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MiVoice Connect Contact Center Administration Guide

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Trademarks

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Preface

About This Book

ShoreTel is now part of Mitel. Together, we look forward to helping you power connections that are brilliantly simple.

The Connect Contact Center Administrator Guide describes how to use the Connect Contact Center administration applications, Connect Contact Center Director and Graphical Call Control Script Administration, to configure and route calls. This guide is intended for Connect Contact Center administrators.

Organization

The document is divided into the following chapters:

- Chapter 13, Troubleshooting Connect Contact Center Configuration
- Appendix A, Using Time Zone Data

Conventions

The following typographical marking conventions are used in this document.

Marking	Meaning
Bold	Names of interface objects, such as buttons and menus.
`Courier`	Code examples.
`Courier Italic`	Variables in code examples.
Blue	Cross references with hyperlinks Click the blue text to go to the indicated section. All chapters have a list of section links on the first page. **Note:** Table of Contents entries are also links, but they are not shown in blue.

CHAPTER

1

Overview

This chapter introduce some basic elements of the Connect Contact Center system. Understanding of these elements, and their functionality, can better help you to use the Connect Contact Center applications, deliver an improved customer experience, and increase agent productivity.

Call Flow Processing in Connect Contact Center

The following is a typical scenario for processing a call in Connect Contact Center:

1. The application receives a message from the Mitel Connect system about a new incoming call. The call may contain optional ANI information.
2. The application identifies the target service for the call.
3. The application uses the service parameters to:
   - Assign the initial values of the call profile, including call priority and ANI. Refer to Call Profiles on page 12 for information about how call profiles are used in the Connect Contact Center system.
   - Define the next destination for the call, such as a service or a call control script, based on specified work shifts and the default destination.

4. If the destination is a service, the call enters the service, where it may receive a mandatory announcement. Then the application starts the procedure of matching an agent with the call:
   - If there is an available agent in the group providing the required service, the call is immediately routed to that agent.
   - If there is more than one available agent in the group providing the required service, Connect Contact Center uses the service Agent Selection Criteria parameter to select the appropriate agent for the call.
   - If no agent in the group is available, the call is queued to wait for an agent to become available. In the queue, the call may be transferred to the service music source, to an announcement, or to a call control script. When an agent becomes available, the application uses the agent Call Selection parameter to decide which call to route to the agent. A call control script can modify the behavior of the routing and call flow, or provide callers with alternate service choices, such as callbacks or self-service.
   - While in the queue, a call can overflow to other groups, making a larger number of agents available to take the call.
   - While in the queue, a call can interflow to another extension for service.

Call Profiles

A call profile consists of dynamic information that is attached to each call in the system. This information is used to route the call and record its history. The call profile is updated as the call moves through the system and by caller interaction or by a CRM database that uses call control scripts.

Call Profile Fields

Each field in the call profile is either mandatory or optional. Mandatory fields are predefined and exist in any Contact Center Solution installation. Mandatory fields cannot be removed or changed by the user. Optional fields that meet your business needs—also called user fields—can be defined by using Connect Contact Center Director > **System Parameters** > **Routing Preferences** > **Call Profiles**. Refer to the *Connect Contact Center Director Administration Guide* for specifics.

Connect Contact Center uses Structured Query Language (SQL) for database interactions. Use the Call Profile Name, surrounded with a pair of percent signs (%), in a SQL statement. For example

```
SELECT *
FROM table_1
WHERE phone_number = %ANI%
```

The following is a list of mandatory fields in the call profile. The field names in the call profile are case-sensitive.

Table 1: Call Profile Mandatory Fields

TAPI Call Properties	Call Profile Name	Description
_STCC_ANI	ANI	Automatic Number Identification (ANI) transmits the customer's telephone number and delivers it to your call center's telephone system. **Note**: The format of the ANI call profile field includes a plus sign (+) before the ANI number. This facilitates external incoming calls (i.e. from outside your site).
_STCC_Agent Queue	Agent Queue	Indicates that the call is being handled by a personal agent queue.
_STCC_Group	Group	The internal group id related to the call
_STCC_Trunk	Trunk	PBX and call-type depended
_STCC_Call ID	Call ID	The ID of the call
_STCC_Caller Name	Caller Name	Indicates the name of the caller in the PBX.
_STCC_DNIS	DNIS	The DNIS of the call
_STCC_DNIS Name	DNIS Name	Indicates the name of the DNIS in the PBX.
_STCC_Type	Type	Call type (Voice, Chat, Email, Callback, Abandoned, Web Callback, Dial List)
_STCC_Media	Media	Call media (WEB, VOICE, EMAIL)
_STCC_Priority	Priority	Priority of the call
_STCC_Service	Service	Service that handles the call
_STCC_Customer Number	Customer Number	Identifier number of the customer (if internal, the Customers Table is used)
_STCC_Customer Name	Customer Name	Customer name (if internal the Customers Table is used)
_STCC_ACD Enter Date	ACD Enter Date	Date the call entered Contact Center
_STCC_ACD Enter Time	ACD Enter Time	Time the call entered Contact Center
_STCC_Queue Position	Queue Position	Call position in the queue
_STCC_Average Queue Time	Average Queue Time	Expected average wait time in the queue.
_STCC_Call Back Time	Call Back Time	Callback time set by caller (if empty, Abandoned Call)
_STCC_Call Back Date	Call Back Date	Indicates the date when the call back was made.
_STCC_Call Back Destination	Call Back Destination	Callback destination

Table 1: Call Profile Mandatory Fields

TAPI Call Properties	Call Profile Name	Description
_STCC_Language	Language	The language associated with the call (0=English, 1=Hebrew, 2=Russsian, 3=Arabic, 4=Mexican Spanish)
_STCC_Agent Extension	Agent Extension	The agent's telephone extension number
_STCC_Agent Number	Agent Number	Number used to identify the agent
_STCC_Dial List ID	Dial List ID	The ID of the dial list
_STCC_Start Queue Time	Start Queue Time	The time when a call enters the queue
_STCC_Execute Req	Execute Req	For any request to be executed
_STCC_Trunk Number	Trunk Number	The number of the trunk
_STCC_Email To	Email To	The text in the To field of the email
_STCC_Email CC	Email CC	The text in the CC field of the email
_STCC_Email Subject	Email Subject	The text in the Subject field of the email
_STCC_Email From	Email From	The text in the From field of the email
_STCC_Email Sent Date	Email Sent Date	The text in the Date Sent field of the email
_STCC_Email Sent Time	Email Sent Time	The text in the Time Sent field of the email
_STCC_Email Enter OMS Date	Email Enter OMS Date	The text in the OMS Date field of the email
_STCC_Email Enter OMS Time	Email Enter OMS Time	The text in the OMS Time field of the email
_STCC_Primary Call Back Destination	Primary Call Back Destination	The primary destination for the callback
_STCC_Alternative Call Back Destination 1	Alternative Call Back Destination 1	The first alternative destination for the callback
_STCC_Alternative Call Back Destination 2	Alternative Call Back Destination 2	The second alternative destination for the callback.
_STCC_Last Time To Initiate Callback	Last Time To Initiate Callback	The time when the last callback can be made
_STCC_Alternative Call ID	Alternative Call ID	The PBX TAPI call ID
_STCC_Outbound Caller ID	Outbound Caller ID	The caller ID of the outbound call
_STCC_SW Call GUID	SW Call GUID	The PBX call GUID

Connect Contact Center Interactions with Callers

Connect Contact Center controls interactions with callers through a system of four inter-operating features:

- Call routing determines how a customer's call interacts with the call center. Call routing ranges from the most basic configuration—a single phone number that connects customers to the first available agent—to a complex system that distributes calls according to customer requirements and best-fit agent criteria.
- Monitoring of call center operations provides supervisors with information required to manage daily operations.
- Performance measurement through historical reports gives management a high-level view of operations from the perspective of business objectives, and captures information that can be used to make policy decisions.
- Agent tools extend the ability of knowledge workers to provide effective service.

Basic Call Routing

Basic call routing features include queuing, menu interactions, music-on-hold, and schedules. It facilitates caller interaction through menus that callers can use to select a service. After the service is identified, the system can route the call to a group of agents who are best equipped to handle the caller's needs.

If a call arrives when no agent is available, it goes into a queue of calls waiting for delivery to the next available agent. Music-on-hold and recorded announcements can let callers know they have not been forgotten. Recorded messages can be customized with additional information, including the caller's place in line or estimated wait time.

A basic routing solution also helps a company adjust to fluctuations in the size of the contact center staff. The system administrator can set up automatic routing options that depend on the time of day, day of the week, or date. The capabilities include:

- Recorded announcements and menus enable callers to select the type of service they want music-on-hold. The Connect Contact Center customer can customize these functions for each type of service that the call center provides.
- Mandatory announcements to callers prior to entering the queue, notifying them of important information, such as a "your call may be monitored" announcement.

Mid-Level Call Routing

Mid-level call routing features include agent prioritization, overflow, interflow, and domain routing.

With agent prioritization, you can specify primary and secondary areas of expertise for agents and route calls on the basis of these skill sets. Agent prioritization also matches a caller with the agent who is best equipped to provide assistance. Agents receive calls related to their primary area of expertise

until no more calls requiring that skill are in the queue. At that point, agents begin to receive calls related to their secondary skill set. Agent prioritization optimizes agent time and enables you to maximize the return on knowledge capital.

Overflow is another routing technique that can improve customer service and help you optimize valuable resources. Overflow enables you to reserve highly trained or cross-trained agents as backups for groups experiencing unusually heavy call traffic. When the caller wait time exceeds a specified ceiling, backup resources are automatically added to the pool and made available to handle customer calls.

The overflow features in Connect Contact Center include the following:

- **Single-level overflow** — As calls reach the specified wait time limit, they are queued for a new, expanded group of potential agents. The overflow process can add one or more agent groups to the queue.
- **Multiple-step overflow** — Adds flexibility to overflow by allowing you to specify one group of agents for overflow duty when the call reaches the first time-out, a second group after a longer interval, and additional agent groups after subsequent intervals.
- **Automate callbacks** — Made to customers who abandoned the caller queue, by hanging up, after failing to reach an agent.
- **Caller choice** — Callers can choose between requesting a call back or remaining on hold for an agent.

Interflow offers another service-level tool for managing calls. If the caller wait time is too long (or projected to be too long), Connect Contact Center can divert the call to a different destination offering other service groups or service options, or notify callers of the extended wait time and ask them to try again later. Interflow doubles as a resource management tool by routing calls out of your call center instead of stacking on-hold customers on expensive 800 lines.

Interflow features provided by the application include the following:

- **Wait time flow** — When a caller reaches the configured time-out value, they are transferred to an alternative destination.
- **Predictive interflow** — Extends the value of the service by offering transfer to an alternative destination when the estimated service time—based on the average service time and the number of callers already in the queue—exceeds the configured threshold.

With domain routing, the basis for call routing can be geographical location. When a call arrives, Connect Contact Center identifies the physical location of the customer and routes the call to a group with a skill set related to that geographical area or to a group within the same time zone.

Advanced Call Routing

The advanced call routing techniques in Connect Contact Center enable you to get maximum value from your knowledge resources and deliver the highest possible levels of customer satisfaction. The advanced call routing features in the application can be specified by service level, skills, identity, day/date, outbound calls, CRM database, and IVR scripting.

With service-level routing, you can set up dynamic routing based on service category and wait time. Agents with multiple expertise capabilities can receive calls routed from service groups that have failed to reach a percentage of calls answered within a predefined wait time interval.

Skills-based routing optimizes the caller experience by matching calls to the agent best equipped to address the customer's needs. When multiple agents are available, Connect Contact Center routes the call to the agent with the highest skill ranking for the requested service. When multiple calls are waiting, available agents are selected on the basis of a best match.

With identity routing, you can extend premium services to your most valued customers. When a call arrives, Connect Contact Center identifies the customer by caller ID, DNIS, or data from a CRM database and assigns the caller a priority level. Callers designated as high priority immediately move to the front of the queue to await delivery to the first available agent. You can further optimize the customer experience by routing tagged customers to a "premium" group of top-level agents—or by sending customers with past-due accounts directly to the collections department.

Day/date routing provides an additional level of resource management by designating specific service offerings and/or groups for call handling on the basis of date or the day of the week. You can use day/date routing to define multiple shifts based on different date and time ranges, and then use the shifts to modify call routing options.

Outbound call routing makes your call center more proactive by allowing you to initiate customer interactions and offer your customers higher-value services. Outbound call routing can significantly improve the value of your service, making it possible for the call center to produce revenue. Outbound call routing frees agents from tedious dialing and eliminates cost leakage due to incorrectly dialed numbers. Outbound call routing features include the ability to perform the following functions:

- Automate callbacks to customers who abandoned, by hanging up, the caller queue after failing to reach an agent.
- Offer your callers a choice between requesting a call back or remaining on hold for an agent.
- Conduct dialing campaigns—automated calling of groups of customers with new service offers, courtesy information, or other opportunities.

CRM database routing customizes call routing on the basis of intelligence resident in your relationship management system. By employing customer information or other business data in the call routing rules engine, you can optimize the customer experience with intelligent call routing and customized announcements.

IVR scripting provides a higher level of automated customer interaction by allowing the collection of more detailed caller information and employing CRM information to make more complex call routing decisions. Advanced scripting options make it possible for call center managers to modify call routing, collect caller information, query external databases, perform logic decisions, manage overflow or interflow, and provide callers with automated feedback and results. IVR scripting is used to build an automated interface between the caller and your corporate information systems. An IVR-based, self-service system delivers immediate, effective customer service without straining agent resources. Your scripts can prompt callers for actions, record dual-tone multi-frequency (DTMF) inputs, check and change the status of records in the corporate database, and provide customers with report results and status information.

Connect Contact Center provides tools to build and implement scripts that augment call routing features. You can write scripts that provide deeper interaction with customers by querying customer data stores, diverting calls to different locations, modifying skills or properties, or delivering information to callers.

Monitoring

The Connect Contact Center Agent Manager application provides real-time agent monitoring, giving managers and supervisors a unique and comprehensive view of call center activity. Information can be displayed in tables or as graphics.

Agent Manager provides real-time data for specified intervals for the following Connect Contact Center statistics:

- Agent and group status and performance
- Queue status and results for calls
- IVR status and the results for IVR calls
- Staffing results based on targeted staffing levels

Agent Manager also provides supervisors with resource management tools they can use to adjust service levels. By adding or removing agents from selected groups, a supervisor can effectively manage the callers and service level in real-time.

Supervisors can use the Interaction Center Barge In, Whisper Coaching, and Monitor features to further enhance the customer experience. Whether done on an ad-hoc basis, or in response to an agent's request for help, a supervisor can instantly (and privately) connect to an agent's current call. Neither agent nor caller receives notification that monitoring has begun. If intervention is required, the supervisor can barge in on the call—with the choice of continuing with agent participation, or allowing the agent to return to the queue.

Note

Connect Contact Center supports monitoring only one voice interaction at a time. Attempting to monitor more than one voice interaction may result in unexpected behavior such as the agent getting stuck in release mode.

You can monitor multiple chat interactions simultaneously. Also, you can monitor one voice interaction and one or more chat interaction simultaneously.

Performance Measurement

Connect Contact Center offers Connect Contact Center Reports, a sophisticated historical reporting engine for capturing a wider spectrum of information to reach your business goals and improve customer service, which includes the following features:

- Graphical layout for customizing templates
- Assignable security levels for reports

- Options for saving reports, including a save-to-file function for sharing templates
- Scheduling report printing at specified intervals

Connect Contact Center Reports provides predefined reports and the ability to create custom reports that meet your specific needs. An extensive collection of report templates is available for generating data views of call center performance that extends far beyond basic call handling and queue metrics.

Historical reports give you a detailed view of all facets of call center operations, including:

- Agent and group performance and results
- Total call activity and distribution results
- Wrap-up code usage
- Abandoned call analysis
- Trunk and DNIS usage
- Caller activity based on ANI domains
- IVR application activity
- Outbound calling activity
- Mailbox activity

Agent Tools

Interaction Center provides an easy-to-use interface that enables agents to manage calls quickly and intuitively by displaying critical information, such as caller ID and caller name. With Interaction Center, agents are able to make better informed decisions.

Agents have access to information that tells them how many callers are waiting and the length of their wait times. A quick glance at the desktop lets the agent know how the team is doing and whether it is a good time to take a break—or even leave for the day.

