are routed to queues with no agents present immediately queue to all agent groups.
By default, this option is turned off and calls are transferred to the unavailable answer point directory number.
5. Under **Interflow options**,
 - After **Interflow enabled**, select whether you want interflow to be enabled.
Interflow is a time-based routing function that takes an ACD call out of the path and routes it to an interflow answer point.
 - After **Interflow timeout**, specify the time that it takes a call to interflow, for example if interflow timeout is set to two minutes, the call will interflow if not answered after two minutes.
The duration configured should be longer than the combined overflow timer for the agent groups in the queue.
 - After **Interflow point directory number**, type the interflow answer point directory number, Line URI or SIP Address, or click ... to select from a list of optional answer points, where calls will be interflowed to when the queue is unavailable. Interflow points can be Line URIs or other SIP addresses.
 - After **Interflow immediately when all agent groups' timers have expired**, select **Yes** if you want calls to interflow immediately after the overflow timers for all agent groups in the queue have expired.
 - After **Interflow to this queue uses this queue's priority**, if you want calls that are interflowed to this queue to assume this queue's call priority settings.
6. Configure Interactive Contact Center queue control.
See "Configuring Interactive Contact Center queue control" on page 70.

Interflowing calls directly to voice mail

By default, even if the Interflow Endpoint is busy, the call will still be sent to the endpoint to ring before being redirected to that endpoint's voice mail. You can, however, configure the router service to immediately send the call to the endpoint's voice mail if the endpoint is busy.

NOTE: If an endpoint is busy and does not have a voice mail configured, the call will fail when interflowed. If you change this configuration setting, ensure your interflow endpoints have voice mail available.

To change the interflow behavior to immediately send the call to a busy endpoint's voice mail.

1. Navigate to the following folder:
`<drive>\Program Files\prairieFyre Software Inc\CCM\Service\RouterService`
2. Open **OrandaRouterService.exe.config** in an editor.
3. Locate the following:
`<setting name="AllowInterflowToVoiceMailImmediatelyWhenOnAcidOrBusy" serializeAs="String">
<value>>false</value>
</setting>`
4. Delete **false** and replace with **true**.
5. Save and close the editor.
6. Navigate to **Services**.
7. Right-click **prairieFyre Enterprise Router Service** and click **Restart**.

Configuring alternate queue endpoints

You can also configure queues with alternate endpoints. Alternate queue endpoints ensure that calls reach a service destination:

- When queues are unavailable, such as when a call comes in after hours or when a queue is in Do Not Disturb.
- If a queue has been configured incorrectly or in the rare event that the Enterprise router goes offline.

Alternate queue endpoints include

- Resilient queue endpoints
- A global resilient endpoint
- Unavailable answer points

Resilient queue endpoints provide an alternate endpoint for calls if a queue is configured incorrectly or in the rare event that the router is offline and unable to direct calls to queues. For example, if you take the router offline for maintenance, you can configure a resilient queue endpoint to send callers directed to that queue to an alternate response group. Configure resilient queue endpoints by creating an .xml SIP Listener service configuration file called QueueFailureRedirects.xml. A sample configuration file, QueueFailureRedirects.Sample.xml, is shipped with MiContact Center for Skype. Use this file to create your own .xml configuration file.

NOTE: A resilient queue endpoint must be internal to Skype for Business. External PSTN numbers cannot be used.

The global resilient endpoint provides an alternate endpoint for calls if the router is offline and you have not configured resilient queue endpoints. For example, if you take the router offline for maintenance, calls that enter the system will be sent first to the resilient queue endpoints. If no resilient queue endpoints are configured, these calls will be sent to a single global resilient endpoint. Configure the global resilient endpoint by creating an .xml SIP Listener service configuration file called QueueFailureRedirects.xml. A sample configuration file, QueueFailureRedirects.Sample.xml, is shipped with MiContact Center for Skype. Use this file to create your own .xml configuration file.

NOTE: A global resilient endpoint must be internal to Skype for Business. External PSTN numbers cannot be used.

Unavailable answer points provide an alternate endpoint for calls if queues are unavailable for reasons independent of the router, such as being in Do Not Disturb or being closed for the evening. For example, you can configure an unavailable answer point to send after-hours calls to a voicemail box. Configure unavailable answer points in YourSite Explorer.

NOTE:

- If your business uses multiple front end servers, ensure that endpoints are configured identically for each server. This includes ensuring that the content of the .xml file for each SIP Listener is identical.
- If a call comes in when the router is offline, MiContact Center for Skype's SIP Listener service receives a response code of 400 or higher, indicating the call's failure to route. For descriptions of response codes, see the following Knowledge Base article: <http://micc.mitel.com/kb/KnowledgebaseArticle51586.aspx>
- After configuration, you do not need to restart the SIP Listener. The SIP Listener will reload the same .xml SIP Listener service configuration file within 5-10 seconds.
- Ensure that SIP addresses are valid before saving the .xml SIP Listener service configuration file, or the redirection will not take effect.
- If the router is taken offline and you have not configured resilient queue endpoints or a global resilient endpoint, calls will be sent to the unavailable endpoint if one is configured.
- If you are using Microsoft Exchange server auto-attendant, calls will not be directed to another answer point if the queue is unavailable (for example, being offline or deleted).

To configure a resilient queue endpoint

- Resilient queue endpoints are configured for individual queues. Configure a resilient queue endpoint by creating an .xml SIP Listener service configuration file called QueueFailureRedirects.xml, either from scratch or using the sample .xml file provided. Information on creating the .xml configuration file can be found at C:\Program Files\prairieFyre Software Inc\CCM\Services\SipListener\QueueFailureRedirects.Readme.txt. This folder is included in each Front End server.

To configure a global resilient endpoint

- The global resilient endpoint is unique and is configured across all queues. Configure the global resilient by creating an .xml SIP Listener service configuration file called QueueFailureRedirects.xml, either from scratch or using the sample .xml file provided. Information on creating the .xml configuration file can be found at C:\Program Files\prairieFyre Software Inc\CCM\Services\SipListener\QueueFailureRedirects.Readme.txt. This folder is included in each Front End server.

To configure an unavailable answer point

1. In YourSite Explorer, click **YourSite=>Queues**.
The Queues pane opens.
2. Click the **Routing options** tab.
3. After **Queue unavailable answer point directory number**, type the directory number you want calls to be directed to if the queue is unavailable.
4. For example, to send callers to a voicemail extension, you would type the appropriate sip address such as sip:user@domain.local;opaque=app:voicemail

NOTE:

- For voicemail extensions, ensure you type a SIP address.
- If the router is offline, the call will route to the resilient queue endpoint if one is configured. If a resilient queue endpoint is not configured, the call will route to the global resilient endpoint if one is configured.

Configuring Dial Out of Queue

Dial Out of Queue enables callers currently in a queue to dial a pre-configured number and leave that queue to connect to a different point of contact in a contact center. Dial Out of Queue is configured for queues by defining destination points, such as voicemail, another queue, or even directly to a specific agent, for up to 12 DTMF digits (0-9, '*', and '#') and then configuring the duration of time that must pass before Dial Out of Queue become available to a caller in queue.

NOTE:

- Once Dial Out of Queue becomes available to a caller, it will remain available until the caller leaves the current queue.
- It is a requirement for Dial Out of Queue that DTMF be delivered through SIP messages as opposed to in-band signaling through the trunk interface.
- A call coming out of queue through Dial Out of Queue is reported as an Interflowed in queue reports.
- Queue announcements informing callers of Dial Out of Queue destination points must be recorded, configured as queue announcements, and then associated to the queue. See "Configuring queue announcements" on page 60 and "Configuring general information for queues" on page 63.

To enable Dial Out of Queue for a queue

1. In YourSite Explorer, click **Queues**.
2. Under **Queues**, select the queue in which to define Dial Out of Queue destination points.
The queue opens in the pane below.
3. Click the **Dial Out of Queue** tab.
4. After **Enable Dial Out of Queue after**, set the time which you want to pass before the dial-out becomes available.

NOTE: The maximum time that may pass before Dial Out of Queue becomes available is 1 hour.

5. Under **Dial Out Of Queue Destination Endpoints**, in the text box beside the DTMF digits you want to configure as dial-out options, enter the phone number, SIP address, or LineURI for the desired destination point.
NOTE: Phone numbers must be entered only as LineURI only, without hyphens or parentheses, e.g. tel:+6135990045. Phone numbers must work when dialed by a Skype for Business client.
6. When you are finished setting the destination points, click **Save**.

Configuring Interactive Contact Center queue control

To configure Interactive Contact Center queue control

1. Click the **Interactive queue control** tab.
2. Select the **The queue uses Interactive Contact Center queue control** check box to enable this queue to be interactively controlled using the schedule you specify.
3. Configure queue spectrum settings.
See "Configuring queue spectrum settings for queues" on page 70.

NOTE: You must configure Interactive Contact Center to enable queues to enter DND based on business-hour schedules.

Configuring queue spectrum settings for queues

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

Associating agent groups with queues

When you add a queue, you associate the queue with the agent groups that handle calls for that queue. You must associate at least one agent group with a queue in order to produce reports on the queue. A maximum of four agent groups can be associated to a queue.

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.
The agent groups listed as available to be assigned to a queue are those associated with the same media server to which the queue is associated.
5. Click **Save**.

Deleting queues

If a queue is deleted, it is no longer a selectable device. If you want to be able to run historical reports, deleting queues is not recommended. Instead of deleting queues, designate them as *historical reporting only* but remember that if a historical summarization is performed this queue's data will be removed from the database. When you designate a queue as *historical reporting only* reports can be created for the queue but it cannot be monitored in real time.

NOTE: Summarizing historical data removes it from the database. If, after summarizing, you need to access this historical data, you can re-designate the queue as licensed for real time and reporting and re-summarize the data.

Adding queue groups

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. Configure queue group identification information.
5. Click **Save**.

Associating queues with queue groups

After adding queues, you can associate them with queue groups.

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 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. Click **Save**.

Adding extension groups

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. Configure extension group identification information.
5. Click **Save**.

Associating extensions with extension groups

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. Click **Save**.

Adding extension divisions

To add an extension division

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Extension divisions**.
3. Click **Add**.
4. Configure extension division identification information.
5. Click **Save**.

Associating extension groups with extension divisions

To associate an extension group with an extension division

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

Adding teams

You add teams and then associate agent groups to these teams.

To add a team

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Teams**.
3. Click **Add**.
4. Configure team identification information.
5. Click **Save**.

Associating agent groups with teams

To associate an agent group with a team

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. Click **Save**.

Adding Make Busy Reason codes

Agents enter Make Busy Reason codes to indicate why they are placing themselves in Make Busy and not handling calls.

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. Click **Save**.

Adding Do Not Disturb Reason codes

Interactive Contact Center enables supervisors 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 are placed in Do Not Disturb. You add 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. Click **Save**.

CONFIGURING DEVICES AND DEVICE GROUPS USING QUICK SETUP

If you want to add a range of devices and device groups (employee groups, employee divisions, agent groups, queue groups, extension groups, Make Busy Reason codes, and teams) you can use Quick Setup.

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

Employee group Quick Setup

To add a range of employee groups

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employee groups**.
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**.

Employee division Quick Setup

To add a range of employee divisions

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employee Divisions**.
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**.

Agent group Quick Setup

To add a range of agent groups

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Agent groups**.
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 with which to associate the agent groups.
7. Click **OK**.
8. Click **Run**.

Queue group Quick Setup

To add a range of queue groups

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queue groups**.
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**.

Extension group Quick Setup

To add a range of extension groups

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Extension groups**.
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**.

Extension division Quick Setup

To add a range of extension divisions

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Extension divisions**.
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**.

Make Busy Reason Quick Setup

To add a range 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

To add a range 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**.

CONFIGURING DEVICES AND DEVICE GROUPS USING .CSV FILES

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, agent groups, queue groups, extension groups, extension divisions, 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.

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.
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 appear in the same order as they do in your .csv file.
8. Click **Next**.
9. When the import has completed, click **Finish**.
The imported devices will display in the data grid view of YourSite Explorer.

ACTIVE DIRECTORY SYNCHRONIZATION

Active Directory is a centralized data system. YourSite Explorer and Active Directory groups, domains, and organizational units are synchronized during Active Directory synchronization.

When you run Active Directory synchronization, employees 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 click **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. We recommend you set frequency for 24 hours. If you turn Active Directory synchronization off, the system will automatically synchronize when maintenance service runs (every day at 2 A.M., by default).
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 synced.
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.

APPLYING CONFIGURATION SETTINGS TO CLIENT COMPUTERS

You can apply configuration settings to client computers by sending recent configuration changes to client computers or by resetting client computers with the latest YourSite database configuration information.

To send recent configuration changes to client computers

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

SECURITY ROLES

You create security roles if you want to restrict employees from specific devices and 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 default security role *Local Administrator* allows employees full access to all of the applications (to which the contact center is licensed) and devices. Security roles are inclusive. This means that a security role assigned to an employee defines the application areas an employee can access.

Upon installation, a default user is created. This assures you there is at least one account with which you can access the Contact Center Management website.

Security roles have two components:

- **Basic**—Basic security controls user access to specific areas of Contact Center Management.
- **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 various 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 grants full access to some Contact Center Management application areas but is restricted from accessing other reports and devices. (See Figure 7.)

To create and apply a security role with basic and advanced components, you must

1. Ensure employees are configured in YourSite Explorer.
See "Adding employees" on page 55.
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 Explorer.
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 Explorer.
5. Assign the security role to one or more employees.

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.

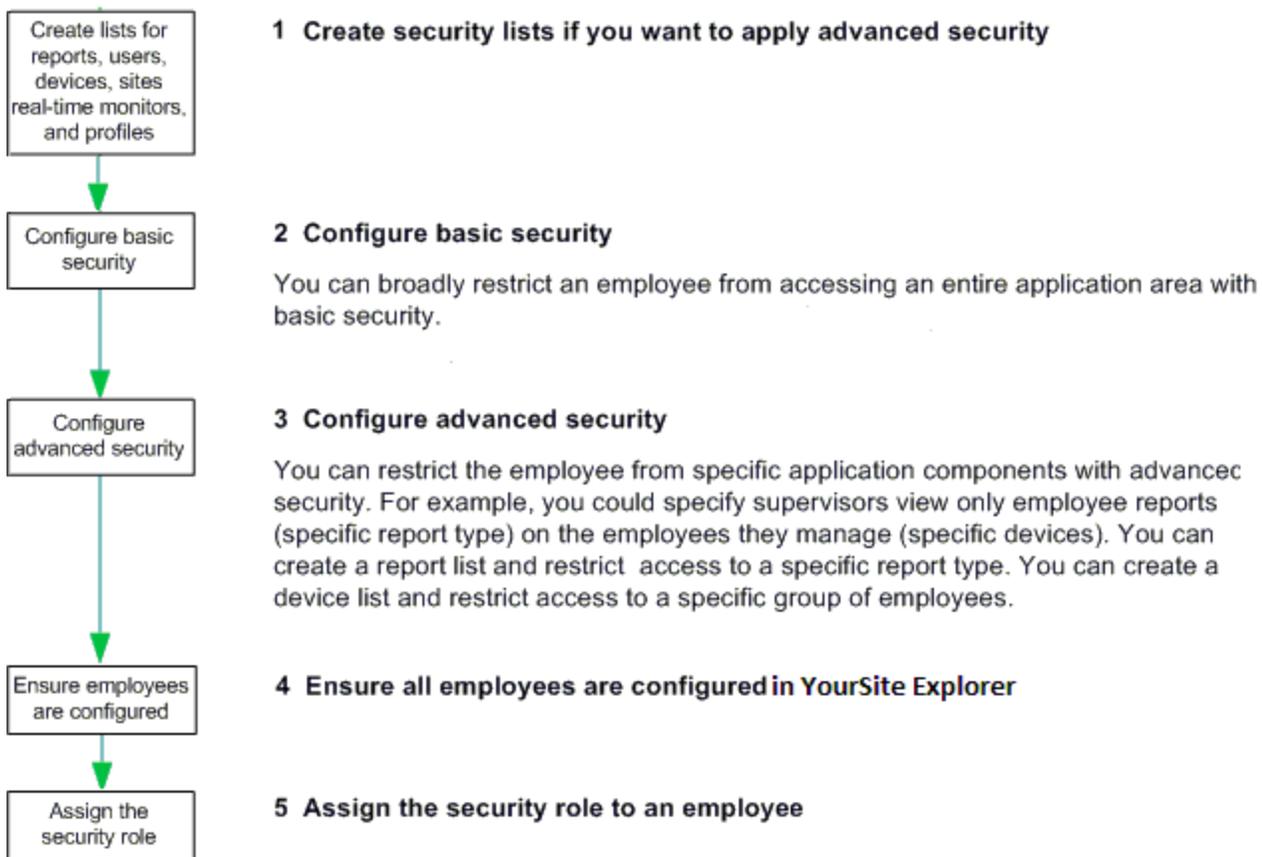


Figure 7: Security flow chart

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, profile lists, report lists, site lists, user lists, and card design 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 agent groups, employee groups, queue groups, extension groups, and teams. Statistics are generated from these devices. You can view these statistics or generate a report from them.
- **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.
- **Profile list**—You create a profile list to restrict users from managing specific real-time monitor profiles.
- **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 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=>** and select the security list you want to create.
2. Click **Add**.
The Add list tab appears.
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 appear 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 appears in the list tree.

CONFIGURING SECURITY

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 8.)

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 80.

Reporter | Report Inbox | Tools | YourSite | My options | Help

YourSite » Add/Edit security role

Role name Role description

Basic | **Advanced**

Website:

May manage the Contact Center Management website

May manage reporting May manage contacts

May manage logins May manage security

May manage SMDR Inspector May manage Forecasting

May manage ACD Inspector

Contact Center Client

May access Contact Center Client

May manage Auditor

May access Management Console

Your Site Explorer

Device Configuration

No Access

Allow Read Access

Allow Read/Write Access

Allow Full Control

Enterprise Configuration

No Access

Allow Read Access

Allow Read/Write Access

Allow Full Control

Workforce Scheduling

May manage Workforce Scheduling

Figure 8: Basic security tab

To configure security

1. In Contact Center Management, click **YourSite=>Security=>Security roles**.
The Security roles window appears. 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 YourSite Explorer).
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*.
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 9.)
7. Click **Save**.



Figure 9: 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 appears. 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. Ensure that you log off and log on again.

To assign a security role to an employee

1. In YourSite Explorer, click **Employees**.
2. Click **Employees**.
3. Click the **User account** tab.
4. After **Security role**, select a security role to assign to the employee.
All security roles are listed here.
5. Click **Save**.

ANI AND DNIS CALL ROUTING

ANI call routing directs calls to queues based on their phone numbers, enabling contact centers to ensure that specific regions of callers or even specific callers are routed to the desired queues. For contact centers operating for businesses with strong international presence, ANI call routing ensures that callers are being routed to the correct point of contact.

DNIS call routing directs calls to queues based on the phone number the caller dialed, enabling contact centers to ensure that callers calling for a specific business or product line are routed to the correct queues. For contact centers supporting multiple businesses or product lines, DNIS call routing improves efficiency by ensuring that callers reach the correct point of contact and minimizes the chance of agent error in answering call from a queue incorrectly.

NOTE: When routing calls by DNIS in a Skype for Business Server environment with existing telephony infrastructure, DNIS must be provisioned based on the numbers coming into the Skype for Business Server.

CONFIGURING ANI AND DNIS ROUTING

The configuration of ANI and DNIS routing for your contact center is done through manually creating two .csv files named AniRouting.csv and DnisRouting.csv, either from scratch or by using the sample .csv files provided in <drive>:\Program Files\prairieFyre Software Inc\CCM\Services\RouterService\Routing.

NOTE: If you use AniRouting.sample.csv and DnisRouting.sample.csv for ANI and DNIS routing, you must copy and rename the sample files as these will be rewritten with every upgrade and fix pack.

Routing conditions in the .csv files must have the format of Name, ANI/DNIS, Media Server, and Destination, such as:

Eastern Ontario,613XXXXXXX,Default Microsoft UC Server,sip:supportqueue@mitel.com

Calls will be redirected to the specified destination if the ANI matches any ANI condition reported in the AniRouting.csv file or if the DNIS matches any DNIS condition reported in the DnisRouting.csv file. By default, calls route first by ANI and then by DNIS, but this routing order may be changed. ANI and DNIS routing conditions in the .csv files are checked starting with the ANI or DNIS condition with the fewest wildcards.

Guidelines for configuring the format and syntax of the .csv files for ANI and DNIS routing, as well as guidelines for changing the routing order of ANI and DNIS, can be found at <drive>:\Program Files\prairieFyre Software Inc\CCM\Services\RouterService\Routing\ReadMe.txt.

Chapter 5

REAL-TIME MONITORS

Contact Center Client

REAL-TIME MONITORS

The Enterprise Server continuously updates the real-time applications with Skype for Business Server system data.

Supervisors use the real-time monitors located in Contact Center Client to view real-time voice statistics for agents, employees, extensions, and queues and the phone availability of contact center and general business employees. Contact Center Client real-time monitors are automatically updated to reflect device and device group changes made in YourSite Explorer and provide supervisors point-and-click access to real-time performance statistics for their contact center, enabling both agents and supervisors to identify issues in contact center performance and see who is available to answer or assist with calls.

CONTACT CENTER CLIENT

Contact Center Client is a real-time application in which supervisors can view real-time voice statistics and the availability of contact center and general business employees.

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 226.
- **Management Console**
Using Management Console, network administrators can restart services, administer the database, and perform maintenance functions. See "Management Console" on page 29.
- **Interactive Contact Center**
Interactive Contact Center enables supervisors to control the availability of agents and ACD queues. See "Interactive Contact Center" on page 235.

NOTE:

- Employees must be licensed for real time and reporting in YourSite Explorer in order to be visible in Contact Center Client.
- If you want Supervisors to be able to view all real-time monitors and devices in Contact Center Client, you must set up their security role accordingly. See "Configuring security" on page 81.
- 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.

STARTING CONTACT CENTER CLIENT

You use Contact Center Client to access real-time functionality. Supervisors can view real-time voice 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.

NOTE: Launching client-side applications from the task bar causes them to bypass the Updater Service process. To ensure successful updates from the Enterprise Server, after an upgrade close all client-side applications for 15 minutes or reopen them from the Start menu/Start screen.

To start Contact Center Client

1. Click **Start=>Programs=>prairieFyre Software=>Contact Center Client**.
2. Type your user name and password and verify the Enterprise Server IP address. When logged into Windows as a domain authenticated user with Active Directory authentication a username and password may not be required.
3. If you use Secure Socket Layer, select **SSL**.
4. Click **Log on**.

To display Contact Center Client in the taskbar

1. In Contact Center Client, click **Tools=>Options**.
2. Under **Device control**, clear the **Hide when minimized** check box and click **OK**. Contact Center Client, when minimized, will display in the taskbar.
3. To save the profile, click **File=>Save as**.
4. 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.

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 3 lists the agent states and their corresponding icons.

Table 3: Agent states

ICON	NAME	DEFINITION
	Ringing	An ACD call ringing at an agent's workstation, waiting to be handled
	ACD	An agent handling an ACD call
	Idle	An agent logged on and waiting to receive a call
	Non ACD	An agent involved in an incoming non-ACD call or agent-originated call
	Outbound	An agent on an outgoing call
	Do Not Disturb	An agent activated Do Not Disturb and is not available to receive any ACD or non-ACD calls
	Make Busy	An agent is not available to receive ACD calls but can receive calls dialed directly to their Line URI (SIP endpoint)
	Work Timer	An agent who is completing paperwork and is unavailable to receive calls
	Unknown	An agent has not generated any activity since Contact Center Management was started
	Logged Off	An agent not currently logged in to any queue

EMPLOYEE NON-ACD STATES

NOTE: If your Contact Center Client becomes disconnected from the server, upon re-connection the Employee non- ACD states will automatically be synchronized with the server.

Extension states apply to general business employees or logged-out agents.

Table 4 lists the extension states and their corresponding icons.

Table 4: Employee non-ACD states

ICON	TERM	MEANING
	Ringing	Call is ringing on the extension and waiting to be handled
	Idle	Employee is waiting to receive a call
	Non-ACD	Employee is involved in an incoming call or an internal extension-originated call
	Non-ACD Hold	Employee has placed an incoming call or an internal extension-originated call on hold
	Outbound Call	Employee is on an outgoing call
	Outbound Hold	Employee has placed an outgoing call on hold
	Do Not Disturb	Employee has activated Do Not Disturb and is not available to receive calls
	Logged off	Employee is not currently logged on and is unavailable to take calls

UNDERSTANDING CONTACT CENTER CLIENT FEATURES

Contact Center Client enables you to view and customize agent, employee, extension, queue, and queue chart 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.

You can perform the following tasks on the monitors:

- Open monitors
- Position Contact Center Client
- Dock monitors
- Add and remove devices
- Sort monitor devices
- Rearrange cells
- Set monitor dimensions
- Configure columns
- Filter device variables
- Set alarms
- Clear alarms
- Define monitor styles
- Customize the information displayed
- Group data
- Print monitors
- Build marquee monitors to broadcast statistics and messages
- Start a conversation (send an instant message, call, or start a video call)
- Configure chart characteristics

Positioning 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.

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.

Opening monitors

To open a monitor

1. Click **View=>Real time**.
2. Select the monitor you want to open from the drop-down lists under **Position, Time, Shift, and Now**.
3. In the left pane of the **Add/Remove device IDs** window, click **Media server** (on agent monitors only) to sort the members by media server, click **Reporting** to sort the members by Reporting number, or click **Name** to sort the members alphabetically. You can sort members in either ascending or descending order.
4. Under **Agent Groups** and **Agents**, select agent groups and agents to monitor.
5. Under **Card Designs**, select a card design. Card designs specify the information displayed on agent, employee, and extension monitors. See "Selecting and customizing card designs" on page 100.
6. Click **OK**.

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 10.

To add devices to 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 Agent/Employee/Queues, select additional agents, employees, or queues to add to the monitor.
3. Click **OK**.
On the Agent State by Position and Employee 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.

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 you want to remove.
3. Click **OK**.

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 will 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.

On the Agent State by Position monitor the Sort monitor=>by Agent ID, name, state, or extension command sorts agents by Agent ID, name, state and time in state, or extension.

On the Employee State by Position and Extension State by Position monitors, the Sort monitor=>by name, state, or extension command sorts agents by name, state and time in state, or extension.

If you sort agents or employees by state, Contact Center Client displays the agents or employees by state and time in state across the monitor in the following order:

- Ringing
- ACD
- Idle
- Non-ACD
- Outbound
- Do Not Disturb
- Make Busy
- System Make Busy
- Unknown
- Logged Off

Rearranging cells and columns

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.

Setting monitor dimensions

You can specify the number of rows and columns of cells to display on the Agent State by Position, Employee State by Position, and Extension State 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**.

Configuring columns

You can configure the way columns display in real-time monitors by right-clicking the monitor and selecting Properties=>Layout. Using this option, you can specify the background color, font color, font type, and text alignment for columns. You can also specify the column height and width and hide or display individual columns and the order in which columns display.

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 device 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

The Set alarms command specifies performance thresholds for queues and agents.

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 be notified immediately by customizable visual, auditory, and email alarms of any availability or performance issues. The alarms can then instantly change agent and queue availability to adjust to unplanned call volumes.

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 appears on your desktop.
- A sound prompt, such as a beep or .wav file, plays.
- You are notified by email.
- Contact Center Client appears 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**.
The Set alarms window appears.
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. Alternately, you can select Apply the alarm thresholds to a specific list of devices to apply the threshold settings for a performance variables 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**.

Consider the threshold programming in Figure 12. 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 appear.

To clear any current client alarms in Contact Center Client

- Right-click the monitor and click **Clear alarms**.

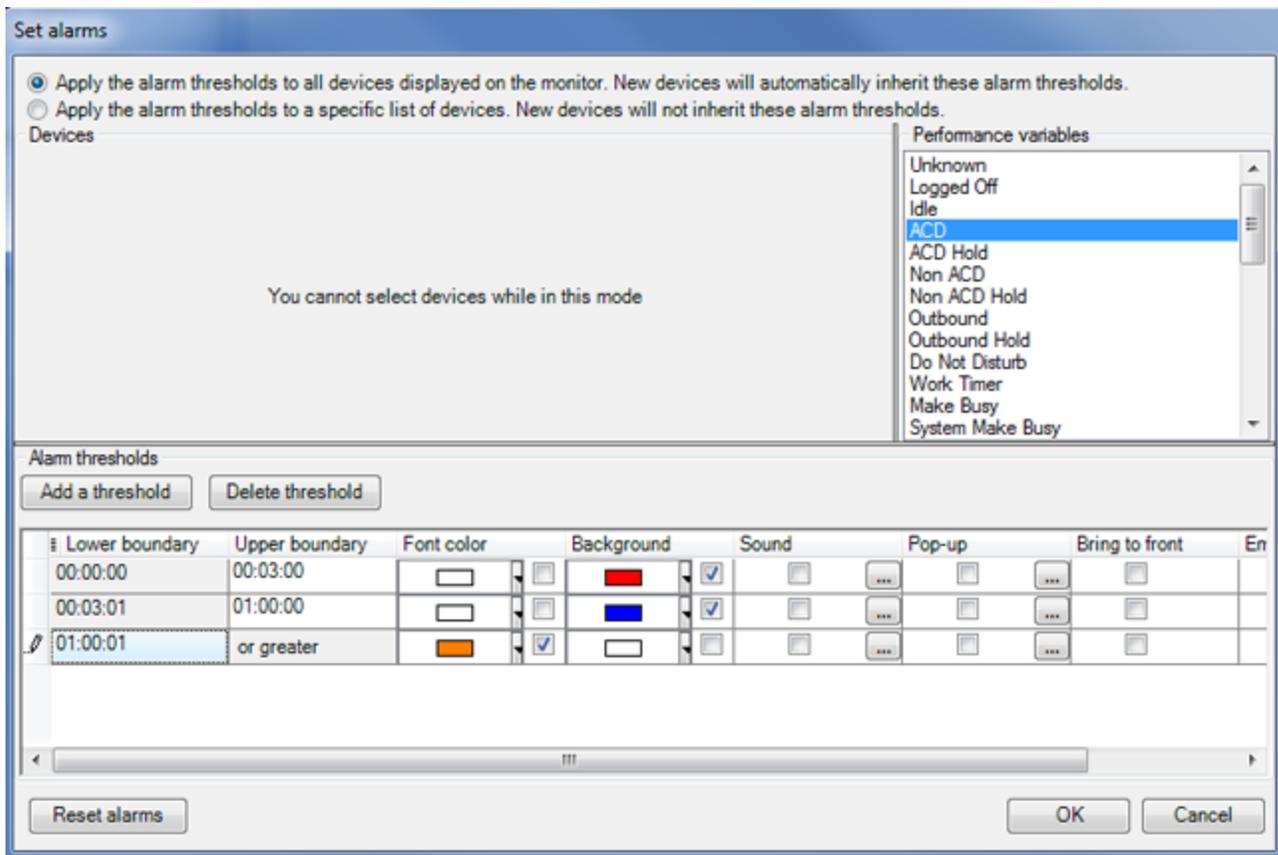


Figure 12: Set alarms window

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 appears.
2. Select a color.
3. Under **Font color**, click the arrow.
A color palate appears.
4. Select the font color for the alarm threshold.
5. Click **OK**.

Specifying threshold sound 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 appears.
2. Specify the alarm triggering properties.
3. Specify the sound you want played when the alarm is triggered.
4. Click **Save**.

Specifying threshold pop-up window notification

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 appears.
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**.

Specifying Contact Center Client appear on top

To specify Contact Center Client appear 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.

Specifying threshold email notification

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 appears.
2. After **Distribution**, specify which contacts are to be notified by email when threshold conditions are satisfied.
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**.

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**.

Customizing the information displayed

On the Agent and Employee 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 or employee monitor, you can select a card design on the Add/Remove device IDs window:

- Silent Monitor Lync is the default card design and displays the agent state, time in the state, presence, agent or employee name, agent or employee ID (or queue name for agents on ACD or on ACD Hold), and whether the agent is tagged to be silent monitored. When an agent is tagged to be silent monitored the thumbtack icon is blue and a note indicating their tagged status displays.
- The Classic card displays the agent state, time in the state, presence, agent or employee name, and agent or employee ID (or queue name for agents on ACD or on ACD Hold).
- Custom cards you create and share.

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 or employee 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 Classic card, select it 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 13.
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.
 - If you want to resize the field, click the field and use your pointer to move or resize the field.
 - If you want to change the properties for a field, click the field and change the properties in the right pane of Card Designer.
 - If you want to change the size of the card design preview, after **Zoom**, select a different magnification value from the list.
8. Add additional fields to the card.
9. Select **Copy** if you want to copy the current design to the card of a different state.
10. Click **OK**.
The new card design appears on the Card design list.
11. Click **OK**.

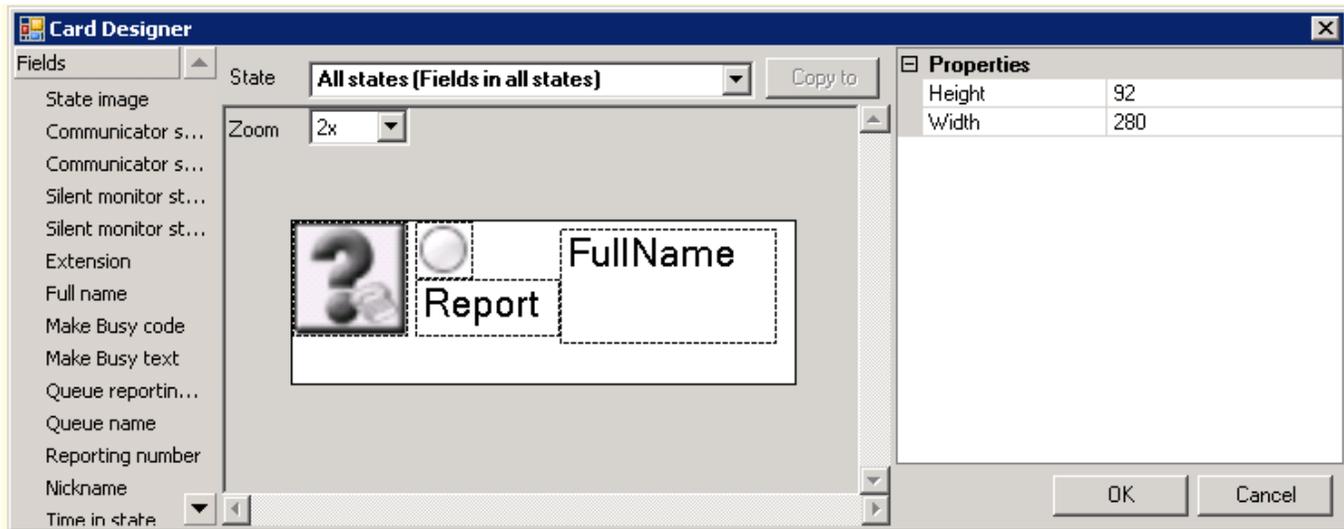


Figure 13: Card design window

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 appear 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 14.

	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
- ACD Cnt : 0 - 3 item(s)											
▶	PFMicrosoft U	1338	Awil Abdi	1338	8:16 AM	8:16 AM	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00
	PFMicrosoft U	1343	Patrick Morin	1343	8:11 AM	8:15 AM	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00
	PFMicrosoft U	1359	Joe Grace	1359	8:11 AM	8:15 AM	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00
- ACD Cnt : 1 - 2 item(s)											
	PFMicrosoft U	1341	Luca Cremonesi	1341	8:11 AM	10:52 AM	00:15:24	00:00:49	00:00:00	00:00:00	00:00:00
	PFMicrosoft U	1349	Steve Pequegnat	1349	8:11 AM	8:15 AM	00:01:19	00:01:13	00:00:00	00:00:00	00:00:00
- ACD Cnt : 3 - 1 item(s)											
	PFMicrosoft U	1612	Nick Dallas	1612	8:05 AM	8:14 AM	00:08:11	00:00:11	00:00:00	00:00:00	00:00:00

Figure 14: 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 appear.

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.

Printing monitors

To print a monitor

1. Right-click an open monitor and click **Print monitor**.
The Page Setup window displays,
2. Specify printing options.
3. Click **OK**.

Building marquee monitors

You can build a 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.

To build a marquee monitor, 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 appears.
2. Click **Add message**.
The Add message window displays.
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 appears.
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 displays.
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 103.

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 displays.
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 displays.
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 displays.
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 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.

Configuring chart characteristics

You can select specific call statistics to display on queue charts.

You can right-click chart titles, axis labels, and other areas of charts to

- Edit axis label titles, including text color and font
- Edit axis labels, including text color, font, and attitude
- Define chart characteristics, including monitor lines, interlacing, legend, color, point labels, and alarms
- Define queue chart (monitor) characteristics

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**.

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 Now (Integer) chart. (See Figure 15.)

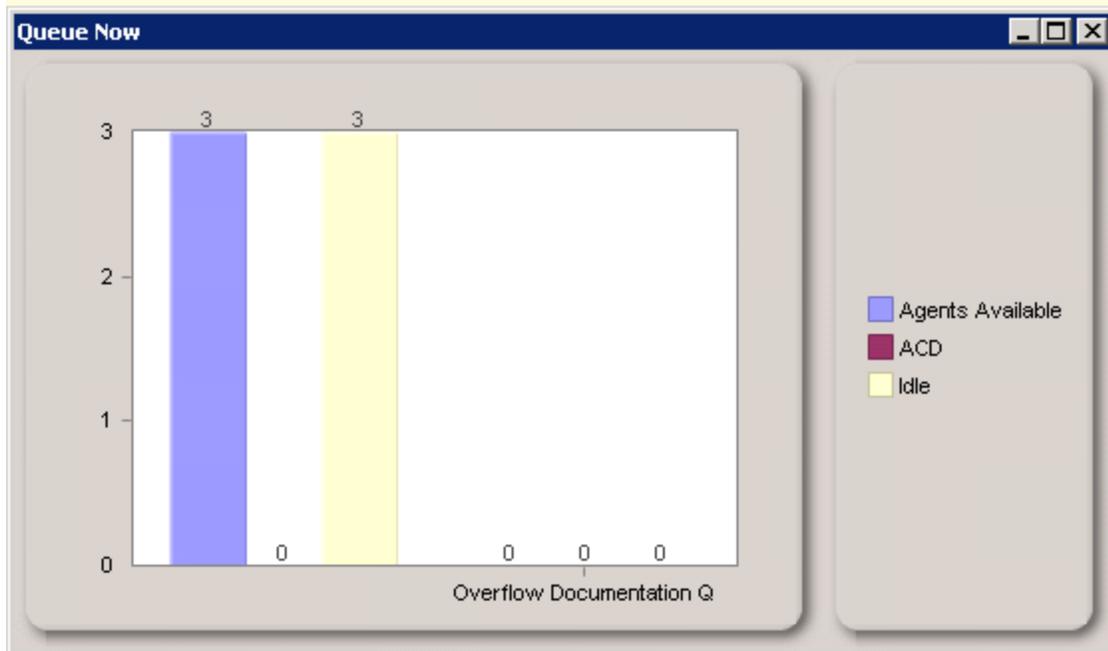


Figure 15: Queue Now (Integer) chart

To select call statistics to display

1. Right-click an open queue monitor and click **Properties**.
2. Expand the **Chart properties** tree and click **Series data**.
3. Select the **Series data type: Integer, Percentage, or Time**.
4. Under **Visible**, select the check box of the data you want to add to the chart.
5. Alternatively, under **Visible**, clear the check box of the data you want to remove from the chart.
6. Click **OK**.

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 an open queue chart and click **Properties**.
2. After **Monitor title**, select and delete the chart title.
3. After **Monitor title**, type the new queue chart title.
4. Click **OK**.

Specifying x and y axis titles

To specify an x or y axis title

1. Right-click the numbers or titles of an axis and select **Edit title**.
2. Type the new queue chart title and press **Enter**.

Enabling the x axis to scroll on queue charts

Under Properties, you can enable the x axis to scroll on queue charts. When the scroll feature is enabled, and when call statistics cannot all be displayed along the x axis due to space constraints, the x axis becomes a scroll bar. You slide the scroll bar to view all of the statistics displayed along the x axis.

To enable the x axis to scroll on queue charts

1. Right-click an open queue monitor and click **Properties**.
2. Expand the **Chart properties** tree and click **General**.
3. Select the **Scrollable** check box.
4. 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 the open queue monitor and click **Properties**.
2. Expand the Chart properties tree and click **General**.
3. Select the **Highlight** check box.
4. Click **OK**.

Specifying the angle of the text label for the queue chart

Under Properties, you can specify the angle of the text label for the queue chart.

To specify the angle of the text label

1. Right-click the open queue monitor and click **Properties**.
2. Expand the Chart properties tree and click **General**.
3. After **Point label angle**, specify the angle at which you want the text to display.
For example, if the columns are close together, you might want to use a text label angle of 90 degrees so that the text is not crowded.
4. Click **OK**.

REAL-TIME MONITORS IN CONTACT CENTER CLIENT

The following real-time monitors and queue charts are available to supervisors in Contact Center Client:

- Agent State by Position monitor
- Employee State by Position monitor
- Extension State by Position monitor
- Agent State by Time monitor
- Employee State by Time monitor
- Agent State by Queue by Time monitor
- Agent Shift monitor
- Queue by Period monitor
- Queue Now monitor
- Queue Now chart
- Queue Group Now chart
- Queue Performance by Period chart
- Log monitor
- Error monitor
- Forecasting
- Marquee
- ACD/SMDR Inspectors

To view real-time monitors and charts in Contact Center Client:

- Click Real-time and select the monitor or chart you want to view from the drop-down list. (See Figure 16.)

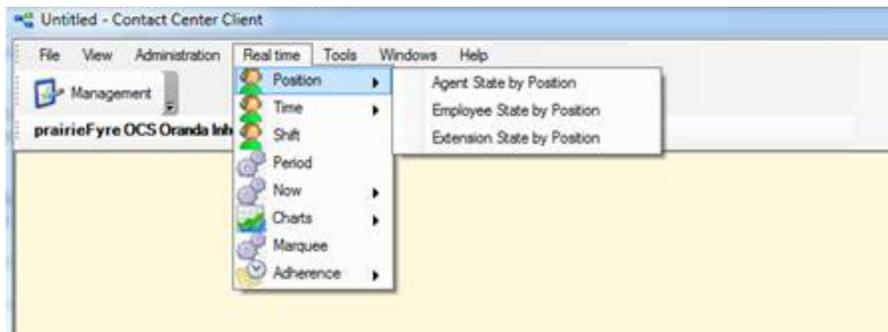


Figure 16: Real-time monitor and chart menu in Contact Center Client

VIEWING AGENT AVAILABILITY

On the agent, employee, and extension monitors, supervisors can view the availability and presence of contact center employees.

Agent, Employee, and Extension State by Position monitors

On the Agent, Employee, and Extension by Position monitors, supervisors can view the availability and presence of employees before transferring calls or sending instant messages. (See Figure 17.) If an agent cell in a monitor is grayed out, the agent is not connected to the network and is considered out of service.



Figure 17: Agent State by Position monitor

The Agent, Employee, and Extension State by Position monitors provide real-time information in cells you can arrange to mirror your floor plan: you can view agents, employees, or 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.

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 ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold).
- Custom cards you create and share

You can set alarms for all real-time statistics.

NOTE: Agents can join multiple agent groups and, thus, answer for multiple queues. However, each agent has only one ID and displays in a single cell of each applicable monitor. The agent activity that displays in the monitor cell reflects their current overriding action.

Viewing extensions

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. The Extension State by Position monitor shows the state of agents who are not logged into the system. You can use the Extension State by Position monitor to view the non-ACD activity of employees and the current status of general business extensions. (See Figure 18.)

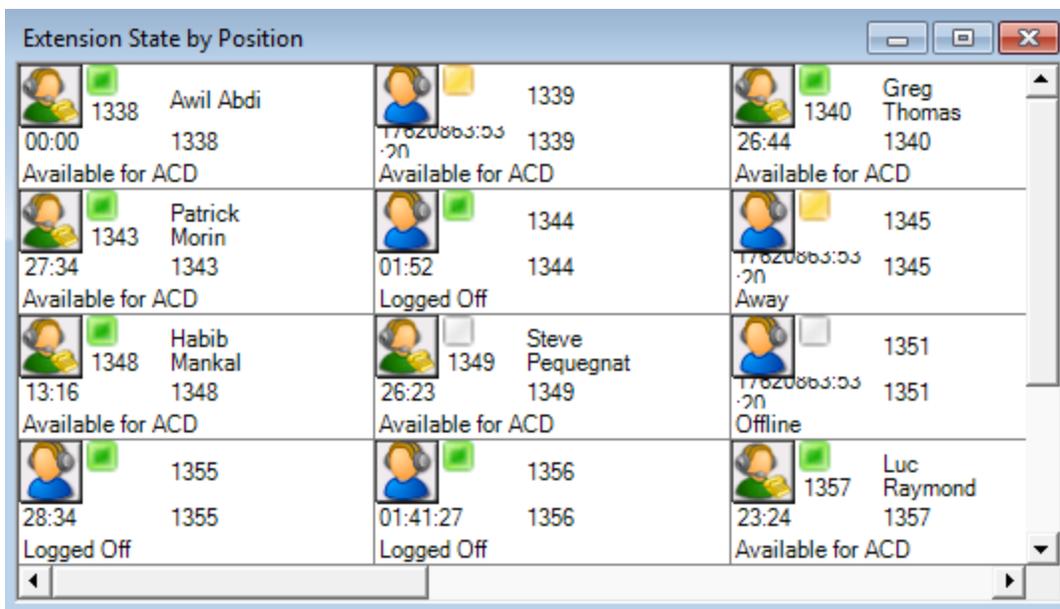


Figure 18: Extension State by Position monitor

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 an active extension that is not logged on to any ACD queue.

General business inactive extension

General business inactive extension refers to an extension that is not active because the computer is turned off or Contact Center Client is not running.

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 employee 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 you prefer that Extension State by Position monitor cells be blank when there are no agents logged on to the system, you can right-click the monitor, select Properties, and clear the Enable the general business view check box.

Agent State and Employee State by Time monitors

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. For more information, see "Agent, Employee, and Extension State by Position monitors" on page 108.

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 19.)

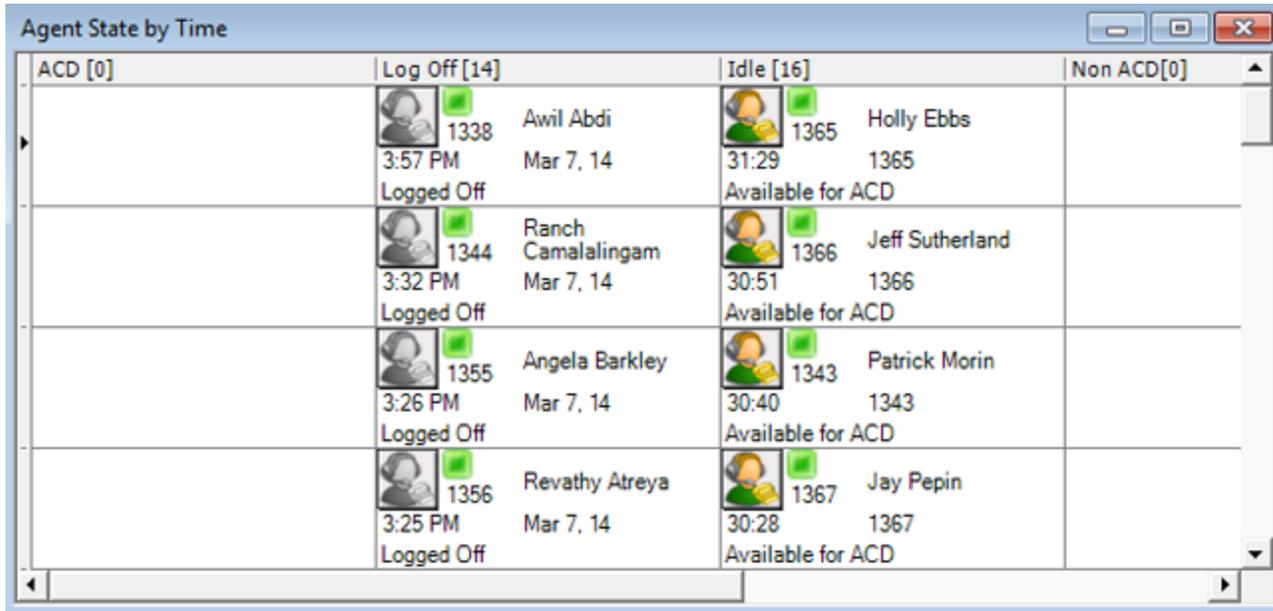


Figure 19: Agent State by Time monitor

Table 5 lists the Agent State by Time and Employee State by Time column headings and their associated agent states.

Table 5: 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, and Unknown
Logged Off	includes agents in the Logged Off state

Agent State by Queue by Time monitor

The Agent State by Queue by Time monitor is designed specifically for contact centers using Agent Group Presence functionality. The Agent State by Queue by Time 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 20.)

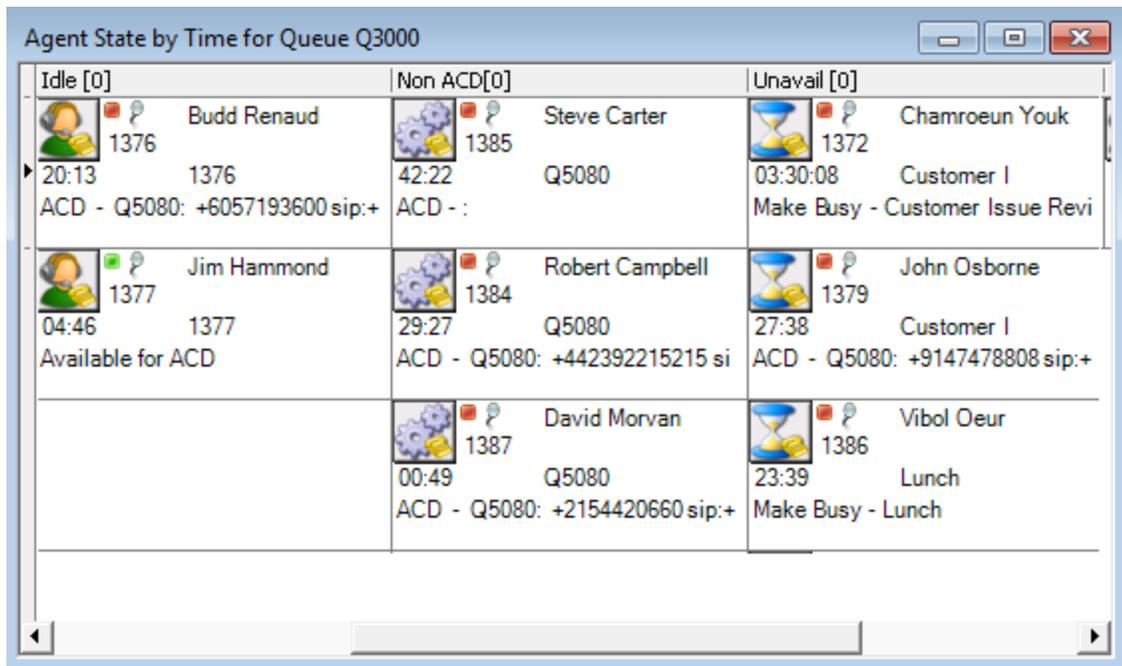


Figure 20: Agent State by Queue by Time monitor

Table 6 lists the Agent State by Queue by Time column headings and their associated agent states.

Table 6: Agent State by Queue 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, and Work Timer
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 and Unknown states

Agent Shift monitor

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 21.)

	Media Server	Agent login ID	Name	Extn #	Log On	Last Event Recd	Shift Time	ACD Time	ACD Hold Time	Non ACD Time
	PF Microsoft U	1361	Kevin Ferriss	1361	8:07 AM	3:30 PM	05:26:56	00:01:28	00:00:00	03:03:30
	PF Microsoft U	1369	Lionel Gaillard	1369	8:07 AM	3:27 PM	06:05:02	00:00:00	00:00:00	05:03:12
	PF Microsoft U	1347	Dave Gelok	1347	9:59 AM	3:27 PM	05:26:41	00:00:00	00:00:00	00:00:00
	PF Microsoft U	1359	Joe Grace	1359	8:07 AM	3:27 PM	05:26:50	00:00:00	00:00:00	00:00:00

Figure 21: Agent Shift monitor

Table 7 lists the Agent Shift column headings and their definitions.

Table 7: Agent Shift column headings

TERM	MEANING
Agent State	The agent's current state
Media Server	The media server to which the agent is associated
Agent Login ID	The agent's login ID
Name	The name of the agent being monitored
Extension Number	The extension where the agent is logged in
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

Table 7: Agent Shift column headings (continued)

TERM	MEANING
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
On Failover	Indicates whether the primary media server is offline and has failed over to the secondary media server
Agent Unavailable %	the percent of time the agent was set in Do Not Disturb or Make Busy and unavailable
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

The following monitors display queue statistics:

- Queue by Period
- Queue Now
- Queue Group Now

Queue by Period monitor

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 can be configured to display 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 22.)

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	Avg Time Intrfl	Ttl Talk Time	Avg Talk Time
4:15 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00	00:00	00:00	00:00
4:00 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00	00:00	00:00	00:00
3:45 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00	00:00	00:00	00:00
3:30 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00	00:00	00:00	00:00
3:15 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00	00:00	00:00	00:00
3:00 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00	00:00	00:00	00:00

Figure 22: Queue by Period monitor

Table 8 describes the Queue by Period column headings.

Table 8: 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 monitors

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 appear in place of these statistics.

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. If an agent fails to answer an ACD call after X seconds or X rings, the call is requeued in the same queue and offered to the next available agent.

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 23.)

If you expand the Queue Now monitor to display the Agent name column, the monitor 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.

The screenshot shows a window titled "Queue Now" with a table of queue statistics. The table has columns for Queue Status, Media Server, Queue #, Name, Calls Wtg, Long Wtg, Agts Avail, ACD, Idle, Non ACD, Out, Unavail, Offr, and Hndl. Below this table, an agent group is expanded, showing a table with columns for Agent group, DND Cnt, MKB Cnt, ACD Cnt, Shrt ACD Cnt, Hold ACD Cnt, Non ACD Cnt, Hold Non ACD, Out Cnt, Out Hold Cnt, Avg Hndl, Shift Time, DND Time, MKB Time, and W U; Tti.

Queue Status	Media Server	Queue #	Name	Calls Wtg	Long Wtg	Agts Avail	ACD	Idle	Non ACD	Out	Unavail	Offr	Hndl	A
ACD	PF Microsoft	Q5091	Luc Q	0	00:00	1	0	1	0	0	0	0	0	
ACD	PF Microsoft	Q5026	Luca's Q	0	00:00	1	0	1	0	0	0	1	1	
ACD	PF Microsoft	Q5019	Matt C Q	0	00:00	1	0	1	0	0	0	3	1	
ACD	PF Microsoft	Q5022	Moe's Q	0	00:00	0	0	0	0	0	0	0	0	
DND	PF Microsoft	Q5041	Nick Q	0	00:00	0	0	0	0	0	0	1	0	
ACD	PF Microsoft	Q5033	Patrick's Q	0	00:00	1	0	1	0	0	0	0	0	
ACD	PF Microsoft	Q5032	Ranch Q	0	00:00	0	0	0	0	0	0	8	1	

Agent group	DND Cnt	MKB Cnt	ACD Cnt	Shrt ACD Cnt	Hold ACD Cnt	Non ACD Cnt	Hold Non ACD	Out Cnt	Out Hold Cnt	Avg Hndl	Shift Time	DND Time	MKB Time	W U; Tti

Figure 23: Queue Now monitor

Table 9 describes the real-time and over-the-business day Queue Now and Queue Group Now statistics.

Table 9: Queue Now and Queue Group Now 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, Unknown, or Ringing
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
Unavailable	the current number of agents in Do Not Disturb, Make Busy, Work Timer, Unknown, or Ringing
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

Table 9: Queue Now and Queue Group Now column headings (continued)

TERM	MEANING
#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
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
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
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

Table 9: Queue Now and Queue Group Now column headings (continued)

TERM	MEANING
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
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
% 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.
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)

VIEWING QUEUE CHART STATISTICS

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 charts

The Queue Now and Queue Group Now (Integer) charts show the total calls Handled, Abandoned, and Interflowed across queues and queue groups for the day. (See Figure 24.)

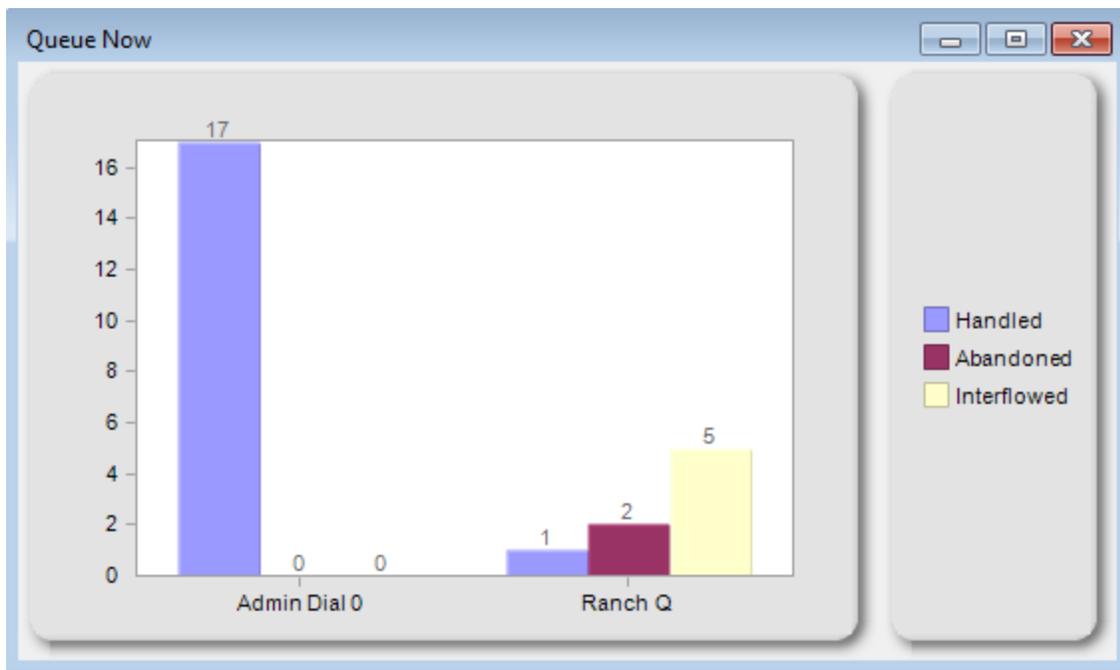


Figure 24: Queue Now (Integer) chart

Queue Performance by Period and Queue Group Performance by Period charts

The Queue Performance by Period and Queue Group Performance by Period charts show the calls Handled, Abandoned, and Interflowed across 15-minute intervals for queues and queue groups. (See Figure 25.)

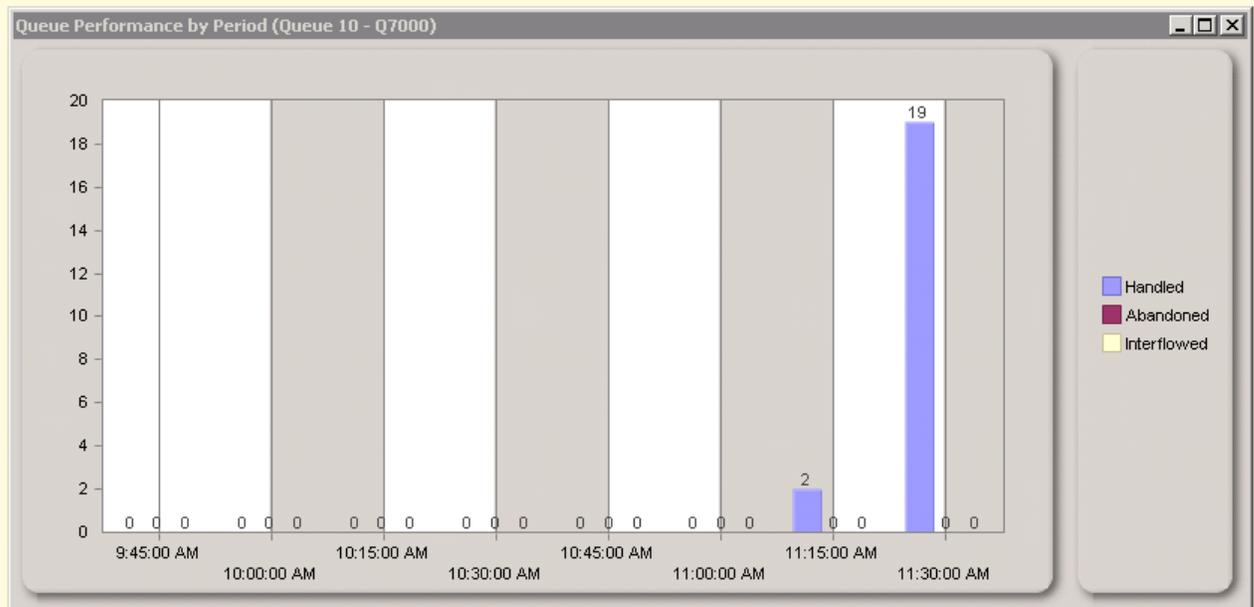


Figure 25: Queue Performance by Period chart

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 **View=>Web Browser**.
The Web Browser Properties window opens.
2. After **Monitor title**, type a name for the monitor.
3. 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.
4. Optionally, select a value for the Web Browser refresh rate.
5. Click **OK**.

STARTING A CONVERSATION

Supervisors can start conversations with employees and agents using the employee, agent, and extension by position and by time monitors. The conversation can be an instant message, a call, or a video call and can be addressed to an individual agent, employee, or extension or to any or all agents, employees, and extensions in the selected monitor.

NOTE: Video calls cannot be placed with everyone in a monitor simultaneously.

To start a conversation

1. Right-click a cell in an agent, employee, or extension by position or by time monitor.
2. Click **Conversation** and select whether you want to send an instant message, place a call, or start a video call.
See Figure 26.
3. If you want to send an instant message or place a call to all members in the monitor, select **Entire Monitor**.

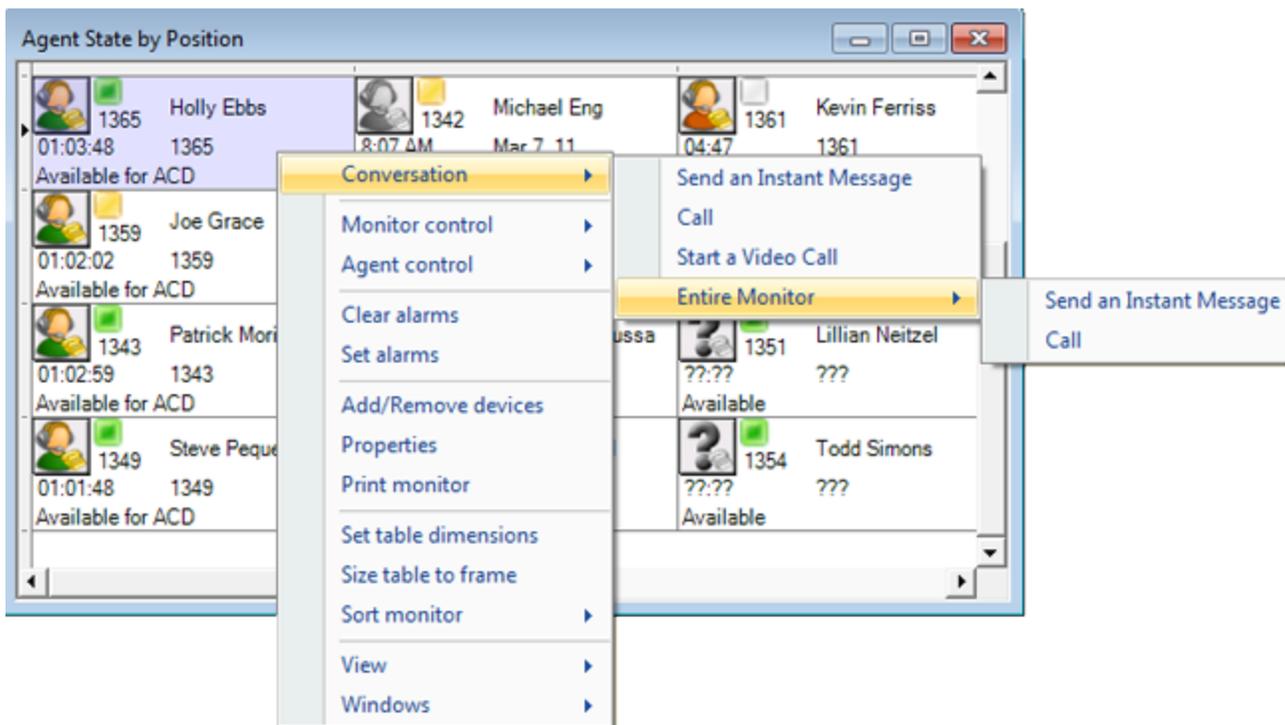


Figure 26: Starting a conversation in Contact Center Client

SILENT MONITORING CALLS

Silent monitoring is the process of listening to the voice conversations of internal and 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. Supervisors can monitor calls to assess agent competency or to assist agents who request help. Silent monitor requests are made in agent state by position and agent state by time monitors in Contact Center Client. Supervisors can either tag agents to have future incoming calls silent monitored or spontaneously monitor a currently active call. When an agent who has been tagged for silent monitoring receives a call a pop-up notification displays on the supervisor's desktop. At any time in the conversation the supervisor can choose to 'whisper' to the agent (only the agent hears the supervisor) or 'barge' into the call (both the agent and the caller hear the supervisor).

NOTE:

- To be able to silent monitor agent calls you must have the 'Is Supervisor' check box selected in the employee configuration page of YourSite Explorer. See "Adding employees" on page 55.
- Supervisors must be running Contact Center Client in order to access whisper and barge functionality.

To silent monitor an active call

1. In Contact Center Client, right-click a cell in an agent state by position or by time monitor.
2. Click **Agent Control>Silent Monitor>Monitor Active Call**.

NOTE: In the agent's Skype for Business conversation window the agent only sees themselves and the caller. The agent is unaware they are being monitored.

Only one supervisor at a time can silent monitor a call.

To tag an inactive agent to be silent monitored

1. In Contact Center Client, right-click a cell in an agent state by position or by time monitor.
2. Click **Agent Control>Silent Monitor>Tag Agent**.

When a call is routed to the tagged agent the supervisor will receive a pop-up notification advising that the call is available for monitoring. If a supervisor has multiple agents tagged to be silent monitored they will receive a pop-up for each agent as they receive calls.

NOTE: When an agent is currently tagged to be silent monitored a blue thumbtack icon displays in the agent's cell in the Contact Center Client monitor advising other supervisors that the agent is already selected to be silent monitored. Only one supervisor at a time can silent monitor a call. If more than one supervisor tags the same agent, when the agent receives a call the first supervisor to accept the silent monitor event is conferenced into the call. The other supervisor(s) receives a pop-up notification that the agent is already being silent monitored.

To remove a silent monitor tag

1. In Contact Center Client, right-click a cell in an agent state by position or by time monitor.
2. Click **Agent Control>Silent Monitor>Untag Agent**.

To whisper or barge into a call

- If you want to join a call so only the agent can hear you, click **Whisper** in an active call conversation window.
- If you want to join a call so both the agent and the caller can hear you, click **Barge** in an active call conversation window.

NOTE: For a supervisor to whisper or barge, the call must be part of an active silent monitor session. When a supervisor chooses to whisper or barge into a call the agent receives a pop-up notification in their conversation window. If a supervisor barges into a conversation, they cannot return to a silent monitoring or whisper mode.

To handle a request for help

1. Click **Accept** in the Request Help pop-up window to be engaged in a silent monitor session with the agent requesting help.
When you click Accept, you join the call in silent monitor mode. You can optionally choose to whisper or barge into the call if necessary.
If you are silent monitoring a call and the agent on that call requests help, the request for help will be offered to you first. If you decline the request it will be offered to an alternate supervisor.
2. To decline a request for help, click **Decline**.
3. To redirect a request for help, click **Redirect**.
See Figure 27.

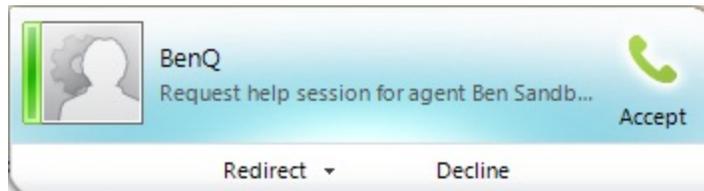


Figure 27: Request for help window

Chapter 6

SKYPE FOR BUSINESS AND IGNITE FOR SKYPE

Agent Presence

Starting Ignite for Skype

Joining and leaving agent groups

Logging out and closing Ignite for Skype

Handling calls and call routing

Transferring calls

Requesting help

Sending an instant message

Viewing agent statistics

Viewing queue statistics

*Setting and removing Make Busy and Do
Not Disturb*

*Disabling the Set to Busy on Desktop Lock
Ignite for Skype option*

Canceling Work Timer

*Communicating using the Emergency
Routing Chat IVR*

SKYPE FOR BUSINESS AND IGNITE FOR SKYPE

Agent actions in MiContact Center for Skype are performed in Skype for Business Client and in the Ignite for Skype toolbar. Skype for Business Client provides the core communication capabilities for contact center agents, determining agent presence, housing call handling and chat functions, as well as displaying queues and agents, including the presence and ACD status of other contact center agents.

Ignite for Skype is a toolbar that docks to Skype for Business, supplementing and augmenting Skype for Business. Using Ignite for Skype, agents can change their real-time state to augment their Skype for Business presence, log in and out of ACD, join or leave agent groups, cancel Work Timer, request help from a supervisor while in a call, and view statistics for themselves, other agents, and queues.

For more information about our products, click the Mitel icon in the Ignite for Skype toolbar to navigate to the Mitel website. Additionally, you can access our help documentation by clicking the '?' icon.

AGENT PRESENCE

Agent presence improves communication in a contact center by enabling agents to control their availability, as well as providing other agents and supervisors a visual indication of what agents are currently doing in the contact center. Before contacting another agent, transferring a call, or initiating a conference, co-workers can see at a glance whether the agent they need is available. Agent status and availability are displayed in both the Skype for Business client, which displays Skype for Business presence, and in the Ignite for Skype toolbar, which displays an agent's real-time state. Agent presence in a contact center determines the agent's ability to handle calls and provides real-time statistics on agent behavior for contact center supervisors.

VIEWING AGENT STATUS AND AVAILABILITY

An agent's Skype for Business presence and real-time state determines their status and availability. An agent's real-time state is displayed in the Ignite for Skype toolbar, while their Skype for Business presence is displayed in the Skype for Business client.

Ignite for Skype status and availability

The Ignite for Skype toolbar displays an agent's real-time state as an icon at the top of the toolbar. These Ignite for Skype icons correspond directly to agent and employee states in Contact Center Client. An agent's Ignite for Skype real-time icon is visible to other agents in the Agent Stats dashboard view. For more information on the Ignite for Skype dashboard, see "Viewing agent statistics" on page 144.

Ignite for Skype buttons for Agent Actions, Make Busy, and Do Not Disturb also provide visual indications of an agent's state. If an agent is logged in, the Agent Actions button becomes active. If Make Busy or Do Not Disturb have been set, their buttons become active correspondingly. (See Figure 28.)



Figure 28: Ignite for Skype sidebar real-time presence

Skype for Business status and availability

Skype for Business presence is indicated by a colored bar adjacent to the agent’s photo in their Skype for Business client. This presence indicator is also visible to other agents in the list of contacts displayed in Skype for Business, although it may also display as a small square icon if a user configures their contacts to display in Name view. For more information on Skype for Business presence, see "Skype for Business presence indicators" on page 130. (See Figure 29.)