Interaction Center extends agent capabilities with productivity features that include single-button controls for telephony and ACD operations, chat, queue management, and entering/leaving release mode.

Connect Contact Center provides pop up profiles to configure the Interaction Center to launch a third-party web page based on the combination of a Service, the state of an interaction, and optionally a call profile field such as Caller ID. Pop up profiles are defined in **Agents** > **Pop Up Profiles**.

PC-Less Agent Login

Agents can dial an IRN number from a non-anonymous, internal phone. The IRN number can invoke a login script that allows the agent to log in to the system by keying in agent ID through the phone keypad. Administrators can assign different IRN numbers for different PC-Less related scripts for various procedures:

- Log in

- Log out
- Release
- Resume

Note

PC-Less Agent login applies only to internal phones that are not anonymous.

VPN-Less Agent Login

The Edge Gateway is a remote access solution offering for Mitel MiVoice Connect customers. The Edge Gateway makes it possible for users to connect remotely to their corporate network. The Edge Gateway is deployed on the customer premises, which eliminates the requirement for a third-party software VPN client.

You access and configure the Edge Gateway in Connect Director. When you have configured the Edge Gateway for use with the Connect Contact Center, you must provide contact center agents and supervisors with the following URL to use when they are outside the corporate network:

https://<Contact Center FQDN as configured for the Edge Gateway>/MCCC

Note

Use HTTPS only when you connect to Interaction Center remotely through the Edge Gateway. This is not applicable to MiVoice Connect or Premise systems.

Refer to *Edge Gateway Administration Guide Connect* for more information about this access solution.

About Entities

An entity is a group of configuration parameters and business rules that determine how calls are routed, reported, and managed. In Connect Contact Center Director, configuration parameters and business rules are grouped according to the entity.

Some entities may have already been specified by your system administrator as part of the installation process. However, if this task has been left up to you, or you have changes in your organization, you will need to work with entities.

The categories of Connect Contact Center entities are as follows:

- Agents
- Groupings
- Routing
- Email

- Supervisors
- Domains
- Dial Lists
- IVR Configuration
- System Parameters
- Maintenance

Agents

Connect Contact Center uses the entities in the Agents category to identify agents in the Connect Contact Center system. Agents handle calls and contacts routed to them by the application. Each agent must be equipped with a telephone, and begins work by logging into the system. An agent can be a member of multiple groups, and may log in or out of all groups simultaneously or one group at a time

- **Agents** — The information that comprises an agent account in the application.
- **Class of Service** — A configurable set of Interaction Center settings and capabilities.
- **Call Profile Lists** — Use this feature to define, by call profile, the information that is available to the agent during an interaction.
- **Pop Up Profiles** — Use this feature to configure the Interaction Center to launch a third-party web page based on the combination of a Service, the state of an interaction, and optionally a call profile field such as Caller ID.
- **KPI Boards** — Use this feature to configure key performance information (KPIs) to display on the Interaction Center

Groupings

Use the entities in the Groupings category to organize agents into groups. Typically, the agents in a group can provide the same services to callers.

Routing

The entities in the Routing category determine how the system routes calls and contacts. You can generate real-time reports by using Agent Manager and historical reports by using Connect Contact Center Reports on some of these routing entities.

- **Services** — Entity that defines how Connect Contact Center processes an incoming call. Services are like to a waiting room, where the application manages a call until an agent can answer it or otherwise processes the call. Incoming calls are assigned to a specific service. The service includes customer-defined announcements, overflow and interflow settings, callback settings, and other business rules.

- **IRN (Intelligent Routing Node)** — Dial numbers used as entry points to the routing system. Each IRN is defined with rules for routing the incoming call to various destinations, including agent queues, services, call control scripts, and devices. IRNs are reached from the Mitel Connect system by dialing the extension number assigned to the route point that corresponds to the IRN.
- **Agent Queue Profiles** — An agent queue profile defines common attributes that can be used across multiple agents queues. Agent queues allow ACD calls to be queued for an individual agent. This feature is useful if your call center directs calls to specific agents, or if you allow agents to take a higher priority call while on an existing ACD call.

Email

The following entities specify the routing that lets the email contacts reach an agent:

- **Email Accounts** — The information that makes up an email account in Connect Contact Center. Agents can work with standard email programs such as Outlook or Outlook Express. Email accounts are configured for each type of inquiry. Emails received in these accounts are placed in a queue from which an agent can download emails. Mailboxes can be assigned to a specific computer or agent.
- **Email Groups** — Agents can be organized into email groups, which are typically a collection of agents that can deliver the same service to incoming email contacts. Emails sent to the group are presented to the most appropriate agent according to the specified routing policy.
- **Email Services** — The entity that defines how incoming emails are processed. Email services are analogous to a waiting room where emails are managed until they can be answered or otherwise handled. Every incoming email contact is assigned to a specific service, with destination, overflow, and interflow settings, and other business rules.
- **Email IRN (Intelligent Routing Node)** — Used as email entry points to the routing system. Each email IRN is defined with rules for routing the incoming email contact.
  - Email Agent Queue Profiles — Used to define common attributes that can be used across multiple email agent queues. Select the email agent queue profile that you want to assign the agent to.

Supervisors

Use the entities in the Supervisors category to define supervisors in the system. Supervisors are responsible for the performance and operation of selected Connect Contact Center groups.

- **Accounts** — The information that makes up a supervisor account in the application. Supervisors must be assigned the appropriate privileges and groups.
- **Class of Service** — Supervisor class of service (COS) allows administrators to easily configure the capabilities supervisors have in the Interaction Center.
- **Preferences** — Specifies the following:
  - Which messages are displayed to a supervisor
  - The pages in a supervisor's Connect Contact Center Director Favorites list

- **Alerts** — Alerts that a supervisor hears when a real-time group report reaches a threshold.

Domains

These entities enable calls to be handled according to their geographical location. Domains are defined by the leading digits, such as the area code or area code plus a prefix, in the caller ID. The system can generate reports on domains, for example to show how many calls have been received from a particular geographical area.

- **Domains** — The information that defines a domain account in Connect Contact Center.
- **ANI Prefixes** — Domains are routed by analyzing the number prefix of the ANI (CID) of incoming calls. An ANI prefix is a series of digits that are part of a dial number (such as an area code), which represent the location from where the call was made.
- **Customers** — The Customers entity, and the Customer Routing parameter of the IRN entity, work together to identify the caller and route the call according to caller domain. The Customers entity identifies the customer ID, number, priority, and preferred destination for each specific customer.

Dial Lists

Use the Dial List entities to identify rules for dial lists. A dial list is a set of telephone numbers in a database your company uses for outbound calls.

- **Dial Lists** — The information that comprises a dial list account in Connect Contact Center.
- **Dial List Schedules** — Specifies the run schedule for a dial list.
- **DNC/Call Tables** — Defines Do Not Call (DNC) and Call tables.
- **Predefined SQL** — Creates predefined SQL statements for use in dial lists.
  - **Query** — Use to query the database for the set of numbers to be dialed and to verify that numbers are still valid.
  - **Procedure** — Allows you to update the database with call results.

IVR Configuration

An Interactive Voice Response (IVR) application is used by the Contact Center to perform interactive tasks with the caller. Each application is composed of actions forming a script to execute a procedure.

- **Route Points** — Associates route points on the HQ server with the Connect Contact Center IRNs.
  - **IVR Servers** — If you have dedicated, standalone IVR servers as part of your Connect Contact Center installation, the IVR servers must be configured.
  - **IVR Ports** — Specifies your system's interactive voice response (IVR) ports.
- **IVR Groups** — A collection of interactive voice response (IVR) ports. An IVR port is used by the Mitel Connect system to perform an IVR action or play music-on-hold when a call enters the application. An IVR port is part of the system's numbering plan.

System Parameters

These entities are used to configure various definitions and parameters that affect the behavior of the entire system. Many of the entities are organized under sub-categories.

- **Schedules** — Used by the Connect Contact Center Server to route calls to different destinations according to the day and time.
  - **Calendar** — Specify working and non-working days. This information is used to calculate the daily average for Connect Contact Center historical reports for intervals that span more than one day.
  - **Day Types** — Identifies special days (like holidays) and working or non-working days. Each day type can be assigned a color so it can be easily viewed in the calendar.
  - **Shifts** — Defines service routing destinations used at different times of the day. Shifts are associated with a day type.
- **Reporting Preferences** — Monitors different points of the system and are used to generate reports using Agent Manager (for real-time reports) and Connect Contact Center Reports (for historical reports).
  - **Reporting Settings** — Specifies report parameters.
  - **Real-Time Report Colors** — The display colors that highlight different agent states in real-time reports.
  - **Reports** — Lists available real-time reports, historical report templates, and historical report schedules.
- **Routing Preferences** — Defines the handling of incoming calls.
  - **Service Settings** — Call priority and other settings for services.
  - **Incomplete Destinations** — The destination to which the system routes a call or contact that enters the system with no valid routing destination.
  - **Skills** — Used by the system to determine the routing of calls to the most suitable agent. When more than one agent is available to receive a call, the system routes the call based on the best skill fit.
  - **Call Profiles** — A call profile user field can be used by IRNs, domains, and dial lists to gather and update information about a call.
- **Client Preferences** — Specifies how the system interacts with the user or user's system.
- **Tagged Codes** — Agents use tagged codes when they have finished handling a call. In most cases, these codes provide information for evaluating calls based on statistical reporting.
  - **Wrap-Up Codes** — Identifies the wrap-up codes available to agents.
  - **Release Codes** — Defines the release codes available to agents.
- **Outbound** — Specifies how outbound calls are handled.

- **General Preferences** — Preferences for phone prefixes, callbacks and dial lists, timers, and outbound behavior.
- **Time Settings** — Identifies the time in which outbound calls are made.

- **Chat and Email** — Made up of the various parameters that define how chat and email contacts are to be handled by the Connect Contact Center system.
- **External Interfaces** — Defines the interface between the application and external interfaces.
  - **Event Feed Ports** — The TCP port numbers used for event feeds.
  - **Event Feeds** — Event feeds that can be used by third-party applications to retrieve information on agent and group activity.
  - **Database Connections** — Configures the connection to an external database.

Maintenance

The Maintenance entities define areas of the system after the application starts operating. Many of the entities are organized under sub-categories.

- **Redundancy** — Configures the Connect Contact Center redundant server system.
- **Music Streams** — Music streams are WAV files that are played when a call is waiting in queue. Music streams can be specified system-wide, per call, per caller, or to play a prompt.

Note

The WAV file must be in the following format: u-law, 8000Hz, 8 bit, and mono.

- **Languages** — The required languages for IVR announcements.
- **Database Backup** — Determines how you want to backup your Connect Contact Center database.
- **File Replication** — Determines when you want to replicate files.
- **License** — Allows you to request additional licenses and view information on the licenses you do have.
  - **Request License** — Use to request additional Connect Contact Center licenses.
  - **License Keys** — Provides information on your current Connect Contact Center licenses and allows you to add new licenses to the system.
- **Printer Account** — In order to print scheduled historical reports, your printer account credentials must be configured and validated to access local or network printers.
- **Logs** — Specifies how long to keep logs.
- **Connected Users** — Provides information on users currently logged into the application.

CHAPTER

2

Configuring Connect Contact Center

Call center administrators and supervisors might be responsible for configuring Connect Contact Center. We recommend that call center administrators and supervisors configure the application by using the process descriptions in this chapter.

Connect Contact Center Director is the graphical user interface for configure the application. The Graphical Call Control Script (GCCS) Administration application allows you to create call control scripts. An introduction to both these applications is provided in this chapter.

The Configuration Process

Configuring the application is the process by which you specify the parameters and business rules that determine how your call center works.

It is assumed that the application has already been set up as part of the installation process. Setting up the application involves integrating with the Mitel Connect system and other tasks. If this preliminary step has not been completed, refer to the *Connect Contact Center Installation Guide* for details.

Mitel recommends the following sequence of tasks for configuring Connect Contact Center:

1. Chapter 3, *Identifying Agents and Supervisors*.
2. Chapter 4, *Creating Agent Groups*.
3. Chapter 5, *Routing Calls*.
4. Chapter 6, *Defining How Email Reaches Agents*.
5. Chapter 7, *Identifying IVR Applications for Reporting*.
6. Chapter 8, *Specifying Call Handling by Domain and Dial List*.
7. Chapter 9, *Setting System Parameters*.
8. Chapter 10, *Maintaining Connect Contact Center*.
9. (Optional) Chapter 11, *Implementing the Redundant Server System*.
10. Chapter 12, *Using Call Control Scripts*.
11. Chapter 13, *Troubleshooting Connect Contact Center Configuration*.

Configuring TLS 1.2

Complete the following steps to enable TLS1.2 for all MCCC client applications:

1. Stop **Contact Center Service**.
2. Update the **CAC service URI** as follows to enable TLS:

   File: `wecc.ini`

   Path: C:\Program Files (x86)\ShoreTel\ShoreTel Contact Center Server

   parameter: `"CACServiceURI"`

   Value: `cactls://MCCC_SERVER_IP:31451`

   Example from **wecc.ini** file:

   `CACServiceURI=cactls://10.211.XX.XX:31451`
3. Configure the certificate and key file available in keystore path - C:\Shoreline Data\keystore.

   File: `Registry.ini`

   Path: C:\Program Files (x86)\ShoreTel\ShoreTel Contact Center Server

   parameter1: `"SSL Key"`

   Value: C:\Shoreline Data\keystore\private\server.key

   parameter2: `"SSL CA"`

Value: C:\Shoreline Data\keystore\certs\server.crt

Example from **Registry.ini** file:

```
SSL Key =C:\Shoreline Data\keystore\private\server.key
SSL CA =C:\Shoreline Data\keystore\certs\server.crt
```

4. Start **Contact Center Service**.

Disabling TLS 1.0

You can disable TLS 1.0 on Windows HQ server (Windows Server 2012, Windows Server 2016, and Windows Server 2019). This section describes the steps to disable TLS 1.0 on Windows HQ server.

Note

TLS 1.0 is still required for:

- MGCP phones.
- VxWorks-based switches (non voice-enabled SG switches).

You must upgrade these devices if you want to disable TLS 1.0 in the customer environment.

To disable TLS 1.0 on Windows HQ server:

1. In the Windows start menu, type **regedit** and click **OK**.
2. In the dialog box that opens, click **Yes**.

Note

It is recommended that you back up your current registry before making any changes. To do this, click **File** > **Export** and then save the backup to a safe location.

3. Go to the following path:
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\SecurityProviders\SCHANNEL\Protocols.
4. Right-click the empty space in the pane on the right side and do the following:
   a. Select **New** > **Key**.
   b. Name the new key **TLS 1.0**.

5. Select the new key, right-click the empty space on the right side, and add two new keys named **Client** and **Server**.

Note

Skip step 4 and step 5 if the TLS 1.0 folder already exists.

6. Select the **Client** key, right-click the right pane, and create a DWORD value as follows:
   a. Select **New** > **DWORD (32-bit) Value**.
   b. Edit the new DWORD value and name it **Enabled**.
   c. Ensure the value data is **0** (0x0).
   d. Click **OK** to save the settings.
7. Select the **Server** key and repeat step 6 to create a DWORD value named **Enabled** with setting of **0** (0x0).

Connect Contact Center Director

Connect Contact Center Director provides a single, easy-to-use, browser-based interface for call center administration.

Connect Contact Center Director can only be used by supervisors who have either Supervisor Administrator or Entity Administrator privileges, as explained in Creating Supervisor Accounts on page 58. You do not need a supervisor license to use Connect Contact Center Director.

Supported Browsers

Connect Contact Center Director supports the following browsers:

- Microsoft Internet Explorer (IE) 10 and 11
- Mozilla Firefox 4.*x*
- Apple Safari 5.*x*
- Google Chrome

Make sure that JavaScript is enabled in the browser and that the Connect Contact Center Director URL is accessible. For IE, this means adding the Connect Contact Center Director URL to the trusted sites by using the **Tools** > **Internet Options** > **Security** tab in the browser. If JavaScript is disabled, Connect Contact Center Director displays a warning.

Starting Connect Contact Center Director

As a web application, Connect Contact Center Director is hosted on the application server and accessed over the network.

Before starting Connect Contact Center Director, get the following information from your system administrator:

- Connect Contact Center Director Uniform Resource Locator (URL)
- Your user ID
- Your password

For information about starting Connect Contact Center Director from the application server, refer to the *Connect Contact Center Installation Guide*.