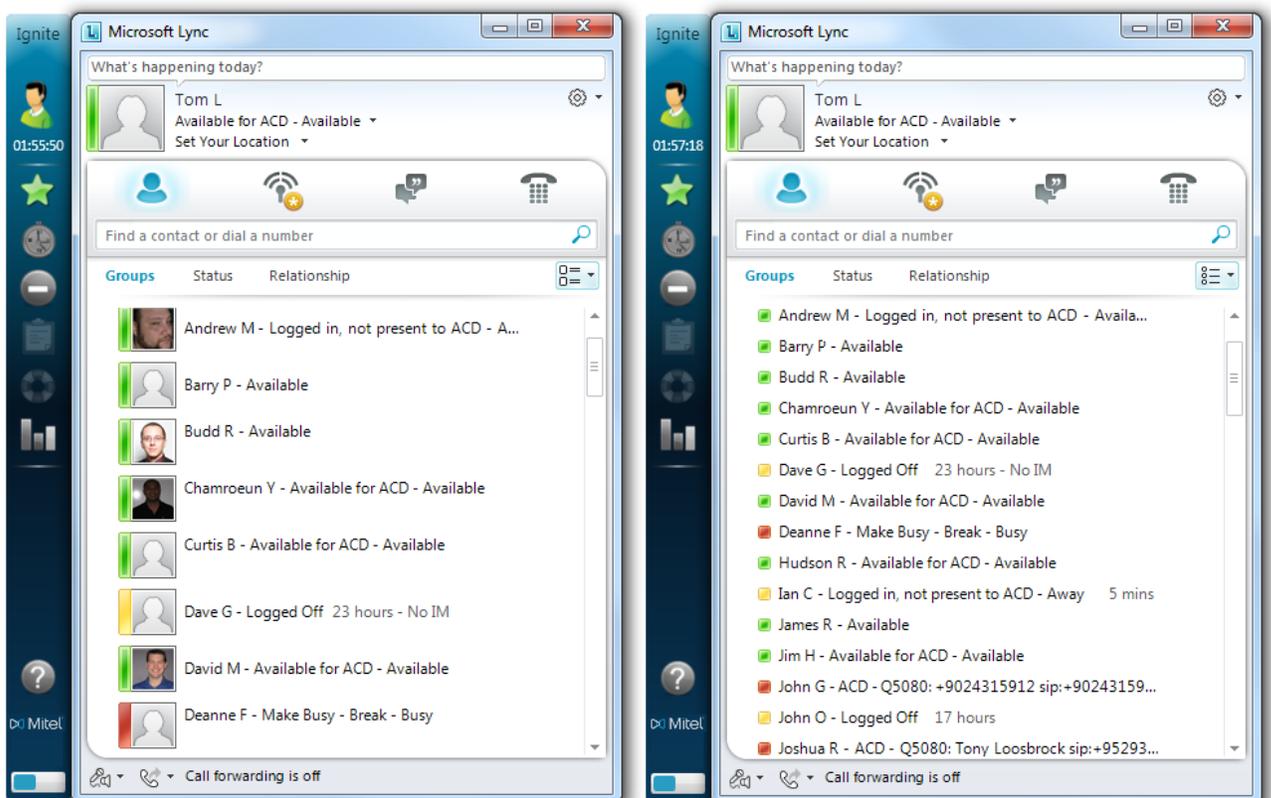


Figure 29: Lync with Picture view (left) and Name view (right)

Skype for Business also displays a statement regarding agent contact center presence. Agent presence in MiContact Center for Skype is primarily determined by agent interactivity with Skype for Business, augmented by agent and supervisor activity within Ignite for Skype and Contact Center Client. This combined Skype for Business and real-time agent presence displays as a statement under the agent's name in the following format: **Real-time state – Reason code (if relevant) – Skype for Business presence.**

For example, in Figure 30, an agent is listed as being in Make Busy – Meeting – Busy. Their real-time state is Make Busy, the Make Busy reason code is Meeting, and their Skype for Business presence is Busy.

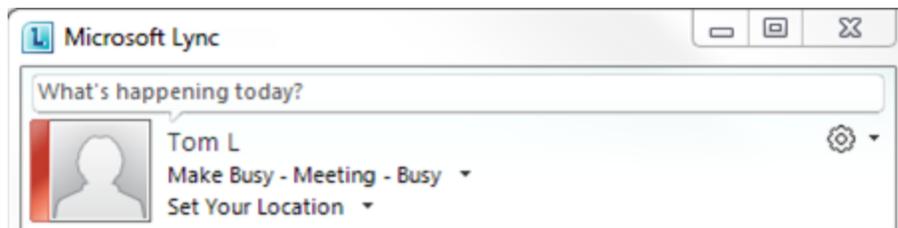


Figure 30: Lync client with presence statement

When on a call, the agent presence statement changes to: Real-time state – Call information– Skype for Business presence. Call information varies depending on the type of call being handled, but may include information such as queue information, ANI, or SIP address.

For example, in Figure 31, an agent is handling a non-ACD call from a fellow contact center agent. They are listed as Non ACD – sip:joshua_roesler@mitel.com – In a call. Their real-time state is Non ACD, the call information lists the SIP address of the caller, and their Skype for Business presence is In a call, which is Busy.

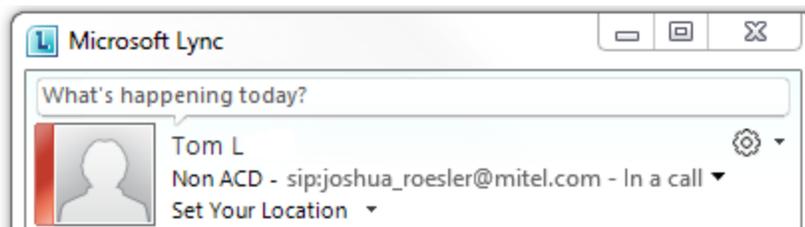


Figure 31: Agent presence statement on non-ACD call

Skype for Business presence indicators

Skype for Business presence is the primary determinate for agent presence in MiContact Center for Skype. See Table 10 for a description of Skype for Business presence indicators.

Table 10: Skype for Business 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	<p>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:</p> <p>In a Call—the contact is in a phone, voice, or video conversation.</p> <p>In a Meeting—the Outlook calendar shows that the contact has a scheduled meeting.</p> <p>Users can manually set this status.</p>
		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.

Table 10: Skype for Business presence indicator icons (continued)

PRESENCE ICON (LARGE)	PRESENCE ICON (SMALL)	STATUS TEXT	DESCRIPTION
		<p>Away / Inactive</p> <p>Be Right Back</p> <p>Off Work</p>	<p>The contact is likely unavailable. Possible reasons include the following:</p> <p>The contact's computer has been idle for more than the away time period setting (5 minutes by default).</p> <p>NOTE: By default, the transition from Available to Inactive occurs after five minutes. After five more minutes, the status changes to Away if there is still no activity on the computer.</p> <p>The contact's Outlook calendar or Out of Office Assistant indicates that they are out of the office.</p> <p>The contact is temporarily unavailable</p> <p>NOTE: As soon as activity is detected on the contact's computer, Ignite for Skype automatically resets the presence status to the appropriate state.</p>
			<p>The contact has locked their computer.</p> <p>The contact has manually set their presence to Away or Be Right Back.</p> <p>Users can manually set this status.</p> <p>NOTE:</p> <ul style="list-style-type: none"> • When a user manually sets themselves as Away, they are still available to receive calls, such as from a transfer. • If a user is in Make Busy or Do Not Disturb, they must first change their Skype for Business presence to Available before changing their Skype for Business presence to Be Right Back, Off-Work, or Appear Away otherwise the Make Busy or Do Not Disturb presence is not removed as intended.

Table 10: Skype for Business presence indicator icons (continued)

PRESENCE ICON (LARGE)	PRESENCE ICON (SMALL)	STATUS TEXT	DESCRIPTION
		Offline	<p>The contact is not available. Possible reasons for this include the following:</p> <ul style="list-style-type: none"> The contact has manually set their presence status to Appear Offline. The contact has not signed into Skype for Business. The contact has blocked you from seeing their presence status. Skype for Business is not running on the contact's computer.
		Presence unknown	<p>Skype for Business cannot determine the status of the contact. This status is typically displayed because the contact's presence status is unavailable to Skype for Business, such as for a contact who is part of an organization that is not a federated partner.</p>

Ignite for Skype real-time state icons

The Ignite for Skype toolbar, in addition to providing an agent with contact center tools and statistics, displays an agent's real-time presence in the contact center, reflecting the agent's agent and employee state in Contact Center Client. See Table 11 for a description of Ignite for Skype real-time state icons.

For a detailed description of Employee and Agent states, see "Agent states" on page 88 and "Employee non-ACD states" on page 89.

Table 11: Ignite for Skype real-time state icons

IGNITE FOR SKYPE PRESENCE INDICATOR	REAL-TIME STATE	ICON	
Logged off	Logged off		
Logged in, not present for ACD	Idle		
Available for ACD	Idle		
		Available for ACD Icons	Logged in, not present for ACD icons
Make Busy	Make Busy		
Do Not Disturb	Do Not Disturb		
ACD Ringing	ACD Ringing		--
ACD	ACD		--

Table 11: Ignite for Skype real-time state icons (continued)

IGNITE FOR SKYPE PRESENCE INDICATOR	REAL-TIME STATE	ICON	
Hold - ACD			--
Non ACD	Non ACD		
Outbound	Outbound		
Hold - Outbound	Outbound Hold		
Work Timer	Work Timer		--
Unknown	Unknown		

AGENT PRESENCE BEHAVIOR

Agent presence is primarily determined by agent interactivity with Skype for Business, but can be affected by agent and supervisor activity within Ignite for Skype and Contact Center Client. Changing one's Skype for Business presence or real-time state affects agent presence as a whole.

NOTE: Supervisors have control over the real-time presence of agents, but they can only affect the Skype for Business presence of agents in limited ways, such as through setting and removing Make Busy.

Skype for Business presence change behavior

Agents can change their Skype for Business presence state at any time, including during a call, either on-site or remotely. Agent activities entered into Outlook calendars can affect an agent's presence as well if the Skype for Business option 'Update my presence based on my calendar information' is enabled. We do not recommend enabling this option. When an agent's Skype for Business presence state changes, their real-time state changes accordingly. Table 12 details how changing Skype for Business presence affects real-time state.

Table 12: The effect of Skype for Business Presence change on real-time presence

SKYPE FOR BUSINESS PRESENCE CHANGE	REAL-TIME PRESENCE
Available	Idle
Do Not Disturb	Do Not Disturb - No Reason Code
Busy	Make Busy - No Reason Code
Away (Be Right Back, Off Work, and Appear Away)	Does not change real-time presence. If set during a call, real-time state changes to Idle when the call ends.
Offline	Logged Out

Skype for Business presence can be changed while an agent is handling a call, but the change only takes full effect after the call is finished. If an agent sets themselves into Busy, Do Not Disturb, or Away, the Skype for Business presence indicator changes to the appropriate color and the presence statement's Skype for Business segment changes accordingly. Once the call ends, the agent presence sets to the new Skype for Business presence and their real-time state adjusts accordingly. If an agent changes their Skype for Business presence to Available, they remain in Busy until the call ends.

Real-time state change behavior

Depending on the actions taken in Ignite for Skype or Contact Center Client, an agent's real-time state and Skype for Business presence are adjusted accordingly. See Table 13 for the effects of Ignite for Skype or Contact Center Client actions on agent presence.

Table 13: Ignite for Skype and Contact Center Client agent presence change effects

ACTION IN IGNITE FOR SKYPE OR CONTACT CENTER CLIENT	IGNITE AND CONTACT CENTER CLIENT (REAL-TIME STATE)	SKYPE FOR BUSINESS PRESENCE
Logging in	<p>If Skype for Business was Available or Away, changes to Unknown, unless configured to automatically log into agent groups</p> <p>If Skype for Business was Busy or Do Not Disturb, changes to Make Busy - No Reason Code or Do Not Disturb - No Reason Code</p>	<p>If previously Available, changes to Logged in, not present to ACD - Available, unless configured to automatically log into agent groups</p> <p>If previously Busy, changes to Make Busy – No Make Busy Code - Busy</p> <p>If previously Do Not Disturb, changes to Do Not Disturb – No DND Reason Code – Do Not Disturb</p> <p>If previously Away (Be Right Back, Off Work, or Appear Away), changes to Logged in, not present to ACD - (Be Right Back, Off Work, or Appear Away), unless configured to automatically log in to agent groups.</p>
Joining Agent Groups	<p>If Skype for Business was Available or Busy, changes to Idle</p> <p>If Skype for Business was Busy or Do Not Disturb, changes to Make Busy - No Reason Code or Do Not Disturb - No Reason Code</p>	<p>If previously Available, changes to Available for ACD – Available</p> <p>If previously Busy, no change</p> <p>If previously Do Not Disturb, no change</p> <p>If Away (Be Right Back, Off Work, or Appear Away), changes to – Available for ACD - (Be Right Back, Off Work, or Appear Away)</p>
Logging Off	Logged Off	<p>If previously Available, Busy, or Do Not Disturb, changes to Logged Off (Available)</p> <p>If previously Away, then changes to Logged Off (Away)</p>
Set Do Not Disturb	Do Not Disturb - (Reason Code)	Do Not Disturb - (Reason Code)
Remove Do Not Disturb	Returns to previous state before Do Not Disturb was set	Returns to previous state before Do Not Disturb was set

Table 13: Ignite for Skype and Contact Center Client agent presence change effects (continued)

ACTION IN IGNITE FOR SKYPE OR CONTACT CENTER CLIENT	IGNITE AND CONTACT CENTER CLIENT (REAL-TIME STATE)	SKYPE FOR BUSINESS PRESENCE
Call Ringing	Ringing	ACD Ringing - Busy
Silent Monitoring a call	Non-ACD	Non-ACD - In a Call (Busy)
Call routed to Agent, but not answered	Prior to failure to answer, if Idle , changes to System Make Busy Prior to failure to answer, if Away or Do Not Disturb , no change	Prior to failure to answer, if Available , changes to Busy Prior to failure to answer, if Away or Do Not Disturb , no change

Real-time states can be changed while an agent is handling a call using Ignite or Contact Center Client, but the change only takes full effect after the call is completed. If an agent is logged out during an ACD call, after the call completes, they will be logged out of their agent group and placed in Logged in, not present to ACD.

Workstation change behavior

Workstation changes impact Skype for Business presence, which correspondingly affects real-time state. If an agent is logged in and Idle and they lock their workstation, they are placed in real-time 'Make Busy - System Make Busy' and return to 'Idle' when they unlock their workstation. If an agent is in real-time 'Make Busy' or 'Do Not Disturb' and they lock their workstation, they remain in that state. If an agent shuts down their workstation, they are automatically 'Logged Off'. When they restart their workstation, they are automatically logged back in.

STARTING IGNITE FOR SKYPE

Starting and logging into Ignite for Skype is a seamless operation for Windows users who are properly configured as employees in YourSite Explorer. The employee SIP Address, Line URI, and login credentials are synchronized between the Active Directory and YourSite Explorer. Once synchronized, the employee is automatically authenticated with Active Directory when they are logged in, eliminating the need to manually enter login credentials. When Ignite for Skype is started, agents are automatically logged into the group(s) for which they are configured.

NOTE: Launching client-side applications from the task bar causes them to bypass the Updater Service process. To ensure successful updates from the Enterprise Server, after an upgrade close all client-side applications for 15 minutes or reopen them from the Start menu/Start screen.

To start Ignite for Skype

- Click **Start=>All Programs=>prairieFyre Software Inc=>Ignite**.
When Ignite for Skype is successfully loaded a message displays the SIP address of the agent and the connection status of the Enterprise Server and the Enterprise Routers.
See Figure 32.

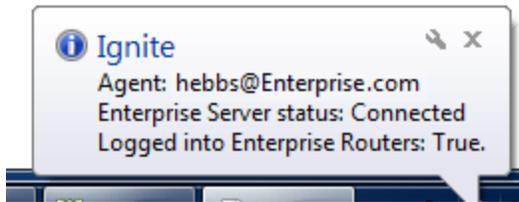


Figure 32: Ignite for Skype active display

JOINING AND LEAVING AGENT GROUPS

Supervisors can join agents to and remove agents from agent groups in Contact Center Client. Agents can view and control their availability to agent groups they are members of by accessing the Agent Actions button in Ignite for Skype if they have the appropriate ACD policy defined in their ACD Policy tab in YourSite Explorer=>Employees. (See Figure 33.)

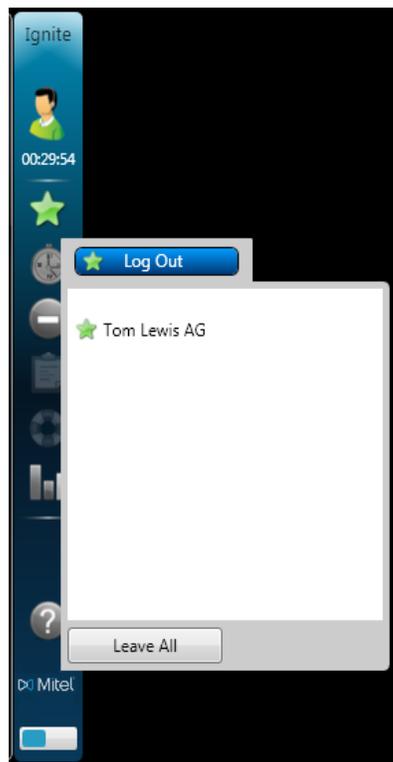


Figure 33: Agent Actions - join and leave agent groups

Default agent groups can be configured for an agent in YourSite Explorer. See "Associating employees with agent groups" on page 59.

When an agent logs into Ignite for Skype they are automatically joined to their default agent group(s).

When an agent joins an agent group they are available to take calls from any queue that the agent group is associated to. When an agent leaves an agent group they are immediately removed from any queues associated with that agent group.

NOTE: For agents to control their ACD presence in agent groups, they must be configured in YourSite Explorer with Agent Presence Control. For more information regarding agent availability to agent groups, see "Configuring system defaults" on page 47.

To log into Ignite for Skype

- Click the Agent Actions button in Ignite for Skype and select **Log in**.

To join an agent group

1. Click the **Agent Actions** button in Ignite for Skype.
2. Select the agent group(s) you want to join.
3. If you want to join all agent groups in the list, click **Join All**.
4. Click **Apply**.

To leave an agent group

1. Click the **Agent Actions** button in Ignite for Skype.
2. Deselect the agent group(s) you want to leave.
3. If you want to leave all agent groups in the list, click **Leave All**.
4. Click **Apply**.

LOGGING OUT OF AND CLOSING IGNITE FOR SKYPE

To log out of Ignite for Skype

- Click the Agent Actions button in Ignite for Skype and select **Log off**. See Figure 34.

When you log off, you are removed from all agent groups and the ACD system but your Ignite for Skype is still active and can receive and process updates.

NOTE: Agents handling an ACD call cannot log off until the call is complete.



Figure 34: Agent Actions button

To close Ignite for Skype

- Right-click the Ignite for Skype icon in the system tray and select **Exit**. See Figure 35.



Figure 35: Ignite for Skype icon

HANDLING CALLS AND CALL ROUTING

The agent's soft phone is embedded in Skype for Business. Outgoing calls are made by typing the phone number in the phone number text box. Internal calls can be made by typing the extension number in the phone number text box or by right-clicking the agent in the contact list and selecting Call. Calls are answered by clicking the incoming call pop-up.

ACD Voice routing within MiContact Center for Skype ensures the longest waiting call is routed to the longest idle agent. Calls from high priority customers can be routed into priority queues to be answered ahead of other incoming calls. If a call waiting in a queue surpasses the overflow threshold (the maximum length of time a call waits in queue before being redirected) it is immediately routed to another queue in another agent group, in addition to remaining in the first queue. The first available agent in either group handles the call. Calls can queue against a maximum of four agent groups. If there are still no agents available to answer the call when the interflow timer expires the call is routed to an alternate answering point, such as another queue or a voice mailbox.

TRANSFERRING CALLS

Occasionally, an agent needs to transfer a call to an alternate point of contact, such as another agent or supervisor. There are two kinds of transfers available: blind transfers and supervised transfers. Blind (or unsupervised) transfers simply transfer a call to a destination point. Supervised transfers can be made by agents by placing the caller on hold and calling the destination point first, enabling the agent to check with the agent or supervisor at the destination point before the call is transferred. Agents can also transfer calls directly to voicemails configured on an Exchange server.

NOTE: ACD transferred calls lasting more than an hour cause agents to become stuck in their current state. To work around this issue, after installing MiContact Center for Skype, we recommend you change the following audit thresholds within the `OrandaRouterService.exe.config` file:

- `EndpointRingingThresholdSec`: This setting represents the number of seconds after which a call that is offered to an agent is considered stale. The default value is 90 seconds. We recommend changing this to 180 seconds.
- `EndpointConnectedThresholdMin`: This setting represents the number of minutes after which a call that is handled by an agent is considered stale. The default value is 60 minutes. We recommend changing this to 720 minutes (12 hours).
- `EndpointHoldThresholdMin`: This setting represents the number of minutes after which a call that was put on hold is considered stale. The default value is 5 minutes. We recommend changing this to 60 minutes.

MAKING A BLIND TRANSFER

To make a blind transfer to another agent or queue

1. If you want to place the caller on hold before making the transfer, in the Conversation window of the call you want to transfer, click the **Hold** icon.
2. In the **Ignite** wrapper on the **Conversation** window, click **Transfer**
3. Enter the name of the agent or queue to whom you want to transfer the call.
4. Click the **Transfer** button beside the destination agent or queue.

MAKING A SUPERVISED TRANSFER

Supervised transfers can be made using one of two methods:

- Using the 'Merge' option in Skype for Business
- Using the 'Invite' option in Skype for Business

NOTE:

- Dual-tone multi-frequency signaling (DTMF) is not passed through Skype for Business conferences to IVRs and must be entered before you conference the caller and the destination point.
- When an employee initiates a supervised transfer using the Invite option, the ACD/non-ACD call is not pegged as Outbound in Agent Performance, Agent Outbound Trace, and Agent Event by Period reports. When an employee initiates a supervised transfer using the Merge option, the ACD/Non-ACD call is pegged as Outbound in reports.

To make a supervised transfer to an agent using 'Merge'

1. If you want to place the caller on hold before making the transfer, In the Conversation window of the call you wish to transfer, click the **Hold** icon.
2. In Skype for Business, call the destination point to which you want to transfer the call. A new Conversation window opens.
3. Inform the agent that you are transferring a call to their extension.
4. In the new Conversation window, click the **View participants** icon and select the original call from under **Merge This Call Into....**
The original call and the transferring agent call are merged into a single call.
5. Click the **Hang Up** icon.
You are removed from the conversation.

To make a supervised transfer to an agent using 'Invite'

1. If you want to place the caller on hold before making the transfer, In the Conversation window of the call you wish to transfer, click the **Hold** icon.
2. In Ignite for Skype, click the **View participants** icon and select **Invite More People**.
3. Select the contact to which you want to transfer the call or, alternatively, type their extension.
4. Click **OK**.
The invited agent joins the group conversation and can now speak to the caller.
5. Click the **Hang Up** icon.
You are removed from the conversation.

To make a supervised transfer to a queue

NOTE: You can only use the 'Invite' option to transfer a call to a queue.

1. In the Conversation window of the call you wish to transfer, click the **Hold** icon.
2. In Ignite for Skype, click the **View participants** icon and select **Invite More People**.
3. Select the queue to which you want to transfer the call or, alternatively, the queue ID.
4. Click **OK**.
The call is presented to the selected queue and will wait to be answered by the next available agent.

MAKING A TRANSFER TO AN EXCHANGE VOICEMAIL

Agents can transfer calls directly to a voicemail configured on an Exchange server. If an agent knows another agent is busy but should handle a call, the agent can transfer the caller directly to the other agent's voicemail to leave a message. If a queue has an Exchange voicemail configured as its unavailable answer point, agents can also transfer calls to the queue's voicemail.

NOTE: Voicemails need to be configured on the Exchange Server.

To transfer an active call to voicemail

1. If you want to place the caller on hold before making the transfer, in the Conversation window of the call you want to transfer, click the **Hold** icon.
2. In the **Ignite wrapper** on the **Conversation** window, click **Transfer**.
3. Enter the name of the agent or queue whose voicemail you want to transfer the call.
4. Click the **Transfer to Voicemail** button beside the destination agent or queue.

REQUESTING HELP

Occasionally, during a call, an agent may require assistance from a supervisor. In these situations, the agent can use the Request for Help button in Ignite for Skype to request a supervisor to monitor or join the call. When a supervisor receives a request for help, they can choose to accept, decline, or redirect the request. If accepted, the supervisor can silent monitor the call or choose to whisper (only the agent hears the supervisor's voice) or barge (the agent and the caller hear the supervisor's voice).

If an agent requests help from a supervisor who is already silent monitoring that agent's conversation, the request for help is automatically offered to that supervisor. If the supervisor declines the request for help, the request is directed to the next available supervisor. Similarly, if an agent requests a specific supervisor and that supervisor is unavailable or declines the request, the request is directed to the next available supervisor. The text within the request for help window indicates that it is a request for help, so should have a higher priority than other calls tagged for silent monitoring.

To request help

1. Click the **Request for Help** button in Ignite for Skype.
2. Select the supervisor to which you want to direct the request for help.
See Figure 36.

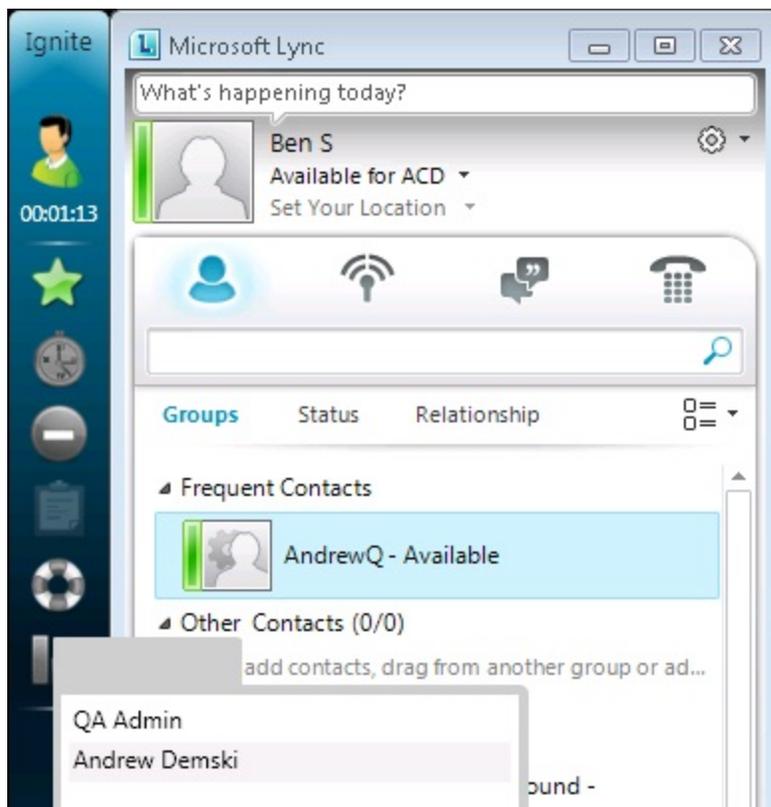


Figure 36: Request for help window

SENDING AN INSTANT MESSAGE

Using Skype for Business, you can send instant messages to individuals or to 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. See "Starting a conversation" on page 123.

To send an instant message to an individual

1. Double-click a contact in the **Contact list** in Skype for Business. The Conversation window opens.
2. Type a message in the **Conversation** window.
3. Press **Enter**.

To send an instant message to multiple contacts

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

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.

VIEWING AGENT STATISTICS

Agents can view personal statistics and those of other agents for the current shift by accessing the Dashboard button in Ignite for Skype. Agent statistics display in the Dashboard view either in a data table format or in a bar chart. (See Figure 37 and Figure 38.) Additional agent statistics can be viewed, by agent, in the Agent Statistics Grid view. (See Figure 39.) Agents can view current agent stats (ACD, Non ACD, Outbound, Idle, Make Busy, and Do Not Disturb) by clicking the Sidebar Pager, located at the bottom on the Agent Actions sidebar in Ignite for Skype. (See Figure 40.)

The Agent Statistics Dashboard view includes the following by-count agent and call statistics for the current shift:

- **ACD** - the number of ACD calls answered by the agent
- **Non-ACD** - the number of non-ACD calls answered by the agent
- **Outbound** - the number of outgoing calls the agent made
- **Make Busy** - the number of times the agent entered the Make Busy state
- **Do Not Disturb** - the number of times the agent entered the Do Not Disturb state

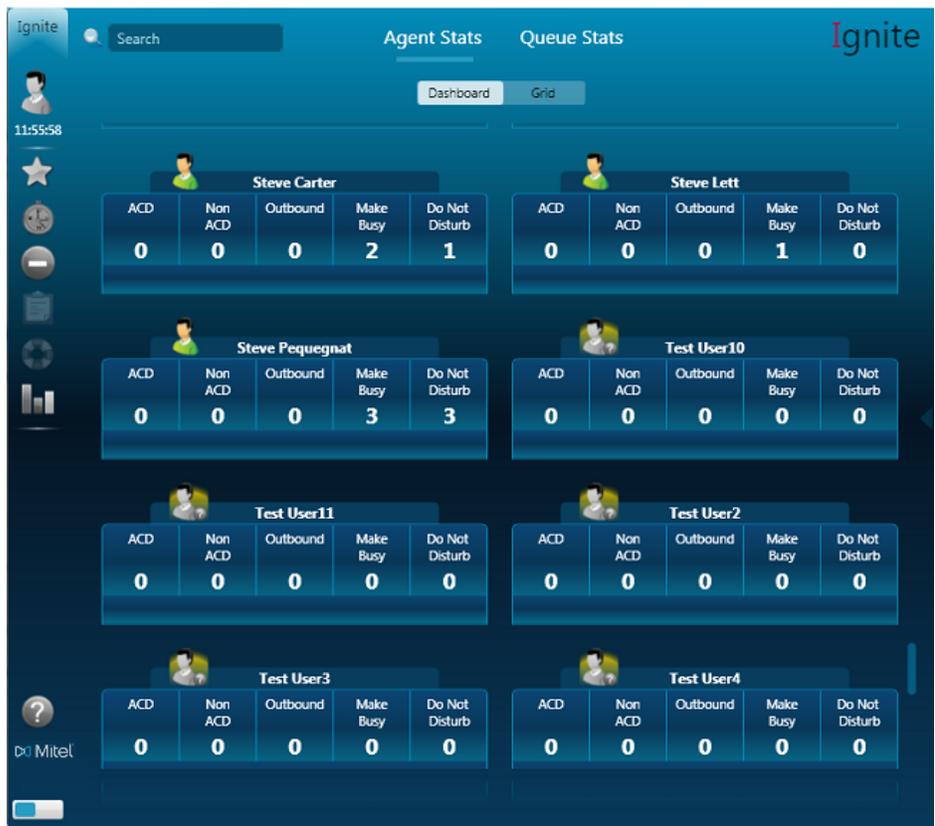


Figure 37: Agent Statistics - Dashboard view with data table display

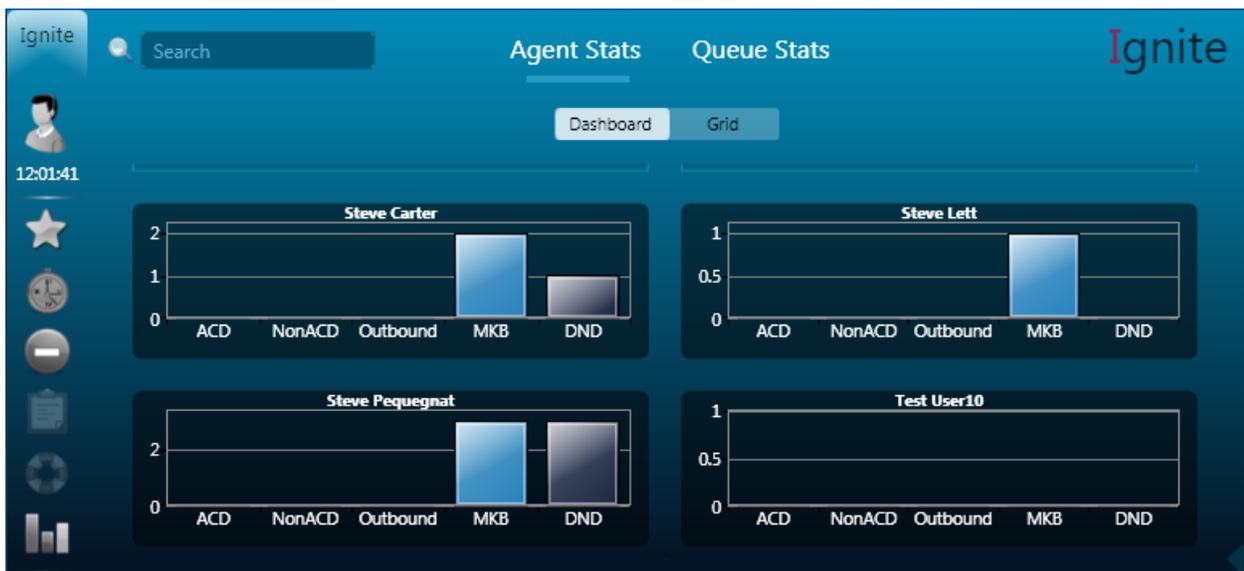


Figure 38: Agent Statistics - Dashboard view with bar chart display

The Agent Statistics Grid view includes the following statistics for all agents for the current day:

- **Logged On** - the time the agent logged on for the shift
- **State Duration** - the duration of time the agent has spent in their current state
- **ACD** - the number of ACD calls answered by the agent
- **ACD Hold** - the number of times the agent put ACD calls on hold
- **Non ACD** - the number of non-ACD calls answered by the agent
- **Non ACD Hold** - the number of times the agent put non-ACD calls on hold
- **Outbound** - the number of outgoing calls the agent made
- **Outbound Hold** - the number of times the agent put outgoing calls on hold
- **DND** - the number of times the agent entered the Do Not Disturb state
- **DND Duration** - the duration of time the agent spent in the Do Not Disturb state
- **MKB** - the number of times the agent entered the Make Busy state
- **MKB Duration** - the duration of time the agent spent in the Make Busy state
- **Calls Per Hour** - the average number of incoming ACD calls answered by the agent per hour since the beginning of the shift
- **Short ACD** - the number of ACD calls answered by the agent that lasted less than 20 seconds
- **Unavailable %** - the percentage of time the agent was set in Make Busy, Do Not Disturb, or was unavailable

The screenshot shows the Ignite interface with the 'Agent Stats' tab selected. The 'Grid' view is active, displaying a table of agent statistics for the current day. The table has the following columns: Agent, Logged On, State Duration, ACD, ACD Hold, Non ACD, and Non ACD Hold. The data is as follows:

Agent	Logged On	State Duration	ACD	ACD Hold	Non ACD	Non ACD Hold
Jay Pepin	3/1/2014 10:21:44 AM	00:00:00	0	0	1	0
Jeff Sutherland	3/1/2014 10:21:44 AM	00:00:00	0	0	0	0
Joe Grace	3/1/2014 9:23:29 AM	00:00:00	1	0	0	0
Juliana Dos Santos		00:00:00	0	0	0	0
Kevin Ferriss	3/1/2014 9:27:33 AM	00:00:00	1	0	3	1
Lillian Neitzel		00:00:00	0	0	0	0
Lionel Gaillard	3/1/2014 10:21:44 AM	00:00:00	0	0	0	0
Luc Raymond	3/1/2014 10:21:44 AM	00:00:00	0	0	0	0
Luca Cremonesi	3/1/2014 9:47:03 AM	00:00:00	1	0	1	0
Michael Eng	3/1/2014 10:21:44 AM	00:00:00	0	0	0	0
Mohamad Moussa	3/1/2014 8:04:16 AM	00:00:00	0	0	0	0
Nick Dallas	3/1/2014 2:19:07 PM	00:00:00	0	0	0	0
Patrick Morin	3/1/2014 10:21:44 AM	00:00:00	0	0	0	0
Ranch Camalalingam	3/1/2014 10:21:44 AM	00:00:00	2	0	4	1
Revathy Atreya		00:00:00	0	0	0	0
Rick Cuddihey		00:00:00	0	0	0	0
Simon Guindon	3/1/2014 10:21:44 AM	00:00:00	0	0	0	0
Steve Pequegnat	3/1/2014 10:21:44 AM	00:00:00	0	0	0	0

Figure 39: Agent Statistics - Grid view

The Sidebar Pager view for agent statistics includes the following information for the current shift:

- **ACD** - the number of ACD calls answered by the agent
- **Non ACD** - the number of non-ACD calls answered by the agent
- **Outbound** - the duration of time spent handling outgoing calls
- **DND** - the duration of time the agent spent in the Do Not Disturb state
- **Make Busy** - the duration of time the agent spent in the Make Busy state
- **Idle** - the duration of time the agent spent in the Idle state (logged on and waiting to receive calls)



Figure 40: Agent Statistics - Sidebar Pager view

To view agent statistics

1. Click the **Dashboard** button in Ignite for Skype.
2. Click **Agent Stats**.
3. Click either **Dashboard** or **Grid**, depending on which view you want to display.
You can click and drag to change the order and width of the columns in the Grid view.
4. To change the data display in the Dashboard view click on the data table to toggle to the bar chart and vice versa.
5. To see one agent only, type the agent's name in the search box.
6. To return to the all-agent display, remove the text from the search box.
7. To see a quick view of ACD and Non-ACD call counts and duration spent in Outbound call handling, Do Not Disturb, Make Busy, and Idle, click the **Sidebar Pager**, located at the bottom of the Ignite for Skype Agent Actions sidebar.