Complete the following steps to start Connect Contact Center Director:

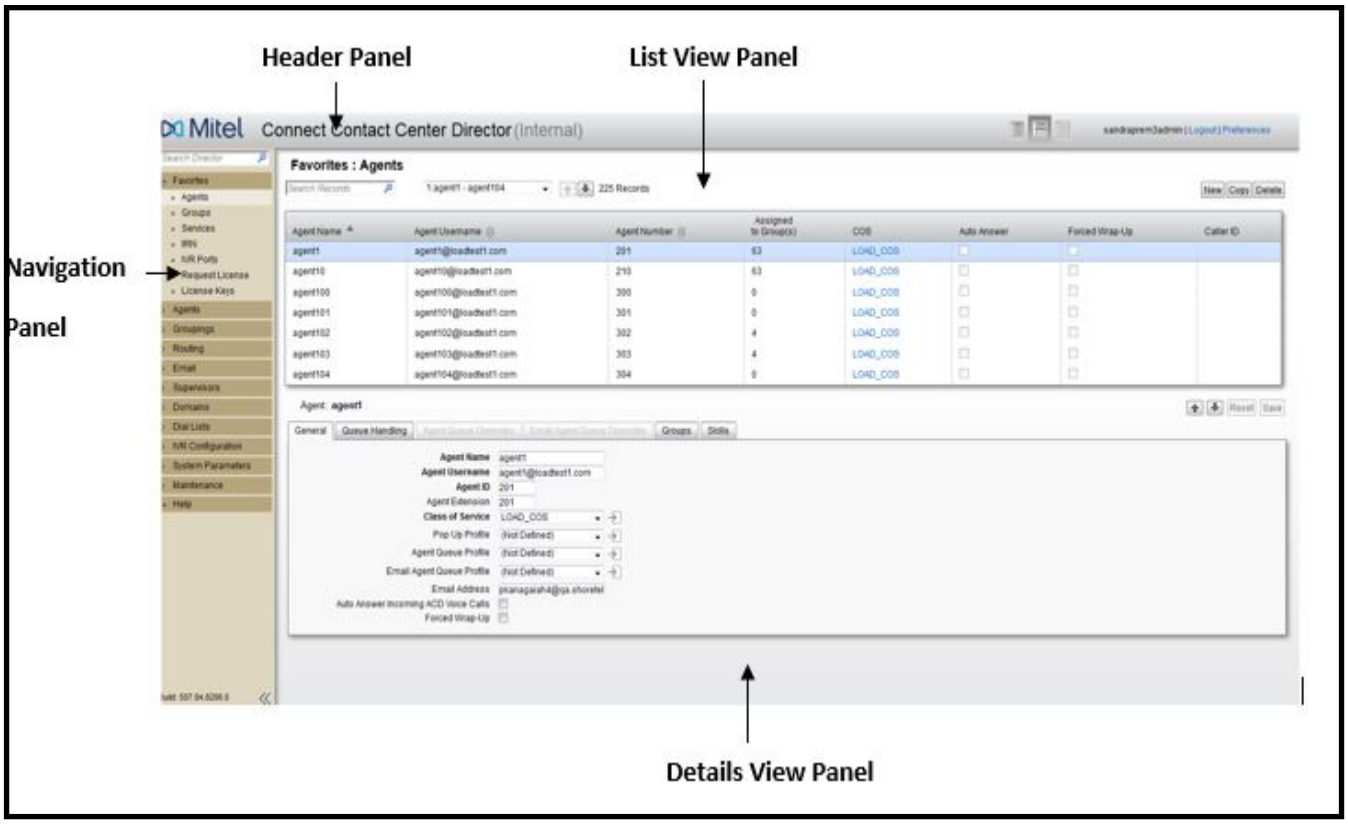
1. Enter the application URL in the browser's address field. Typically, this address is either of the following based on how the Connect Contact Center Director is installed:
   - If the HTTPS for Connect Center Clients is enabled during installation, use https://<contact center server IP address or FQDN>:8433/ccd.
   - Otherwise, use http://<contact center server IP address>:3000/ccd.

Note

- Instead of the server IP address, you can use the name of the application server if a name resolution service or DNS is available. This is recommended if HTTPS is enabled to avoid browser errors and warnings.
- For information about handling insecure connection error messages on the browser, see the section Browser error message, on page 271.

2. Enter your user ID and password, and then click **Submit**.

   Once connected to the server, Connect Contact Center Director opens.



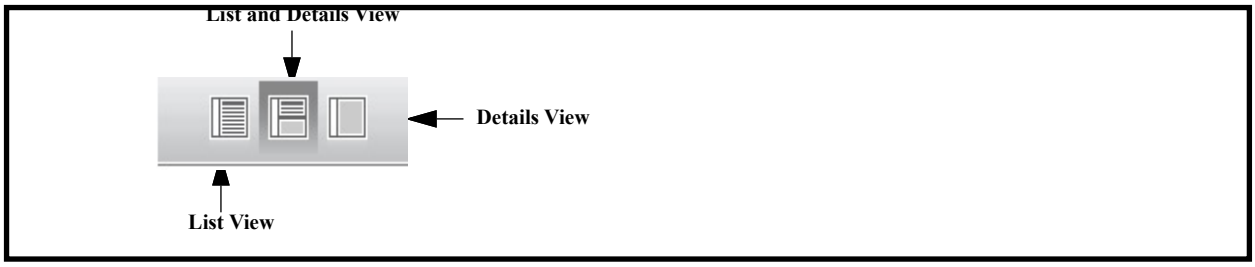
Connect Contact Center Director is made up of four panels: the Header panel, the Navigation panel, the List View panel, and the Details View panel.

The Header Panel

The Connect Contact Center Director Header panel contains the following items:

- **Version** — If you are using a version other than the standard Connect Contact Center Director (i.e. a lab or demo version), the version type is indicated in the Header panel.
- **User Name** — The user name of the person currently logged into this instance of Connect Contact Center Director.
- **Logout** — Click to log out of Connect Contact Center Director.
- **Preferences** — Click to access the Preferences page.

- **View Buttons** — Click to view only list information, only detailed information, or both list and detailed information. The appropriate panels are displayed.



The default is to show both the List View and Details View panels. For pages that do not include a list of individual items, the View buttons are not available.

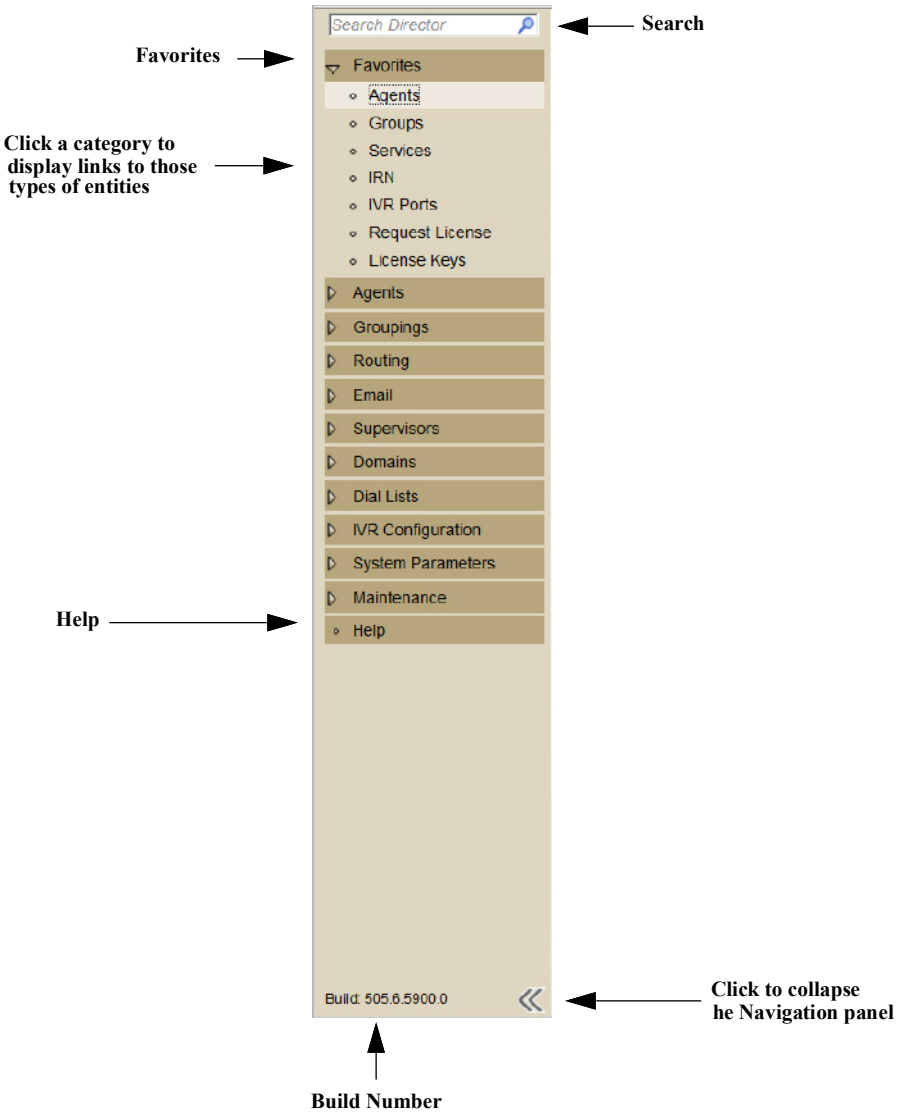
The Navigation Panel

The Navigation panel is made up of a Search field and links to your Favorites, the application entity pages, and the Help. The entities are organized by category; clicking on an entity displays links to the pages of those types of entities.

The Navigation panel also indicates where you are in Connect Contact Center Director by highlighting the current page. The build number of the Connect Contact Center Director instance you are running is shown at the bottom of the Navigation panel; this information is useful for troubleshooting purposes.

You can collapse the Navigation panel by clicking « and expand it by clicking ». Collapsing the Navigation panel allows you to see more information in the List View and/or Details View.

The entities available in the Navigation panel are dependent on licensing. If you launch Connect Contact Center Director and do not see the full list of entities you are expecting, contact your system administrator. A Navigation panel with only the License pages displayed indicates that a node-locked system license is required.



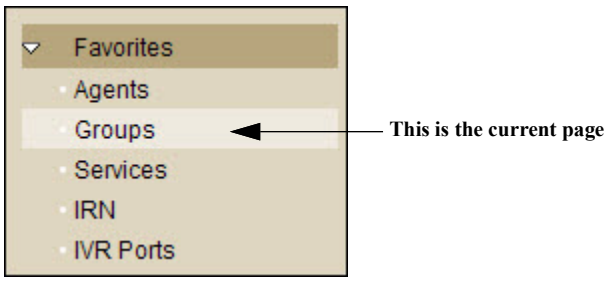
Search Director

The Search Director field at the top of the Navigation panel allows you to find text (for example, abandoned callbacks) in Connect Contact Center Director. Refer to Finding and Displaying Information on page 36 for details on using Search Director.

Favorites

Favorites are links to the pages you use most frequently. Using **Favorites** makes it easy to access a page by simply clicking its name, instead of having to find it elsewhere in the Navigation panel.

By default, Favorites contains a list of pages most commonly used. Clicking on **Favorites** displays the links to those pages. You can change the pages in **Favorites** at any time, as explained in Setting Supervisor Preferences on page 62.



Help

The Help link at the bottom of the Navigation panel provides access to this and other Connect Contact Center documentation, and to a summary of the available Connect Contact Center Director keyboard shortcuts. Refer to Keyboard Shortcuts on page 42 and Improved Access to Connect Contact Center Documentation on page 42 for additional information.

The List View Panel

The List View panel shows a list of the individual records that make up an entity, with information on each record. Only the number of records that can be displayed on a page are shown; this number is affected by the size of your browser window. The total number of records in the list is indicated.

Connect Contact Center Director provides multiple ways to find and display records in a list. Refer to Finding and Displaying Information on page 36 for details.

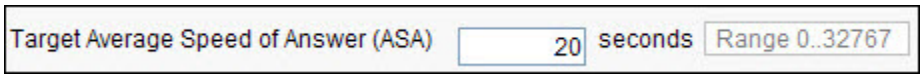
The Details View Panel

The Details View panel displays the details of a record selected in the List View Panel. You also use the Details View panel to change a record's details and to specify the details of a new record.

If applicable, separate categories of detailed information are accessed by clicking on the appropriate tab. Fields with a title in boldfaced font are required.

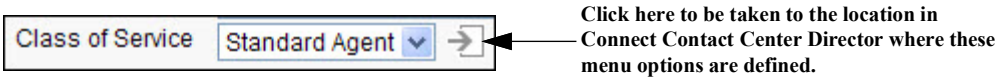
Connect Contact Center Director helps you enter the correct information in the fields of the Details View panel:

- For fields that require a number value, the possible number range is displayed when you click in the field.

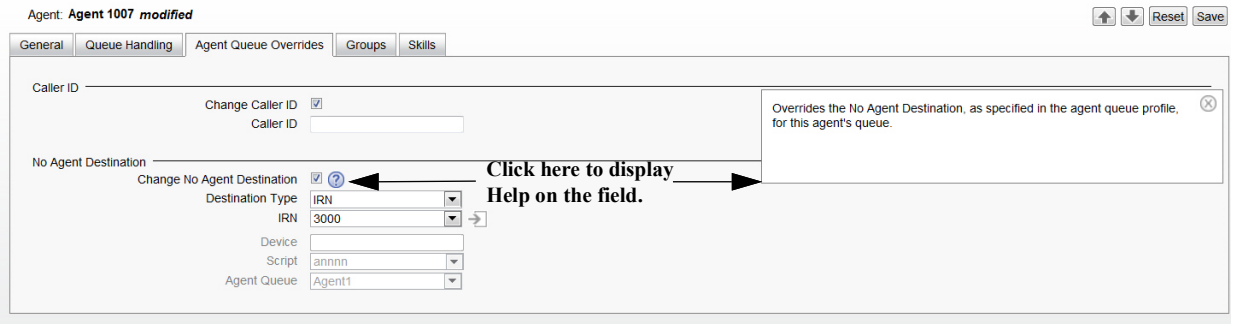


  You can incrementally increase or decrease the number in a field, by a value of 1, by using the keyboard's up and down keys. To increase or decrease the number in a field by a value of 10, use the Page Up and Page Down keys of your keyboard.

- Some fields have a drop-down menu made up of options that have been previously defined. If the menu does not contain the option you want, or if you want to verify or change an option, clicking on the right arrow associated with the field takes you to the location in Connect Contact Center Director where the option is defined.



- Information on some fields is available by clicking the Help button associated with the field.



Finding and Displaying Information

Connect Contact Center Director provides various methods to find and display information. You can search for specific text, search for an item in a list, select a different page of records, and view details on another item. The sort order of items in a list can also be changed. And the Navigation panel can be collapsed so that you see more of the information you need in the List View and/or Details View.

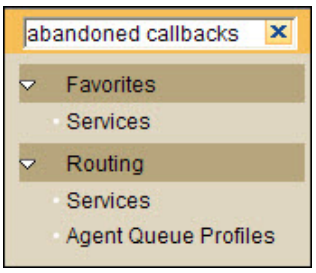
Searching for Text

The Search Director field at the top of the Navigation panel allows you to find text (for example, abandoned callbacks) in Connect Contact Center Director. The Search Director field is case insensitive.

Complete the following steps to search for text:

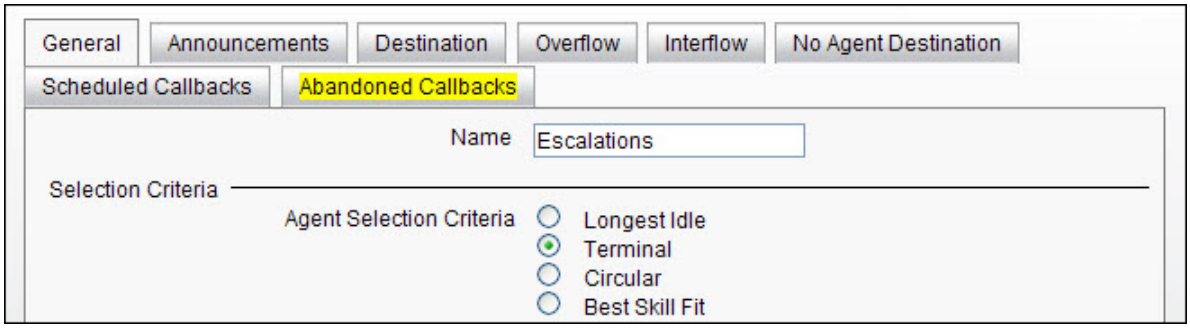
1. Make sure you have selected **List and Details View**.
2. In the **Search Director** field, enter the text you want to find.

   As you type, the list of pages in the Navigation panel narrows to reflect your search criteria.



3. Click the page you want to view.

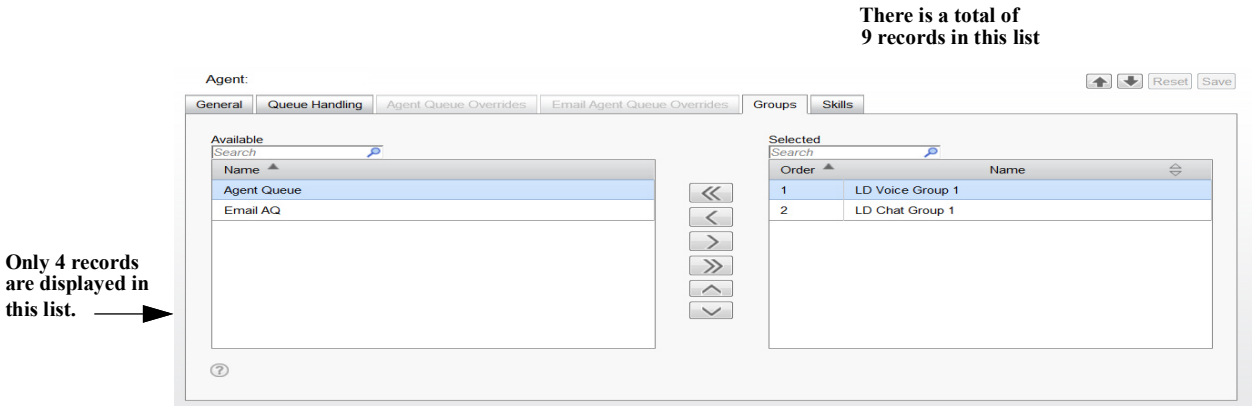
   The text is highlighted in the page. If the text is hidden because it is on a tab other than the current one, the tab with the text is also highlighted.



4. To return to the full list of pages in the Navigation panel, click the Search close button.

Searching for an Item in a List

The List View panel shows a list of the individual records that make up an entity, with information on each record. Only the number of records that can be displayed on a page are shown; this number is affected by the size of your browser window. The total number of records in the list is indicated.



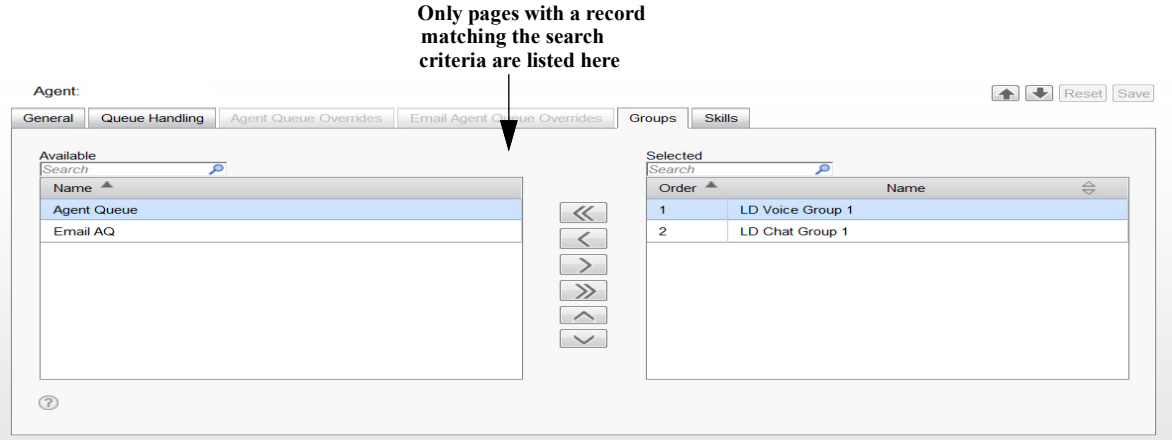
The Details View panel also includes lists of items.

In either panel, if a list is very long, or if there are additional items not shown in the list, you can search for a specific item. The search fields are case insensitive.

Complete the following steps to search for a record in the List View panel:

1. In the **Search Records** field, at the top of the List View panel, enter the record you want to find.

   Records that match the search criteria are displayed in the list. If more than one page contains the records, the drop-down menu at the top of the List View panel shows only the pages with the record.



2. To return to the first page of records in the list, click the **Search close** button.

Complete the following steps to search for an item in the Details View panel:

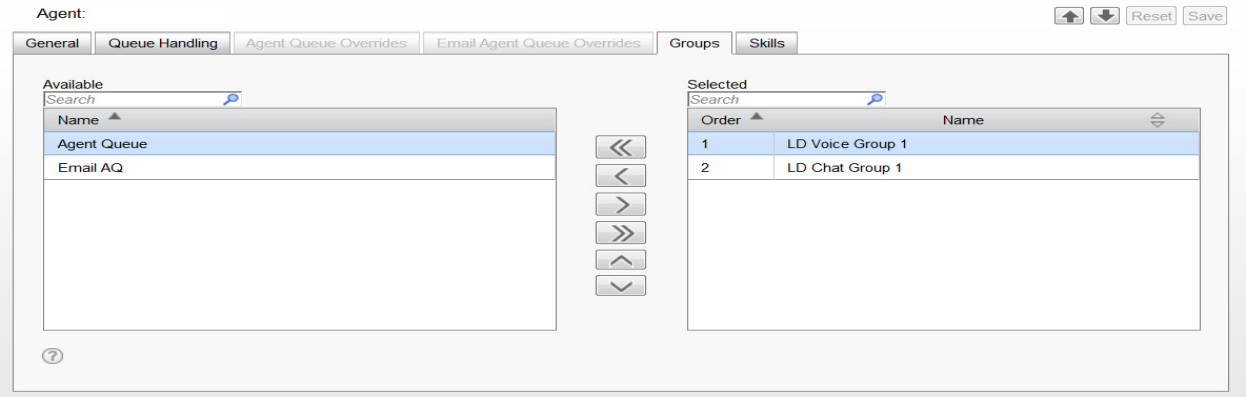
1. In the **Search** field at the top of a list, enter the item you want to find. The item is displayed, and selected, in the list.
2. Press **Enter** to continue the search The next item in the list matching the search criteria is displayed and selected.
3. To return to the full list, click the **Search close** button.

Selecting a Different Page of Records

A page is made up of only the number of records in a list that can currently be displayed. If the list includes more records, they are organized in additional pages that you can select. There are two ways in the List View panel to select and display another page: by choosing a specific page or by choosing the next or previous page.

Complete the following steps to choose a specific page of items:

- From the drop-down menu at the top of the List View panel, choose the page you want to view.



The choices on the menu indicate the page number, and the first and last records of the page.

Complete the following steps to choose the next or previous page of records:

1. To to display the next page of records, click .
2. To display the previous page of records, click .

Viewing Details of Another Item

In the Details View panel, you can see information on the next or previous item in the list, without having to first select it in the List View panel. This is useful if you are working only in the Details View panel, or want to sequentially move through a list of items.

Complete the following steps to view details of another item:

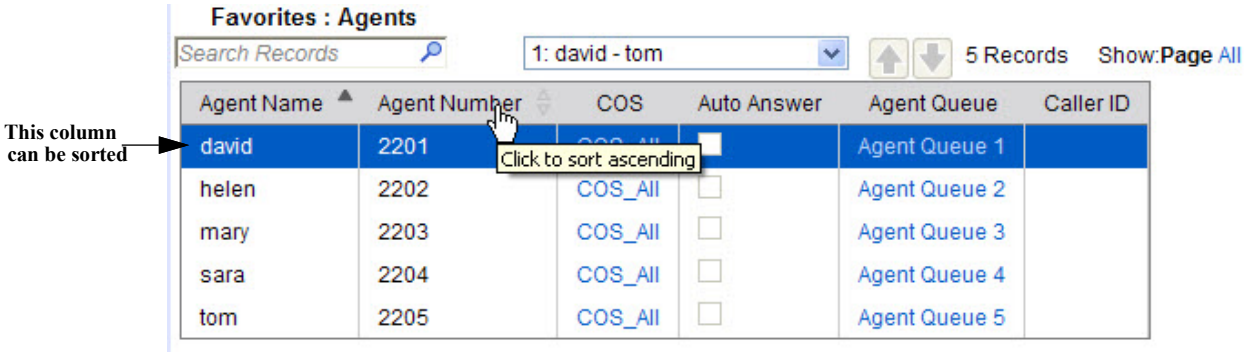
1. In the Details View panel, to view information on the next item, click .
2. To view information on the previous item, click .

Changing the Sort Order

Many columns in a list can be sorted by ascending or descending order. Columns that are sortable have associated sort arrows .

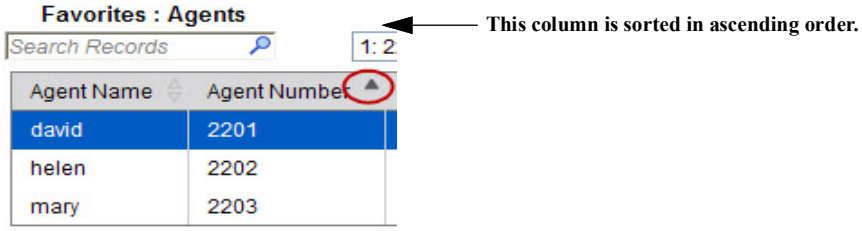
Complete the following steps to change the sort order:

1. Point to the column you want to reorder. The tool tip describes the type of sort you can do.



2. Click on the column title.

   The items in the column are sorted. An arrow indicates whether the column is sorted in ascending or descending order.



Collapsing the Navigation Panel

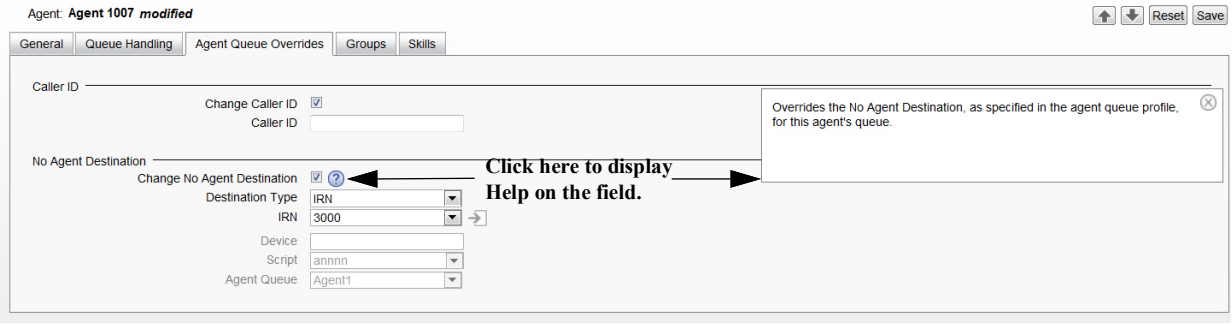
Collapse the Navigation panel by clicking «.

Expand the Navigation panel by clicking ».

Collapsing the Navigation panel allows you to see more information in the List View and/or Details View.

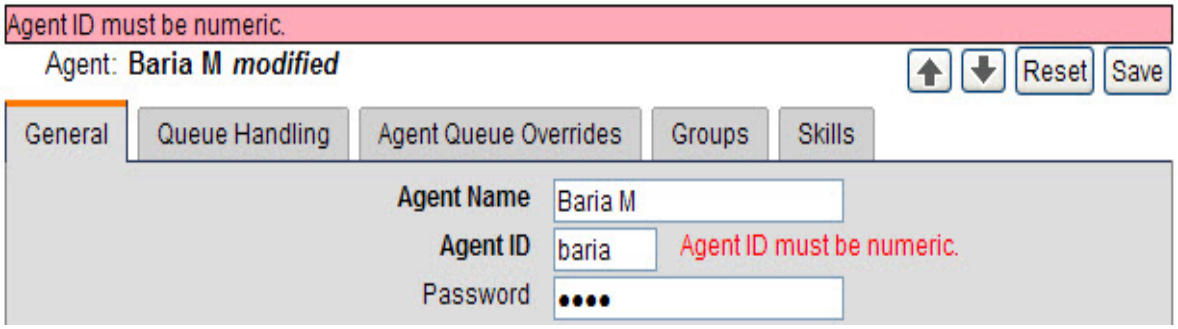
Getting Help

Information for a specific field is available by clicking the Help button associated with the field.



Error Messages

In Connect Contact Center Director, error messages are displayed within the browser window highlighted in red.



Specific error information is displayed next to the field with the error. Any additional information is also displayed in the red banner at the top of the panel.

Keyboard Shortcuts

Keyboard shortcuts are available for the most common actions. To use a keyboard shortcut, press Ctrl+Alt+key. A list of keyboard shortcuts is provided.

Complete the following steps to access the list of keyboard shortcuts:

1. Click **Help** in the Navigation panel.
2. Click **Shortcut Keys**.

   To close, click anywhere in the list.

Improved Access to Connect Contact Center Documentation

Complete the following steps to access the application documentation from Connect Contact Center Director:

1. Click **Help** in the Navigation panel.
2. Click on the document you are interested in viewing.
3. If you need help on a specific area of the product, click **Edit > Find.**

Graphical Call Control Scripts Administration

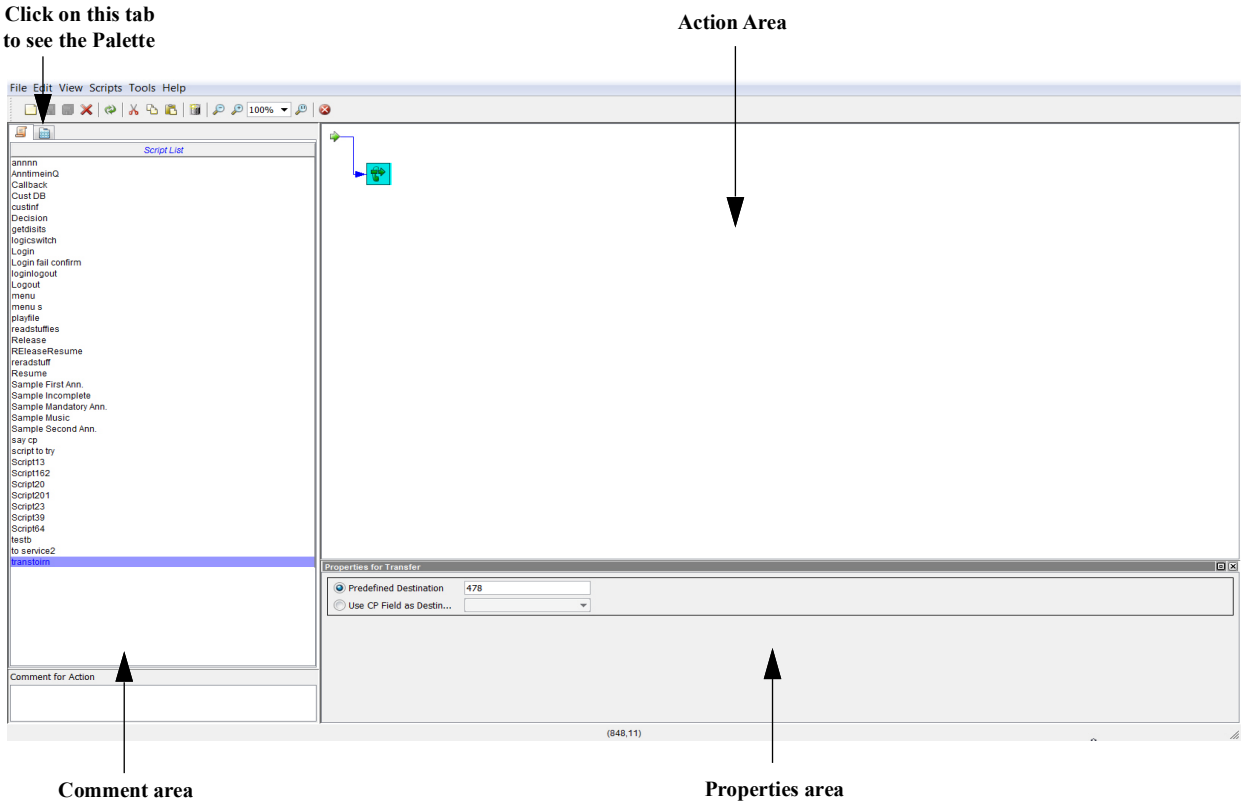
Graphical Call Control Scripts (GCCS) Administration allows you to create, edit, and manage call control scripts.