VIEWING QUEUE STATISTICS

Agents can see real-time queue statistics in either a data table or bar graph format by accessing the Dashboard button in Ignite for Skype. Agents can sort and reorder the statistics columns. Supervisors can see the same statistics in the Queue Now monitor in Contact Center Client. For more information, see "Queue Now and Queue Group Now monitors" on page 117.

Statistics are updated with each agent event. For a quick review of each queue, the Queue Statistics Dashboard view shows a subset of statistics, Offered, Abandoned, Requeued, and Handled, in a bar chart format and Calls Waiting, Longest Waiting, Agents Logged In, Agents Idle, Calls Offered, and Calls Abandoned in a data table format. The Queue Statistics Grid view shows overall queue statistics, by queue, with each row representing one queue. See Figure 41 and Figure 42 for examples of the Queue Statistics Dashboard and Grid views. For a list of queue statistics that display in the Queue Statistics Grid view, see Table 14.



Figure 41: Queue Statistics - Dashboard view



Figure 42: Queue Statistics - Grid view

Table 14: Queue statistics in Ignite for Skype

TERM	MEANING
Queue Status	the current status of the queue
Queue #	the queue number
Name	the name of the queue
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 Wait	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, Unknown, or Ringing
Idle	the current number of agents logged on and ready to receive calls
NotPresent	the current number of agent not present in the queue
Logged Out	the current number of agents logged out
Non ACD	the current number of agents handling non ACD calls
Outbound	the current number of agents on outgoing calls
Unavailable	the current number of agents in Do Not Disturb, Make Busy, Work Timer, Unknown, or Ringing
UnavailablePercent	the percentage of time the agent was set in Do Not Disturb, Make Busy, Work Timer, Unknown, or Ringing
Abandoned	the total number of calls abandoned before being answered by an agent for the day
Avg Talk Time	the current average time agents spend talking to callers
Avg Time Abn	the current average duration callers wait before abandoning calls
Average Time to Handle	the average time it takes for the call to be answered by an agent
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.
Handled	the total number of calls answered by agents for the day

Table 14: Queue statistics in Ignite for Skype (continued)

TERM	MEANING
Handled Percent	the percentage of calls answered compared to the total number of calls offered to the ACD queue for the day
Interflowed	the total number of calls interflowed by agents for the day
Last15MinutesAbandoned	the total number of calls abandoned during the last 15 minutes of business
Last15MinutesAbandonedPercent	the percentage of calls abandoned during the last 15 minutes of business
Last15MinutesAverageHandled	the average duration of calls from agent pick up to client hang up (including hold time) during the last 15 minutes of business
Last15MinutesHandled	the total number of calls answered by agents during the last 15 minutes of business
Last15MinutesHandledPercent	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
Last15MinutesInterFlowed	the total number of calls interflowed during the last 15 minutes of business
Last15MinutesOffered	the total number of calls offered to the queue in the last 15 minutes of business
Last15MinutesServiceLevelPercent	the percentage of calls answered within your Service Level Time value in the last 15 minutes of business
Last15MinutesUnavailable	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
LastHourAbandoned	the total number of calls abandoned during the last hour of business
LastHourAbandonedPercent	the percentage of calls that were abandoned in the last hour of business.
LastHourAverageHandled	the average duration of calls from agent pick up to client hang up (including hold time) during the last hour of business
LastHourHandled	the total number of calls answered by agents during the last hour of business

Table 14: Queue statistics in Ignite for Skype (continued)

TERM	MEANING
LastHourHandledPercent	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
LastHourInterFlowed	the total number of calls interflowed during the last hour of business
LastHourOffered	the total number of calls offered to the queue in the last hour of business
LastHourServiceLevelPercent	the percentage of calls answered within your Service Level Time value in the last hour
LastHourTimeToHandle	the predicted duration callers, who call in the last hour of business, wait before being answered by an agent
LastHourUnavailable	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
Offered	the total number of calls offered to the queue
Requeued	the total number of calls re-queued for the day
Svc Lvl %	the percentage of calls answered within your Service Level Time value over the day
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
Total Talk Time	the current total time agents spend talking to callers

To view queue statistics

1. Click the **Dashboard** button in Ignite for Skype.
2. Click **Queue Stats**.
3. Click either **Dashboard** or **Grid**, depending on which view you want to display. You can click and drag to change the order and width of the columns in the Grid view.
4. To change the data display in the Dashboard view click on the data table to toggle to the bar chart and vice versa.
5. To see one queue only, type the queue's name in the search box.
6. To return to the all-queue display, remove the text from the search box.

SETTING AND REMOVING MAKE BUSY AND DO NOT DISTURB

Agents can place themselves in and remove themselves from Make Busy and Do Not Disturb, with or without a reason code, using the Make Busy and Do Not Disturb buttons in Ignite for Skype. (See Figure 43.) Make Busy and Do Not Disturb reason codes display in reports and Contact Center Client real-time monitors.

Although agents can set their presence using the Skype for Business presence indicator, we recommend they use the Make Busy and Do Not Disturb buttons in Ignite for Skype. By doing so, the agent can set their own Make Busy and Do Not Disturb reason codes. This will produce more accurate records of agent activities.

When agents are in the Make Busy and Do Not Disturb states they cannot receive ACD calls. Agents in Make Busy can receive calls dialed directly to their extension. A non-ACD call sent to an agent in Do Not Disturb will receive a busy signal or, if programmed, be forwarded to a voicemail. MiContact Center for Skype enables agents to switch between Make Busy and Do Not Disturb reason codes in Ignite for Skype without having to first clear their states. For example, an agent in a Make Busy state can switch directly between 'Support' and 'Lunch' reason codes, or between Make Busy and Do Not Disturb states. Agents switching directly between states or reason codes do not become falsely available for ACD calls.

NOTE: Each Make Busy or Do Not Disturb state and reason code in which an agent places themselves is considered unique and will be included in Make Busy and DND reports.

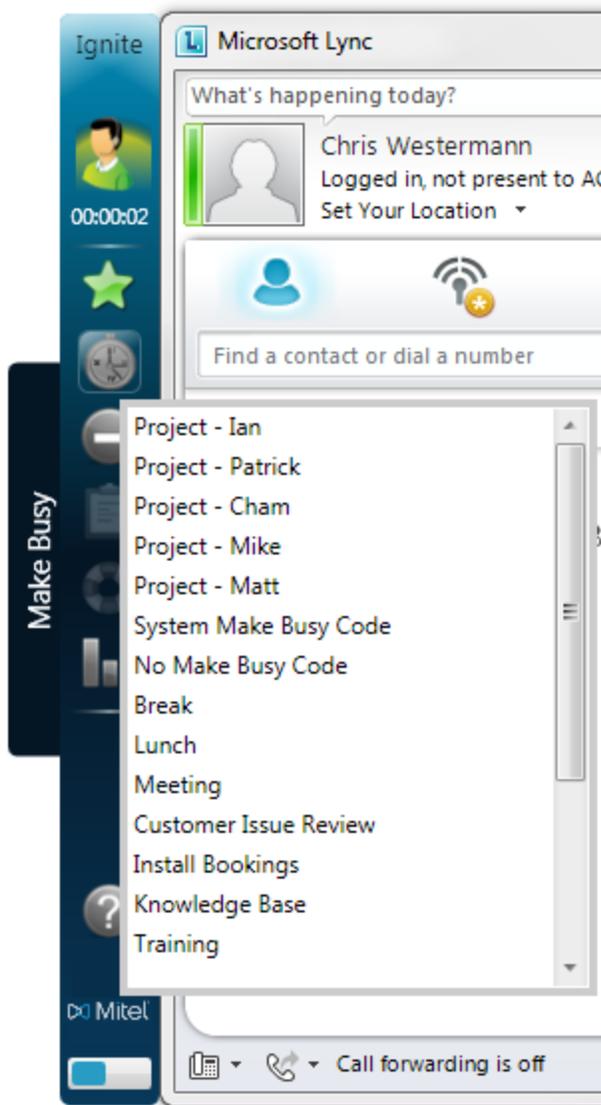


Figure 43: Setting Make Busy

To set Make Busy and Do Not Disturb

1. Click the **Make Busy** button or the **Do Not Disturb** button in Ignite for Skype. The reason codes pane opens.
2. Select a Make Busy Reason or Do Not Disturb reason code from the list.

To remove Make Busy and Do Not Disturb reason codes

1. Click the **Make Busy** button or the **Do Not Disturb** button in Ignite for Skype. (See Figure 44.) The reason codes pane opens with your state selected.
2. Click Remove: **(reason for Make Busy or Do Not Disturb)**. Your state appears as Available for ACD - <Skype for Business State>.

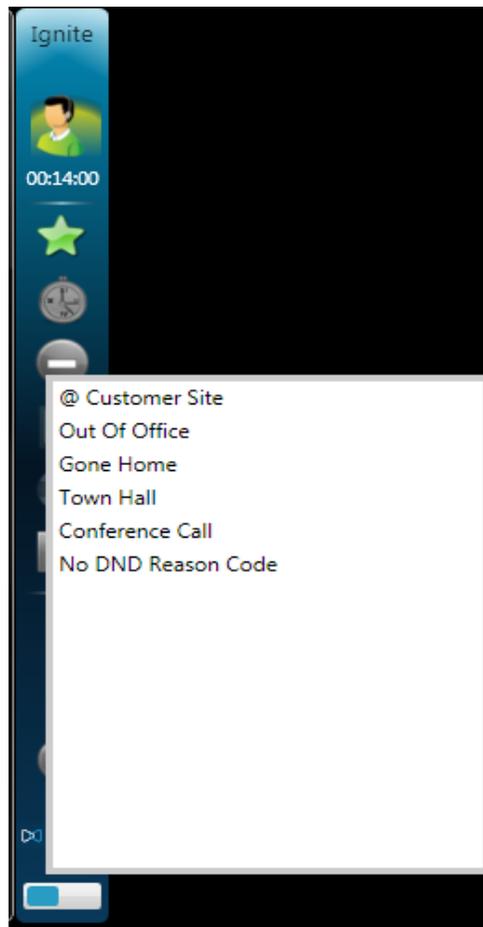


Figure 44: Removing Do Not Disturb

DISABLING THE SET TO BUSY ON DESKTOP LOCK IGNITE FOR SKYPE OPTION

By default, Skype for Business clients set to the Busy state when your PC locks, setting Ignite for Skype to System Make Busy (or No Make Busy Reason Code). This prevents you from receiving ACD calls. If you are using a headset that enables you to work away from your desktop for extended periods of time, however, this may impede you from receiving calls. This can be disabled on a client PC basis, enabling you to continue to receive calls after your desktop locks.

To disable Set to Busy on Desktop Lock on a client

1. Open the following directory: **<drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\Applications\ignite**
2. Open the file **Lynclignite.exe.config** in Notepad.
3. Navigate to **<add key="SetBusyOnDesktopLock" value="true"/>**.
4. Change **value="true"** to **value="false"**.
5. Click **File=>Save** and close Notepad.
6. Restart the Ignite for Skype client.

CANCELING WORK TIMER

If Work Timer is enabled on a queue, agents who answer calls for that queue are placed in a Work Timer state after completing a call. For information on placing queues in Work Timer, see "Configuring general information for queues" on page 63. The Work Timer state provides time for the agent to complete after-call work. When the Work Timer expires, the agent is automatically placed back into an Idle state. The Work Timer can be canceled by the supervisor in Contact Center Client (see "Canceling agents in Work Timer" on page 237) or by the agent in the Ignite for Skype toolbar. Canceling the Work Timer immediately makes the agent available to take calls unless there is another state modifier applied, such as Make Busy or Do Not Disturb.

When an agent is in Work Timer they cannot receive calls. At any time, an agent can cancel Work Timer. However, if an agent removes themselves from Work Timer they cannot place themselves back into Work Timer.

To cancel Work Timer

- Click the **Cancel Work Timer** button in Ignite for Skype.

COMMUNICATING USING THE EMERGENCY ROUTING CHAT IVR

If you do not have access to Contact Center Client or YourSite Explorer or the Enterprise Server is offline in a configuration with an offboarded Router, you can continue to manage your contact center using the Emergency Routing Chat IVR. Using simple commands, the Emergency Chat IVR communicates directly with the router, enabling you to view agent-group-queue associations and identification information, log agents in and out of agent groups, join agents to or remove agents from agent groups, open and close queues, view queue statistics and queue information, see a list of calls waiting in queue, and set or remove Do Not Disturb and Make Busy for individual agents or agents as part of groups or queues. Table 15 lists each Emergency Chat IVR command and result.

NOTE: You must be assigned the security role 'Enterprise Administrator' in order to issue commands via the Emergency Routing Chat IVR.

To issue commands via the Emergency Routing Chat IVR

1. In Skype for Business, double-click **prairieFyre Enterprise ACD**, located in the list of contacts.
If your business uses multiple routers, the prairieFyre Enterprise ACD contact name will be appended with the associated Skype for Business server pool name.
NOTE: Before typing commands, disable emoticons in Skype for Business (Options menu>Tools>Options>General>Deselect 'Show emoticons in instant messages'>OK), otherwise when the SIP address contains an emoticon hot key combination, the emoticon will display.
2. To see a list of commands and how to use them, type **help** in the Conversation window, otherwise, type the command you want to send to the routers.
NOTE: Some commands require a SIP address for the agent, group, or queue. For example, to open a queue, type `qopen sip:myqueue@mycompany.com`.
For a list of commands, see Table 15.
3. Press **Enter**.

Table 15: Emergency Chat IVR commands

COMMAND	RESULT
QUERYGROUPS	<p>If you enter an agent SIP address this query displays a list of the default agent groups the agent is associated with, along with the agent's Reporting Number and Name</p> <p>If you enter a queue SIP address this query displays a list of the agent groups associated with the queue, along with the queue's Reporting Number and Name</p>
ALOGIN	<p>Makes agent available to ACD and logs them into their default ACD agent groups</p>
ALOGOUT	<p>Logs agent out of all currently logged in agent groups and out of the System</p>
AGENTGROUPLOGIN	<p>Logs in all agents in the specified agent group</p>
AJJOIN	<p>Joins agent to specified agent group</p>
ALEAVE	<p>Removes the agent from the specified agent group</p>
QOPEN	<p>Opens the specified queue</p>
QCLOSE	<p>Closes the specified queue to any new incoming calls</p>
QSTAT	<p>Returns the following statistics for the specified queue: Longest Call Waiting, Calls Waiting, Longest Idle Agent, and the current state of the queue</p>
QCALLINFO	<p>Displays a list of calls, including ANI, Call ID, and TimeReceived, that are currently waiting in the specified queue</p>
SETDND	<p>Places agent in Do Not Disturb state</p>
REMOVEDND	<p>Removes agent from Do Not Disturb state</p>
SETGROUPDND	<p>Places agents in specified agent group in Do Not Disturb state</p>
REMOVEGROUPDND	<p>Removes agents in specified agent group from Do Not Disturb state</p>
SETQUEUEEDND	<p>Places agents in specified queue in Do Not Disturb state</p>
REMOVEQUEUEEDND	<p>Removes agents in specified queue from Do Not Disturb state</p>
SETMKB	<p>Places agent in Make Busy state</p>

Table 15: Emergency Chat IVR commands (continued)

COMMAND	RESULT
REMOVEDMKB	Removes agent from Make Busy state
SETGROUPMKB	Places agents in specified agent group in Make Busy state
REMOVEGROUPMKB	Removes agents in specified agent group from Make Busy state
SETQUEUEMKB	Places agents in specified queue in Make Busy state
REMOVEQUEUEMKB	Removes agents in specified queue from Make Busy state
SYSTEM	Displays a list of all queues, total calls waiting per queue, the number of agents logged in to the queue, and the current queue state
HELP	Lists all Emergency Chat IVR commands with examples

Chapter 7

REPORTS

Understanding reports

Report types

Recommended top-five reports

Using reports to identify problems

Reporter

Scheduled Reports

REPORTS

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 .xls 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.

You must install Excel on the Enterprise Server to generate reports. If you intend email reports with Scheduled Reports, you must set up contacts and contact groups to which you will email reports.

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 calls received by the ACD queue, regardless of how they are handled or routed, are referred to as *offered* calls. Offered contacts include ACD handled calls, abandoned (long) calls, and interflowed (long) calls. ACD requeued contacts, queue unavailable (path available) contacts, and abandoned (short) calls 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 calls are calls answered by 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. 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 call waiting in queue to another answer point. When a call has been waiting in queue for longer than the interflow time defined in the system, the call is interflowed and the interflow timer starts. If the interflow timer expires, the call 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 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 non-ACD 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 calls answered within 120 seconds (Service Level time). You specify a service objective for queues.

Service Level Count

The *Service Level Count* is the number of contacts answered within the specified Service Level Time.

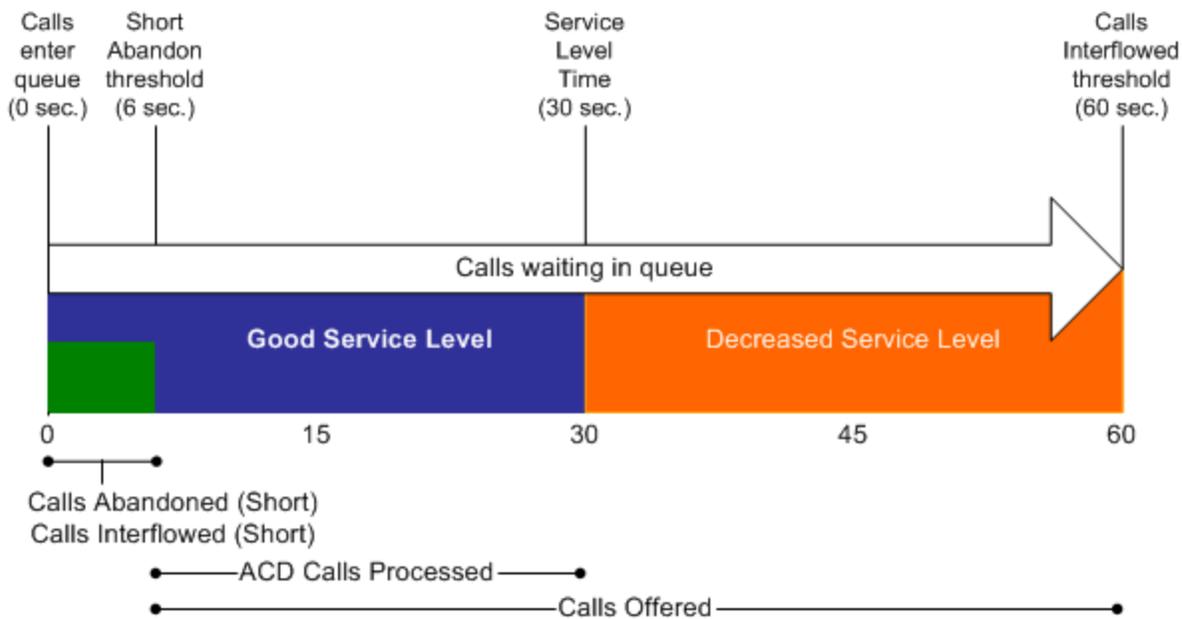
Service Level percent

Service Level Percent = Service Level Count ÷ ACD offered.

For calls, the Service Level percent is the number of calls which are handled, abandoned, and interflowed before the Service Level time, compared to the total number of calls handled, abandoned, and interflowed. A more detailed equation outlining how Service Level percent is calculated is as follows:

The Service Level percent = (Handled + Abandoned (Long) + Interflowed (Long)) within the Service Level time ÷ Total (Handled + Abandoned (Long) + Interflowed (Long)).

In Figure 45, 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.



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.

Figure 45: Service Level percent

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

Queue Service Level objective

You set the queue Service Level objective in YourSite Explorer. See "Adding queues" on page 63.

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 = 0 seconds
- Interflow = 0 seconds
- Wrap-up time is disabled by default. We recommend you enable Wrap-up time and set it for 1 second.

REPORT TYPES

For a complete description of report types and fields, see the *MiContact Center for Microsoft Skype Reports Guide*.

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, DNIS, and Forecast.

RECOMMENDED TOP-FIVE REPORTS

Mitel 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 to identify problems that affect your Service Level objectives. Table 16 and Table 17 address frequently asked questions.

Table 16: 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	<p>When does the Service Level drop during the day?</p> <ol style="list-style-type: none"> 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. 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? <p>Check the Agent Group Performance by Queue report. Are some agent groups overworked?</p>
High abandon callers	<p>Why did the callers hang up?</p> <ol style="list-style-type: none"> 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. Generate the Queue and Queue Group Abandon and Unavailable Trace 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)	<p>Are agents forgetting to set themselves as Unavailable on their Skype for Business Clients before they leave their desks?</p> <p>Check the Agent Group Performance by Period report to see which agents are experiencing requeues. Remind agents to use the Unavailable option.</p>

Table 17: 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	<p>Do some agents perform 20-30% worse than other agents?</p> <ol style="list-style-type: none"> 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. 3. Generate an Agent Inbound or Outbound Trace report to see a list of all calls. Are agents spending too much time on personal calls?
	<p>Do some agents perform 20-30% better than other agents?</p> <ol style="list-style-type: none"> 1. High ACD/Non-ACD/Outbound call counts is not a problem if agents are maintaining high Service Levels. 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	<p>Are agents accumulating Unavailable time and Make Busy peg counts?</p> <ol style="list-style-type: none"> 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. Ensure agents are using Make Busy with Reason Codes. Assign reasons with which agents go into Make Busy. Track Make Busy use by generating the Agent Performance by Make Busy / DND Code report.

REPORTER

Using the Reporter application, you can generate on-demand reports. You can restrict access to any or all of the reports with advanced security roles using report lists. See "Creating and applying security roles" on page 78.

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 later date 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 graph to the email address either selected in the email to list or manually typed in. 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 graph.

SETTING UP CONTACTS AND CONTACT GROUPS

Before you generate a report, if you want to email that report, it is recommended 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

You can generate on-demand reports on licensed employees only. The number of employees you license in YourSite Explorer must be consistent with your software license.

Generating reports

NOTE: The only ACD stream-based report that will work with the over-midnight setting enabled is the Agent Shift by Period report.

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 appears.
See Figure 46.
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 appear in the report.

7. If your contact center does not operate 24 hours 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 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. 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 addressYou add contacts and contact groups to the Email to list under My options=>My contacts.
16. If you want to print the report spreadsheet, select the **Print the report** check box.
17. If you want to print the report chart, select the **Include charts when printing** check box.
18. Click **Submit**.
The Report submitted screen appears.
19. Click **View Report Inbox**.
The Report Inbox window opens, listing all created reports.
20. Click **View** to open a report.
The report opens in Microsoft Excel.

NOTE: Protected View is a Microsoft Office security feature that can impact your ability to view Excel reports. If you use Excel 2010 or 2013 to view reports, configure the following in Excel:

- Ensure the following Protected View options are not enabled:
 - Enable Protected View for files originating from the Internet
 - Enable Protected View for files located in potentially unsafe locations
 - Enable Protected View for Outlook attachments
 - Enable Data Execution Prevention mode
- Ensure that the following Trusted Location option is selected:
 - Allow Trusted Locations on my network (not recommended).

The screenshot shows the 'Reporter: Basic tab' interface. It features a 'Report type' dropdown menu set to 'Agent Group Performance by Period'. Below it is a list of 'Agent group' items, including '[pfacd1] 101 - Frontline Support C', '[pfacd1] 104 - CCMQUEUE', '[pfacd1] 106 - Overflow 1 CS', '[pfacd1] 108 - Rookies 6110', '[pfacd1] 109 - QA Overflow', '[pfacd1] 310 - DMI Test Q', '[pfacd1] 566 - All Voice Agents', '[pfacd1] 750 - All CS Agents', '[Pprim] 102 - Overflow AG1', and '[Pprim] 103 - Overflow AG2'. To the right, there are date and time selection fields: 'Start date' (6/1/2014), 'End date' (6/26/2014), 'Start hour' (00:00), and 'End hour' (24:00). Below these are radio buttons for 'Interval' (15 mins, 30 mins, 60 mins) and 'Report mode' (Default, Over midnight). At the bottom, there are checkboxes for 'Days to include' (Sun, Mon, Tue, Wed, Thu, Fri, Sat), with Mon, Tue, Wed, Thu, and Fri checked.

Figure 46: 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 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 78.

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 report will be generated.
- *At* defines when the scheduled report will be generated.
- *Reports time span* defines the dates of the 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 you are sending the report.
- *Print the report* indicates that the scheduled report will be printed every time it is generated.

GENERATING SCHEDULED REPORTS

To generate a scheduled report, you must follow these steps:

1. Create a report schedule.
2. Add reports to the schedule.

Creating report schedules

You can create schedules for Contact Center Management Reports and Contact Center Management User Reports.

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.

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.

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 47.
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 CCM 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 Skype for Business Server 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 the period specified.
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 to 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 173.

Properties	Distribution	Reports
Schedule name	<input type="text"/>	
Schedule will run	Every day <input type="button" value="v"/>	at 00:00 <input type="button" value="v"/>
Reports time span	Current day <input type="button" value="v"/>	
Schedule will run next on	(Creating new schedule)	

Figure 47: 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 173.

Adding reports to schedules

NOTE: Before you can add reports to a schedule, you must create and save the schedule.

Adding Contact Center Management reports to 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**.

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 170.

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 section of Contact Center Management 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 Contact Center Client and confirm the Enterprise Server IP address and your user name and password are correct by logging in. If you log in automatically, log out from Contact Center Client and log in with your user name, password, and Enterprise Server IP address.
- In Report Inbox, if *Data Limit Exceeded* appears, 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 were 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 report is waiting in your report inbox.
 - Pending: The report is not ready.
 - No data: 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 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.

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 date(s) you specified.

CONFIGURING USER PRINTER SETTINGS

All sending of email and network printing is handled from the Enterprise Server. Local printing is handled from the client computer.

To configure user printer settings

1. In YourSite Explorer, click **YourSite=>Employees**.
2. Click the **User account** tab.
3. Under **Report distribution**, type the name of the **Network printer**.

NOTE:

- The printer path name is case sensitive.
 - The network printer **MUST** be installed on the server where Reporting Service is running.
4. Select whether you want to send printed reports to the employee's desktop printer or use the employee's email address for report distribution.
If you select **Send printed reports to the employee's desktop printer**, report printing is administered by the Contact Center Client application running on the client desktop computer.

Chapter 8

FORECASTING

Forecasting terms

Forecasting tool

FORECASTING

Forecasting involves taking historical data generated by your Skype for Business Standard Edition Server or Enterprise Pool and using it to predict future traffic volumes and patterns. Forecasting is the basis for estimating required resources, such as agents 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 15 for more information on forecast concepts.

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**
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.
See "Understanding reports" on page 160.
- **Service Level time**
See "Understanding reports" on page 160.
- **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**
See "Understanding reports" on page 160.
- **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.

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 **Select 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 **Select 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 48.
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 48: 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 49.
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**.

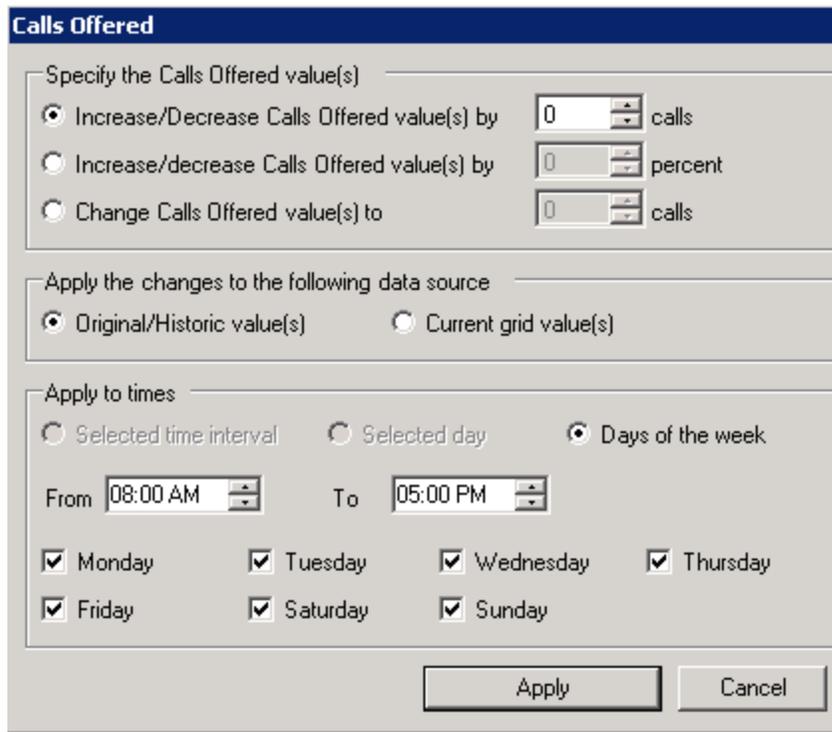


Figure 49: Calls Offered window

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. Click **Tools=>Forecasting**.
2. Click **Modify...=>Weekly total**.
See Figure 50.
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 50: Weekly total for Calls Offered window

PERFORMING FORECASTS

NOTE: You must load historical data before you can perform a forecast. See "Loading historical data" on page 179.

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 9

DATA MINING

ACD Inspector
SMDR Inspector

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.

ACD INSPECTOR

ACD Inspector searches through voice data by accessing 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 voice data.

There are four types of search result tabs:

- Agent events
- Queue events
- Date events
- Exception events

RUNNING SEARCHES IN ACD INSPECTOR

When you run a search, ACD Inspector searches through the raw voice 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 voice activity only.

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=>Data mining=>ACD Inspector in Contact Center Client, the Agent events tab opens. It displays the agent event criteria used in the search. (See Figure 51.)

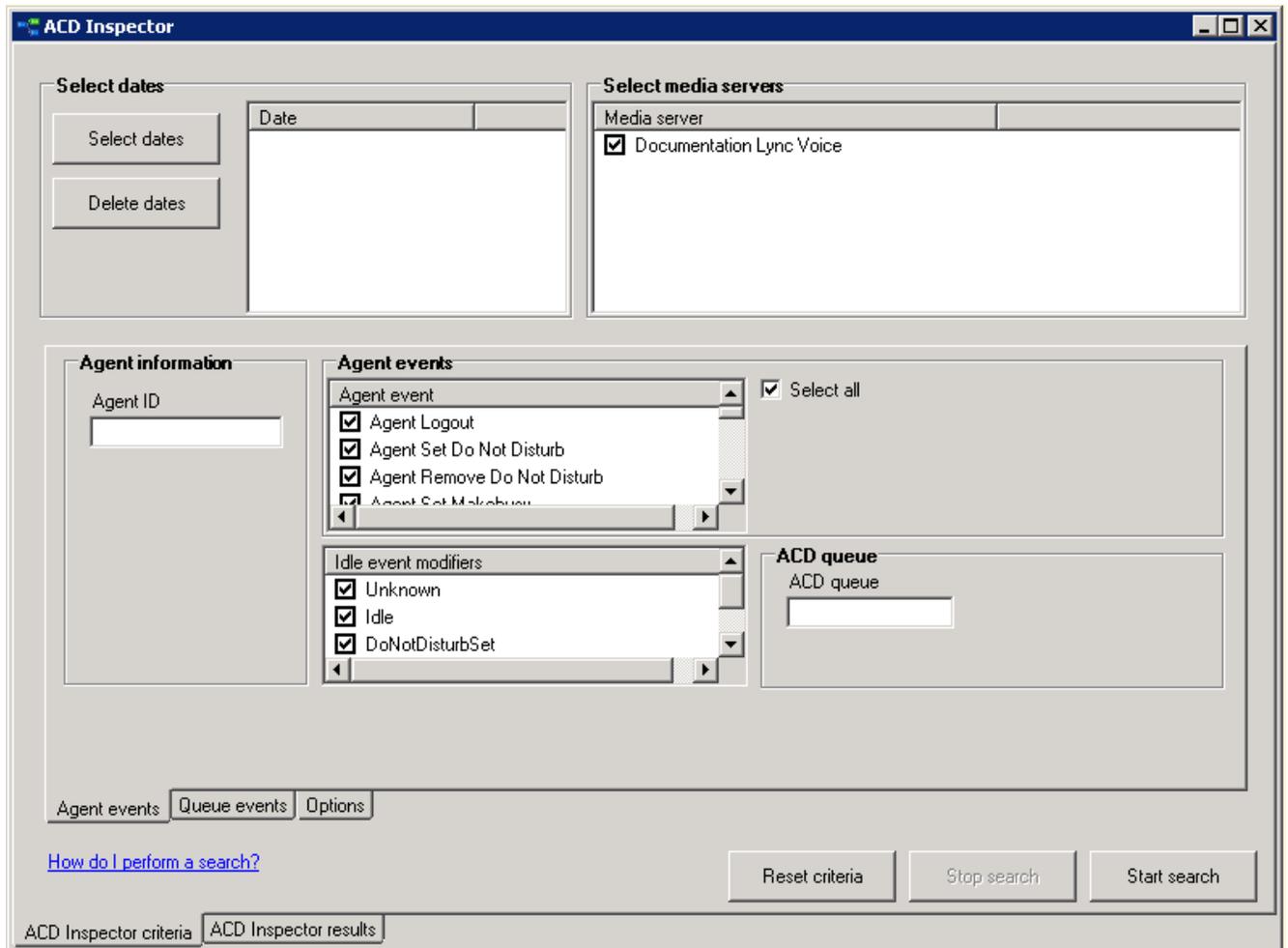


Figure 51: ACD Inspector main window - Agent events tab

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.

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. 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 18 describes the ACD information provided by the Agent events tab.

Table 18: Agent events criteria

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	<p>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:</p> <ul style="list-style-type: none"> • 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

Table 18: Agent events criteria (continued)

AGENT EVENTS	DESCRIPTION
Agent Remove Do Not Disturb	<p>The extension number is always the prime line of the ACD extension. A clear DND record will be produced for the following conditions:</p> <ul style="list-style-type: none"> • 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	<p>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.</p>
Agent Remove Make Busy	<p>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.</p>
Agent Answer ACD	<p>This record is produced whenever an agent answers a call that was directed to the ACD queue. The event record contains the Agent ID and queue number (hunt group pilot number to which the call was placed).</p>
Agent Answer Personal	<p>A record of all of the non-ACD calls are included in this category.</p>
Agent Make Outbound	<p>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.</p>

Table 18: Agent events criteria (continued)

AGENT EVENTS	DESCRIPTION
Agent Idle	<p>If work timer is in effect, the Agent Idle record is produced when the work timer expires or when it is canceled. 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.</p> <p>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.</p>
Agent Work timer Stat	<p>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.</p>
Agent Remove Work timer	<p>This record is produced when the work timer expires for that agent.</p>
Agent Hold Active	<p>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.</p>
Agent Hold Retrieve	<p>When the held call is retrieved, a record is produced, indicating that the agent is now busy on that line.</p>
Agent Hold Abandon	<p>When the held call is abandoned, a record is produced for that line.</p>
Agent Ringing ACD	<p>This record is produced when the telephone rings with an ACD call.</p>
Interactive Contact Center Queue Set DND Request	<p>This record is produced when the agent set the queue in DND.</p>
Interactive Contact Center Queue Set DND	<p>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 Explorer 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.</p>

Table 18: Agent events criteria (continued)

AGENT EVENTS	DESCRIPTION
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 Explorer 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.