Starting GCCS Administration

1. From the Windows desktop, click **Start > Programs > ShoreTel> ShoreTel Connect Contact Center Supervisor > GCCS**.

   If the GCCS Administration icon is on your desktop, or in the Windows Start menu, you can click this icon to start GCCS Administration.

The GCCS Administration Window



- **Scripts** — Accessed by clicking the Scripts tab at the top of the pane on the left-side of the window. The Script List pane displays the list of available scripts. Clicking on a script in the Script pane displays the script actions and logical flow in graphical form in the Action area.
- **Palette** — The Palette pane displays icons of all supported actions for the selected script. Clicking on an icon adds the action to the script, as shown by the icon being added to the Action area.
- **Action** — The Action area, on the right side of the window, displays the script in graphical form.

- **Comment** — The Comment area, at the bottom-left of the window, allows you to include a description of the selected script or action.

  The Comment area can be reduced or enlarged by dragging the borders that separate the area either up or down or left or right. Any changes to the area size are automatically saved.

- **Properties** — When you select an action in the Action area, the configuration details for that action appear in the lower-right Properties area of the window. Until you select an action, the Properties area is blank. A script's announcement parameters are presented in Properties area.

  The Properties area can be reduced or enlarged by dragging the borders that separate the area either up or down or left or right. Any changes to the area size are automatically saved.

- **Toolbar** — The GCCS Administration toolbar provides icon shortcuts to streamline access to GCCS Administration functionality:

  - **New Script (1)** — Adds a new script to the Script list.
  - **Save Script (2)** — Saves the script that has been loaded into the Action area.
  - **Save All Scripts (3)** — Saves all scripts.
  - **Delete Script (4)** — Deletes a selected script from the Script list.
  - **Reload Current Script (5)** — Reloads the current script from the database.
  - **Cut (6)** — Cuts the selected action(s) and properties.
  - **Copy (7)** — Copies the selected actions and properties in a script to the clipboard.
  - **Paste (8)** — Pastes the selected action(s) and properties into another script.
  - **Database Test Query (9)** — Sends a test query to a database.
  - **Zoom Out (10)** — Allows you to zoom back from a page by increments.
  - **Zoom In (11)** — Allows you to zoom into a page by increments.
  - **Select Zoom (12)** — Allows you to zoom in or zoom out by a specific percent.
  - **Original Size (13)** — Restores the screen to 100% of its original size.
  - **Logout (14)** — Starts the logout process.

Getting Help

Additional information about using GCCS Administration is available from **Help** > **Help Contents**.

CHAPTER

3

Identifying Agents and Supervisors

Agents handle calls and contacts routed to them by Connect Contact Center. Each agent must be equipped with a telephone, and each agent begins work by logging into the system.

Identifying Agents

Follow these steps to identify agents:

1. *Creating Agent Accounts*
2. *Defining a Class of Service*.

Note

An agent must not be configured to receive calls as a workgroup or hunt group member while logged in to MCCC. An agent's work group or hunt group activity must be limited to a backup role to be used only when MCCC is unavailable.

Connect Contact Center agents must be configured to receive only calls from the application. Configuring an agent to receive calls from both the application and a work group or hunt group can cause major TAPI delays, which may result in a complete system outage.

When SCA is enabled for Connect Contact Center Agent, the Agent is unable to answer the call from AIC because BCA/SCA is not supported in Connect Contact Center.

A supervisor can be responsible for the management of one or more agent groups. For each supervisor in the system, you can set preferences and audible alerts that sound when data in a real-time group report reaches or exceeds a threshold.

Supervisors are identified by the following:

1. Creating Supervisor Accounts.
2. Setting Supervisor Preferences.
3. Defining Supervisor Alerts.

Creating Agent Accounts

The process of creating agent accounts in Connect Contact Center includes the following steps:

1. Specifying Prerequisite Agent Account Parameters.
2. Adding a New Agent Account.
3. Defining Queue Handling.
4. Overriding Agent Queue Profile Parameters.
5. Overriding Email Agent Queue Profile Parameters.
6. Assigning Primary Groups to an Agent
7. Assigning a Set of Skills to an Agent.

You can also Modifying an Agent Account, and Deleting an Agent Account.

Specifying Prerequisite Agent Account Parameters

Before creating a new agent account, specify the following parameters:

- The class of service, which is capabilities the agent has access to. Refer to Defining a Class of Service on page 55.

- If you want agents to deliver the same service to incoming calls, agent groups. Refer to Creating Agent Groups on page 73.
- The agents skills that further refine how calls are routed to the agent. Refer to Identifying Agent Skills on page 175.
- If you want to override the default No Agent destination for the agent's queue, provide the IRN, device, or script to be used for the new No Agent destination. Refer to Identifying IRNs on page 97, or Chapter 12, Using Call Control Scripts to create the script, or have the number of the device.
- If you want to override the default No Agent destination for the email agent queue, provide the IRN, device, or script to be used for the new No Agent destination. Refer to Identifying IRNs on page 97, or Chapter 12, Using Call Control Scripts to create the script, or have the number of the device.

Once specified, these parameters automatically appear as options that you can choose, allowing you to quickly and easily create a new agent account.

Adding a New Agent Account

Adding a new agent account involves specifying general details for an agent. Agents records are automatically set to use a default class of service (COS), which is a configurable set of capabilities to which an agent can have access.

Complete the following steps to add a new agent account:

1. From Connect Contact Center Director, click **Agents** > **Agents**.
2. Click **New**.

   If you have an existing agent account with parameters similar to what you want, you can quickly add a new account by selecting it and clicking **Copy**.
3. In the **General** tab, specify following information:
   - **Agent Name**
   - **Agent Username** — The Agent Username must match the Client username defined in the user profile in Connect Director.

Note

If you configured email addresses for your agents in Enterprise Contact Center 9.0 or earlier, be aware that the upgrade to Connect Contact Center updates the Agent Username with this data and that this data may not match the user name defined for the agent in the Connect PBX.

If you need to make changes in Connect Contact Center to match what's defined in the Connect Director, you must restart the Connect Contact Center service for the change to properly sync with the Connect database.

   - **Agent ID**

- **Agent Extension** — This is the extension assigned to the agent. Leaving this field blank allows the agent to work from any extension. The agent can specify the extension they are working from when they log into Interaction Center.
- **Class of Service** — New agents are automatically assigned the first COS to appear in the list of COS. The COS records are ordered alphabetically.

  The available items in the menu have been previously defined. Refer to Creating an Agent Class of Service on page 55 for more information.

Tip

Beginning with Connect Contact Center, agent COS is mandatory. If you have defined agent records that do not include a COS in previous versions of MCCC, those agents will be assigned to the default COS upon upgrade. The default COS is the first COS record, and COS records are sorted alphabetically.

- **Pop Up Profile** — Pop up profiles allow you to configure the Interaction Center to launch a web page based on an agent's log in status and/or the combination of a Service, the state of an interaction, and optionally a call profile field such as Caller ID. Refer to Using Web Pop Up on page 67 for more information.
- **Agent Queue Profile** — Agent queue profiles define common attributes that can be used across multiple agent queues. Select the agent queue profile that you want to assign the agent to. Refer to Creating Agent Queue Profiles on page 104 for more information.
- **Email Agent Queue Profile** — Email agent queue profiles define common attributes that can be used across multiple email agent queues. Select the email agent queue profile that you want to assign the agent to. Refer to Defining Email Agent Queue Profiles on page 132 for more information.
- **Email Address** — Specify the **Email Address** used by the system to route email contacts to the agent's email address, which is typically the agent's corporate email address.

4. Select **Auto Answer Incoming ACD Voice Calls** to direct the system to answer calls to this agent if the agent does not answer after one ring.
5. Select **Enable as CRM** User for an agent to connect to Contact Centre from an external API.
6. Select **Forced Wrap-Up** to require the agent to enter a wrap-up code at the end of an interaction.

   If multi-interaction is enabled in the COS the agent belongs to, an agent can answer additional interactions before entering a wrap-up code for a previous interaction. Refer to Creating an Agent Class of Service on page 55 for information about enabling multi-interaction.

   There may be instances in which an agent needs to move onto the next call without entering a wrap-up code, such as when the caller hangs up immediately after the agent answers the call. In this instance, even if you have enabled forced wrap-up code, the agent can avoid entering a wrap-up code for a call by either exiting Interaction Center, or by logging out of their primary ACD group or the ACD group that routed the call.
7. Click **Create**.

Defining Queue Handling

Once you have added an agent, you can define how the system routes a queued contact to the agent.

Complete the following steps to define queue handling:

1. From Connect Contact Center Director, click **Agents** > **Agents**.
2. In the List View panel, select the agent whose queue handling you want to define, and then click the **Queue Handling** tab.
3. In the Group Selection area, select options to determine the group from which a call is routed to the agent:
   - **Group List Order** — Calls are selected from groups in priority order, as defined in the **Agents > Agents > Groups** tab.
   - **All Groups** — Calls are selected from all groups without consideration of priority.
   - **Target Service Factor (TSF**) — Calls are selected from groups with the lowest TSF. The TSF measures how well a group provides a level of service based on the Target Average Speed of Answer (ASA). Use this criteria to balance the load between groups and enable the group with the lowest TSF to improve its score.
4. From the **Call Selection** area, select the **Primary Rule** option to define how calls in the group are routed to the agent:
   - **Longest Wait Time** — The call in the group with the longest wait time is sent to the agent.
   - **Priority** — The call in the group with the highest priority is sent to the agent.
   - **Best Skill Fit** — The call in the group with characteristics that best fit the agent's skills is sent to the agent.

   This option requires that you assign a skill to the agent. Refer to Assigning a Set of Skills to an Agent on page 53 for information.
5. If you want to further refine how calls in a group are routed to the agent, select **Use Secondary Rule** and then select the appropriate Secondary Rule option. These options act on calls that have already been selected based on the Primary Rule.
   - **Longest Wait Time** — The call in the group with the longest wait time is sent to the agent.
   - **Priority** — The call in the group with the highest priority is sent to the agent.
   - **Best Skill Fit** — The call in the group with characteristics that best fit the agent's skills is sent to the agent.

   This option requires that you assign a skill to the agent. Refer to Assigning a Set of Skills to an Agent on page 53 for information.

   For example, if the Primary Rule option is Longest Wait Time, and the Secondary Rule option is Priority, the agent is routed the highest priority call that has been waiting the longest.
6. Click **Save**.

Overriding Agent Queue Profile Parameters

Agent queues allow ACD calls to be queued to a specific agent. Agent queues profiles define common attributes that can be used across multiple agent queues and are configured in **Routing** > **Agent Queue Profiles**. The profile parameters defined in this entity are automatically applied to every agent assigned to the profile. However, you can override some of these parameters for a specific agent using the **Agents** > **Agents** > **Agent Queue Overrides** tab.

Note

This tab is enabled only if the selected agent is associated with an agent queue profile.

Complete the following steps to override agent queue profile parameters:

1. From Connect Contact Center Director, click **Agents** > **Agents**.
2. In the List View panel, select the agent whose profile parameters you want to override, and then click the **Agent Queue Overrides** tab.
3. If you want to override the IRN callback ID, select **Change Caller ID** and enter the new **Caller ID** for the agent.
4. To override the No Agent destination for the agent, select **Change No Agent Destination**. Next, from the **Destination Type** drop-down menu, choose the new No Agent destination for the agent.
5. Specify the details of the destination using the following options:
   - **(System Default)** — This is the default incomplete destination setting defined in **System Parameters** > **Routing Preferences** > **Incomplete Destinations**. Refer to Determining the Incomplete Destination on page 172 for more information.
   - **IRN** — If the No Agent destination is an IRN, choose the **IRN** from the drop-down menu. The IRNs in the menu have been previously defined. Refer to Identifying IRNs on page 97 for more information.
   - **Device** — If the No Agent destination is a device, enter the device number in this field.
   - **Script** — If the No Agent destination is a script, choose the script from the drop-down menu. The scripts in the menu have been previously defined, as explained in Chapter 12, Using Call Control Scripts.
   - **Agent Queue** — If the No Agent destination is another agent queue, choose the agent whose queue is to be used from the drop-down menu. The agents in the menu have been previously defined, as explained in Creating Agent Accounts on page 46.
6. Click **Save**.

Overriding Email Agent Queue Profile Parameters

Email agent queues allow email calls to be queued to a specific agent. Email agent queues profiles define common attributes that can be used across multiple agent queues and are configured in **Email** > **Email Agent Queue Profiles**. The parameters defined in this entity for a profile are automatically applied to every agent assigned to the profile. However, you can override some of these parameters for a specific agent using the **Agents** > **Agents** > **Email Agent Queue Overrides** tab.

Note

This tab is enabled only if the selected agent is associated with an email agent queue profile.

Complete the following steps to override email agent queue profile parameters:

1. From Connect Contact Center Director, click **Agents** > **Agents**.
2. In the List View panel, select the agent whose profile parameters you want to override, and then click the **Email Agent Queue Overrides** tab.
3. To override the No Agent destination for the agent, select **Change No Agent Destination**.
4. If you have chosen to override the no agent destination and want emails to continue to queue in the email agent queue while the agent is not logged in, select **Email queues up in Agent Queue**.
5. In **Destination Type**, choose the new No Agent destination for the agent:
   - **(System Default)** — This is the default incomplete destination setting defined in **System Parameters** > **Routing Preferences** > **Incomplete Destinations**. Refer to Determining the Incomplete Destination on page 172 for more information.
   - **IRN** — If the No Agent destination is an IRN, choose the **IRN** from the drop-down menu. The IRNs in the menu have been previously defined. Refer to Identifying IRNs on page 97 for more information.
   - **Device** — If the No Agent destination is a device, enter the device number in this field.
   - **Script** — If the No Agent destination is a script, choose the script from the drop-down menu. The scripts in the menu have been previously defined, as explained in Chapter 12, Using Call Control Scripts.
   - **Email Agent Queue** — If the No Agent destination is another email agent queue, choose the agent whose email agent queue is to be used from the drop-down menu. The agents in the menu have been previously defined, as explained in Creating Agent Accounts on page 46.
6. Click **Save**.

Assigning Primary Groups to an Agent

After a new agent has been added to the system, you can assign existing groups to the agent as their primary groups. A maximum of 64 primary groups can be assign to each agent.

Note

Adding or removing a group from an agent record while the agent has an active call will prevent the agent from answering incoming ACD interactions (voice/chat/email). Queued ACD interactions will not be presented to the agent until the active call is disconnected from the system.

Using Interaction Center, agents can log into their primary groups. Agents can also log into other groups if the **Agents** > **Class of Service** > **Initiate Specific Login/Logout** option is selected, as described in Creating an Agent Class of Service on page 55.

Complete the following steps to assign groups to an agent:

1. From the Connect Contact Center Director, click **Agents** > **Agents**.
2. In the List View panel, select the agent you want to assign a group, and then click the **Groups** tab.

   The **Selected** list displays all the groups currently assigned to the agent. In addition, if the agent is assigned to an agent queue profile, **Agent Queue** is listed here.
3. To add a group to the agent's assignment, select the group in the **Available** list, and then click ›. To add all groups to the agent's assignment, click ».

   The groups in the **Available** list have been previously defined. Refer to Creating Agent Groups on page 73 for information about creating agent groups.
4. To remove a group from the agent's assignment, select the group in the **Selected** list, and then click ‹. To remove all groups from the agent's assignment, click «.

Note

You cannot unassign an agent queue or an email agent queue from the **Selected** list using this feature. To unassign an agent queue or an email agent queue, navigate to the **Agents** > **Agents** > **General** > **Agent Queue Profile** or **Email Agent Queue Profile** drop-down menu and choose **Not Defined**. If the agent queue is used as a routing destination by a service, IRN, or call control script, it cannot be unassigned from the agent until it is no longer used as a destination. If you attempt to unassign an agent queue that is used as a routing destination, the application displays a warning in red font that states where the agent queue is used and what action it is used for.