Table 18: Agent events criteria (continued)

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 Explorer 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 programmed 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 52.)

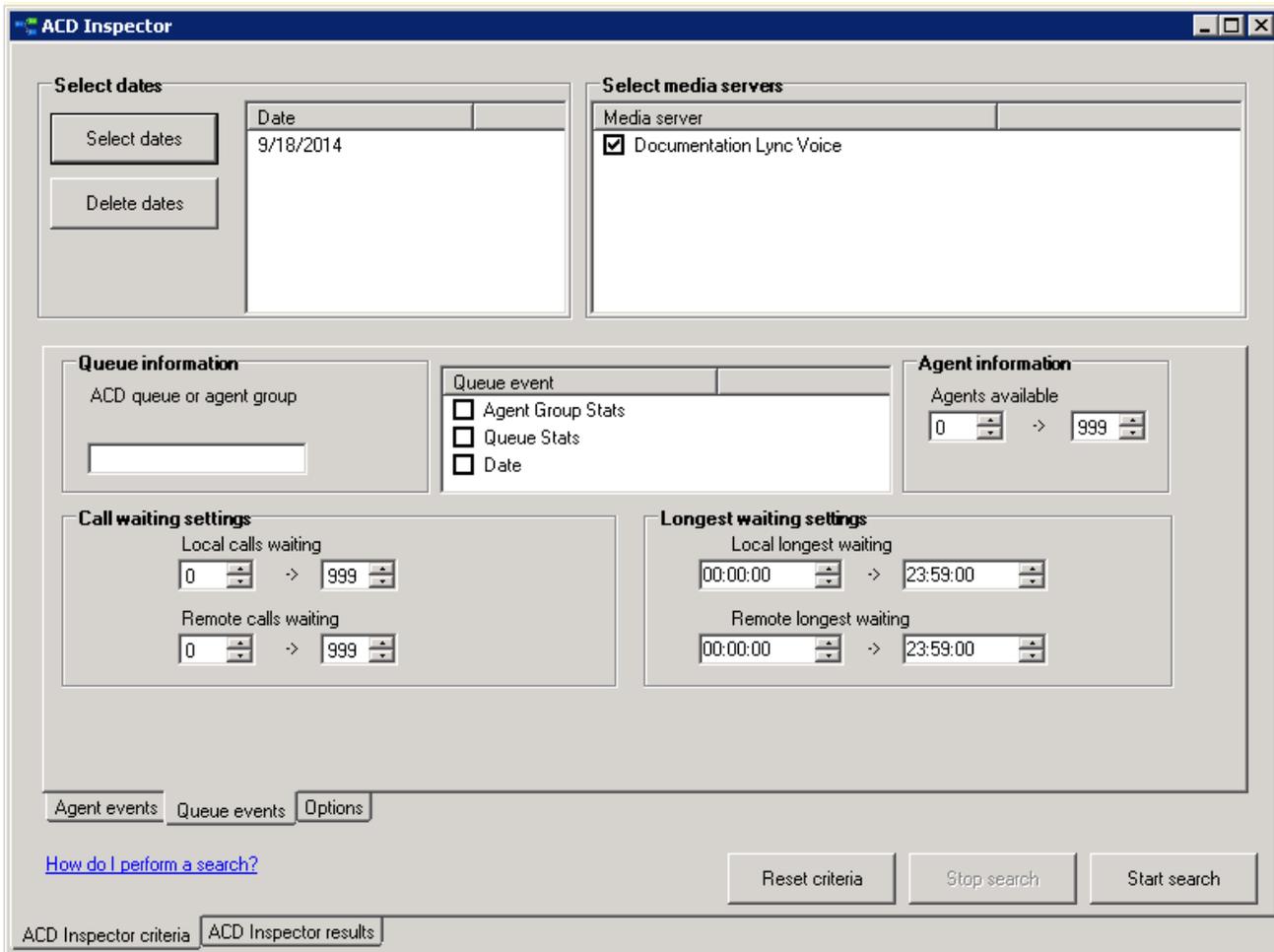


Figure 52: ACD search criteria - Queue events tab

Option events criteria for searches

The Option events tab displays the refresh records, error, and information criteria used in the search. (See Figure 53.)

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.

Output record count

The Output record count specifies the maximum number of rows of records to display.

The screenshot shows the 'ACD Inspector' application window with the 'Option events' tab selected. The dialog box contains several sections for configuring search criteria:

- Select dates:** Includes 'Select dates' and 'Delete dates' buttons, and a table with a 'Date' column containing '9/18/2014'.
- Select media servers:** A table with a 'Media server' column containing a checked entry 'Documentation Lync Voice'.
- Time ranges:** 'Start at' is set to '12:00:00 AM' and 'End at' is set to '11:59:59 PM'.
- Exception records:** Both 'Error records' and 'Information records' checkboxes are checked.
- Output record count:** A spinner box for 'Maximum output rows to display' is set to '10000'.

At the bottom, there are tabs for 'Agent events', 'Queue events', and 'Options'. A link 'How do I perform a search?' is visible. Action buttons include 'Reset criteria', 'Stop search', and 'Start search'. The status bar at the bottom shows 'ACD Inspector criteria' and 'ACD Inspector results'.

Figure 53: 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=>Datamining=>ACD Inspector**.
The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click **Select dates** and select March 3, 2009 to March 5, 2009.
3. The **Media server** field is automatically populated.
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.
4. Under **Agent information**, type the Agent ID, 2009.
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**.
You can leave the **ACD queue** blank.
7. 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 19 describes the ACD information provided by the Agent events tab. The Agent events tab displays the ACD activity for agents 1341, 1342, and 1343 (See Figure 54.)

Media server	Function/Event	Date	Time	Extension...	Agen...	Line	Idle event modi...	Caused...
Documentatio...	6115 Agent Logout...	9/18/2014	12:43:00	1341	sip:ndalla...	0		
Documentatio...	6115 Agent Login ...	9/18/2014	12:43:00	1341	sip:ndalla...	0		
Documentatio...	Agent Login	9/18/2014	12:43:07	1341	1341	0		
Documentatio...	6115 Agent Logout...	9/18/2014	12:43:28	1343	sip:tlewis...	0		
Documentatio...	6115 Agent Login ...	9/18/2014	12:43:28	1343	sip:tlewis...	0		
Documentatio...		9/18/2014	12:43:28		sip:tlewis...	0		
Documentatio...	Agent Login	9/18/2014	12:43:33	1343	1343	0		
Documentatio...	6115 Agent Logout...	9/18/2014	12:43:33	1342	sip:hebbs...	0		
Documentatio...	6115 Agent Login ...	9/18/2014	12:43:33	1342	sip:hebbs...	0		
Documentatio...		9/18/2014	12:43:33		sip:hebbs...	0		

Agent events | Date events | Queue sync events | Queue events | Exception events

Search complete | Bad records | Filtered records 46

Save search | Stop search

ACD Inspector criteria | ACD Inspector results

Figure 54: ACD search results - Agent events tab

Table 19: Agent events result information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the source of 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 55.)

To run an Agent events/Options events search

1. In Contact Center Client, click **Tools=>Data mining=>ACD Inspector**.
The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click **Select dates** and select March 3, 2014 to March 5, 2014.
3. The **Media server** field is automatically populated.
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.
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 **Options** tab.
8. Under **Time ranges**, select the **Start at** and **End at** times to define the Agent events search parameters.
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.

Media Se...	Function/Event	Date	Time	Extension Queue...	Agent ID	L	Idle Event Mo
Phone	Agent Answer ACD	3/3/2014	10:40:23	P280	2005	0	
Phone	Agent Answer ACD	3/3/2014	10:56:55	P280	2005	0	
Phone	Agent Answer ACD	3/4/2014	10:08:58	P280	2005	0	
Phone	Agent Answer ACD	3/5/2014	10:11:35	P280	2005	0	

Agent Events Queue Events Date Events Exception Events

Control Load Time - 0 - min -9 - sec Bad Records Filtered Records 4

Save Search Stop Search

ACD Inspector Criteria ACD Inspector Results

Figure 55: 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. In the following example, you will 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=>Datamining=>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, 2014 and March 4, 2014.
4. The **Media server** field is automatically populated.
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 settings**, 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 that wait 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 56.)

Media...	Function / Event	Date	Time	Queue/...	Agents...	CW	LW	R	R
Phone	Queue Stats	3/1/2014	11:25:52	P280	2	1	60	0	0
Phone	Queue Stats	3/1/2014	11:41:40	P280	1	1	60	0	0
Phone	Queue Stats	3/4/2014	10:47:38	P280	2	1	60	0	0

Agent Events Queue Events Date Events Exception Events

Control Load Time - 0 - min -9 - sec Bad Records Filtered Records 3

Save Search Stop Search

ACD Inspector Criteria **ACD Inspector Results**

Figure 56: ACD search results - Queue events tab

Table 20 describes the ACD information provided by the Queue events tab.

Table 20: Queue events result information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the source of 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. In the following example, you will 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=>Data mining=>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. The **Media server** field is automatically populated.
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 settings**, 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 **Options** tab.
11. Under **Time ranges**, select the **Start at** and **End at** times to define the Agent events search parameters.
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 was 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 57.)

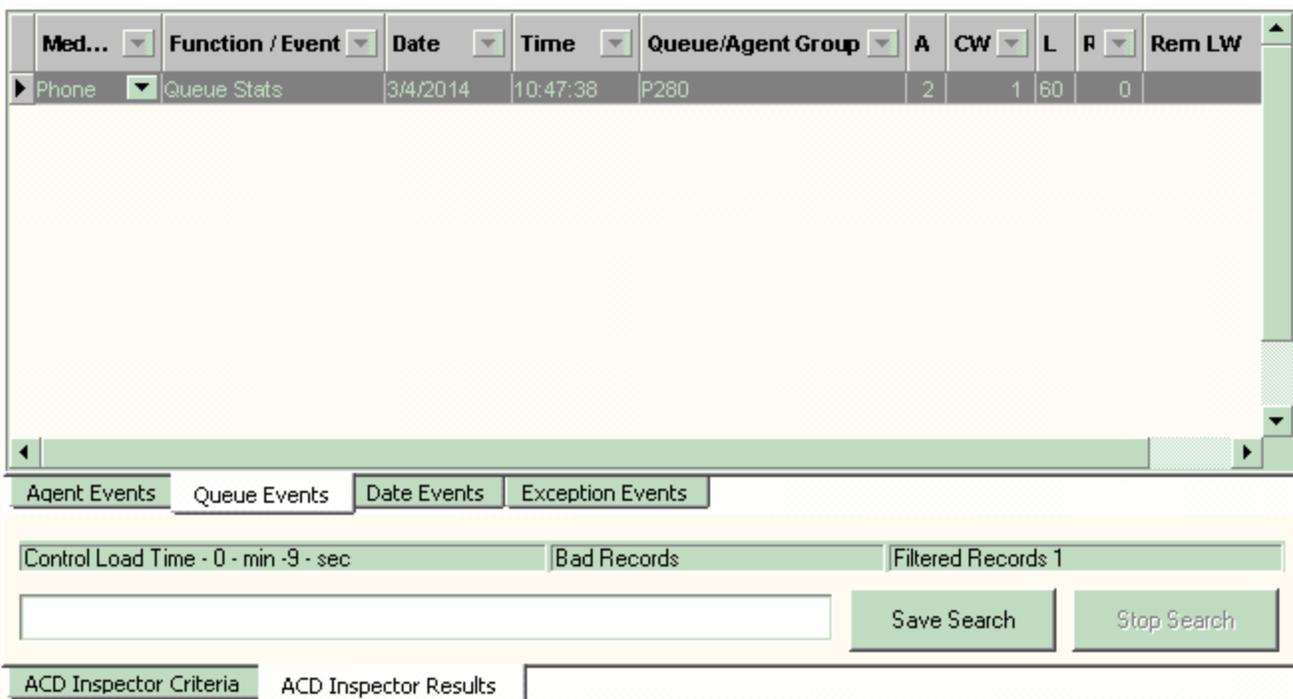


Figure 57: ACD search results - Queue events tab

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=>Datamining=>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. The **Media server** field is automatically populated.
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 that wait 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 58.

Media...	Funci...	Date	Time	Queu...	Agent...	CW	LW	I	R...
Phone	Queue Stats	2/9/2014	16:07:44	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2014	17:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2014	17:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2014	18:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2014	18:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2014	19:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2014	19:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2014	20:07:44	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2014	20:07:45	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2014	21:07:45	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2014	21:07:46	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2014	22:07:45	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2014	22:07:46	P800	0	0	0	0	0
Phone	Queue Stats	2/9/2014	23:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/9/2014	23:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2014	00:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/10/2014	00:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2014	01:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/10/2014	01:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2014	02:07:46	P300	2	0	0	0	0
Phone	Queue Stats	2/10/2014	02:07:47	P800	0	0	0	0	0
Phone	Queue Stats	2/10/2014	03:07:47	P300	2	0	0	0	0

Agent Events Queue Events Date Events Exception Events

Control Load Time - 0 - min 0 - sec Bad Records Filtered Records 1105

ACD Inspector Criteria ACD Inspector Results

Figure 58: ACD Wild card search results - Queue events tab

Wild card queue events search results

The Queue events tab displays the Queue statistics when there was a maximum of two agents available, for the dates selected, for all of the queues that end in '00'. The Queue statistics in this case are the records produced after 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. The **Media server** field is automatically populated.
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 21 describes the ACD information provided by the Exception events tab.

Table 21: Exception event result information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the source of 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 voice data.

Common SMDR Inspector searches include searches for all of the records on

- Queue P001
- Calls that were sent to agent group 23
- The queue for which agent 8000 answered calls
- Outbound calls made by agent 2311 (internal and external)
- DNIS that start with 89

The search result tabs consist of the following:

- SMDR search results
- Exception results

RUNNING SEARCHES IN SMDR INSPECTOR

When you run a search, SMDR Inspector searches through the raw voice 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 voice activity only.

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 59.)

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.

Outbound calls

The Outbound calls box specifies the 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 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.

Select dates

Select dates: 9/18/2014

Delete dates

Select media servers

Media server

Documentation Lync Voice

Digits dialed

Digits dialed:

ANI digits:

DNIS digits:

Outbound calls

Final destination digits:

Call parties

Calling party:

Called party:

Third party:

Call identification

Call ID:

Sequence ID:

Associated ID:

Call parties | Call types | Options

[How do I perform a search?](#)

Reset criteria | Stop search | Start search

SMDR Inspector criteria | SMDR Inspector results

Figure 59: 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 60.)

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.

The screenshot shows the SMDR Inspector application window with the following sections:

- Select dates:** A date field containing "9/18/2014" and buttons for "Select dates" and "Delete dates".
- Select media servers:** A list box containing "Documentation Lync Voice" with a checked checkbox.
- Call types:** A list of checkboxes: Answer - ACD, Answer - Non-ACD, Abandon, Interflow, Requeued, Unavailable, and Outbound. All are checked.
- Call completion:** A list of checkboxes: Answer supervision (A), Busy call (B), Error by caller (E), TAFAS answered (T), Internal call (I), and Blank. All are checked.
- Attendant involved:** Radio buttons for Yes, No, and Both. "Both" is selected.
- Transfer/Conference:** Checkboxes for Unsupervised transfer (T), Supervised transfer (X), Conferenced (C), and Blank. All are checked.
- Speed call/Forward:** Checkboxes for Speed (S), Forward (F), and Blank. All are checked.
- System ID:** A numeric input field containing "0".
- Navigation:** Buttons for "Call parties", "Call types", and "Options".
- Search controls:** A link "How do I perform a search?", and buttons for "Reset criteria", "Stop search", and "Start search".
- Footer:** Labels for "SMDR Inspector criteria" and "SMDR Inspector results".

Figure 60: SMDR search criteria - Call types tab

Options criteria for searches

When you click Tools=>Data mining=>SMDR Inspector in Contact Center Client, 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 61.)

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.

Output record count

The Output record count specifies the maximum number of rows of records to display.

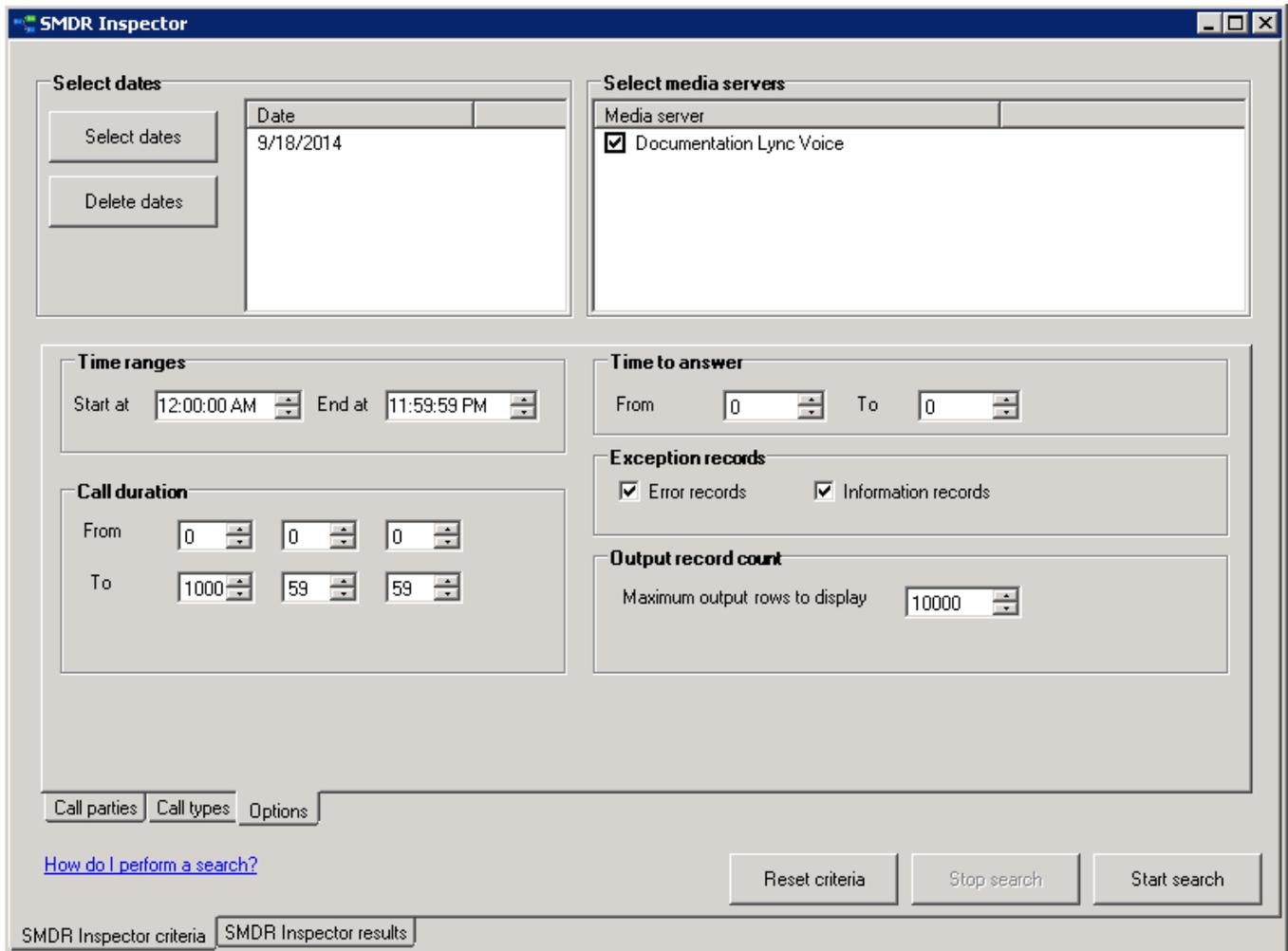


Figure 61: SMDR search criteria - Options tab

SMDR search results information

The SMDR Search results tab shows the search results for Call parties, Call types, and Options searches. Table 22 describes the SMDR information provided by the SMDR Search results tab.

Table 22: SMDR search results information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the source of 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 <i>P</i> 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	<p>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:</p> <p>(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).</p> <p>(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.</p> <p>(c) Trunk number as Calling party (Tnnn or Xnnn). When the originating party is an incoming CO trunk, <i>Tnnn</i> is shown on the record, where <i>nnn</i> 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 <i>nnnn</i> may be up to four digits long, left-justified and without leading zeros. When the originating party is an incoming non-CO trunk, <i>Xnnn</i> is shown in the trunks record. The <i>T</i> or <i>X</i> 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.</p>
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.

Table 22: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
Time to answer (Time to Ans)	<p>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 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.</p> <p>NOTE: Time to answer does not include the duration the request waits in queue outside of regular business hours.</p>
Digits dialed	<p>External SMDR</p> <p>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 outputted 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.</p> <p>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.</p> <p>Internal SMDR</p> <p>Internal SMDR records the digits dialed on an internal line. Up to 26 digits are recorded.</p>

Table 22: SMDR search results information (continued)

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 <i>T</i> . When the trunk group is programmed to receive <i>Answer Supervision</i> and a supervision is received, an <i>A</i> is reported. When the trunk group is programmed for <i>Toll Reversal</i> and a supervision is received, a <i>T</i> 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 <i>B</i> is recorded. When an incoming trunk accesses an invalid number and receives reorder tone, an <i>E</i> is reported. An <i>E</i> is also reported for incomplete calls. A <i>T</i> 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 <i>B</i> 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>I</i> indicates that an internal call was completed.
	Speed Call or Call forward flags (S or F)
	This box contains an <i>S</i> when the number is speed dialed, and an <i>F</i> when an external call is forwarded through the external call forward feature
	If Internal SMDR is enabled, an <i>F</i> 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 <i>Calling party</i> . 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.

Table 22: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
Transfer/Conference call (Trans Conf)	This box identifies calls involving three or more parties. It contains a <i>T</i> for supervised transfers, <i>X</i> for unsupervised transfers (that is, transfer in to busy reports a <i>T</i> , transfer in to ringing reports an <i>X</i>), and a <i>C</i> 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 = <i>No</i> , and Record transfers = <i>No</i> . If an external call is made to a station whose call forwarding is set to an external number, 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 <i>r</i> for the pre-optimization trunk, and an upper case <i>R</i> 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 <i>000</i> to <i>999</i> . <i>000</i> 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.

Table 22: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
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 215.

SMDR record boxes

This section describes the SMDR search output records available.

The telephone system records SMDR data in a tabular format. Table 23 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 23: Summary of boxes in SMDR records

NAME	FORMAT	DEFINITION	NOTES
Date	mm/dd	mm = Month	mm = 01 - 12
		dd = Day	dd = 01 - 31
Start time	hh:mmp	hh = Hours	hh = 00 - 12 or 00 - 23
		mm = Minutes	mm = 00 - 59
		p = pm	p = P.M. (12-hour clock)
Duration of call	hh:mm:ss	hh:mm:ss = duration in hours:minutes:seconds	hh = 00 - 99
			mm = 00 - 99
	hhhh:mm:ss	hhhh:mm:ss = duration in hours:minutes: seconds	ss = 00 - 99
			hhhh = 0000 - 9999
		mm = 00 - 99	
			ss = 00 - 99

Table 23: Summary of boxes in SMDR records (continued)

NAME	FORMAT	DEFINITION	NOTES
Calling party	pppp	cccc = Extension #	
		Tnnn = Trunk # (CO) Xnnn = Trunk # (non-CO)	c = 0 - 9, *, # nnn = 000 - 999
Calling party	ppppppp	ATTm = Attendant	m = Console # (ATmm for Attendant 00 - 99)
		cccccc = Extension # Tnnnn = Trunk # (CO) Xnnnn = Trunk # (Non-CO) ATTmm = Attendant	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 or Tx...x y...y (Network Format)	Up to 26 (20 if metering) digits dialed on the trunk	x = 0 - 9, *, # y = 0 - 9, *, #
		Network Format: up to 26 digits (20 if metering) in total	x...x = Node ID & Extension # (up to 14 digits) y...y = actual digits dialed Tx...x = Node ID & Trunk #
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

Table 23: Summary of boxes in SMDR records (continued)

NAME	FORMAT	DEFINITION	NOTES
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	cccc = Extension # Tnnn = Trunk # (CO) Xnnn = Trunk # (non-CO) ATTm = Attendant	c = 0 - 9, *, # nnn = Range specified in telephone system form programming m = Console # (ATmm for Attendant 00 - 99)
	qqqqqqqq	ccccccc = Extension # Tnnnn = Trunk # (CO) Xnnnn = Trunk # (non-CO) ATTmm = Attendant	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	
Third party	mrr	cccc = Extension #	c = 0 - 9, *, #
	mrrrr	ccccccc = Extension #	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)	

Table 23: Summary of boxes in SMDR records (continued)

NAME	FORMAT	DEFINITION	NOTES
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 programmed, System ID takes precedence.
ANI/DNIS	xx...xxxxxxx	Format -aaaaaaaaa-ddddddddd - = blank a = ANIS digit d = DNIS digit Extended digit length format -aaaaaaaaa-dddddddd	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 **Call parties** tab opens.
2. Click **Select dates** and select March 10, 2004.
3. The **Media server** field is automatically populated.
4. Under **Call parties**, type the Called party, agent ID 2005.
5. 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 62.)

M	Start Time	Date	Total Duration	Calli...	T	Digits Di...	Calle...	Tran
Phone	09:40:00	3/10/2014	00:00:25	T8101	1	1106	2005	
Phone	09:49:00	3/10/2014	00:15:02	T8102	13	P280 101 101	2005	
Phone	10:05:00	3/10/2014	00:00:25	1107	10	1106	2005	
Phone	11:09:00	3/10/2014	00:00:29	1112	4	1106	2005	
Phone	11:11:00	3/10/2014	00:09:27	T8102	5	P280 101 101	2005	
Phone	11:23:00	3/10/2014	00:00:13	T8102	5	1290	2005	
Phone	11:51:00	3/10/2014	00:01:19	T8103	8	1106	2005	
Phone	12:23:00	3/10/2014	00:08:21	T8102	12	P280 101 101	2005	
Phone	12:32:00	3/10/2014	00:13:57	T8102	10	P280 101 101	2005	
Phone	12:53:00	3/10/2014	00:15:01	T8102	5	1106	2005	
Phone	13:17:00	3/10/2014	00:05:15	T8102	6	P280 101 101	2005	
Phone	13:32:00	3/10/2014	00:10:04	T8102	4	1290	2005	
Phone	13:54:00	3/10/2014	00:01:00	T8102	5	P280 101 101	2005	
Phone	16:01:00	3/10/2014	00:06:07	T8101	14	P280 101 101	2005	
Phone	16:14:00	3/10/2014	00:16:59	T8101	13	P280 101 101	2005	
Phone	16:37:00	3/10/2014	00:00:16	T8104	6	1290	2005	

SMDR Search Results Exception Results

Control Load Time - 0 - min -4 - sec Bad Records Filtered Records 20

Save Search Stop Search

SMDR Inspector Criteria SMDR Inspector Results

Figure 62: SMDR search results tab - Call parties search

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 **Call parties** tab opens.
2. Click **Select dates** and select March 10, 2004.
3. The **Media server** field is automatically populated.
4. Under **Call parties**, type the Called party, agent ID 2005.
5. Click the **Call types** tab.
6. Under **Call types**, clear the check boxes for all of the criteria but Answer non-ACD.
7. 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 63.)

M	Start Time	Date	Total Duration	Calli...	T	Digits Dialed	Calle...
Phone	09:40:00	3/10/2014	00:00:25	T8101	1	1106	2005
Phone	10:05:00	3/10/2014	00:00:25	1107	10	1106	2005
Phone	11:09:00	3/10/2014	00:00:29	1112	4	1106	2005
Phone	11:23:00	3/10/2014	00:00:13	T8102	5	1290	2005
Phone	11:51:00	3/10/2014	00:01:19	T8103	8	1106	2005
Phone	12:53:00	3/10/2014	00:15:01	T8102	5	1106	2005
Phone	13:32:00	3/10/2014	00:10:04	T8102	4	1290	2005
Phone	13:57:00	3/10/2014	00:00:06	T8102	7	1106	2005
Phone	14:55:00	3/10/2014	00:00:08	1134	3	1106	2005
Phone	15:59:00	3/10/2014	00:01:12	T8101	7	1290	2005
Phone	16:37:00	3/10/2014	00:00:16	T8104	6	1290	2005

SMDR Search Results Exception Results

Control Load Time - 0 - min -4 - sec Bad Records Filtered Records 11

Save Search Stop Search

SMDR Inspector Criteria SMDR Inspector Results

Figure 63: SMDR search results - Call types search

RUNNING OPTION SEARCHES

You run Option searches to further narrow down 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 **Call parties** tab opens.
2. Click **Select dates** and select March 10, 2004.
3. The **Media server** field is automatically populated.
4. Under **Call parties**, type the Called party, agent ID 2005.
5. Click the **Call types** tab.
6. Under **Call types**, clear the check boxes for all of the criteria but **Answer non-ACD**.

7. Click the **Options** tab.
8. Under **Time ranges**, after the **Start At** time, type 9:00:00.
9. Under **Time ranges**, after the **End At** time, type 12:59:59.
10. 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 include 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 64.)

For more information on SMDR search results, see "SMDR search results information" on page 211.

M	Start Time	Date	Total Duration	Calli...	T	Digits Dialed		S	Cal...
Phone	09:40:00	3/10/2014	00:00:25	T8101	1	1106			2005
Phone	10:05:00	3/10/2014	00:00:25	1107	10	1106	I		2005
Phone	11:09:00	3/10/2014	00:00:29	1112	4	1106	I		2005
Phone	11:23:00	3/10/2014	00:00:13	T8102	5	1290			2005
Phone	11:51:00	3/10/2014	00:01:19	T8103	8	1106			2005
Phone	12:53:00	3/10/2014	00:15:01	T8102	5	1106			2005

SMDR Search Results Exception Results

Search Complete Bad Records Filtered Records 6

Save Search Stop Search

SMDR Inspector Criteria SMDR Inspector Results

Figure 64: SMDR search results - 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 **Call Parties** tab opens.
2. Click **Select dates** and select March 10, 2004.
3. The **Media server** field is automatically populated.
4. Under **Call parties**, type the Called party, agent ID 2005.
5. Click the **Call types** tab.
6. Under **Call types**, clear the check boxes for all of the criteria but **Answer non-ACD**.
7. Click the **Options** tab.
8. Under **Time ranges**, after the **Start At** time, type 9:00:00.
9. Under **Time ranges**, after the **End At** time, type 12:59:59.
10. Under **Exceptions**, select the **Error records** and **Information records** check boxes.
11. 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 65.)

The Exception search has the following results information:

Media server

The Media server box identifies the source of the event record.

Record

The Data record box displays detailed information about the exception record.

The screenshot displays the SMDR Inspector interface. At the top, there is a table with two columns: 'Media Server' and 'Record'. The 'Media Server' column is set to 'Phone'. The 'Record' column contains a list of log entries, including 'INFORMATION-Wednesday, March 10, 2004 06:58:20' and various status messages like 'SetNoDataAlarmActive', 'CPF OneStream::FinishStartComReset-Closing Port', and 'Opening Port'. Below the table, there are two tabs: 'SMDR Search Results' and 'Exception Results', with the latter being selected. Under the 'Exception Results' tab, there are three status indicators: 'Search Complete', 'Bad Records', and 'Filtered Records 11'. At the bottom of this section, there are two buttons: 'Save Search' and 'Stop Search'. Below these buttons, there are two more tabs: 'SMDR Inspector Criteria' and 'SMDR Inspector Results'.

Media Server	Record
Phone	INFORMATION-Wednesday, March 10, 2004 06:58:20
Phone	INFO----SetNoDataAlarmActive-[TCP;10.1.2.2:1752;]-[SMDR Records]-[300 Secs Since Record]-Closi...
Phone	INFORMATION-Wednesday, March 10, 2004 06:58:20
Phone	INFO----CPF OneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...
Phone	INFORMATION-Wednesday, March 10, 2004 06:58:50
Phone	INFO----Opening Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-RESET COMPLETE..Waiting For Data...
Phone	INFORMATION-Wednesday, March 10, 2004 07:03:20
Phone	INFO----StillNoData-[TCP;10.1.2.2:1752;]-[SMDR Records]-[600 Secs Since Record]-Closing Port!
Phone	INFORMATION-Wednesday, March 10, 2004 07:03:20
Phone	INFO----CPF OneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...
Phone	INFORMATION-Wednesday, March 10, 2004 07:03:50
Phone	INFO----Opening Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-RESET COMPLETE..Waiting For Data...
Phone	INFORMATION-Wednesday, March 10, 2004 07:08:20
Phone	INFO----StillNoData-[TCP;10.1.2.2:1752;]-[SMDR Records]-[900 Secs Since Record]-Closing Port!
Phone	INFORMATION-Wednesday, March 10, 2004 07:08:20
Phone	INFO----CPF OneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...
Phone	INFORMATION-Wednesday, March 10, 2004 07:08:51
Phone	INFO----Opening Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-RESET COMPLETE..Waiting For Data...
Phone	INFORMATION-Wednesday, March 10, 2004 07:13:21
Phone	INFO----StillNoData-[TCP;10.1.2.2:1752;]-[SMDR Records]-[1200 Secs Since Record]-Closing Port!
Phone	INFORMATION-Wednesday, March 10, 2004 07:13:21
Phone	INFO----CPF OneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...

SMDR Search Results Exception Results

Search Complete Bad Records Filtered Records 11

Save Search Stop Search

SMDR Inspector Criteria SMDR Inspector Results

Figure 65: 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.

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.

Chapter 10

DATA COLLECTION

Network Monitor

DATA COLLECTION

You use real-time and historical data to manage your contact center. Real-time data is used to monitor the current Call Load and agent availability and make minute-to-minute adjustments. Historical information is used for forecasting, staffing, and scheduling.

The prairieFyre Collector Service (v5) 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, but may be stored elsewhere and is based on the DataDir registry value.

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. The Contact Center Client icon in your system tray is marked with a red line and blinks when the system is reporting alarms.

The following network alarms are available:

- Invalid configuration
- Node offline
- PC time drift
- SMDR record error
- ACD sequence number error
- SMDR link down
- SMDR data timeout
- ACD link down
- ACD data timeout

Table 24 describes the Skype for Business-specific alarms that display in Network Monitor.

Table 24: Lync-specific alarms

ALARM	DESCRIPTION
Lync Certificates	<p>At the Enterprise level in YourSite Explorer an administrator can configure how far in advance they want to be notified that their Lync Certificate is going to expire.</p> <p>Within the specified date range the alarm message will display until the certificate is renewed.</p> <p>When the certificate has expired an error alarm message will display advising you that the certificate has expired; the Enterprise Routers will no longer authenticate to Lync.</p>
SIP Listener	If the connection to the SIP Listener is lost an error alarm message will display.
SIP Listener Disk Space	If the disk space on the computer housing the SIP Listener is low (passes a configured space threshold) this alarm will display.
Enterprise Routers	<p>If the entire connection to the Enterprise Routers is lost an error alarm message will display.</p> <p>If the connection state of the Router Application endpoint to Lync changes, for example, to disconnected, an error alarm message will display. When the Router is in this state it will not be able to handle any calls.</p>

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. Click **Start=>Programs=>prairieFyre Software Inc=>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**.
4. Click **Log on**.
The Contact Center Client window opens.
5. Click **View=>Network Monitor**.

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 prairieFyre Collector Service (v5) 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 Contact Center Client icon in the System Tray blinks. (See Figure 66.)

NOTE: You must configure settings for your SMTP server in YourSite Explorer in order to receive alarm notifications by email.

In YourSite Explorer, you can configure alarms to notify you if prairieFyre Collector Service (v5) is not receiving data or if the server disk space is low. See "Configuring node alarms" on page 53.

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, click **Start=>Settings=>Control Panel=>Administrative tools=>Event viewer** to view more information on the error.

Network Monitor

Enterprise: Critical alarms:0 Warning alarms: 1

Severity	Description	Start time	End time	Alarm ID	Sender
	The Enterprise Server is online	9/18/2014 3:07:49 PM		26	
	At least one warning alarm is being reported on your network	9/18/2014 3:07:49 PM		28	

Media servers: Critical alarms:0 Warning alarms: 1

Source: Documentation Lync Voice - Critical alarms:0 Warning alarms:1

Data link

Severity	Description	Start time	End time	Alarm ID	Sender
	Media Server is Online	9/18/2014 3:07:49 PM		26	
	Enterprise Router Service Data Stream is Online.	9/11/2014 3:19:20 AM		61	
	Enterprise Router Service Device Control is Online.	9/11/2014 3:19:21 AM		62	
	Sip Listener Service(s) are Online.	9/18/2014 3:08:51 PM	9/18/2014 3:08:51 PM	65	
	***** ALARMS DISABLED *****	9/18/2014 3:07:49 PM		3	

Figure 66: Network Monitor

VERIFYING MEDIA SERVERS ARE RECEIVING 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 Skype for Business Server data

- In the Media Servers window, under the media server, click **Data link**.
The Data link window opens.

See Figure 67.

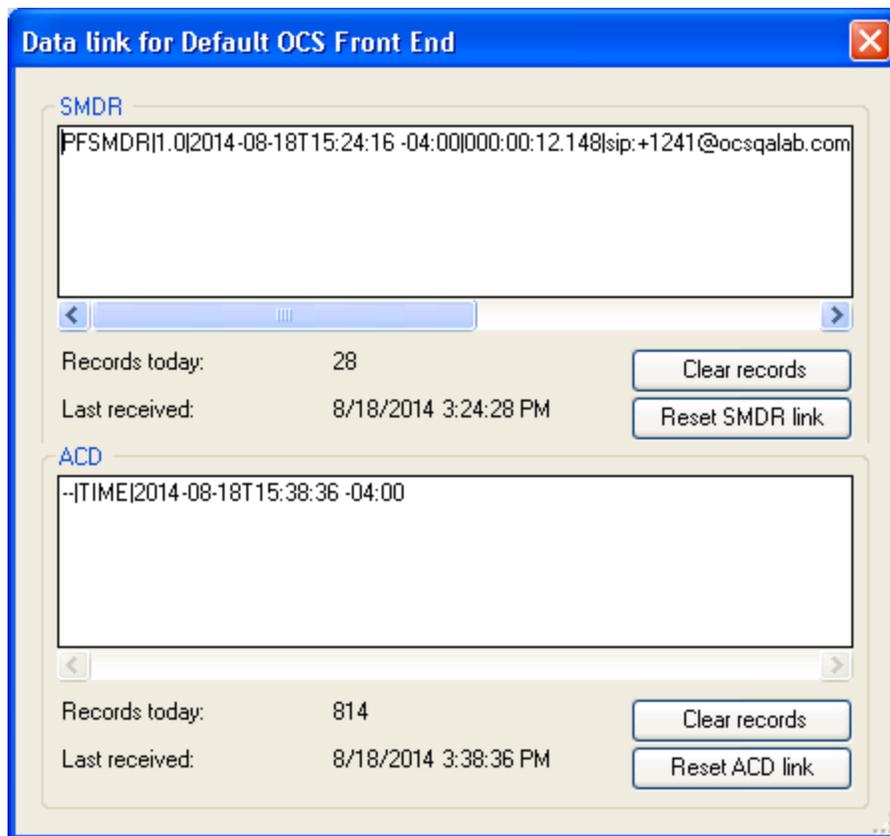


Figure 67: Data link window

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**.

CONFIGURING ENTERPRISE AND MEDIA SERVER ALARM NOTIFICATIONS

You can define alarm 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

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 configure 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 a 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

You can configure performance threshold sound and pop-up window notifications

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 a 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 169.
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**.

Chapter 11

INTERACTIVE CONTACT CENTER

Starting Contact Center Client

Queue Control

INTERACTIVE CONTACT CENTER

Interactive Contact Center enables supervisors to control the availability of agents and ACD queues.

In Contact Center Client, using Interactive Contact Center functionality, supervisors can

- Log agents on and off
- Remove agents from particular queues and place them in other queues
- Place agents in Make Busy or Do Not Disturb
- Place queues in Do Not Disturb

Supervisors can control agents on the following Contact Center Client monitors

- Agent State by Position, Employee State by Position, and Extension State by Position
- Agent State by Time, Agent State by Queue by Time, and Employee State by Time

Agent control gives you control over individual agents. Monitor control gives you control over all of the agents in the monitor.

You can restrict individual supervisors from managing particular monitors and devices in the Contact Center Management website (YourSite=>Security).

STARTING CONTACT CENTER CLIENT

To access Interactive Contact Center functionality you must first open Contact Center Client. After starting Contact Center Client, you can choose to minimize it to either the system tray or the taskbar, depending on your operating system.

NOTE: Launching client-side applications from the task bar causes them to bypass the Updater Service process. To ensure successful updates from the Enterprise Server, after an upgrade close all client-side applications for 15 minutes or reopen them from the Start menu/Start screen.

To start Contact Center Client

1. Click **Start=>Programs=>prairieFyre Software=>Contact Center Client**.
2. Type your user name and password and verify the Enterprise Server IP address. When logged into Windows as a domain authenticated user with Active Directory authentication a username and password may not be required.
3. If you use Secure Socket Layer, select **SSL**.
4. Click **Log on**.

To display Contact Center Client in the taskbar

1. In Contact Center Client, click **Tools=>Options**.
2. Under **Device control**, clear the **Hide when minimized** check box and click **OK**. Contact Center Client, when minimized, will display in the taskbar.
3. To save the profile, click **File=>Save as**.
4. 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.

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 **Tools=>Options**.
2. Select the **Display monitor device control option** check box.
3. Click **OK**.

Logging on an agent

In the following example we will use the Agent State by Position monitor to illustrate Agent control. After an agent is logged on, the supervisor can add or remove the agent from agent groups.

NOTE:

- To control agent presence in Interactive Contact Center, you must have the "May control the real-time presence of agents in Interactive Contact Center" security role enabled. See "Configuring security" on page 81.
- Agents may leave or join 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.

To log on an agent

1. In Contact Center Client, click **View=>Real time** to view the supervisor monitor icons.
2. Click **Position=>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.
5. Right-click the cell of an agent who is logged off and click **Agent control=>Log on**.
The Agent join/leave window opens.
6. Select the agent group(s) you want the agent to join.
7. Click **OK**.

To add 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**.
2. Select the agent group(s) to which you want to add the agent.
3. Similarly, deselect the agent group(s) from which you want to remove the agent.
4. 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**.

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**.

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**.

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**.

To remove all of the agents on a monitor from Make Busy

- Right-click the monitor and click **Monitor control=>Remove Make Busy**.

Placing agents in Do Not Disturb

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**.

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**.

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**.

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**.

Canceling 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**.

To cancel all of the agents on a monitor in Work Timer

- Right-click the monitor and click **Monitor control=>Cancel Work Timer**.

QUEUE CONTROL

Using the Interactive Contact Center feature of Contact Center Client, you can control queues on the Queue Now monitor.

Manually controlling queues

NOTE:

- You can see queue statistics during business hours as long as the business schedule you configure in YourSite Explorer is consistent with your company's hours of operation.
- Manual queue control overrides queue schedules.

Interactive Contact Center Queue control enables you to control individual queues. Monitor control enables you to control all of the queues on a monitor.

Hiding the Monitor control option

When you right-click a device on a real-time monitor a menu is displayed. If 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 **Tools=>Options**.
2. Select 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. Instead the call is sent to an unavailable answer point. If there is no unavailable answer point configured for the queue, the caller will hear a dead air and the call will disconnect. For information on configuring unavailable answer points, see "Configuring alternate queue endpoints" on page 67.

Queues placed manually into Do Not Disturb will stay in Do Not Disturb until manually returned to ACD. See "Removing queues from Do Not Disturb" on page 239.

To place a queue in Do Not Disturb

- Right-click the cell of an active queue and click **Queue control=>Set Do Not Disturb**. See Figure 68.

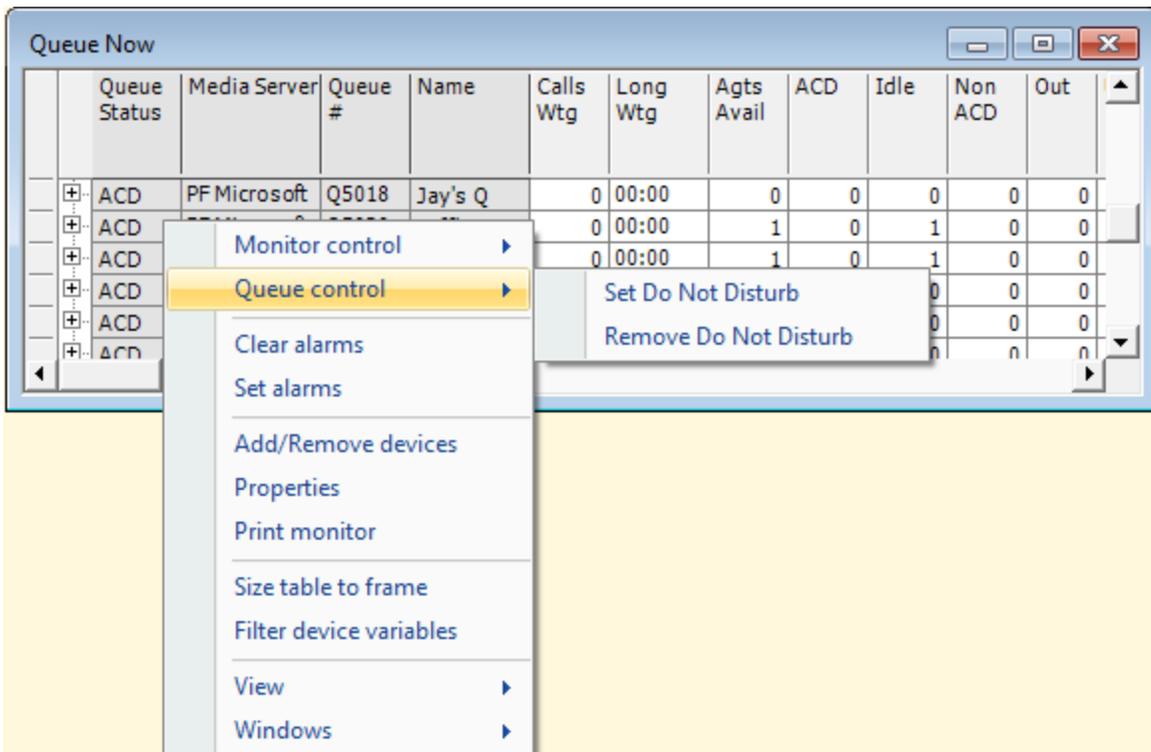


Figure 68: Placing a queue in Do Not Disturb

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**.

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**.

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**.

Chapter 12

MiCONTACT CENTER for SKYPE – IVR ROUTING

*General information for System
Administrators*

*General information for supervisors and
agents*

*Configuring MiContact Center for
Microsoft Skype – IVR Routing*

Lync Server Monitor

MiCONTACT CENTER for MICROSOFT SKYPE – IVR ROUTING

IVR Routing is an integrated voice processing solution that enables you to effectively route contacts using visual workflows. With MiContact Center for Skype Version 5.10.9, you can optionally choose to front end your Skype for Business 5.10.9 server with the IVR Routing application.

GENERAL INFORMATION FOR SYSTEM ADMINISTRATORS

MiContact Center for Microsoft Skype – IVR Routing intercepts calls for specific SIP endpoints that are programmed on the Skype for Business server. Using a canvas, IVR Routing enables you to design workflows by dragging and dropping activities that channel calls based on available call variables and workflow tasks.

The MiContact Center for Skype platform continues to provide messages to callers in queue, music on hold, real-time and reporting for voice, dial out of queue capability, and forecasting, and is home to all queues and agents.

In this integration, each IVR Routing server will be administered locally with YourSite Explorer, using a remote access method to the Contact Center Solutions Version 7.1 Enterprise Server. Administrators modify workflows and run reports remotely on each IVR Routing server independently.

Redundancy is achieved by deploying multiple IVR Routing servers and configuring threshold settings in YourSite Explorer that direct calls from one server to another when the primary server is not available.

Due to the nature of the integration between IVR Routing and MiContact Center for Skype, some IVR Routing features are not applicable and will not be available. For more information, see "MiContact Center for Microsoft Skype – IVR Routing exceptions" on page 242. For a detailed description of standard IVR Routing features, see the *Contact Center Solutions User Guide*.

For hardware and software specifications and application licensing information, see the *MiContact Center for Microsoft Skype System Engineering Guide*.

For installation instructions, see the *MiContact Center for Microsoft Skype Installation Guide*.

Mitel's MiContact Center for Skype deploys an Interactive Voice Response (IVR) solution using Microsoft's Unified Communications Managed API 4.0 (UCMA 4.0), which is not officially supported by Microsoft with Microsoft Lync 2010. However recognizing many end users still use Microsoft Lync 2010, Mitel performed a risk assessment to determine whether Mitel could support Microsoft Lync 2010 using Microsoft UCMA 4.0. After analysis and testing, Mitel believes that the risk is low that problems with the Mitel MiContact Center for Skype using Microsoft UCMA 4.0 should occur. However, if a problem does arise and it is identified as a Microsoft UCMA 4.0 interaction with Microsoft Lync 2010 issue, then the end user may be required to upgrade to Microsoft Lync 2013 at their expense to address such issues.

The above Summary is provided for information purposes only, and is provided with no representations or warranties of any kind, or conditions of accuracy. Mitel shall have no liability or responsibility to you whatsoever for any damages, losses, or expenses incurred by you as a result of your receipt, use or reliance on the Summary.

MiCONTACT CENTER *for* MICROSOFT SKYPE – IVR ROUTING EXCEPTIONS

Some of the features available in Contact Center Solutions IVR Routing are not applicable to a Microsoft Skype for Business deployment. In addition, due to the standalone nature of the IVR Routing application, full integration is not yet possible. In a future release of MiContact Center for Skype, IVR Routing will be more fully integrated, enabling all applicable functionality.

There are some features that are offered within MiContact Center *for* Microsoft Skype – IVR Routing that are not available in Contact Center Solutions IVR Routing. These include:

- Two web-based real-time monitors that display callback and endpoint information
- New reports and charts (IVR Routing Media Server - Concurrent Connections, Concurrent Connections by End Point, by Destination, and Performance by Period by End Point)
- Fewer restrictions on media file types for sounds

Following is a list of features that are not yet supported in MiContact Center *for* Microsoft Skype – IVR Routing. For more information, see "Configuring MiContact Center for Microsoft Skype – IVR Routing" on page 244.

- Hunt groups
- Estimated wait time messaging
- Redirect activity
- RADs (Skype for Business queue announcements take the place of RADs)
- UPIQ
- Inqueue workflows
- Automatic callback processing and distribution
- IVR configured screen pop
NOTE: MiContact Center *for* Microsoft Skype – IVR Routing supports screen pops containing data gathered with the Collect Digits activity and held in the LastCollectedDigits variable or returned in the Query or Execute activity and held in the LastQueryResult. For more information, see "Configuring Contact Center Screen Pop" on page 43.
- PCI compliant workflows
- Routing will use the following queue statistics only: 'Agents Available', 'Agents Unavailable', 'Agents Idle', 'Longest Wait Time', 'Calls Waiting', 'Average time to Abandon', 'Average Time to Answer', and 'Path DND'
- Callback reports

DEPLOYMENT SCENARIOS

IVR Routing can be deployed differently depending on your setup and contact center needs. In all scenarios, each IVR Routing server is configured and maintained separately. The following deployment scenarios are available:

- IVR Routing with MiContact Center for Skype, where IVR Routing is used as a method for routing calls and no other Contact Center Solutions Version 7.1 features are accessed.
- IVR Routing and Multimedia Contact Center are both integrated with MiContact Center for Skype.
- IVR Routing as a standalone product without a MiContact Center for Skype server.
NOTE: Queue condition statistics are not available in this scenario.

SUGGESTED CONFIGURATIONS

The following section describes the most common configurations for MiContact Center for Microsoft Skype – IVR Routing.

Configuration 1

In a MiContact Center for Skype environment:

- IVR Routing installed as a standalone on its own server.
- IVR Routing receives queue statistics from the 5.10.9 Skype for Business server.

Configuration 2

In a MiContact Center for Skype environment:

- Multiple IVR Routing servers are deployed to form a redundant system. Inbound calls are handled by the primary IVR Routing server. If the call is unanswered after a set time, the secondary IVR Routing server is offered the call.
- Each IVR Routing instance is installed as a standalone on its own server.
- An IVR Routing Redundant/Remote Starter Pack is required for each redundant server.
- The database for the redundant server(s) is automatically populated from the primary IVR Routing server.
- IVR Routing receives queue statistics from the 5.10.9 Skype for Business server.

Configuration 3

In a Microsoft Skype for Business environment:

- One or more standalone IVR Routing servers are deployed as an IVR Routing system for Skype for Business site(s).
- The IVR Routing instance is installed as a standalone on its own server and cannot be co-located with Microsoft Skype for Business server roles.

Configuration 4

In a Microsoft Skype for Business environment:

- Standalone IVR Routing servers are deployed as an IVR system for Skype for Business site (s).
- Multiple IVR Routing servers are deployed to form a redundant system. Inbound calls are handled by the primary IVR Routing server. If the call is unanswered after a set time, the secondary IVR Routing server is offered the call.
- An IVR Routing Redundant/Remote Starter Pack is required for each redundant server.

GENERAL INFORMATION FOR SUPERVISORS AND AGENTS

IVR Routing is primarily an administrator's tool but there are workflow reports generated based on routing that are of interest to supervisors. These reports are available by accessing the CCMWeb reporting application on the 7.1 Enterprise Server or the Mitel Contact Center Management web shortcut on client machines. See the *MiContact Center for Microsoft Skype Reports Guide* for more information regarding reports.

During the installation, the Client Component Pack installs a shortcut onto client desktops that agents and supervisors can use to launch the web based real-time callback and endpoint monitors. The Callback monitor displays callback requests and enables agents or supervisors to handle or distribute these requests. The IVR endpoint monitor displays inbound and outbound call information.

CONFIGURING MiCONTACT CENTER *for* MICROSOFT SKYPE – IVR ROUTING

You configure MiContact Center *for* Microsoft Skype – IVR Routing in the following order.

1. In YourSite Explorer, under **Enterprise**, set up your MiContact Center *for* Microsoft Skype – IVR Routing Enterprise structure.
2. Under **Enterprise**, set up your Skype for Business media server.
3. Under **IVR Routing**, set up your MiContact Center *for* Microsoft Skype – IVR Routing devices and workflows.

PRE-CONFIGURATION

Review the following before configuring MiContact Center *for* Microsoft Skype – IVR Routing:

- Before starting YourSite Explorer to configure MiContact Center *for* Microsoft Skype – IVR Routing, run Active Directory synchronization
See "Running Active Directory synchronization" on page 245.
- You must have access to both your MiContact Center for Skype Enterprise Server and your MiContact Center *for* Microsoft Skype – IVR Routing Server. It is recommended that you remote into your MiContact Center *for* Microsoft Skype – IVR Routing Server from your .5.10.9 Enterprise Server.

- You must log into YourSite Explorer with Windows Authentication or you will not be able to provision Microsoft Skype for Business within YourSite Explorer. The Windows Authentication user must be part of RBAC with the following roles:
 - CSAdministrator
 - RTCUniversalServerAdmins
 - RTCUniversalUserAdmins
- Ensure that 5.10.9 devices have meaningful names as those names will be used when you create routing conditions in MiContact Center for Microsoft Skype – IVR Routing.
- To provision on a Windows 8 64-bit client, you must run YourSite Explorer as an Administrator

Running 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 between MiContact Center for Skype Enterprise server and the server.

At any time, you can optionally re-synchronize or reset all client computers running MiContact Center for Microsoft Skype – IVR Routing and 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. Existing employees can also be associated with specific Active Directory users.

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 (hh:mm)**, select how often you want automatic synchronization to occur.
4. Click **Select 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 synchronized.
6. Under **Security Role**, click the **Browse** button and select a default security role to apply to newly created employees.
7. Click **OK**.
8. Under **Sites**, click the **Browse** button 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**.

To associate an existing employee with an Active Directory user

1. In YourSite Explorer, under **YourSite**, click **Employee**.
2. Select the employee you want to associate with an Active Directory user.
3. On the ribbon, click **Active Directory**.
4. Click **Pick user**.
5. Select a user from the Active Directory tree and click **OK**.
6. Click **Save**.

CONFIGURING YOUR MiCONTACT CENTER *for MICROSOFT SKYPE* – IVR ROUTING ENTERPRISE SETTINGS

You must configure MiContact Center *for Microsoft Skype* – IVR Routing Enterprise settings. Most of these settings are populated during installation, but some may require adjustment from the default settings. The procedures for configuring the Enterprise settings can be found in the Enterprise setup section of the Configuration chapter of the *Contact Center Solutions User Guide* with the following differences:

- The addition of MiContact Center for Skype Server configuration on the **Enterprise** tab. See "Specifying the MiContact Center for Skype Enterprise Server IP address" on page 246.
- The Maintenance tab in MiContact Center *for Microsoft Skype* – IVR Routing Enterprise does not have the **Purge Life cycle reports older than** option.

SPECIFYING THE MiCONTACT CENTER *for SKYPE* ENTERPRISE SERVER IP ADDRESS

To make available Skype for Business queue statistics and populate the Skype for Business Server Monitor's Callback Requests monitor with agents to handle callbacks, you must specify your MiContact Center for Skype Enterprise Server's IP address.

To specify the MiContact Center for Skype server's IP Address

1. Click **YourSite Explorer=>Enterprise**.
2. In the **Enterprise** tab, under **Lync Server**, type the **CC Lync (5.10) IP Address**.
3. Click **Save**.

CONFIGURING MEDIA SERVERS

To use MiContact Center for Microsoft Skype – IVR Routing, you must add Microsoft Skype for Business Pool media servers to your IVR Routing environment. Each Microsoft Skype for Business Pool media server represents a single pool configured on the Skype for Business Front End Server. This enables IVR Routing to intercept calls to SIP endpoints on the Skype for Business Front End server and route them through workflows and subroutines to the queues and agents on your MiContact Center for Skype Enterprise Server.

NOTE:

- Do not delete the trusted application pool as other items may be mapped to it.
- You cannot have two application pools on the same computer.
- The same computer cannot be assigned to multiple pools.

You can add one Lync media server per pool configured on the Skype for Business Front End Server. To configure a Microsoft Skype for Business Pool media server, you must

- Add a Microsoft Skype for Business Pool media server
- Specify Microsoft Skype for Business Pool media server location settings
- Apply routing rules to a Microsoft Skype for Business Pool media server
- Associate computers to a Microsoft Skype for Business Pool media server
- Add application endpoints to a Skype for Business media server

Adding a Microsoft Skype for Business Pool media server

A Microsoft Skype for Business Pool media server represents a single Skype for Business pool on the Skype for Business Front End Server. Once added in YourSite Explorer, most of the configuration is automatically populated based on existing settings. The pools must already be provisioned on the Skype for Business Front End Server.

NOTE: As it lacks Powershell 3.0, Windows Vista SP2 is not supported as a client computer operating system for adding a Microsoft Skype for Business Pool media server using YourSite Explorer.

To add a Skype for Business media server

1. Click **YourSite=>Media servers**.
2. Click **Add=>Microsoft Lync Pool**.
3. After **Pool Name**, select the **Microsoft Lync Pool** from the drop-down menu.
NOTE: Pools must be configured on the Skype for Business Front End Server.
4. After **Pool State**, select **Normal** or **Emergency** from the drop-down menu.
NOTE: This field is used with the Set Device and Set System Mode of Operation activity. You can use this field to change the media server's mode outside of a Management subroutine.
5. Enter the **Port** number for the Skype for Business media server.
By default, the port is 5061, which maps to the Skype for Business Listening port. This should not be changed unless you have modified the port number on the Skype for Business Front End server.
6. Click **Save**.

Specifying Skype for Business media server location settings

Location settings for Skype for Business media servers are used with the Outbound workflow and external Transfer activity destination. You specify your country, area, and the range of digits defining numbers as internal, local external, and long distance external.

To specify the Skype for Business media server location settings

1. Click **YourSite=>Media Servers**.
2. Select a Skype for Business media server.
3. Click the **Location** tab.
4. After **Country**, select the country in which the media server resides.
5. After **Area**, select the area in which the media server resides.
6. After **Minimum digits to dial locally**, specify the minimum number of digits required for a local external call.
NOTE: Digits less than the minimum are treated as internal calls.
7. After **Maximum digits to dial locally**, specify the maximum number of digits required for a local external call.
NOTE: Digits exceeding the maximum are treated as long distance external calls.
8. Click **Save**.

Applying routing rules to Skype for Business media servers

After adding a Skype for Business media server, you must build inbound and outbound workflows to create the routing rules for directing inbound and outbound calls in your contact center. You can either build the workflow directly in the Skype for Business media server's Inbound and Outbound canvases, or you can build a workflow in IVR Routing=>Workflows and associate the completed workflows to your Skype for Business media server.

For information on building workflows, see "Building workflows" on page 249.

Associating computers to Skype for Business media servers

After adding a Skype for Business media server, you must add the associated computers and servers, such as remote instances of MiContact Center *for Microsoft Skype – IVR Routing*. By default, your MiContact Center *for Microsoft Skype – IVR Routing* server will have been added.

If you have other instances of IVR Routing on other servers, you can add them here to add redundancy to your contact center. By setting a threshold, you control how long a call is offered to an instance of MiContact Center *for Microsoft Skype – IVR Routing* before being offered to the next instance of MiContact Center *for Microsoft Skype – IVR Routing*. You only need to set the thresholds on the primary instance of MiContact Center *for Microsoft Skype – IVR Routing*. The remote MiContact Center *for Microsoft Skype – IVR Routing* instances do not require computers to be added or thresholds to be set. When you run the remote server installation file on your remote instances of IVR Routing, they are automatically added to the Available members in the Computer tab.

To associate a computer to a Skype for Business media server

1. Click **YourSite=>Media servers**.
2. Select a **Lync media server**.
3. Click the **Computers** tab.
4. Under **Available members**, select a computer and click > to associate it to the media server.
5. To set a threshold, under the **Threshold** column, set the time a call is offered to this instance of MiContact Center for Microsoft Skype – IVR Routing.
6. Click **Save**.

Adding application endpoints to Skype for Business media servers

When you create a Skype for Business media server, it automatically generates an endpoint on the Skype for Business media server's pool on the Front End Server. All calls coming to this endpoint are routed through the Skype for Business media server's Inbound workflow. Additional endpoints from the associated Microsoft Skype for Business pool can be added to route calls through the Skype for Business media server's workflows.

To add an application endpoint to a Lync media server

1. Click **YourSite=>Media servers**.
2. Select a Skype for Business media server.
3. Click the **Application Endpoints** tab.
4. Click the **Add** button.
5. Under the **Name** column, enter the endpoint name.
6. Under the **SIP Address** column, enter the endpoint SIP Address.
NOTE: You cannot change the endpoint SIP address after saving the endpoint.
7. Under **Line URI**, enter the endpoint Line URI.
8. Click **Save**.

BUILDING WORKFLOWS

Workflows are the pathways callers use to reach areas and individuals in your organization. Workflows dictate the prompts callers hear, the inputs requested by the system, and the available routing options.

Workflows can identify customers and determine their service needs by phone number, numbers dialed, and the digits entered to reach specific areas of your organization. Proper workflow configuration is necessary to direct callers to the agents, departments, and employees best qualified to handle their requests.

The following sections explain workflows available in IVR Routing, and general workflow configuration procedures.

NOTE:

- The functions performed when a caller contacts your organization depend on the activities included in the workflow and how the activities are configured. For more information, see "Activities" on page 256.
- If your contact center routinely handles a high volume of calls, for optimal traffic handling, we recommend using subroutines in your workflows or increasing the number of available ports for your workflows. For more information on subroutines, see "Building subroutines" on page 251.
- Workflows must be associated to a Skype for Business media server in order to go live in the system. For more information, see "Associating workflows to media servers" on page 250.

Workflow types

Workflows are categorized in two types:

- **Inbound**—directs incoming calls to the agents, departments, and employees best qualified to handle their requests
- **Outbound**—makes outgoing calls to external and internal numbers. Once connected, an Outbound workflow can play the connected party a greeting or ask them to enter information into IVR Routing. Outbound workflows can also transfer a connected party to a queue automatically or based on responses in an option menu.

Each workflow type offers a specific selection of IVR Routing activities with which to build the workflow. For more information, see "Activities" on page 256.

The IVR Routing chapter of *Contact Center Solutions User Guide* contains information on the following workflow configuration procedures:

- Adding new Inbound and Outbound workflows
Workflows are added with Add=>Lync Voice.
Only Inbound and Outbound workflows can be added.
- Naming workflows
- Copying workflows
- Cutting, pasting, and copying workflow items
- Deleting workflows
- Importing and exporting subroutines and workflows
- Saving and copying workflows as images
- Locating workflow items in the Search field
- Associating workflows to media servers
See "Associating workflows to media servers" on page 250.

Associating workflows to media servers

Workflows must be associated to a Skype for Business media server in order to go live in the system. You can only associate a single Inbound workflow and a single Outbound workflow to a Skype for Business media server. After associating an Outbound workflow to a Skype for Business media server, the 'Always run' check box in the Workflows and Properties pane can be used to enable and disable workflow execution.

The following procedures explain how to

- Associate a workflow to a Skype for Business media server
- Make live an Outbound workflow

To associate a workflow to a Skype for Business media server

1. Click **IVR Routing=>Workflows**.
2. Select a workflow.
3. Click **Media Server Membership**.
4. Under **Available members**, select the **Skype for Business media server** and click **>**.
5. Click **Save**.

To make an Outbound workflow live

1. Click **IVR Routing=>Workflows**.
2. Select an **Outbound** workflow.
3. In the **Properties** pane, select **Always run**.
4. After **Simultaneous calls**, set the number of calls the workflow can make at once.
5. Click **Save**.

BUILDING SUBROUTINES

Subroutines are portions of workflows that can be reused in multiple workflows. Subroutines create common workflow activity groups that can be easily reused, encapsulating common activity groups in one single activity. Subroutines can be reused across workflows or within a single workflow, which helps keep workflows manageable and enables rapid workflow creation. They also facilitate workflow updates by requiring only one change to affect all workflows that use the subroutine.

With a few exceptions, subroutines and workflows function almost identically. Subroutines are configured as Inbound, Outbound, Management, and Callback Inbound. Subroutines are configured using activities, with specific activities available to each type of subroutine. This enables you to use subroutines to access activities not normally available to your workflow type.

For information on building subroutines, see the IVR Routing chapter of the *Contact Center Solutions User Guide*.

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 workflow. Prompts can be individual wave files or multiple wave files joined together to form custom messages. To see a list of pre-configured prompts, go to 'IVR Routing=>Prompts'

For information on prompts and their configuration, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- You cannot create prompts based on queue statistics
- MiContact Center for Microsoft Skype – IVR Routing prompts support wav, wma, and mp3 audio file formats

CONFIGURING CALLBACKS

Callbacks are specialized workflows and subroutines that enable customers to leave a request for a return call (callback) from the contact center. These requests are collected and displayed in the Skype for Business Server Monitor's Callback Requests monitor, where they can be manually assigned to or picked by agents, allowing the agents to call back the customer. For more information about the workflows and subroutines that enable your contact center to offer callbacks, see "IVR Routing default subroutines" on page 267.

Two kinds of callbacks are available with IVR Routing

- **Voice**—Voice callbacks are initiated by the customer. The customer's call is removed from the queue and a callback request is resubmitted to the Callback Requests monitor. This option can be provided by including a Callback Request in a workflow. For an overview of the default inbound voice subroutine workflow, see "Default Inbound Voice Callback subroutine" on page 267.
- **Web**—Web callbacks enable customers to submit callback requests using a website, removing the need for customers to call the contact center in order to be placed in queue to speak to an agent. For information about enabling web callbacks, see "Enabling web callbacks" on page 252.

Supervisors and agents can monitor and assign, reset, mark as complete, or reject callbacks using the web-based Callback Requests monitor. For more information, see "Callback Requests monitor" on page 271.

Enabling callbacks

Voice and Web callbacks are enabled in different ways. Voice callbacks are enabled by placing a Callback Request activity into a workflow, configuring the activity's inbound subroutine, then making the workflow available to a queue through a dial out option. For information about dial out of queue, see "Configuring Dial Out of Queue" on page 69. For information on the default Inbound Callback subroutine, see "Configuring the web callback template" on page 253.

Web callbacks require a webpage to be set up to submit callbacks. IVR Routing includes a template to use as your web callback submission page. For details of the template and configuring the template for use, see "Configuring the web callback template" on page 253.

Enabling web callbacks

Web callbacks require both queues enabled to receive web callbacks and a webpage configured to allow customers to submit callback requests to a contact center.

1. Set the maximum number of web callbacks an IP address can submit per hour.
See "Setting the maximum number of web callbacks an IP address can submit per hour" on page 253.
2. Configure a web callback request page for your contact center.
See "Configuring the web callback template" on page 253.

Setting the maximum number of web callbacks an IP address can submit per hour

You must specify the maximum number of web callback requests that can be generated by a single IP address per hour. By default, the value is 3. This setting helps limit the number of callback requests a single IP can submit, preventing a single contact from flooding a contact center with callback requests.

To configure the maximum number of web callback requests that can be generated by a single IP address per hour

1. Click **IVR Routing=>Workflows**.
2. In the **Configuration** tab, under **Max Per Hour Per IP Address**, select the number of callbacks that can be submitted from a single IP address in an hour.
3. Click **Save**.

Configuring the web callback template

MiContact Center for Microsoft Skype – IVR Routing includes a template web callback request page that can be customized for your contact center. MiContact Center for Microsoft Skype – IVR Routing configures the web callback template in the same way as Contact Center Solutions IVR Routing, with the following differences:

- You do not need to change the default web callback subroutine
- You do not need to obtain web callback subroutine information from SQL

For information on how to configure the web callback template, see the *Contact Center Solutions User Guide*.

Enabling voice callbacks in conjunction with MiContact Center for Microsoft Skype - Multimedia Contact Center

If you are licensed for both MiContact Center for Microsoft Skype – IVR Routing and MiContact Center for Microsoft Skype - Multimedia Contact Center, you can configure email queues to deliver voice callback requests as emails, with the callback information included in the body of the email and the recording made with the callback request as an attachment. This enables MiContact Center for Skype to automatically deliver voice callback requests using ACD to agents as an alternative to assigning callbacks to agents using the Callback Requests monitor.

Delivering voice callbacks to MiContact Center for Microsoft Skype - Multimedia Contact Center email queues is accomplished by adding an email activity after the Save Callback activity in an Inbound Callback subroutine. You can populate an email using callback variables created when the callback request is saved.

Before enabling email queues to receive voice callback requests, you must have the following already configured:

- An Inbound Callback subroutine
MiContact Center for Microsoft Skype – IVR Routing includes a default Inbound Callback subroutine. For more information, see "Default Inbound Voice Callback subroutine" on page 267.
- A SMTP server
- An email queue

For information on configuring email queues, see the Contact Center Solutions *Multimedia Contact Center Installation and Deployment Guide*.

To enable email queues to receive voice callback requests

1. Click **YourSite=>IVR Routing**.
2. Click **Subroutines**.
3. Select your **Inbound Callback** subroutine.
4. After the **Save Callback** activity, add an **Email** activity.
5. Right-click the **Email** activity and select **Edit SMTP Server**.
6. Select the **SMTP Server** and click **OK**.
7. Right-click the **Email** activity and select **Edit Email Template**.
8. Configure the email template fields as follows:
 - **From:** [any valid email address]
 - **To:** [the destination email queue]
 - **Subject:** New callback
 - **Attachment:** <drive>\Program Files (x86)\prairieFyre Software Inc\CCM\ivr\Media\Recording\en-US\<<LastRecordingFilename>>
 - **Body:**
You have a new voice callback
ANI: <<ANI>>
Phone number: <<CallbackClientNumber>>
Preferred callback time: <<CallbackPreferredDateTime>>
NOTE: The <<CallbackPreferredDateTime>> variable requires the day/month/year/time of day format of DDMMYYYYTTTTXX, where XX is either '26' for AM or '76' for PM.
9. Click **OK**.
10. Click **Save**.