5. Once the list of groups for the agent is correct in the **Selected** list, reorder the groups by using the ^ and v to reflect the order that you want calls to be routed to the agent through the groups.
6. Click **Save**.

Assigning a Set of Skills to an Agent

You can assign a set of skills to an agent to further refine how calls are routed. The system determines call routing based first on call priority and then on agent skill. If more than one agent is available to receive a call, the system routes the call based on the best skill fit.

For example, if you have specified that the agent selects calls by **Best Skill Fit**, which is an option on the **Agents** > **Agents** > **Queue Handling** tab, the system tries to match the skill of this agent with the specific requirements of a queued call.

An agent skill is measured by two factors: ability and preference. Ability is an agent's capacity to answer calls that require a particular skill. Preference is the priority to have an agent answer a call for a particular skill. The system uses both these numbers to create the agent's skill score, which is calculated as ability * preference/100.

Call routing is determined by subtracting the skill value of the call from the agent's skill score. If the outcome is negative, it is considered zero. The lower the number, the better the match.

For example, a call requires a skill with a score of 75. Agent A has a skill value of 50 for ability and 100 for preference. Agent B has a skill value of 75 for ability and 75 for preference. The system calculates skill based call routing as

Agent A = 75 – (50*100/100) = 25

Agent B = 75 – (75*75/100) = 18.75

and routes the call to Agent B.

Zero Skills Routing

If an incoming call has a required skill, and no agents in the queue have a **Best Skill Fit** score that matches the requirement, the call will be queued until an agent with an acceptable **Best Skill Fit** score is available, or the call will be routed to another specified destination.

Note

Changing an agent's skills will not affect calls that are in queue. For example, if there is a call in queue that requires an agent with Spanish-speaking skills, and there is no agent available with those skills, adding Spanish to an active agent's skills to accommodate the need will not route the call to that agent. The call will remain in queue.

Complete the following steps to assign agent skills:

1. From Connect Contact Center Director, click **Agents** > **Agents.**
2. In the List View panel select the agent to whom you want to assign a skill, and then click the **Skills** tab.
3. To assign a skill to the agent, select the skill in the **Available** list, and then click ›. To assign all skills to the agent, click ».

   By default, the agent is automatically assigned an ability and preference value of 50 for the skill, with a score of 25.

The skills in the **Available** list have been previously defined. Refer to Identifying Agent Skills on page 175 for information.

4. To change the skill level of the agent, select the skill in the **Selected** list. In the **Ability** and **Preference** fields, enter the correct value, with 100 being the highest value.

5. To unassign a skill from the agent, select the skill in the **Selected** list, and then click <. To unassign all skills from the agent, click <<.

6. Click **Save**.

Modifying an Agent Account

Complete the following steps to modify an agent account:

1. From Connect Contact Center Director, click **Agents** > **Agents**.

2. In the List View panel select the agent account you want to modify, and then click the **General** tab.

3. Modify the agent account as described in Creating Agent Accounts on page 46.

4. To update how the system routes a queued contact to the agent when they become available, click the **Queue Handling** tab and modify the options, as explained in Defining Queue Handling on page 49.

5. If you want to modify the parameters of the agent queue profile or email agent queue profile, click the **Agent Queue Overrides** tab or the **Email Agent Queue Overrides** tab and make the appropriate changes to the options. Refer to Overriding Agent Queue Profile Parameters on page 50 or Overriding Email Agent Queue Profile Parameters on page 51 for information.

6. To change the agent's group assignments, click the **Groups** tab and specify the correct groups in the **Available** list. Refer to Assigning Primary Groups to an Agent on page 52 for details

7. To change the agent's skill set, click the **Skills** tab. Edit or remove a skill, as explained in Assigning a Set of Skills to an Agent on page 53.

8. Click **Save**.

Deleting an Agent Account

You can delete an agent account from the system. However, if the agent's personal agent queue or email agent queue is used as a routing destination by a service, IRN, or call control script, the agent cannot be deleted until removed from that agent queue profile or email agent queue profile or until the profile is no longer a destination. If you attempt to delete an agent account in this scenario, Connect Contact Center displays information about what destination the agent queue or email agent queue is used for.

Complete the following steps to delete an agent:

1. From Connect Contact Center Director, click **Agents** > **Agents**.

2. In the List View panel select the agent account you want to delete, and click **Delete**.

Defining a Class of Service

A class of service (COS) is a configurable set of agent capabilities and configuration settings for Interaction Center.

Complete the following procedures to define a COS:

1. Creating an Agent Class of Service.

You can also Modifying a Supervisor Class of Service and Deleting a Supervisor Class of Service from the system.

Agents whose skills are frequently required can also be assigned to a group, such as a group of agents who are fluent in Spanish. Adding an Agent Group on page 74 provides details about developing skill-based groups.

Creating an Agent Class of Service

Complete the following steps to create a new agent class of service:

1. From Connect Contact Center Director, click **Agents** > **Class of Service** > **New**.

   If you have an existing COS with parameters similar to what you want, you can quickly create a new COS by selecting it and clicking **Copy**. Then make the necessary changes to the COS details, as explained here.

2. In the **General** tab, specify a **COS Name**.

3. In the Functions in Web Client area, select the Interaction Center window features you want to include in the COS. These options define how the Interaction Center appears and functions for the agent:

   - **ACD Call Pickup from Queues** — Lets the agent choose a call to answer in the **Interaction Center**, rather than having calls be automatically routed. This function is available only for the **Agent Elite** package.
   - **Specific Login/Logout** — Allows the agent, using the Interaction Center, to log in or out of a particular group. By default, when an agent logs into groups in the Interaction Center, the agent is automatically logged into all groups of which they are a member.
   - **Automatic Login to Queue** — Allows the agent to automatically log into his or her queues when logging into the Interaction Center.
   - **Sound Notifications** — Alerts the agent to interactions with sound.
   - **Desktop Notification** — Selecting this option allows the agent to enable/disable the following desktop notifications. If this option is not selected, then the agents cannot enable or disable the following notification options:
     - **Incoming new voice call**
     - **Confirm outbound call**

- **Incoming new chat**
- **Incoming new email**
- **New chat message**
- **Warning messages**
- **Forced release**

Tip

- If the desktop notification is not working on Chrome browser, then you must update Chrome browser to the latest version/build.
- Use CleverPush https://cleverpush.com/en/test-notifications/ to confirm that the desktop notification is working.
- Other Windows/Chrome settings to be checked and reset are
  - Check the Windows/Chrome notification settings. To do so, for Windows, go to **Settings** > **Privacy&Security** > **Site Settings** > **Notifications** (**Under Permission**). For Chrome browser, go to **Settings** > **Content** > **Notifications.**
  - In the current configuration, check whether the AIC site is in the **Not Allowed** list or the **Allowed** list. If it is in the **Not Allowed** list, remove it from this list and add it to the **Allowed** list. If it is in the **Allowed** list, remove it from the list, add it back to the list and check the behavior.
  - If it is on, turn off Focus Assist on Windows. To do so, go to **System Tray** > **Notification panel**.
  - Reset the Chrome browser. To do so, go to **Settings** > **Advanced** > **Reset and clean up** > **Restore settings to their original defaults**. This will not delete history/bookmarks; but will reset the configuration to default and disable extensions.

Note

After you change any setting, you must close and re-launch Chrome each time to test whether the change is in effect.

- **Wrap-Up Code Selection** — Allows the agent to select a wrap-up code for the interaction. This function is available only for the **Agent Elite** and **Agent Premier** packages.
- **Allow Queue Monitor** — Allows the agent to monitor the queue(s) s/he is assigned to.
- **Help Request** — Allows the agent to request a supervisor's help with an interaction.
- **Key Performance Indicators (KPIs)** — Allows the agent to view the KPIs associated with the **KPI board** you select. Refer to Using KPI Boards on page 68 for information about defining KPI boards.

- **Custom Queue Monitor** — Allows the agent to define the queues s/he monitors.
- **Language** — Displays the languages you can configure the COS to use.

4. Select the appropriate options in the **Agent Queues** area to add personal agent queue features to the COS:
   - **Routing to Personal Agent Queue** — Allows the agent to move a call from a group queue to their personal agent queue using Interaction Center. Agents can also transfer a call from their agent queue directly to their extension as well as transfer an active call back to their agent queue.
   - **Automatic Log into Agent Queue** — Allows the agent to automatically log in or out of their agent queue by clicking the **Login Primary ACD Groups / Logout Primary ACD Groups** buttons in Interaction Center.
   - **Automatic Log into Email Agent Queue** — Allows the agent, using Interaction Center, to automatically log in or out of their email agent queue by clicking the **Login Primary ACD Groups / Logout Primary ACD Groups** buttons.
5. Select the appropriate **Multi Interactions** settings:
   - **Maximum number of total concurrent interactions allowed**
   - **Maximum number of concurrent email interactions allowed**
   - **Maximum number of concurrent chat interactions allowed**

Note

Maximum number of total concurrent interactions allowed must be set to a value greater than the combined totals in **Maximum number of concurrent email interactions allowed** and **Maximum number of concurrent chat interactions allowed**.

6. Click **Create**.

Note

Changing the values in **Multi Interactions** does not immediately impact calls in queue. For example, if there are calls in queue, changing the **Maximum number of total concurrent interactions allowed** does not immediately route calls to affected agents. Routing is triggered by agent activities such as release/resume, logging in, and logging out.

Modifying a Class of Service

Complete the following steps to modify a COS:

1. From Connect Contact Center Director, click **Agents** > **Class of Service.**
2. In the List View panel, select the COS you want to modify.

3. Use the **General** tab to edit the COS name and set of Interaction Center features if necessary. Refer to Creating an Agent Class of Service on page 55 for information about the options on this tab.
4. Click **Save**.

Deleting a Class of Service

Complete the following steps to delete a COS:

1. From Connect Contact Center Director, click **Agents** > **Class of Service.**
2. In the List View panel, select the COS you want to delete.
3. Click **Delete**.

Creating Supervisor Accounts

A supervisor in the application can be responsible for the management of one or more agent groups. The supervisor accounts define the permissions for meeting these responsibilities.

The process of creating supervisor accounts in Connect Contact Center includes the following steps:

1. Set prerequisite supervisor account parameters.
2. Add a new supervisor account.
3. Assigning Groups to a Supervisor.
4. Managing Supervisor Reports.

You can also Modifying a Supervisor Account and Deleting a Supervisor Account from the system.

Supervisor Capabilities

Supervisor permissions dictate what adds and changes supervisors can make in the contact center system.

Tip

Supervisors must log in to the Interaction Center before logging in to any other supervisor applications. Typical system configuration forces the supervisor to change their password upon initial login, and this procedure must be completed in the Interaction Center.

Setting Prerequisite Supervisor Account Parameters

Before creating supervisor accounts you can specify the following parameters:

- The agent name used by a supervisor to start Interaction Center and bypass the Interaction Center logon procedure. Refer to Creating Agent Accounts on page 46 for more information.
- Alerts a supervisor hears when a a real-time group report reaches or exceeds a threshold. Refer to Defining Supervisor Alerts on page 64 for information.
- Agent groups to assign to the supervisor. Refer to Creating Agent Groups on page 73 for details.

Once specified, these parameters automatically appear as options that you can choose, allowing you to more quickly create supervisor accounts.

Adding a Supervisor Account

Complete the following steps to add a supervisor account:

1. From Connect Contact Center Director, click **Supervisors** > **Accounts** > **New**.

   If you have an existing supervisor account with parameters similar to what you want, you can quickly create a new account by clicking **Copy**.

2. In the **General** tab, specify the following:

   - **Name**
   - **Username** — This is a username that matches the Client username defined in the user profile in Connect Director.
   - **Sup COS** — The Sup COS is a supervisor class of service that specifies supervisor capabilities. Refer to Creating a Supervisor Class of Service on page 62 for information about setting up this COS.

3. In **Agent Name**, choose an agent name for the supervisor.

Note

In order for supervisors to use the Interaction Center to monitor agents, the supervisor record must be assigned an agent name.

   The agent names in the menu have been previously defined. Refer to Creating Agent Accounts on page 46 for details.

4. In **Alert Type**, choose the audio alert the supervisor hears when a a real-time group report reaches or exceeds a threshold.

   The alerts in the menu have been previously defined. Refer to Defining Supervisor Alerts on page 64 for information.

5. In the **Supervisor Permissions** area, select the appropriate permissions for the supervisor:

   - **Supervisor Administrator** — Access and modify system entities.

- **Entity Administrator** — Access and modify all system entities except supervisor accounts.
- **Entity Monitor** — Access specified Connect Contact Center reports.

  Refer to Supervisor Capabilities on page 58 for more information about these permission options.

6. Select **View Real-Time Reports (Agent Manager)** or **View Historical Reports (Contact Center Reports)** to allow the supervisor to view and update real-time reports using Agent Manager. This field is available only if you have selected **Entity Monitor** in the Supervisor Permissions area.
7. Click **Create**.

Assigning Groups to a Supervisor

After a supervisor has been added to the system, you can assign agent groups for the supervisor to manage. An agent group can be managed by several supervisors.

You also assign groups to a supervisor to enable the running of reports on these entities.

The **Groups** tab is available if the selected supervisor has the Entity Monitor permission.

Complete the following steps to assign groups to a supervisor:

1. From Connect Contact Center Director, click **Supervisors** > **Accounts**.
2. In the List View panel, select the supervisor to whom you want to assign groups, and then click the **Groups** tab.
3. To add a group to the supervisor's assignment, select the item in the **Available** list, and then click ›. To add all items to the supervisor's assignment, click ».

   The groups in the **Available** list have been previously defined. Refer to Creating Agent Groups on page 73 for information.
4. To remove a group from the supervisor's assignment, select the item in the **Selected** list, and then click ‹. To remove all items from the supervisor's assignment, click «.
5. To enable the supervisor to view reports for a group, select the group in the **Selected** list, and then select the **Real-Time Reports and/or Historical Reports** check box.
6. Click **Save**.

Managing Supervisor Reports

You can view the list of real-time, historical, and scheduled reports that belong to a supervisor. This is useful if you need to manage the reports of a supervisor who is no longer part of your organization.

Complete the following steps to manage supervisor reports:

1. From Connect Contact Center Director, click **Supervisors** > **Accounts**.
2. In the List View panel select the supervisor whose list of reports you want to manage.

3. In the Details View panel, click either the **Real-Time Reports**, **Historical Report Templates**, or **Historical Reports Schedules** tab to display information about the selected supervisor's reports.
4. To reassign a report to another supervisor, select the report, choose a supervisor from the **User** drop-down menu, and then click **Save**.

Modifying a Supervisor Account

Complete the following steps to modify a supervisor account:

1. From Connect Contact Center Director, click **Supervisor** > **Accounts**.
2. In the List View panel, select the supervisor whose account you want to modify.
3. Make the appropriate changes to the account details by clicking the **General** tab and using the options described in Adding a Supervisor Account on page 59.

   Supervisors with Agent Accounts

   When updating the username for a supervisor record that has an associated agent record, you must unassign the agent from the supervisor before making the change.

   Complete the following steps to unassign the agent from the supervisor, change the agent username, and then change the supervisor name:

   a. Unassign the agent from the supervisor record:

      1. Navigate to **Supervisors** > **Records**.
      2. Select the supervisor for which you want to change the username.
      3. Select **Not Defined** in the **Agent Name** field.

   b. Change the agent username:

      1. Navigate to **Agents** > **Records**.
      2. Select the agent for which you want to change the username, and enter the **Agent username** exactly as defined for the user in Connect Director.
      3. This information is defined for the user on in Connect Director in the **Users** > **Users** > **General** page.
      4. Click **Save**.

   c. Change the supervisor username:

      1. Navigate to **Supervisors** > **Records**.
      2. Select the supervisor associated with the agent record you modified in step b.
      3. Change the **Username** to the same user name you specified for the agent record in step b.
      4. Click **Save**.

4. To change the groups assigned to the supervisor, use the **Groups** tab. For details, refer to Assigning Groups to a Supervisor on page 60.
5. Click **Save**.

Deleting a Supervisor Account

Complete the following steps to delete a supervisor account:

1. From Connect Contact Center Director, click **Supervisor** > **Accounts**.
2. In the List View panel, select the supervisor account that you want to delete and click **Delete**.