CONFIGURING RULES

You use rules to provide call conditions that are evaluated at the runtime of the workflow. They enabled you to compare against a broad range of conditions in a single workflow activity, reducing workflow clutter and enabling precise routing. For information on configuring rules, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- You can only create Voice and Outbound rules
- Only ANI, DNIS, Emergency, and Schedule are available as routing conditions
See the procedures below.

To add an ANI routing condition to a rule

1. Under **Routing Rules**, click **Add**.
2. From the second column, click **ANI**.
3. From the third column, click the – button.
4. Click **Add**.

5. In the third column, select an operator from the drop-down list.
6. In the fourth column, select either **Value** or **Variable**.
7. For **Value**, type in the **ANI** number.
8. For **Variable**, select a variable from the drop-down list.
9. To add another ANI condition, click **Add** and repeat steps 5-8.
10. Click **OK**.

To add a DNIS routing condition to a rule

1. Under **Routing Rules**, click **Add**.
2. From the second column, click **DNIS**.
3. From the third column, click the – button.
4. Click **Add**.
5. In the third column, select an operator from the drop-down list.
6. In the fourth column, select either **Value** or **Variable**.
7. For **Value**, type in the **DNIS** number.
8. For **Variable**, select a variable from the drop-down list.
9. To add another DNIS condition, click **Add** and repeat steps 5-8.
10. Click **OK**.

CONFIGURING HOLIDAYS

Holidays can be configured for dates that affect your contact center functionality.

To configure a holiday

1. Click **IVR Routing=>Holidays**.
2. Click **Add**.
3. After **Name**, type the name of the holiday.
4. If this holiday is a company holiday and you want to receive warnings when trying to schedule employees for this day, select **This holiday is a company holiday**.
5. 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.
6. Click **Save**.

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. IVR Routing can add Microsoft Excel worksheets, Microsoft SQL servers, and Lightweight Directory Access Protocol (LDAP) as data providers to query for data. IVR Routing can also import ODBC connections configured using the Windows ODBC Data Source Administrator.

IVR Routing supports the following reference platforms for ODBC connections:

- IBM DB2
- Oracle Database
- MySQL
- Microsoft Access
- PostgreSQL

For information on configuring data providers, see the IVR Routing chapter of the *Contact Center Solutions User Guide*.

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

Only <LastCollectedDigits>, <LastQueryResult>, and <DNIS> can be used to populate information in screen pop, providing agents with call information generated in the workflow.

For information on variables, see the IVR Routing chapter of the *Contact Center Solutions User Guide*.

ACTIVITIES

You use IVR Routing's activities to build workflows and subroutines and configure routing conditions that send customers to your MiContact Center for Skype queues. Activities perform a range of functions, such as answering and transferring calls, collecting caller-entered digits, playing customized prompts, and running database queries to retrieve caller information. The following sections explain the activities available in IVR Routing and how you can configure activities to build workflows, subroutines, and routing conditions.

Information about each activity and its configuration in IVR Routing can be found in the IVR Routing chapter of the *Contact Center Solutions User Guide*.

There are some exceptions and configuration differences for activities between the MiContact Center for Microsoft Skype – IVR Routing version and the Contact Center Solutions IVR Routing version, which are detailed below.

Activities available in MiContact Center for Microsoft Skype – IVR Routing

Table 25 lists the activities used to create IVR Routing workflows and subroutines. The table lists the activity, shows the activity's icon, and lists the activity's availability according to workflow and subroutine type. If an activity has any differences in configuration or use between MiContact Center for Microsoft Skype – IVR Routing and Contact Center Solutions IVR Routing, the entry contains a link to the configuration procedures.

Table 25: Activities available in IVR Routing

ACTIVITY NAME	ICON	DETAILS
ANI	 Ani	Available in Inbound workflows Available in Inbound, Management, and Callback Inbound subroutines For configuration differences, see "Configuring the ANI activity" on page 263.
Answer	 Answer	Available in Inbound workflows Available in Inbound, Management, and Callback Inbound subroutines
Callback Requests	 Callback Request	Available in Inbound workflows Available in Inbound subroutines For configuration differences, see "Configuring the Callback Request activity" on page 263.
Collect Digits	 Collect Digits	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Date Time Validation	 Date Time Validation	Available in Callback Inbound subroutines

Table 25: Activities available in IVR Routing (continued)

ACTIVITY NAME	ICON	DETAILS
Delay	 Delay	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
DNIS	 Dnis	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines For configuration differences, see "Configuring the DNIS activity" on page 264.
Email	 Email	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Execute	 Execute	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Go To	 Go To	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Hang Up	 Hang Up	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines

Table 25: Activities available in IVR Routing (continued)

ACTIVITY NAME	ICON	DETAILS
Language	 Language	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Make Call	 Make Call	Available in Outbound workflows Available in Outbound subroutines For configuration differences, see "Configuring the Make Call activity" on page 264.
Management	 Management	Available in Inbound workflows Available in Inbound, Management, and Callback Inbound subroutines
Menu	 Menu	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Mode of Operation	 Mode of Operation	Available in Inbound workflows Available in Inbound and Management subroutines
Play	 Play	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Query	 Query	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Queue	 Queue	Available in Inbound and Outbound workflows Available in Inbound, Outbound, and Callback Inbound subroutines

Table 25: Activities available in IVR Routing (continued)

ACTIVITY NAME	ICON	DETAILS
Record	 Record	Available in Inbound workflows Available in Inbound, Management, and Callback Inbound subroutines
Rules	 Rules	Available in Inbound and Outbound Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Save Callback	 Save Callback	Available in Outbound workflows Available in Outbound and Callback Inbound subroutines
Schedule	 Schedule	Available in Inbound and Outbound workflows Available in Inbound, Outbound, and Callback Inbound subroutines
Set Device Mode of Operation	 Set Device Mode of Operation	Available in Management subroutines For configuration differences, see "Configuring the Set Device Mode of Operation activity" on page 266
Set System Mode of Operation	 Set System Mode of Operation	Available in Management subroutines For configuration differences, see "Configuring the Set System Mode of Operation activity" on page 266
Set Variables	 Set Variables	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines
Subroutine	 Subroutine	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines

Table 25: Activities available in IVR Routing (continued)

ACTIVITY NAME	ICON	DETAILS
Swamp Prompt		Available in Management subroutines
Transfer		<p>Available in Inbound and Outbound workflows</p> <p>Available in Inbound, Outbound, Management, and Callback Inbound subroutines</p> <p>For configuration differences, see "Configuring the Transfer activity" on page 266</p>
Variable Compare		<p>Available in Inbound and Outbound workflows</p> <p>Available in Inbound, Outbound, Management, and Callback Inbound subroutines</p>

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 workflow or subroutine, 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
- Variable Compare
- DNIS
- Queue
- Rules
- Schedule

Actions include the following activities:

- Answer
- Callback Request
- Delay

- Email
- Go To
- Hang up
- Language
- Management
- Play
- Set Variables
- Subroutine
- Swap Prompt

Conditional actions include the following activities:

- Collect Digits
- Date Time Validation
- Execute
- Make Call
- Menu
- Mode of Operation
- Record
- Query
- Save Callback
- Set Device Mode of Operation
- Set System Mode of Operation
- Transfer

Configuring common activity options

Several of IVR Routing's activities share configuration procedures. See the IVR Routing chapter of the *Contact Center Solutions User Guide* for information on the following procedures for configurations that are common to many activities, branches, and branching conditions:

- Adding activities to workflows or subroutines
- Deleting activities or branches from workflows
- Naming activities, activity configurations, and branches
- Configuring activities and branches for reporting
- Configuring an activity's prompts
- Finding activities in a workflow or subroutine
- Editing branches
- Annotating activities in a workflow or subroutines
- Troubleshooting workflow configuration
- Changing the order in which branches are evaluated
- Building conditions in IVR Routing features and activities

NOTE: Branches route callers to different portions of the workflow. Branching conditions represent the circumstances a call must match in order to be sent to a particular branch.

Configuring the ANI activity

The ANI activity branches workflows based on all or part of a customer's ANI. For information on configuring the ANI activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- Instead of configuring numbers, ANI in MiContact Center for Microsoft Skype – IVR Routing relies on conditional values. See the procedure below.
- ANI expressions / conditions can be grouped.
- You cannot import or export ANI conditions.

To add a branching condition to an ANI activity

1. Right-click the **ANI** activity and select **Add Condition**.
2. Click **Add**.
3. In the third column, select an operator from the drop-down list.
4. In the fourth column, select either **Value** or **Variable**.
5. For **Value**, type in the **ANI number** or **SIP address**.
6. For **Variable**, select a variable from the drop-down list.
7. To add another condition, click **Add** and repeat steps 3-6.
8. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
9. Click **Save**.

Configuring the Callback Request activity

The Callback Request activity runs a Callback Inbound subroutine which creates the callback requests that agents handle using the Callback Requests monitor. For information on configuring the Callback Request activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- You do not assign an outbound callback subroutine to the Callback Request activity. MiContact Center for Microsoft Skype – IVR Routing does not use outbound workflows to make callbacks.
- You enter a SIP address in the Destination field, instead of selecting queues, queue groups, or variables. The Destination field is optional in MiContact Center for Microsoft Skype – IVR Routing. See the procedure below.

To optionally associate a destination to a Callback Request activity

1. Select the **Callback Request** activity.
2. In the **Properties** pane, after **Destination**, type the dialable number SIP address of the Callback Request's destination. The destination will appear in the Queue field of the Callback Requests monitor. See "The View pane" on page 272.
3. Click **Save**.

To optionally associate a queue or variable as a destination to a Callback Request activity

1. Select the **Callback Request** activity.
2. In the **Properties** pane, after **Destination**, click
3. If associating a queue, click the **Queue** tab.
4. If associating a variable, click the **Variable** tab.
5. Select a queue or variable and click **OK**.
6. Click **Save**.

Configuring the DNIS activity

The DNIS activity branches workflows based on the number a customer has dialed. For information on configuring the DNIS activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide* noting the following differences:

- You cannot import or export DNIS conditions
- Adding a branching condition is performed differently. See the procedure below.

To add a branching condition to an DNIS activity

1. Right-click the **DNIS** activity and select **Add Condition**.
2. Click **Add**.
3. In the third column, select an operator from the drop-down list.
4. In the fourth column, select either **Value** or **Variable**.
5. For **Value**, type in the **DNIS** number or **SIP address**.
6. For **Variable**, select a variable from the drop-down list.
7. To add another condition, click **Add** and repeat steps 3-6.
8. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
9. Click **Save**.

Configuring the Make Call activity

The Make Call activity prompts the associated Microsoft Skype for Business Pool media server to process an outbound call to a specified destination. This destination can be specified directly or can be retrieved from a data source including a SQL database, an Excel file, a Web Service call, and filled into a variable set as the destination.

For information on configuring the Make Call activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- In *MiContact Center for Microsoft Skype – IVR Routing*, Make Call destinations can be dialable numbers (including Line URI and SIP addresses), queues, or variables.

To set a dialable number as the destination

1. Select the **Make Call** activity.
2. In the **Properties** pane, after **Destination**, type the **dialable number**.
NOTE: MiContact Center for Microsoft Skype – IVR Routing does not support destination that include '#' in the Line URI.
3. Click **Save**.

To set a queue as the destination

1. Select the **Make Call** activity.
2. In the **Properties** pane, after **Destination**, click
3. Select a queue and click **OK**.
4. Click **Save**.

To set a variable as the destination

1. Select the **Make Call** activity.
2. In the **Properties** pane, after **Destination**, click
3. Select a variable and click **OK**.
4. Click the **Variable** tab.
5. Click **Save**.

Configuring the Queue activity

The Queue activity branches workflows based on real-time queue conditions, enabling you to route calls based on emerging queue conditions. For information on configuring the Queue activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- The available queue statistics are:
 - Agent Idle
 - Agents Available
 - Agents Unavailable
 - Call Load
 - Expected Wait Time
 - Longest Wait Time
 - Number of Calls Waiting
 - Path DND

Configuring the Set Device Mode of Operation activity

The Set Device Mode of Operation activity changes the mode of operation for a specific Skype for Business media server to Normal or Emergency.

For example, if only one of the Skype for Business media servers 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. For information on configuring the Set Device Mode of Operation activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- Only Skype for Business media servers can have their mode set. See the procedure below.

To configure the properties for a Set Device Mode of Operation activity

1. Select the **Set Device Mode of Operation** activity
2. To set the variable containing the device dialable number, after Input variable, click the ... button.
The Select a variable dialog box opens.
3. Select an input variable and click **OK**.
The input variable must be populated with the Skype for Business media server's Pool ID, such as through a Collect Digits activity.
4. After **Mode of operation**, select either **Normal** or **Emergency** from the drop-down list.
5. Click **Save**.

Configuring the Set System Mode of Operation activity

The Set System Mode of Operation activity changes the mode of operation for all Skype for Business media servers to Normal or Emergency. For more information on the Set System Mode of Operation activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- The activity only sets the mode of all Skype for Business media servers.

Configuring the Transfer activity

The Transfer activity transfers a caller to a specified destination, enabling you to send callers to a dialable number (including Line URI and SIP addresses), queue, or variables. For information on configuring the Callback Request activity, see the IVR Routing chapter of the *Contact Center Solutions User Guide*, noting the following differences:

- You cannot set an extension or queue group as the destination. See the procedures below.
- In *MiContact Center for Microsoft Skype – IVR Routing*, Transfer destinations can be dialable numbers (including Line URI and SIP addresses) or variables.

To set a dialable number as the destination

1. Select the **Transfer** activity.
2. In the **Properties** pane, after **Destination**, type the **dialable number**.
NOTE: MiContact Center for Microsoft Skype – IVR Routing does not support destinations that include '#' in the Line URI.
3. Click **Save**.

To set a queue as the destination

1. Select the **Transfer** activity.
2. In the **Properties** pane, after **Destination**, click
3. Click the **Queue** tab.
4. Select a queue and click **OK**.
5. Click **Save**.

To set a variable as the destination

1. Select the **Transfer** activity.
2. In the **Properties** pane, after **Destination**, click
3. Click the **Variable** tab.
4. Select a variable and click **OK**.
5. Click **Save**.

Passing agents call information in screen pops

Screen pops pass call information to agent desktops. When the system routes a call, information can be passed to agents via Contact Center Screen Pop. Contact Center Screen Pop is applied uniformly across queues, providing all agents the same type of call information. MiContact Center for Skype Screen Pop supports popping information collected in the <LastCollectedDigits>, <LastQueryResult>, and <DNIS> variables. For more information, see "Configuring Contact Center Screen Pop" on page 43.

IVR ROUTING DEFAULT SUBROUTINES

MiContact Center for Microsoft Skype – IVR Routing includes several default subroutines. These subroutines are based on common scenarios and demonstrate IVR Routing's functionality. They can be adjusted and re-configured according to your business needs.

MiContact Center for Microsoft Skype – IVR Routing includes the following default subroutines:

- Default Inbound Voice Callback Subroutine
- Default Management Subroutine

Default Inbound Voice Callback subroutine

This subroutine workflow is the default workflow for customers in queue to submit voice callbacks. Callers who leave queue when presented with the option from the Callback Request activity can use this workflow to leave a message and set a time to be contacted later.

For information on the Default Inbound Voice Callback subroutine, see the IVR Routing chapter of the *Contact Center Solutions User Guide*.

Default Management subroutine

When assigned to a Management activity in a workflow, the Default Management Plan subroutine 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.

For information on the Default Management Subroutine, see the IVR Routing chapter of the *Contact Center Solutions User Guide*.

THE LYNC SERVER MONITOR

The Lync Server monitor is a web-based application that provides supervisors and agents with the tools to manage and handle callback requests and monitor active calls in IVR endpoints.

Using the Lync Server monitor, agents and supervisors can:

- Handle callback requests
See "Handling callback requests" on page 278.
- View current and past callback requests
See "The View pane" on page 272.
- View current calls on IVR endpoints
See "Interactive Contact Center" on page 235.

The following sections offer a complete description of the Lync Server monitor's functions and procedures for using the Lync Server monitor.

GETTING STARTED WITH THE LYNC SERVER MONITOR

The Lync Server monitor is a web-based application that connects to the MiContact Center *for Microsoft Skype* – IVR Routing server. The Lync Server monitor comprises two monitors, the Callback Requests monitor and the IVR Endpoints monitor. By default, the Lync Server monitor opens to the Callback Requests monitor in the Tile view.

When MiContact Center *for Microsoft Skype* – IVR Routing is installed, a short cut to the Lync Server monitor is added to the user desktop. (See Figure 69.)



Figure 69: Lync Monitors icon

To open the Lync Server monitor

- Double-click the **Lync Monitors** icon

To open the Lync Server Monitor in an open browser

- Navigate your browser to **<IVR Enterprise Server IP address>/lyncmonitor**.

The Lync Server monitor bar

The Lync Server monitor bar provides agents and supervisors with the options for switching between the Callback Requests monitor and the IVR Endpoints monitor. The Lync Server monitor bar also displays the connection status of the Lync Server monitor to the MiContact Center for Microsoft Skype – IVR Routing server. Figure 70 outlines the Lync Server monitor bar.

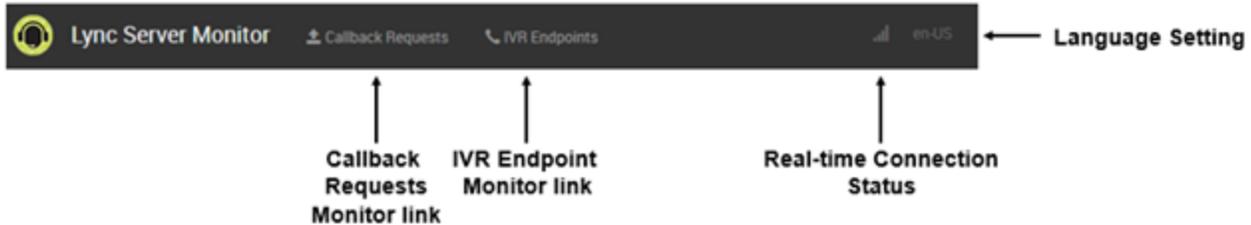


Figure 70: Lync Server monitor bar

If the Lync Server monitor bar is unable to connect to the MiContact Center for Microsoft Skype – IVR Routing server, the Connection status icon will display a Disconnected message. (See Figure 71.)



Figure 71: Connection Status displaying Disconnected message

The Language Setting button enables users to toggle the display language for the Lync Server monitor. (See Figure 72.)



Figure 72: Language Setting

The Lync Server monitor bar has a compact display for smaller windows and screens, which places the links for Callback Requests monitor and IVR Endpoints monitor, as well as the Connection icon beneath a Menu Icon. (See Figure 73 and Figure 74.)

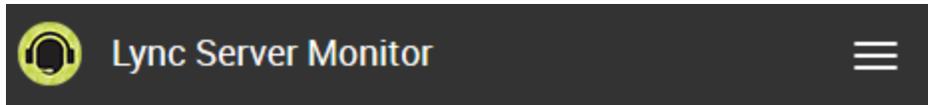


Figure 73: Lync Server monitor compact view (menu collapsed)

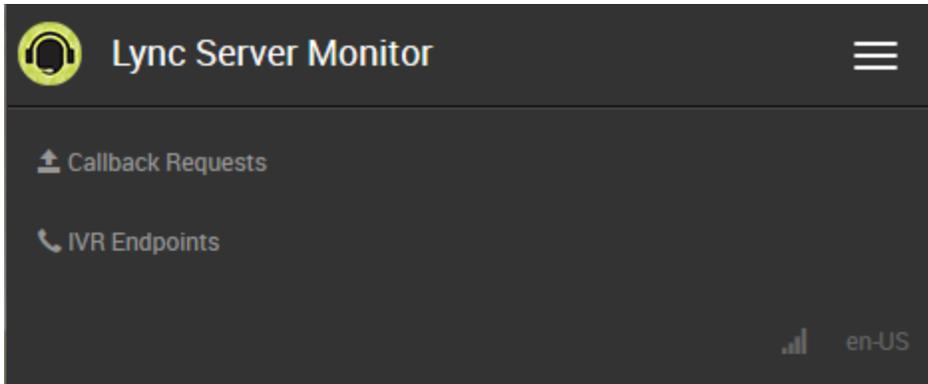


Figure 74: Lync Server monitor compact view (menu expanded)

Changing the display language in the Lync Server monitor

The Lync Server monitor supports displaying callbacks and calls to the IVR Endpoints in the following languages:

- Chinese (Simplified)
- Dutch
- English (UK)
- English (US)
- French (Canada)
- French (France)
- German
- Italian
- Portuguese (Brazil)
- Russian
- Spanish (Latin American)
- Spanish (Spain)

To change the display language in the Lync Server monitor

1. Click the **Language Setting** button.
2. Click the language in which you want the monitor to display.

CALLBACK REQUESTS MONITOR

The Callback Requests monitor provides agents and supervisors with the tools required to efficiently and effectively process callback requests from callers in a contact center.

Using the Callback Requests monitor, agents and supervisors can

- View the current and historical state of callback requests made to the contact center
NOTE: Callback requests remain in the system for 31 days before being removed.
- Handle callback requests using an intuitive interface

The following sections offer a complete description of the Callback Requests monitor's functions and procedures for using the Callback Requests monitor to view and handle callbacks requests.

Getting started with the Callback Requests monitor

The following sections provide a walkthrough of the Callback Requests monitor's interface. We recommend agents and supervisors read the following sections to familiarize themselves with the Callback Requests monitor's layout and names of components.

Figure 75 illustrates the Callback Requests monitor displaying active callbacks, with the different sections of the Callback Requests monitor labeled.

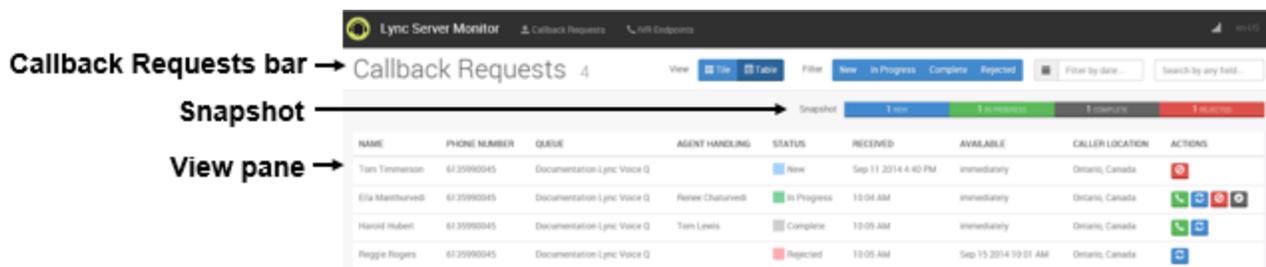


Figure 75: Callback Requests monitor

The Callback Requests monitor comprises several different components:

- The Callback Requests bar
See "The Callback Requests bar" on page 271.
- The Snapshot
See "The Snapshot" on page 272.
- The View pane
See "The View pane" on page 272.
- The Callback Request window
See "The Callback Request window" on page 275.

The Callback Requests bar

Figure 76 displays the Callback Requests bar. The Callback Requests bar contains

- Total number of active callback requests
- View buttons
- Filter buttons and fields

The View buttons are used to switch the display in the view pane between Tile view and Table view. For more information on the View pane, see "The View pane" on page 272. For information on changing the view in the View pane or filtering the callback requests displayed in the View pane, see "Viewing callback requests" on page 276.



Figure 76: Callback Requests bar

For information on using the Callback Requests bar to change the view, see "The View pane" on page 272. For information on using the filter options in the Callback Requests bar to change the displayed callback requests, see "Filtering callbacks in the Callback Requests monitor" on page 277.

The Snapshot

The Snapshot provides an overview of how many callbacks of each status type there are in the contact center. The Snapshot cannot be interacted with. (See Figure 77.)

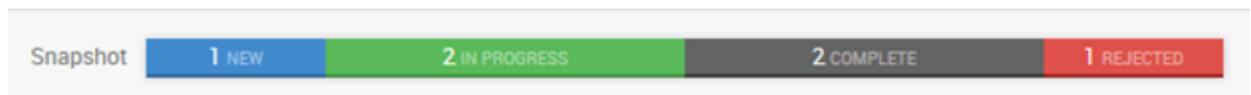


Figure 77: Snapshot

The View pane

The View pane displays the active callback requests in the contact center. The Callback Requests monitor has two views that can display in the View pane: Table view and Tile view. By default, the Tile view opens first. Both views offers the same information about each callback:

Each callback entry displays the following callback request information:

- **Name**—the name derived from the caller's ANI or entered on the web callback request form
- **Phone number**—the caller's ANI or the number entered on the web callback request form
- **Queue**—the queue the caller dialed out of to leave a callback or the queue selected by the caller in the web callback request form
- **Agent Handling**—the agent assigned to handle the callback request
- **Status**—the status of the callback request:
 - **New**—a callback that has not been assigned to an agent
 - **In Progress**—a callback that has been assigned to an agent
 - **Complete**—a callback that has been marked as complete by an agent
 - **Rejected**—a callback that has been rejected by an agent
- **Received**—the date the callback request was made
- **Available**—the availability of the customer, either set to immediately or to the date and time specified by the caller when they made the callback request
- **Caller location**—the region from which the callback was made from

Callbacks requests that are rejected and completed remain in the monitor for the day they are completed and then are removed. You can view historical rejected and completed callbacks by filtering by date. For more information, see "Filtering callbacks in the Callback Requests monitor" on page 277.

The Tile view

The Tile view offers an easy to process view of callbacks in your contact center, grouped by their status. (See Figure 78.)

The screenshot shows the Lync Server Monitor interface. At the top, there is a navigation bar with "Lync Server Monitor", "Callback Requests", and "IVR Endpoints". The main heading is "Callback Requests 4". Below this, there are tabs for "New", "In Progress", "Complete", and "Rejected". A "Filter" section includes "Filter by date..." and "Search by any field...". A "Snapshot" bar shows counts: 1 NEW, 1 IN PROGRESS, 1 COMPLETE, and 1 REJECTED. The main content area is divided into four sections, each with a title and a list of tiles:

- New 1**: Tom Timmerson, 6135990045, Ontario, Canada. Documentation Lync Voice Q. Avail. immediately. Rcvd. Sep 11 2014 4:40 PM.
- In Progress 1**: Ella Manthurvedi, 6135990045, Ontario, Canada. Documentation Lync Voice Q. Avail. immediately. Rcvd. 10:04 AM. (Assigned to Renee Chaturvedi)
- Complete 1**: Harold Hubert, 6135990045, Ontario, Canada. Documentation Lync Voice Q. Avail. immediately. Rcvd. 10:05 AM. (Assigned to Tom Lewis)
- Rejected 1**: Reggie Rogers, 6135990045, Ontario, Canada. Documentation Lync Voice Q. Avail. Sep 15 2014 10:01 AM. Rcvd. 10:05 AM.

Figure 78: Tile view

Each tile in the Tile view offers a compact display of the callback information. (See Figure 79.)

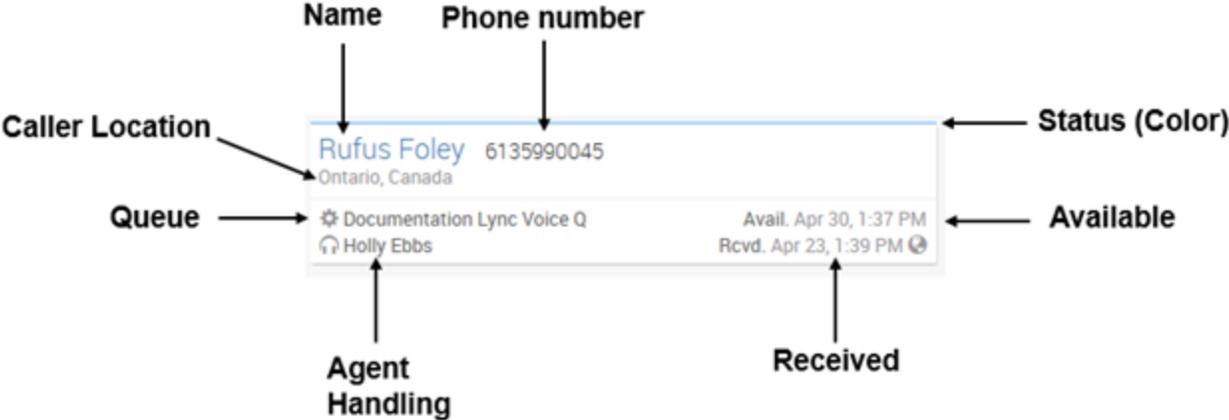


Figure 79: Callback Request tile

The Table view

The Table view lists the callbacks made by a contact and its corresponding information in an easy to process display. (See Figure 80.)

The screenshot shows the 'Lync Server Monitor' interface with the 'Callback Requests' section active. It includes a header with 'View' (Tile, Table), 'Filter' (New, In Progress, Complete, Rejected), and search options. Below is a table with columns: NAME, PHONE NUMBER, QUEUE, AGENT HANDLING, STATUS, RECEIVED, AVAILABLE, CALLER LOCATION, and ACTIONS. A 'Snapshot' bar above the table shows counts: 1 NEW, 1 IN PROGRESS, 1 COMPLETE, and 1 REJECTED.

NAME	PHONE NUMBER	QUEUE	AGENT HANDLING	STATUS	RECEIVED	AVAILABLE	CALLER LOCATION	ACTIONS
Tom Timmerson	6135990045	Documentation Lync Voice Q		New	Sep 11 2014 4:40 PM	immediately	Ontario, Canada	🚫
Ella Manthurveedi	6135990045	Documentation Lync Voice Q	Renee Chaturvedi	In Progress	10:04 AM	immediately	Ontario, Canada	📞 🔄 🚫 🗑️
Harold Hubert	6135990045	Documentation Lync Voice Q	Tom Lewis	Complete	10:05 AM	immediately	Ontario, Canada	📞 🔄
Reggie Rogers	6135990045	Documentation Lync Voice Q		Rejected	10:05 AM	Sep 15 2014 10:01 AM	Ontario, Canada	🔄

Figure 80: Table view

The Table view's Action column offers a quick method of managing callbacks without opening the Callback Request window. The Action column contains small buttons for each callback handling option. Table 26 describes each action, the corresponding icon, and the callback status in which the callback status is available.

Table 26: Actions

ACTION	ICON	CALLBACK STATUS AVAILABLE
Reset to New		In Progress, Rejected, Complete
Dial		In progress, Rejected, Complete NOTE: Dial is only available in Rejected if the callback is assigned to an agent
Reject		New Request, In progress
Mark Complete		In progress

For information on using the buttons in the Action column, see "Managing callbacks requests in the Table view" on page 279.

The Callback Request window

The Callback Request window is where agents and supervisors can

- View callback information
- Listen to recorded messages
- Assign a callback to an agent
- Mark a callback as complete
- Reject a callback
- Set a rejected, complete, or in progress as new

See Figure 81 for an example of the Callback Request window.

For information on handling callbacks, see "Handling callback requests" on page 278.

The Callback Request window has four sections:

- Information bar
- Destination bar
- Agent bar
- Action bar

Callback Request In Progress

Harold Hubert Available immediately
6135990045 Received 10:05 AM via [location icon]
Ontario, Canada

Destination Documentation Lync Voice Q
Queue and agent assignment Assigned to Holly Ebbs

Agent Choose who will handle this request

1346	Renee Chaturvedi
1343	Tom Lewis
1342	Holly Ebbs
1341	Nick Dallas
1345	Bojan Bunjevac

Search...

Dial Reset to new Reject Mark complete

Figure 81: Callback Request window

VIEWING CALLBACK REQUESTS

Callback requests can be viewed in the View pane in either the Tile view or the Table view. Both views offer the same information about the incoming callbacks, but in different fashions. For more information about changing the view, see "Viewing the Callback Requests monitor's Table and Tile views" on page 276.

In both views, callback requests can be filtered to display only certain callbacks. For more information on filtering callback requests displayed in the callback requests monitor, see "Filtering callbacks in the Callback Requests monitor" on page 277.

Viewing the Callback Requests monitor's Table and Tile views

The following procedures explain how to

- View the Callback Requests monitor in Table view
- View the Callback Requests monitor in Tile view

To view the Callback Requests monitor in Table view

- Click **Table**.

To view the Callback Requests monitor in Tile view

- Click **Tile**.

Filtering callbacks in the Callback Requests monitor

You can filter callbacks in either Table or Tile view by the status of the callback, the date of the callback, or by text in the callback fields. The filter is applied to both Table and Tile views, so that both views will display the same callbacks. If you are filtering by date, Rejected or Completed callbacks display on the date they were rejected or completed.

You can search in text from the following fields:

- Name
- Phone number
- Queue
- Agent Handling
- Status
- Caller Location

The following procedures explain how to:

- Filter by status
- Filter by date
- Filter by text fields
- Clear status filters
- Clear date filters
- Clear text field filters

The following procedures take place in an open Callback Requests monitor.

To filter by status

- In the **Callback Requests** bar, after **Filter**, click the status by which you want to filter. You can select multiple statuses by which to filter callbacks.

To filter by date

1. In the **Callback Requests** bar, click in the **Calendar** field.
2. If you want to filter by the current date, click **Today**.
3. If you want to filter by another date, click the day by which you want to filter contacts.
4. Click **Done**.

To filter by text fields

- In the **Text Filter** field, type the words or letters by which you want to filter.

To clear status filters

- In the **Callback Requests** bar, after **Filter**, click the status filter you want to remove.

To clear date filters

1. In the **Callback Requests** bar, click in the **Calendar** field.
2. Click **X**.

To clear a text field filter

1. In the **Callback Requests** bar, click the **Text Filter** field.
2. Click **X**.

Sorting callback requests in the Table view

In the Table view, callback requests can be sorted by callback request information. Callback requests can be sorted by all available columns in the Table view except the Actions column. Sorting can be ascending or descending.

The following procedure takes place in an open Callback Requests monitor in the Table view.

To sort callback requests in the Table view

- Click on the column by which you want to sort the callback requests.

Handling callback requests

When you click on a callback request tile or row, the Callback Request window opens. This window enables agents and supervisors to review callback information, listen to any recording, and choose how to handle the request.

The Callback Request monitor enables you to

- Open the Callback request window
- Listen to callback request message
- Reject a callback request
- Reset a callback request to New
- Mark a callback request as complete
- Manage callback requests in the table view

Listen to callback request messages

When making a callback request, callers can record a message (if making a voice callback request) or type a message (if making a web callback request). Supervisors or agents handling callback requests can listen to a voice callback request's recorded message or a web callback request's text-to-speech message.

Messages are stored in .wma format and can be played in any media player application that supports that format.

The following procedure takes place in an open Callback Request window.

To listen to a callback request message

- In the **Information** bar, click **Listen to recording**.

Assign a callback request

Callback requests must be assigned to an agent to handle. Assigning attaches the agent's name to the callback request and changes the state to In Progress, letting other agents and supervisors know that the callback request is being addressed. If you are assigning a callback to yourself, you can also choose to make the callback to the customer at the same time as you assign the callback to yourself. Agents dial the callbacks manually with Lync to make the callbacks.

The following procedures take place in an open Callback Request window.

To assign a callback request to an agent

- In the **Agent** bar, select an agent.

To assign a callback request to yourself and make the callback immediately

1. In the **Agent** bar, select yourself.
2. In the **Action** bar, click **Dial**.

Reject a callback request

Supervisors and agents can reject callback requests that do not need handling. Rejecting a callback request changes the callback request's status to Rejected, indicating that it requires no further action.

The following procedure takes place in an open Callback Request window

To reject a callback

- In the **Action** bar, click **Reject**.

Reset a callback request to New

Supervisors and agents can reset a callback request to New, in case it needs to be rehandled.

The following procedure takes place in an open Callback Request window

To reset a callback request to New

- In the **Action** bar, click **Reset to new**.

Mark a callback request complete

When an agent has completed the callback request, they manually close the callback request by marking it complete.

The following procedure takes place in an open Callback Request window

To mark a callback complete

- In the **Action** bar, click **Mark Complete**.

Managing callbacks requests in the Table view

The following procedures take place in an open Callback Requests monitor set to the Table view

To reset a callback request to new in the Table View

- In the row of an **In Progress**, **Rejected**, or **Completed** callback, click the Reset to New button.