Setting Supervisor Preferences

For each supervisor in the system, you can set Connect Contact Center Director preferences such as the display language, the specific messages shown, and the pages listed in Favorites on the Navigation panel.

Complete the following steps to set supervisor preferences:

1. From Connect Contact Center Director, click **Supervisors** > **Preferences.**
2. In the List View panel, select the supervisor whose preferences you want to set.
3. In the Details View panel, use the options in the **Default Settings** tab:
   - **Language in Director** — The display language of Connect Contact Center Director.
   - **Always Warn About Unsupported Browser** — Displays a warning when Connect Contact Center Director is started in an unsupported browser.
   - **Always Confirm Deletion** — Displays a message requiring a confirmation whenever an item is deleted from the system.
   - **Available and Selected List of Pages** — Displays the pages in Connect Contact Center Director. To add a page to the supervisor's Favorites, select the page in the **Available** list, and then click  . To add all pages, click  .

     To remove a page from the supervisor's Favorites, select the page in the **Selected** list, and then click  . To remove all entities, click  .

     To change the order in which a page is listed in Favorites, select the page in the **Selected** list and then click either  or  to move the entity to the correct position in the list.
4. Click **Save**.

Creating a Supervisor Class of Service

Complete the following steps to create a supervisor class of service:

1. From Connect Contact Center Director, click **Supervisors** > **Class of Service** > **New**.

   If you have an existing COS with parameters similar to what you want, you can quickly create a new COS by selecting it and clicking **Copy**. You can modify the COS details as explained here.

2. In the **General** tab, specify a **COS Name**.

3. Configure the appropriate web client functions for the supervisor:

   - **Allow Queue Monitor** — Gives the supervisor access to monitoring queues.
   - **Allow Agent Monitor** — Gives the supervisor access to monitoring agents.

Note

Monitoring requires configuration in Connect Director as well as in Connect Contact Center Director. The Connect user record related to the supervisor record in Connect Contact Center must be configured to initiate monitoring, and the Connect user records related to agent records in Connect Contact Center must be configured to accept monitoring. These settings are available on the Telephony Features Permissions page in Connect Director. Refer to the *Connect Administration Guide* for more information.

   - **Key Performance Indicators (KPIs)** — Allows the agent to view the KPIs associated with the **KPI board** you select. Refer to Using KPI Boards on page 68 for information about defining KPI boards.
   - **Custom Queue Monitor** — Gives the supervisor access to summary statistics about active queues as specified by a call profile list. Refer to Creating a Call Profile List on page 71 for information about defining call profile lists.
   - **Max Agent Manager Reports** — Maximum number of Agent Manager reports the supervisor can have open simultaneously. The system max is defined by the administrator. The system max is 50.
   - **Agent Manager Refresh Rate** — The rate at which the Agent Manager reports that are open will refresh. This value is read-only and is calculated by the system based on the number of simultaneous Agent Manager reports specified in **Max Agent Manager Reports**:
     - < 5 Agent Manager Reports — One second (1s).
     - => 5 and <=12 Agent Manager Reports — Seven seconds (7s)
     - > 12 Agent Manager Reports — 10 seconds (10s)

4. Click **Create**.

Modifying a Supervisor Class of Service

Complete the following steps to modify a COS:

1. From Connect Contact Center Director, click **Supervisors** > **Class of Service.**

2. In the List View panel, select the COS you want to modify.

3. Use the **General** tab to edit the COS name supervisor functions if necessary. Refer to Creating a Supervisor Class of Service on page 62 for information about the options on this tab.
4. Click **Save**.

Deleting a Supervisor Class of Service

Complete the following steps to delete a COS:

1. From Connect Contact Center Director, click **Supervisors** > **Class of Service.**
2. In the List View panel, select the COS you want to delete.
3. Click **Delete**.

Defining Supervisor Alerts

When data in a supervisor's real-time group report reaches or exceeds a threshold, an audible alert can sound.

Audible alert levels are indicated in a group report by the red or yellow threshold. The red threshold indicates the value is in a high warning range; the yellow threshold indicates that the value is in a low warning range. Thresholds are set in the **Groupings** > **Groups** > **Thresholds** tab.

Two default files are used as the audible alerts: `warning.wav` and `alarm.wav`. These files are located on the supervisor's machine in `ShoreTel\Contact Center\Supervisor\Bin`. When the threshold level meets or exceeds the yellow level, the sound in the `warning.wav` file is used. The `alarm.wav` file sounds when the threshold level meets or exceeds the red level. Custom alerts can be used by recording or using an existing WAV file. These custom sounds must be saved in the `ShoreTel\Contact Center\Supervisor\Bin` directory, with the filenames `custom_warning.wav` and `custom_alarm.wav`, respectively.

Note

WAV files are in the following format: u-law, 8000Hz, 8 bit, and mono.

Refer to Examples of Using the Supervisor Alerts Options on page 66 for examples of selecting the appropriate alert options.

Complete the following steps to define audible alerts:

1. From Connect Contact Center Director, click **Supervisors** > **Alerts.**
2. Click **New**.

   If you have an existing alert with parameters similar to what you want, you can quickly create a new alert by selecting it and clicking **Copy**.
3. In the **General** tab, specify a **Name** for the alert.
4. In the **Red Settings** area, select the appropriate options for a red alert:

- **Alert on Change to Red State** — Select to turn on the red alert feature.
- **Source** — The alert can either be a system beep or sound from a WAV file.
- **Play** — The number of times the sound will play. The sound can play once, loop continuously, play once during an interval, or loop continuously during an interval.
- **Maximum Duration** — The maximum length of time, in seconds, an alert will sound. If the selected file is shorter than the maximum duration, and the Play option is **Loop**, the file will repeat up to the duration. If the file is longer, it will only play up to the duration.

  You can use this option to limit the playing of a long alert WAV file within a specific time duration. For example, if you want only the first 3 seconds of a 5-second audio file to be heard, specify a 3-second maximum duration.
- **Interval** — The length of time, in seconds, of the interval. This time must be equal to or greater than the **Maximum Duration** time.

  If the selected file is shorter than the interval, and the **Play** option is **Once with Interval**, at the start of each interval the sound will play once. If the file is shorter than the interval, and the **Play** option is **Loop with Interval**, the sound will play up to the interval and then start over.

  You can use the **Once with Interval** option to create a period of silence between the restart of the alert. If the interval is longer than the length of the audio file, the time difference will be the amount of silence before the next interval begins.

5. In the **Yellow Settings** area, select the appropriate options for a yellow alert:
   - **Alert on Change to Yellow State** — Select to turn on the yellow alert feature.
   - **Source** — The alert can either be a system beep or sound from a WAV file.
   - **Play** — The number of times the sound will play. The sound can play once, loop continuously, play once during an interval, or loop continuously during an interval.
   - **Maximum Duration** — The maximum length of time, in seconds, an alert will sound. If the selected file is shorter than the maximum duration, and the **Play** option is **Loop**, the file will repeat up to the duration. If the file is longer, it will only play up to the duration.

     You can use this option to limit the playing of a long alert WAV file within a specific time duration. For example, if you want only the first 3 seconds of a 5-second audio file to be heard, specify a 3-second maximum duration.
   - **Interval** — The length of time, in seconds, of the interval. This time must be equal to or greater than the **Maximum Duration** time.

     If the selected file is shorter than the interval, and the **Play** option is **Once with Interval**, at the start of each interval the sound will play once. If the file is shorter than the interval, and the **Play** option is **Loop with Interval**, the sound will play up to the interval and then start over.

     You can use the **Once with Interval** option to create a period of silence between the restart of the alert. If the interval is longer than the length of the audio file, the time difference will be the amount of silence before the next interval begins.
6. Click **Create**.

Examples of Using the Supervisor Alerts Options

Scenario	Wav File Size	Play Option	Maximum Duration Option	Interval Option
Play the entire audio file once.	2 seconds	Once	Greater than or equal to 2 seconds	n/a
Play just the 1st second of the audio file once.	2 seconds	Once	1 second	n/a
Play the entire audio file once for each interval, with 2 seconds of silence, before the start of the next interval.	2 seconds	Once with Interval	0 seconds	4 seconds
Play just the 1st second of the audio file once, for each interval, with 1 second of silence before the start of the next interval.	2 seconds	Once with Interval	1 second	Greater than or equal to 2 seconds
Play the entire audio file once, for each interval, with 4 seconds of silence before the start of the next interval.	2 seconds	Once with Interval	5 seconds	6 seconds
Repeatedly play the entire audio file (i.e. without stopping and without silence).	2 seconds	Loop	0 seconds	n/a
Repeatedly play just the 1st second of the audio file.	2 seconds	Loop	1 second	n/a
Repeatedly play the entire WAV file for the duration.	2 seconds	Loop	5 seconds	n/a
Repeatedly play the entire audio file (i.e. without stopping and without silence), before the start of the next interval.	2 seconds	Loop with Interval	0 second	1 second
Repeatedly play just the 1st second of the audio file, for each interval, with 1 second of silence, before the start of the next interval.	2 seconds	Loop with Interval	1 second	2 seconds
Repeatedly play the entire audio file for the duration, with 1 second of silence, before the start of the next interval.	2 seconds	Loop with Interval	5 seconds	6 seconds

Configuring Additional Agent and Supervisor Settings

After you configure agents and supervisors, you can configure the following additional settings to determine how system interactions work for the agent(s) and how supervisors can monitor agent activity:

- Web Pop Up — Use this feature to configure web pages to display in relation to particular interactions and states.
- KPI Boards — Use this feature to configure key performance information (KPIs) to display on the Interaction Center.

Using Web Pop Up

The web pop up feature allows you to configure the Interaction Center to launch a third-party web page based on the agents' log-in state or based on the combination of a Service, the state of an interaction, and optionally a call profile field such as Caller ID.

You can launch a web page based on the agent's log-in status. For example, you can configure a pop up profile to launch an intranet site to share product news when an agent logs in.

You also can use pop up profiles to provide a way for the agent to review/enter information pertaining to an interaction. For example, you can launch a Customer Relationship Management (CRM) web page specific to a customer based on the Caller ID. When an agent enters wrap-up, launching a CRM web page would allow the agent to enter pertinent information in the CRM application.

The web page launches according to the settings you have configured for your browser. For example, if you are using Internet Explorer and you have configured the browser to open new pages as tabs in the a browser window, the web page associated with the interaction trigger will open in a new tab.

Complete the following steps to configure a pop up profile:

1. From Connect Contact Center Director, click **Agents** > **Pop Up Profiles**.
2. Click **New**.
3. In the **General** tab, enter a **Name** for the pop-up profile.
4. Click the **Agents** tab, and in the **Available** list, select the agents to which the profile applies, and then click ›.
5. In the **Interaction Triggers** section, select one or more of the agent states that will trigger the pop up:
   - **log-in**
   - **log out**
   - **release**
6. In the **URL(s)** section, enter the URL(s) for the web sites you want to launch for each agent state that you selected.

7. Click the **Services** tab, and in the **Available** list, select the service to which the profile applies, and then click >.
8. In the **Interaction Triggers** section, select one or more of the interactions that will trigger the pop up:
   - **reserved**
   - **presented**
   - **accepted**
   - **wrap-up**
   - **ended**
9. In the **URL(s)** section, enter the URL(s) for the web sites you want to launch for each interaction trigger state that you selected.
10. In the Call Profiles list, select applicable call profiles, and then click the **Insert field name into target URL** button to the right of the URL specification to add the selected call profile field.

    For example, when you want to pass the customer name to a CRM application, select **Mandatory Field/Customer Name** in Call Profiles, and then click the **Insert field name into target URL** button to the right of the URL you specified for the CRM web page.

    Refer to the *Connect Contact Center Applications Interface Guide* for information about mandatory call profiles and setting up custom call profiles.

    You can specify up to four URLs for each interaction trigger. While the first URL is required, the other three are optional.

    Specifying optional URLs and call profile fields helps ensure that a web page launches even if data for an included call profile field is null. For example, if you specify the **Mandatory Field/Customer Name** call profile field in the mandatory URL, and the data passed to the web page does not contain the customer name, the system will attempt to launch the next URL/call profile field combination that is specified in the second URL field.

Tips

- Only one web page is launched. The first URL/call profile combination that contains call profile information that is not null is the web page that will launch. The system will ignore any other URL/call profile combinations that you specify.
- To simply display a web page without including call profile fields, specify the target URL in the first URL field.

Using KPI Boards

The KPI Boards feature allows you to configure the Interaction Center to include key performance information (KPI) about specific interactions. You can configure up to 12 different interaction metrics to include in the KPI Board.

You enable the KPI feature for agents by class of service (COS). If you have migrated to Connect Contact Center from a previous version of MCCC, you must modify existing agents' COS settings to enable the KPI board feature.

Complete the following steps to configure a KPI Board:

1. In Connect Contact Center Director, click **Agents** > **KPI Board**.
2. In the **Board Config** area, enter a **Name** for the board.
3. Complete the following steps to determine the label and data you want to display. You can display up to six different data points with unique labels:
   a. In the **KPI Config** area, enter a **KPI Name** and select the **Group** you want to configure the KPI Board for.

      The **KPI Name** is the label for the area in which the selected interaction metric displays on the KPI Board at the bottom of the Interaction Center page.

   b. In the **Available** list, select the interaction metric you want to display on the KPI Board, and then click >.
4. Repeat step 3 for each interaction metric you want to display on the KPI Board.
5. Click **Create**.

Using Call Profile Lists

Call profile lists allow you to configure the caller information that appears in the Interaction Center as well as the information that appears for supervisors when they want to monitor a queue in Interaction Center. You specify call profile information by service. For example, if you have a service set up for voice calls, you can configure a call profile list that displays information such as the caller name and the caller phone number for an incoming voice call.

The following is a list of mandatory fields in the call profile. The field names in the call profile are case-sensitive.

Table 1: Call Profile Mandatory Fields

TAPI Call Properties	Call Profile Name	Description
_STCC_ANI	`ANI`	Automatic Number Identification (ANI) transmits the customer's telephone number and delivers it to your call center's telephone system. **Note**: The format of the ANI call profile field includes a plus sign (+) before the ANI number. This facilitates external incoming calls (i.e. from outside your site).
_STCC_Agent Queue	`Agent Queue`	Indicates that the call is being handled by a personal agent queue.
_STCC_Group	`Group`	The internal group id related to the call

Table 1: Call Profile Mandatory Fields

TAPI Call Properties	Call Profile Name	Description
_STCC_Trunk	Trunk	PBX and call-type depended
_STCC_Call ID	Call ID	The ID of the call
_STCC_Caller Name	Caller Name	Indicates the name of the caller in the PBX.
_STCC_DNIS	DNIS	The DNIS of the call
_STCC_DNIS Name	DNIS Name	Indicates the name of the DNIS in the PBX.
_STCC_Type	Type	Call type (Voice, Chat, Email, Callback, Abandoned, Web Callback, Dial List)
_STCC_Media	Media	Call media (WEB, VOICE, EMAIL)
_STCC_Priority	Priority	Priority of the call
_STCC_Service	Service	Service that handles the call
_STCC_Customer Number	Customer Number	Identifier number of the customer (if internal, the Customers Table is used)
_STCC_Customer Name	Customer Name	Customer name (if internal the Customers Table is used)
_STCC_ACD Enter Date	ACD Enter Date	Date the call entered Contact Center
_STCC_ACD Enter Time	ACD Enter Time	Time the call entered Contact Center
_STCC_Queue Position	Queue Position	Call position in the queue
_STCC_Average Queue Time	Average Queue Time	Expected average wait time in the queue.
_STCC_Call Back Time	Call Back Time	Callback time set by caller (if empty, Abandoned Call)
_STCC_Call Back Date	Call Back Date	Indicates the date when the call back was made.
_STCC_Call Back Destination	Call Back Destination	Callback destination
_STCC_Language	Language	The language associated with the call (0=English, 1=Hebrew, 2=Russsian, 3=Arabic, 4=Mexican Spanish)
_STCC_Agent Extension	Agent Extension	The agent's telephone extension number
_STCC_Agent Number	Agent Number	Number used to identify the agent
_STCC_Dial List ID	Dial List ID	The ID of the dial list
_STCC_Start Queue Time	Start Queue Time	The time when a call enters the queue
_STCC_Execute Req	Execute Req	For any request to be executed
_STCC_Trunk Number	Trunk Number	The number of the trunk

Table 1: Call Profile Mandatory Fields

TAPI Call Properties	Call Profile Name	Description
_STCC_Email To	Email To	The text in the To field of the email
_STCC_Email CC	Email CC	The text in the CC field of the email
_STCC_Email Subject	Email Subject	The text in the Subject field of the email
_STCC_Email From	Email From	The text in the From field of the email
_STCC_Email Sent Date	Email Sent Date	The text in the Date Sent field of the email
_STCC_Email Sent Time	Email Sent Time	The text in the Time Sent field of the email
_STCC_Email Enter OMS Date	Email Enter OMS Date	The text in the OMS Date field of the email
_STCC_Email Enter OMS Time	Email Enter OMS Time	The text in the OMS Time field of the email
_STCC_Primary Call Back Destination	Primary Call Back Destination	The primary destination for the callback
_STCC_Alternative Call Back Destination 1	Alternative Call Back Destination 1	The first alternative destination for the callback
_STCC_Alternative Call Back Destination 2	Alternative Call Back Destination 2	The second alternative destination for the callback.
_STCC_Last Time To Initiate Callback	Last Time To Initiate Callback	The time when the last callback can be made
_STCC_Alternative Call ID	Alternative Call ID	The PBX TAPI call ID
_STCC_Outbound Caller ID	Outbound Caller ID	The caller ID of the outbound call
_STCC_SW Call GUID	SW Call GUID	The PBX call GUID

Creating a Call Profile List

Complete the following steps to configure a call profile list:

1. In Connect Contact Center Director, click **Agents** > **Call Profile Lists**.
2. Click **New**.
3. Enter a **Name** for the call profile list.
4. In the **Available** list in the Mandatory Call Profiles area, select the call profile fields you want to include in the call profile list, and then click >. Refer to Table 1 for a list of mandatory call profile fields.
5. In **Available** list in the Custom Call Profiles area, select the custom call profile fields you want to include in the call profile list, and then click >. Refer to Creating Call Profile User Fields on page 176 for information about creating custom call profile fields.