To assign a callback to an agent in the Table View

1. In the row of a **New** or **In Progress** callback request, click the **Assign** button. The Callback Request window opens.
2. In the **Agent** bar, select an agent.
3. Click **Assign=>Assign**.

To assign a callback request to yourself and make the callback in the Table View

1. In the row of a **New** or **In Progress** callback request, click the **Assign** button. The Callback Request window opens.
2. In the **Agent** bar, select yourself.
3. In the **Action** bar, click **Assign=>Assign and dial**.

To reject a callback in the Table View

- In the row of a **New** or **In Progress** callback request, click the **Reject** button.

To mark as callback complete in the Table View

- In the row of an **In Progress** callback request, click the **Mark Complete** button.

THE IVR ENDPOINTS MONITOR

The IVR Endpoints monitor enables administrators to view both the different types as well as the number of the ongoing calls. The IVR Endpoints monitor provides information on ongoing calls in each endpoint, whether the call is Inbound or Outbound. (See Figure 82.)

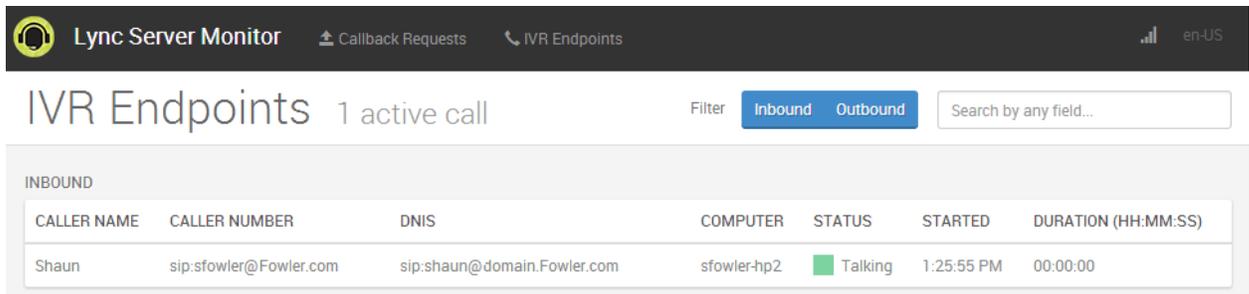


Figure 82: IVR Endpoints monitor

Getting started with the IVR Endpoints monitor

The following sections provide a walkthrough of the IVR Endpoints monitor's interface. We recommend agents and supervisors read the following sections to familiarize themselves with the IVR Endpoints monitor's layout and names of components.

Figure 83 illustrates the IVR Endpoints monitor displaying an active call, with the different sections of the IVR Endpoints monitor labeled.

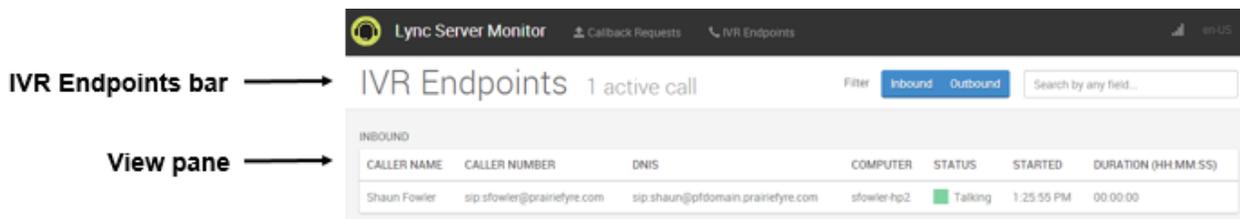


Figure 83: IVR Endpoints monitor

IVR Endpoints bar

Figure 84 displays the IVR Endpoints bar. The IVR Endpoints bar contains

- Total number of active calls in IVR Endpoints
- Filter buttons and fields

For information on filtering the calls displayed in the IVR Endpoints monitor, see "Filtering calls in the IVR Endpoints monitor" on page 282.



Figure 84: IVR Endpoints bar

The View pane

The View pane displays the active calls to IVR Endpoints. Figure 85 displays an active call in the View pane. Each call entry displays the following call information:

- **Caller Name**—The caller’s name
- **Caller Number**—The phone number or SIP address of the caller
- **DNIS**—The phone number or SIP address entered by the caller
- **Computer**—The computer currently handling the call
- **Status**
 - **Ringling**—A call that is establishing itself to an endpoint
 - **Talking**—A call that is active in a workflow or in queue
 - **Transferring**—A call that is in the process of being transferred
 - **Incoming**—A call that is being received by an endpoint, but has not established itself yet
- **Started**—When the call entered the IVR system
- **Duration (HH:MM:SS)**—The current duration of the call

INBOUND						
CALLER NAME	CALLER NUMBER	DNIS	COMPUTER	STATUS	STARTED	DURATION (HH:MM:SS)
Shaun Fowler	sip.stowler@stowler.com	sip.shaun@stowler.stowler.com	stowler hp2	Talking		14:07:26

Figure 85: The View pane

Filtering calls in the IVR Endpoints monitor

You can filter calls by the type of call or by text in the IVR Endpoints fields. You can search in text from the following fields:

- Caller Name
- Caller Number
- DNIS
- Computer
- Started

The following procedures explain how to:

- Filter by type
- Filter by text fields
- Clear status filters
- Clear text field filters

The following procedures take place in an open IVR Endpoints monitor.

To filter by type

- In the **IVR Endpoints bar**, after **Filter**, click the type of call by which you want to filter. You can select multiple types by which to filter callbacks.

To filter by text fields

- In the **Search by any field** field, type the words or letters by which you want to filter.

To clear status filters

- In the **IVR Endpoints bar**, after **Filter**, click the status by which you want to filter.

To clear a text field filter

1. In the **IVR Endpoints bar**, click the **Search by any field** field.
2. Click **X**.

Chapter 13

MiCONTACT CENTER *for* MICROSOFT SKYPE - MULTIMEDIA CONTACT CENTER

*General information for System
Administrators*

Deployment scenarios

*General information for supervisors and
agents*

MiCONTACT CENTER for MICROSOFT SKYPE - MULTIMEDIA CONTACT CENTER

With MiContact Center for Skype Version 5.10.9, you can optionally choose to integrate with Multimedia Contact Center. Multimedia Contact Center adds email, fax, and chat handling to a Microsoft Skype for Business voice environment. Email and chat contacts are routed using workflows, created with a visual, intuitive interface. Fax is supported as an email attachment only. Also included in Multimedia Contact Center is a Contact Us page that can be used by contact center website administrators to add live wait time statistics to their corporate website page, enabling customers to select their preferred communication method based on media type availability. Multimedia reports provide valuable information and multimedia charts summarize contact center performance into a single report.

For a full description of all Multimedia Contact Center features, see the *Multimedia Contact Center Installation and Deployment Guide*.

GENERAL INFORMATION FOR SYSTEM ADMINISTRATORS

In this implementation, multimedia contacts are managed from a server which operates independently from the MiContact Center for Microsoft Skype voice server. Due to this division of media type responsibilities, each client desktop will have separate applications (agent and supervisory) for handling and monitoring voice and non-voice contacts. Likewise, reports will be accessible using two CCMWeb shortcuts – one for voice reports (Lync – 5.10.9 Server) and one for non-voice reports (Multimedia Contact Center – 7.1 Server).

To simplify report interpretation, since the voice reports and non-voice reports originate from separate servers, we recommend using the same reporting numbers for all employees on each server so that they match.

In this integration, Multimedia Contact Center is administered locally with YourSite Explorer, using a remote desktop connection to the Contact Center Solutions 7.1 Enterprise Server.

All voice-related configuration is described in the MiContact Center for Skype documentation and all non-voice-related configuration is described in the *Multimedia Contact Center Installation and Deployment Guide*.

See the *MiContact Center for Microsoft Skype Installation Guide* for specific instructions regarding installing the MiContact Center for Microsoft Skype - Multimedia Contact Center integration.

For new installations, refer to the MiContact Center for Skype System Engineering Guide, Installation Guide, and User Guide to set up MiContact Center for Skype Version 5.10.9 before installing MiContact Center for Microsoft Skype - Multimedia Contact Center.

DEPLOYMENT SCENARIOS

Multimedia Contact Center can be deployed differently depending on your setup and contact center needs. In all scenarios, Multimedia Contact Center is a standalone product and is configured and maintained outside of the Microsoft Skype for Business environment. The following deployment scenarios are available:

- Multimedia Contact Center with MiContact Center for Skype, where Multimedia Contact Center is used as a method for routing and handling non-voice contacts and no other Contact Center Solutions 7.1 features are accessed.
- Multimedia Contact Center and IVR Routing are both integrated with MiContact Center for Skype.
- Multimedia Contact Center as a standalone product without a MiContact Center for Skype server.

NOTE: When you implement Multimedia Contact Center in a Microsoft Skype for Business environment, with or without MiContact Center for Skype, Multimedia Contact Center is installed as a standalone on its own server. If you are also running the IVR Routing integration, Multimedia Contact Center can optionally be co-located on the same server that houses IVR Routing.

GENERAL INFORMATION FOR SUPERVISORS AND AGENTS

As mentioned above, the Skype for Business environment handles all voice contacts and the Multimedia Contact Center environment handles all other supported media types. As a result, each client desktop has co-residing applications to enable handling and monitoring of all contact types and report access.

Voice and multimedia applications run independently of each other. If you set presence, such as Make Busy, in one application then you must also set it in the complementary application. Voice and non-voice applications (Ignite and Contact Center Client) do not communicate with each other.

The following applications reside on the client desktop.

Agent applications:

- Lync Ignite – for handling all voice contacts
- Ignite – for handling all non-voice contacts (email, chat, fax (as email attachment only))

Supervisor applications:

- Lync Contact Center Client – for monitoring and interacting with real-time monitors associated to voice activity
- Contact Center Client – for monitoring and interacting with real-time monitors associated to non-voice activity (email, chat, fax)
- Lync Contact Center Management (CCMWeb) desktop shortcut for MiContact Center for Skype Version 5.10.9 voice reports
- Mitel Contact Center Management (CCMWeb) desktop shortcut for Contact Center Solutions 7.1 Multimedia Contact Center non-voice reports
Available reports are described in the *MiContact Center for Microsoft Skype Reports Guide*.

All voice-related information is described in the MiContact Center for Skype documentation and all non-voice-related information is described in the *Multimedia Contact Center Installation and Deployment Guide*.

Appendix A

APPLICATION NOTES

BUILDING AN AUTO ATTENDANT

You can configure auto attendant functionality by converting queues in YourSite Explorer into a series of menus to provide callers with automated call transfer options. By building your own auto attendant with queues, you can offer a simple menu system with up to three tiers of menus, each with up to twelve dial out of queue destination points.

In planning an auto attendant for your contact center, you should consider the following four conventions of auto attendants:

- **Dialing '0'** – Auto attendants are expected to always have an option configured for when a caller dials '0', such as an operator, voice mail, or a queue
- **Timeout** – Your auto attendant must have options for when callers do nothing, such as prompting them with the welcome greeting for the queue again or routing them to another endpoint
- **Failure** – Auto attendants are expected to have a location where calls are routed if a transfer fails
- **Default mailbox** – Auto attendants are expected to have a location where to send calls if '0' is not answered

Following are the steps required in order to set up an auto attendant:

1. Record and configure queue announcements
2. Configure Music On Hold
3. Configure empty auto attendant agent group
4. Configure the auto attendant queues

SAMPLE QUEUE TYPES FOR AUTO ATTENDANT QUEUE TYPES

An auto attendant's queues may have many different possible configurations depending on an individual contact center's specific needs. These instructions refer to a sample auto attendant configuration which uses six different types of queue configurations to build the auto attendant:

- **Main Menu queue**—This queue serves as the first auto attendant menu callers encounter. The Main Menu queue interflows calls that timeout to the No Action Detected queue. For the Queue Unavailable answer point, the Main Menu queue uses a voice mail endpoint or the endpoint of a live operator.
- **Submenu queues**—These queues serve as the general menus for your auto attendant. Submenu queues interflow calls that timeout back to the Main Menu. For the queue unavailable answer point, submenu queues use the Failed Transfer queue.

- **No Action Detected queue**—This queue serves as the interflow point for when callers take no action in the Main Menu queue. It informs callers that they have taken no action and offers them the option of returning to the Main Menu queue or exiting the system via the Exit queue. The No Action Detected queue interflows calls that timeout to the Exit queue. This queue does not have any Queue Unavailable answer points configured.
- **Failed Transfer queue**—This queue is the queue unavailable answer point for all Submenu queues. It informs callers that the option they have selected is not available and offers them either the option of a voice mail or live operator end point, returning to the Main Menu, or exiting the system via the Exit queue. This queue interflows to the Exit queue. The Failed Transfer queue does not have a queue unavailable answer point configured.
- **Exit queue**—This queue provides an automatic exit point for calls in the auto attendant. Calls are routed to the Exit queue either through lack of activity or by caller choice. The Exit queue is permanently set in Do Not Disturb through a schedule, disconnecting callers after the Queue Closed message plays. When callers connect to this queue, the queue closed message plays before the caller is disconnected and their call ends. The Exit queue has no interflow options and has no queue unavailable answer point.
- **Destination queue**—This queue is a standard contact center queue, staffed with agents, such as a sales or customer service queue, serving as a destination for calls within the auto attendant. The auto attendant is not reliant on any particular destination queue configuration for its functionality, but may benefit from having the queue unavailable answer point for destination queues set to the Failed Transfer queue.

SAMPLE AUTO ATTENDANT CONFIGURATION

This sample describes a possible auto attendant configuration that uses the six sample types of queues to build an auto attendant solution providing callers with easy access to sales, customer support, and billing. The sample auto attendant consists of the following queues and endpoints:

- A Main Menu
- Three Submenus
- A No Action Detected queue
- A Failed Transfer queue
- Nine destination queues
 - Three sales queues
 - Three customer support queues
 - Two billing queues
 - An operator queue
- One voice mail endpoint

Figure 86, Figure 87, Figure 88, and Figure 89 explain the structure of the auto attendant, the dial out of queue call routing options, and the queue unavailable and interflow relationships.

Figure 86 and Figure 87 detail the dial out of queue destination points for the auto attendant. These destination points reflect the general structure of the auto attendant and the primary call routing options. Figure 86 outlines the destination points for the Main Menu and Submenus.

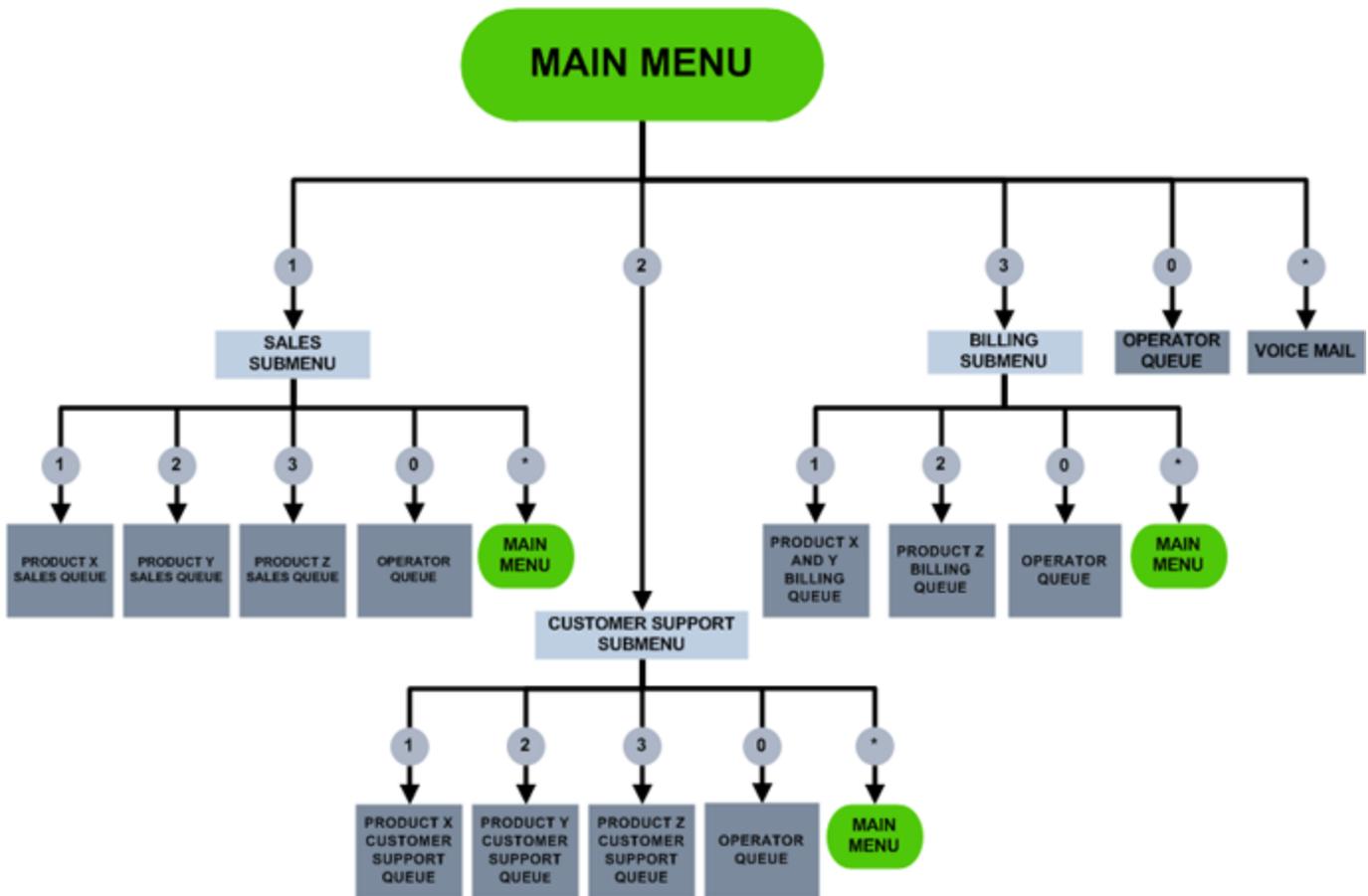


Figure 86: Example auto attendant destination points for Main Menu and Submenus

The Main Menu offers callers the option of connecting to the three Submenus: Sales, Customer Support, and Billing. It also offers the option of connecting to an operator queue, which is a destination queue staffed with agents trained to help transfer customers to their desired endpoint, as well as a voice mail endpoint, where callers can leave a message. Each Submenu in turn offers callers the choice of product-specific destination queues. The Submenus also offer the option of connecting to the operator queue or returning to the Main Menu.

Figure 87 details the destination points of the Failed Transfer and No Action Detected queues. These two queues are not accessible to callers as dialable destination points from other queues. Instead, callers are routed to these queues through queue unavailability and interflow options. Both of these queues serve to either route the caller back to the Main Menu or finish their interaction with the auto attendant by leaving a message with the voice mail endpoint or exiting through the Exit queue.

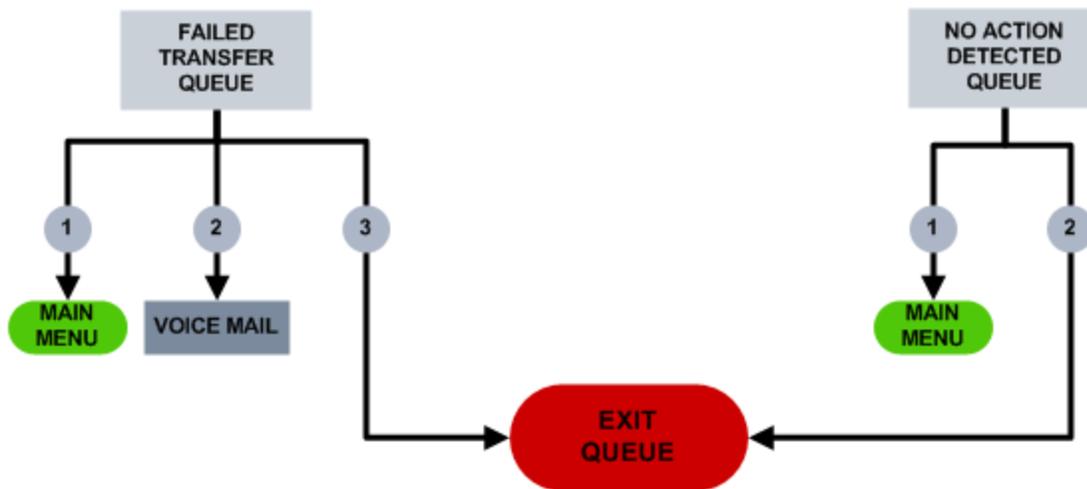


Figure 87: Example auto attendant destination points for Failed Transfer and No Action Detected queues

The No Action Detected queue, in which users arrive because they have failed to take any action in the Main Menu, offers a dial out back to the Main Menu as well as the option to exit the auto attendant. The Failed Transfer queue, where callers are routed if they try to enter a queue that is unavailable, offers callers the choice of returning to the Main Menu, leaving a voice message, or exiting the auto attendant. The Exit queue hangs up on calls after playing the Queue Closed message.

Figure 88 outlines the unavailability routing relationship between queues in the auto attendant, where calls are routed to different queues that either enable them to try and make their connection again or exit the auto attendant.

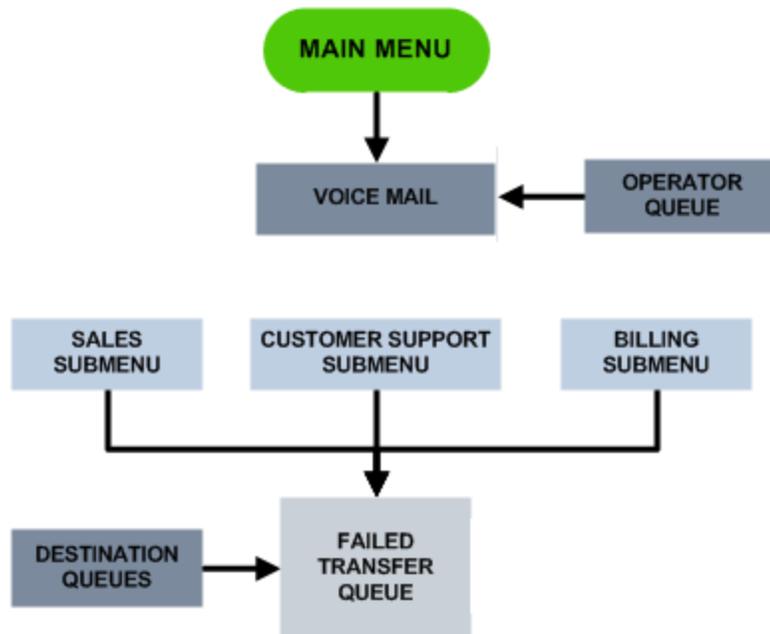


Figure 88: Auto attendant queue unavailable answer points

The Main Menu routes calls to a voice mail, offering after-hours callers an ideal point of contact with the contact center. The operator queue also routes calls to voice mail when unavailable. The three Submenus route calls to the Failed Transfer queue, where callers can be routed back to the main menu, leave a message at a voice mail extension, or exit the auto attendant. Destination queues, such as the product sales queues, also route calls to the Failed Transfer queue.

Figure 89 details the interflow relationship between the sample auto attendant's component queues, illustrating where calls are routed to after timing out.

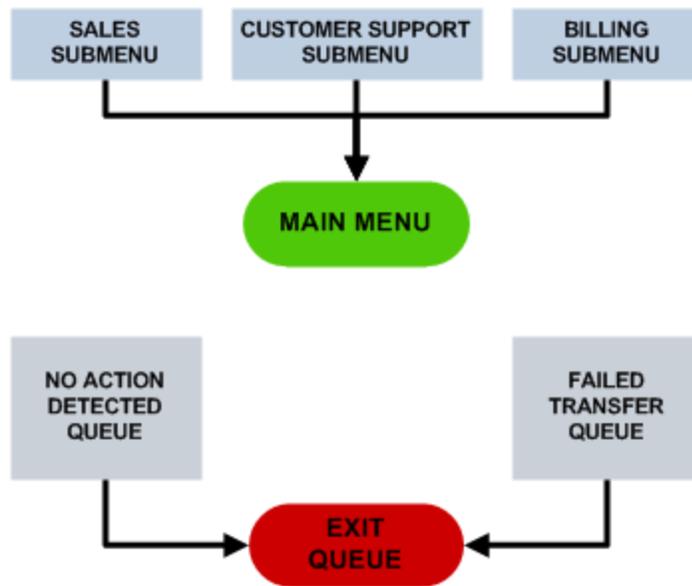


Figure 89: Auto attendant interflow points

For interflow, the three Submenus interflow into the Main Menu after timing out. The Main Menu interflows into the No Action Detected queue. Both No Action Detected and Failed Transfer move calls out of the auto attendant on timeout to the Exit queue.

Auto attendant call scenarios

Below are three scenarios providing examples of how the sample auto attendant handles calls.

Scenario 1 – Caller wishing to speak with a sales representative for Product Y

A caller calls the contact center looking to speak to a sales representative for Product Y. Their call arrives at the Main Menu queue and the welcome greeting plays to the caller.

'Welcome to Mitel. For Sales, press 1. For Customer Service, press 2. For Billing press 3. For operator assistance, press 0. To leave a message, press *'.

The caller presses 1 and is transferred to the Sales Submenu. The welcome greeting for the Sales Submenu plays.

'Welcome to Mitel Sales. To speak with a representative about Product X, press 1. To speak with a representative about Product Y, press 2. To speak with a representative about Product Z, press 3. For operator assistance, press 0. To return to the main menu, press *'.

The caller presses 2 and is transferred to the Product Y queue, where their call is answered and handled by an agent.

Scenario 2 – Caller contacting an unavailable queue

A caller calls the contact center seeking customer service assistance for the Product Z they purchased. The call enters the Main Menu queue and the welcome greeting plays.

'Welcome to Mitel. For Sales, press 1. For Customer Service, press 2. For Billing press 3. For operator assistance, press 0. To leave a message, press *'.

The caller presses 2 and is transferred to the Customer Service submenu. The welcome greeting plays.

'Welcome to Mitel Customer Service. For assistance with Product X, press 1. For assistance with Product Y, press 2. For assistance with Product Z, press 3. For operator assistance, press 0. To return to the Main Menu, press *'.

The caller presses 3. No agents are present in the queue, so the call is transferred to the Failed Transfer queue. The welcome greeting plays.

'We're sorry, that option is not available at this time. To return to the main menu, press 1. To leave a message, press 2. To exit the system, press 3'.

The caller presses 1 and returns to the Main Menu. The caller repeats their actions to get back to the Customer Support Submenu and tries once again to connect to customer service for Product Z. There are still no agents present in the queue, so the call is routed back to the Failed Transfer queue. This time, the caller presses 2 and is transferred to voice mail, where they leave a message for Customer Service and hang up.

Scenario 3 – No caller action

A caller calls the contact center seeking assistance from a sales representative. The call enters the Main Menu queue and the welcome message plays.

'Welcome to Mitel. For Sales, press 1. For Customer Service, press 2. For Billing press 3. For operator assistance, press 0. To leave a message, press *'.

After hearing the welcome message, the caller receives a call on another line. Switching lines, the caller finds it is an important client with an urgent issue and is unable to return to their call to the contact center to hang up. Their call to Mitel sits in the Main Menu queue while the welcome message plays at the specified intervals before the interflow timer expires, where the call then transfers to the No Action Detected queue. The welcome greeting plays.

'You have not taken any action. To return to the main menu, press 1. To exit the system, press 2'.

The caller, however, is still on the other line with their client, and cannot take any action. When the interflow timer expires, the call is interflowed to the Exit queue, where the queue unavailable message plays.

'Thank you for calling Mitel. Good-bye'.

The caller is then disconnected from the auto attendant.

RECORDING AND CONFIGURING QUEUE ANNOUNCEMENTS

Auto attendant requires queue announcements to welcome callers to each queue in the auto attendant and inform them of the available destination points. You must record your own announcements to use as queue announcements with your auto attendant queues. All announcements must be in .wma format. The codec required is 32kpbs, 44khz, 16-bit mono, and CBR (Constant Bit Rate).

After recording the announcements, you must configure each with queue announcements so they can be added to specific queues. Each queue requires its own queue announcement. For instructions on configuring queue announcements and announcement types available, see "Configuring queue announcements" on page 60.

The sample auto attendant would require the following announcements configured as the specified announcement type for queue announcements:

- **Main Menu**
Welcome greeting: An announcement welcoming callers to the company and a list of the available destination points
- **Submenu**
Welcome greeting: An announcement for each submenu queue welcoming callers to the submenu and a list of the available destination point
- **No Activity Detected**
Welcome greeting: An announcement informing the callers that they have taken no action and informing them of the dial out options of returning to the Main Menu or exiting the system
- **Exit queue**
Queue Closed announcement: An announcement thanking callers and saying good-bye before they are disconnected
- **Failed Transfer**
Welcome greeting: An announcement stating that the call failed to transfer to the destination and informing callers of the dial out options of returning to the Main Menu, leaving a voice mail, or exiting the system

CONFIGURING MUSIC ON HOLD FOR AUTO ATTENDANT

It is recommended that before configuring your queues, you configure a Music On Hold playlist for your auto attendant queues. Without Music On Hold, your callers will hear silence after the queue announcement plays.

For information on configuring a Music On Hold playlist, see "Configuring Music On Hold playlists" on page 61.

CONFIGURING AN EMPTY AUTO ATTENDANT AGENT GROUP

Queues require at least one agent group assigned to them. It is recommended that you create an agent group with no agent membership to use for the mandatory agent group.

For information on creating agent groups, see "Adding agent groups" on page 59.

To add an empty auto attendant agent group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Agent groups**.
3. Click **Add**.
4. After **Name**, type Auto Attendant.
5. After **Reporting number**, assign an available reporting number.
6. After **Media server**, click ... and select the media server for the agent group.

7. Under Reporting and real-time options, select
 - **Historical reporting only** if you want to run reports on an agent group without real time monitoring.
 - **Real time and reporting** if you want to run reports on an agent group and monitor it with basic real time functionality, such as ACD states and statistics and presence.
8. Click **Save**.

The warning message indicating there are no members assigned to this group may be safely ignored.

CONFIGURING THE QUEUES FOR THE AUTO ATTENDANT

After configuring your queue announcements and Music On Hold playlist for auto attendant, you must create the queues that you will use to build your auto attendant and configure routing, interflow, and dial out of queue options. As it is likely that many queues will serve as destination points for one another, it is recommended to do this in two steps, creating the auto attendant queue and then configuring the queue routing, interflow, and dial out of queue options after all the queues are created.

Auto attendant queues, like normal queues, have a variety of different options available and may be configured in different ways. No matter the configuration, the Routing tab option 'Allow calls to queue when no agents are present in this queue' must be selected for a queue to function as an auto attendant menu as none of the queues have agents logged in to handle calls. The sole exceptions are Destination queues, which are expected to have agents.

Both interflow and queue unavailable should be used in auto attendant queues. Interflow enables the auto attendant to move inactive calls to different queues or out of the auto attendant entirely if they continue to timeout. Queue unavailable answer points route calls to suitable destination points in cases where the original destination was unavailable, such as when a destination queue has no agents logged in or if the caller reaches the Main Menu after business hours.

After creating all the queues for the auto attendant, you must add the dial out of queue destination points to each queue to complete the auto attendant. For more information, see "Configuring Dial Out of Queue" on page 69.

The procedures below detail one possible method of configuring the queues for the auto attendant. The queue types configured are the sample auto attendant queue types, excluding Destination queues, which are configured as standard queues. For information on configuring a standard queue, see "Adding queues" on page 63.

This sample configuration assumes the creation of three schedules:

- **Standard business hours:** The standard business hours for your company
- **24/7 Available:** Monday to Friday, 24 hour a day availability
- **24/7 Closed:** 'Disable for day' check box enabled for every day during the week

For more information on creating schedules, see "Configuring schedules" on page 52.

To create queues for an auto attendant

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Queues**.
3. Click **Add**.
4. Under **Common**, specify the **Name** and **Reporting number** for the queue.
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. Click **OK**.
7. Under **Connection Settings**, type the **SIP Address** and **Line URI** for the queue.
NOTE:
 - A queue's SIP address cannot be changed once the queue has been saved. To change a queue's SIP address, you must first delete and recreate the queue. You can then type the new SIP address.
 - In a multi-site installation of MiContact Center for Skype with multiple Enterprise Servers, there is the remote possibility that a queue will be provisioned that uses a Line URI in use at another Enterprise Server site's configuration. For troubleshooting assistance, see the following Knowledge Base article:
<http://micc.mitel.com/kb/KnowledgebaseArticle51623.aspx>
8. Under **Media Options**, click ... and select a **Queue Announcement**.
9. Click **OK**.
10. If you want to enable Music on Hold, select **Use Music on Hold** for this queue. Music on Hold settings are configured on the media server.
11. Click the **Membership** tab.
12. Under **Available members**, select **Auto Attendant** and click > to move the agent group to the **Selected members** list.
13. Click the Business Hours tab.
14. After Business-hour schedule, click ... and select a schedule for the queue.
 - If the queue is the Main Menu or a Submenu, select Standard Business Hours
 - If the queue is No Action Detected or Failed Transfer, select 24/7 Available
 - If the queue is the Exit queue, select 24/7 Closed
15. Click **OK**.
16. Click **Save**.
17. Repeat steps 3-16 to create all the queues for your auto attendant.

To configure each queue's routing, interflow, and dial out of queue options

1. Under **Queues**, select the auto attendant queue in which to define the routing, interflow, and Dial Out of Queue options.
The queue opens in the pane below.
2. Click the **Routing options** tab.
3. After **Queue unavailable answer point directory number**, type the Line URI or SIP Address of the endpoint you want calls to be directed to if the queue is unavailable.
 - Main Menu: Type the Line URI or SIP Address of a voice mail answer point or live operator
 - Submenu queue: Type the Line URI or SIP Address of the Failed Transfer queue
 - Failed Transfer queue: Do not set a Queue unavailable answer point
 - No Action Detected queue: Do not set a Queue unavailable answer point
 - Exit queue: Do not set a Queue unavailable answer point
4. Select the **Allow calls to queue when no agents are present in this queue** check box.
NOTE: This option must be selected for all auto attendant queues. If it is not selected, the queue will not function as a part of an auto attendant.
5. Under **Interflow options**,
 - After **Interflow enabled**, select **Yes**. If this queue is the Exit Queue, select **No**.
 - After **Interflow timeout**, specify the time that will pass before the call is taken from the auto attendant menu.
The Interflow timeout should be calculated based on the length of the message, the interval between the message repeating, and the amount of time between the final playing of the message and interflow. For example, if you had a 10 second long message that you wanted to play every 20 seconds for a total of 2 times before interflowing the call after a final 20 seconds to your No Action Detected queue, you would set the time to a minimum of 60 seconds (10+20+10+20=60 seconds).
 - After **Interflow point directory number**, type the interflow answer point directory number, Line URI or SIP Address, or click ... to select from a list of optional answer points, where calls will be interflowed to when the queue is unavailable. Interflow points can be Line URIs or other SIP addresses.
 - Main Menu: Type the directory number, Line URI, or SIP Address of the No Action Detected queue
 - Submenu queue: Type the directory number, Line URI, or SIP Address of the Main Menu
 - Failed Transfer queue: Type the directory number, Line URI, or SIP Address of the Exit Queue
 - No Action Detected queue: Type the directory number, Line URI, or SIP Address of the Exit Queue
6. Click the **Interactive queue control** tab.
7. Select the **The queue uses Interactive Contact Center** queue control check box to enable this queue to be interactively controlled using the schedule you specify.
8. Click the **Dial Out of Queue** tab.

9. After **Enable Dial Out of Queue after**, set the time to 00:00:00.
Alternatively, you may set the time to be the same length of time as the first announcement that plays for the queue.
10. Under **Dial Out Of Queue Destination Endpoints**, in the text box beside the DTMF digits you want to configure as dial-out options, enter the phone number, SIP address, or Line URI for each desired destination point.
NOTE: Phone numbers must be entered only as Line URI, without hyphens or parentheses, e.g. tel:+6135990045. Phone numbers must work when dialed by a Skype for Business client.
11. When you are finished setting the destination points, click **Save**.
12. Repeat steps 1-11 for each queue in your auto attendant.