6. In **Available** list in the Skills area, select the skills you want to include in the call profile list, and then click >. Refer to Identifying Agent Skills on page 175 for information about defining agent skills.

7. Click **Create**.

Using Call Profile Lists to Configure Interaction Center

You can use call profile lists to configure customer information that is displayed in Interaction Center when agents are on interactions that fit the service parameters that the call profile list is associated with. You associate a call profile list with a Service when you add the service. Refer to Adding a New Service on page 81 for more information.

Table 2: Example Call Profile List Results in Interaction Center

Service Parameters	Call Profile List	Information Displayed in Interaction Center
■ Agent selection criteria - Longest Idle ■ Capabilities - chat enabled ■ Timers- forced release timeout is 20 seconds ■ Music source - Script	■ Customer Name ■ Customer Number ■ Call Type	When the following is true, the information listed in the Call Profile List column is displayed in the Interaction Center: ■ Agent meets the agent selection criteria specified in the service ■ Agent answers an interaction that matches the other criteria specified for the service ■ The service is associated with a call profile list that includes the call profile fields shown in the 2nd column

You also can use call profile lists to determine the information that is visible to supervisors in the Custom Queue Monitor. The Custom Queue Monitor appears when the supervisor clicks the **Queues** item in the left navigation panel of the Interaction Center.

For example, if a supervisor COS is set to use a call profile list that includes ACD Enter Date, ACD Enter Time, and Queue Position, this is the information that supervisors assigned to the COS will see when they view Queues in Interaction Center.

Refer to the *Interaction Center User Guide* for more information about using Interaction Center.

CHAPTER

4

Groups

Connect Contact Center supports the organization of agents into groups. Typically, all group members can provide the same service to callers. Calls in a group are presented to the most appropriate agent according to the routing policy.

An agent can be a member of multiple groups and can log in or out of one group at a time or all groups simultaneously.

Creating Agent Groups

The process of creating agent groups in Connect Contact Center includes the following steps:

1. *Specifying Prerequisite Group Parameters*.
2. *Adding an Agent Group*.
3. *Assigning Agents to a Group*.
4. *Changing Threshold Values for a Group*.
5. *Identifying the Staffing Requirements for a Group*.

You can also *Modifying an Agent Group*, and *Deleting an Agent Group*.

Specifying Prerequisite Group Parameters

Before creating a new agent group, specify the agents who will be assigned to the group. Refer to Creating Agent Accounts on page 46 for details.

Once specified, this parameter automatically appears as options that you can choose, allowing you to more quickly and easily create a new agent group.

Adding an Agent Group

Creating a new agent group involves specifying the group's name, media capabilities, and the statistics used to monitor the group's calls.

Tip

Group information is not presented on the phone display when an agent is receiving an incoming call. Group and queue information is displayed in the center pane of the Interaction Center when the agent answers the call.

Refer to the phone user guide for more information about the phone display. Refer to the *Interaction Center Guide* for more information about how group and queue information is displayed.

Complete the following steps to add a new agent group:

1. From Connect Contact Center Director, click **Groupings** > **Groups**.
2. Click **New**.

   If you have an existing group with parameters similar to what you want, you can quickly add a new group by clicking **Copy**.
3. In the **General** tab, specify the group name.
4. In the Capabilities area, identify the type of media the group can use:

   Each media type requires a license for use by the group. When an agent logs into a group in which a license is required, the number of available licenses is reduced by one. The total number of licenses purchased for each media type can be viewed from the **Connect Contact Center Director** > **Maintenance** > **License** > **License Keys** > **Current Licenses** tab. However the number of licenses for each media type currently in use is not shown.

   - **Chat** — The group is capable of handling chat calls. Each agent that logs in to this group may require a license for handling chat calls, depending on the package that applies to the agent.
   - **Dial Lists** — The group is capable of handling outbound dial list calls. Each agent that logs in to this group may require a license for handling outbound dial list calls, depending on the package that applies to the agent.
   - **Outbound** — The group is capable of handling outbound calls. Each agent that logs in to this group may require a license for handling outbound calls, depending on the package that applies to the agent.

5. In the **Statistics** area, change the time intervals that relate to the monitoring of calls in the Connect Contact Center system for the group:

   - **Target Average Speed of Answer (ASA)** — The amount of time, in seconds, that should elapse between the moment a call is received and answered. This parameter is used to calculate the Target Service Factor (TSF) for the group and is used in Connect Contact Center reports.
   - **Max ACD Talk Time** — The length of time, in seconds, that a call must exceed to be counted as a long call.
   - **Short Calls Threshold** — The length of time, in seconds, that a call must not exceed to be counted as a short call.
   - **Interval Time** — The length of time, in minutes, that the group is monitored for the purpose of reporting on real-time events.

     For example, if this option is 10 minutes, the real-time report for the group shows statistics for the last 10 minutes.

6. In the Service Time Intervals (STI) area, specify the time intervals, in seconds, for which call statistics are monitored for the purpose of reporting.

   For example, intervals can be 0 to 60 seconds, 61 to 122 seconds, 123 to 146 seconds, and so on. If the event is an abandoned call, then statistics are gathered for abandoned calls from 0 to 60 seconds, 61 to 122 seconds, 123 to 146 seconds, and so on.

7. Click **Create**.

Assigning Agents to a Group

Once a new group has been added to the system, you can assign agents to the group as a primary group.

Note

Adding or removing an agent from a group record while the agent has an active call will prevent the agent from answering incoming ACD interactions (voice/chat/email). Queued ACD interactions will not be presented to the agent until the active call is disconnected from the system.

Using Interaction Center, agents can log into their primary groups. Agents can also log into other groups if the **Agents > Class of Service > Initiate Specific Login/Logout** option is selected, as described in Creating an Agent Class of Service on page 55.

Complete the following steps to assign agents to a group:

1. From Connect Contact Center Director, click **Groupings** > **Groups**.
2. In the List View panel select the group to which you want to assign agents, and then click the **Agents** tab.
3. To add an agent to the group, select the agent in the **Available** list and then click ›. To add all agents to the group, click ».

The agents in the **Available** list have been previously defined, as explained in Creating Agent Accounts on page 46.

4. To remove an agent from the group, select the agent in the **Selected** list and then click  . To remove all agents from the group, click  .
5. Once the list of agents for the group is correct in the **Selected** list, reorder the agents by using the  and  to reflect the order, such as by ability, in which you want calls to be routed from the group to the agent.
6. Click **Save**.

Defining Group Chat Parameters

Complete the following steps to define chat parameters for groups:

1. From Connect Contact Center Director, click **Groupings** > **Groups** > **Chat**.
2. Use the **Inactivity Timer** to specify the maximum amount of time that can elapse without any response from either chat participant. If the timer expires, the chat will be terminated. If the **Inactivity Timer** is set to 0, there is no time limit on the chat interaction.
3. Use the **Response Threshold** to specify the maximum amount of time that can elapse without any agent response before the indicator on the agent's chat tab changes from green to red. If the **Response Threshold** is set to 0, there is no time limit on the chat interaction.
4. Use **Email Transcript Subject** to specify the subject for chat transcripts associated with the group.
5. Use **Append Call Profile** to include a call profile field.

Changing Threshold Values for a Group

Threshold values are assigned to some of the fields that are shown in real-time reports to alert you to changing conditions of a group. The system assigns a default value to a low and high warning level for these fields, which you can change.

Alerts are indicated in a group report by being highlighted with default background colors. The Yellow threshold indicates that the value is in a low warning range (slightly too high or too low); by default, fields that exceed this threshold are highlighted in yellow. The Red threshold indicates the value is in a high warning range, meaning the value is unacceptably high or unacceptably low; by default, fields that exceed this threshold are highlighted in red. You can change the default background color for these fields. Refer to Specifying Reporting Preferences on page 169 for more information.

Complete the following steps to change a group’s threshold values:

1. From Connect Contact Center Director, click **Groupings** > **Groups**.
2. In the List View panel, select the group whose threshold values you want to change, and then click the **Thresholds** tab.
3. For a report field, select the threshold number you want to change (Yellow or Red), and enter a new value.

4. Click **Save**.

Identifying the Staffing Requirements for a Group

You can identify the number of agents required by a group on a daily basis. Once these numbers are identified, they become the group's default staffing setting. A calendar is then generated for the group displaying the number of staff members required for each day of the week.

These parameters are also used for the group's staffing real-time and historical reports, which measure actual vs. required staffing.

Complete the following steps to identify staffing requirements for a group:

1. From Connect Contact Center Director, click **Groupings** > **Groups**.
2. In the List View panel, select the group whose staffing requirements you want to identify, and then click the **Staffing** tab.
3. Click **Use Staffing** to enable this feature.
4. In the **Staffing** area, specify the number of agents needed in the group for each day of the week.
5. You can change the staffing requirement for an individual day, such as a national holiday, by selecting the day on the calendar and then enter the number of agents in the **Number of Required Agents** field.

   Changes to the number of required agents take effect at midnight on the date the change is made.
6. Click **Save**.

Modifying an Agent Group

Complete the following steps to modify an agent group:

1. From Connect Contact Center Director, click **Groupings** > **Groups**.
2. In the List View panel, select the group you want to modify, and then click the **General** tab and make the appropriate changes.

   These options are described in Adding an Agent Group on page 74.
3. If you want to change the group's agent assignments, click the **Agents** tab and organize the correct agents in the **Selected** list. Refer to Assigning Agents to a Group on page 75 for details.
4. To change the report thresholds for the group, click the **Thresholds** tab. Edit the threshold levels, as explained in Defining Group Chat Parameters on page 76.
5. If you want to change the group's staffing requirements, click the **Staffing** tab and make the appropriate changes as described in Identifying the Staffing Requirements for a Group on page 77.
6. Click **Save**.

Deleting an Agent Group

Complete the following steps to delete an agent group:

1. From Connect Contact Center Director, click **Groupings** > **Groups**.
2. In the List View panel, select the group that you want to delete, and then click **Delete**.

CHAPTER

5

Routing Calls

Routing entities determine how calls are routed. You can generate reports on routing activities using Connect Contact Center Agent Manager (for real-time reports) and Connect Contact Center Reports (for historical reports).

Routing Entities

- **Services** — Defines how incoming calls are processed. Incoming calls are assigned to a specific service, with defined announcements, overflow and interflow settings, callback settings, and other business rules.
- **IRN (Intelligent Routing Node)** — Dial numbers used as entry points to the routing system. Each IRN is defined with rules for routing the incoming call to various destinations, including agent queues, services, call control scripts, and devices. IRNs are reached from the Mitel Connect system by dialing the extension number assigned to the route point that corresponds to the IRN.
- **Agent Queue Profiles** — Queues in which ACD calls are first sent to a specific agent before being routed to another destination.
- **Email Agent Queue Profiles** — Queues in which email calls are first sent to a specific agent before being routed to another destination.

Specifying Services

Services define how incoming calls to Connect Contact Center are processed. Services are analogous to a waiting room where calls are managed until they can be answered or otherwise handled. Every incoming call is assigned to a specific service, with defined announcements, overflow and interflow settings, callback settings, and other business rules.

The process of specifying a service in Connect Contact Center includes the following steps:

1. *Setting Prerequisite Service Parameters*.
2. *Adding a New Service*.
3. *Defining Service Announcements*.
4. *Changing a Service Destination*
5. *Specifying a Service Overflow Destination*.
6. *Determining a Service Interflow Destination*.
7. *Identifying a Destination for a Service with No Agents*.
8. *Selecting a Destination for Scheduled Callbacks*
9. *Choosing an Abandoned Callbacks Destination*.

You can also *Modifying Service Details and Properties*, and *Deleting a Service*.

Setting Prerequisite Service Parameters

Before specifying a service, you can set the following parameters:

- The music source that the system connects a call to while waiting in queue. The music source can be a call control script, a music stream, or silence. Refer to Chapter 12., Using Call Control Scripts and Configuring Music Streams on page 193 for more information.
- Call control scripts for service and callback announcements. Refer to Chapter 12., Using Call Control Scripts for more information.
- The call profile list you want to associate with services to determine what caller information appears in the Interaction Center during interactions categorized by the associated service. Refer to Using Call Profile Lists on page 69.
- The agent groups and agent queues used for routing, overflow, scheduled callback, and abandoned callback destinations. Refer to the following sections for more information:
  - Creating Agent Groups on page 73
  - Adding an Agent Queue Profile on page 105
- If you want to use shifts, the routing destinations to be used at different times of the day. Refer to Defining Shifts on page 168 for more information.

- Interflow destinations, which can be an IRN, another service, a device — be sure to have the device number available, a call control script, or an agent queue. Refer to the following sections for more information:
  - Identifying IRNs on page 97
  - Adding a New Service on page 81
  - Adding an Agent Queue Profile on page 105
- No Agents destinations, which can be an IRN, another service, a device — be sure to have the device number available, a call control script, or an agent queue. Refer to the following sections for more information:
  - Identifying IRNs on page 97
  - Adding a New Service on page 81
  - Adding an Agent Queue Profile on page 105

Once specified, these parameters automatically appear as options that you can choose, allowing you to more quickly and easily specify services.

Adding a New Service

Adding a new service involves specifying the service's name, agent selection strategy, and other properties.

Complete the following steps to add a new service:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. Click **New**.

   If you have an existing service with parameters similar to what you want, you can quickly add a new service by selecting it and clicking **Copy**.
3. In the **General** tab, specify a name for the service.
4. In the Selection Criteria area, define the method by which an available agent is selected for a call that enters the service. This method is used whenever a call enters the service, and there is more than one available agent to handle the call in the group associated with the service. If only one agent is available at that time, that agent will get the call. These options are
   - **Longest Idle** — The call is assigned to the agent who has been idle the longest.
   - **Terminal** — The call is assigned to the first available agent, in the order the agent is listed in the **Groupings** > **Groups** > **Agents** tab.

Note

Agents must be logged into the group associated with this service, as a primary group, to be assigned the call in the order listed in the **Groupings** > **Groups** > **Agents** tab. Agents logged into this group, but not as a primary group, receive the call only if all other agents in the list are not available.

Agents are assigned primary groups using the **Agents** > **Agents** > **Groups** tab or **Groupings** > **Groups** > **Agents** tab. Refer to Assigning Primary Groups to an Agent on page 52 and Assigning Agents to a Group on page 75 for details.

- **Circular** — The system searches the group's agent list, starting from the last agent to receive a call, for the next available agent. This method attempts to distribute calls equally between agents in the group.
- **Best Skill Fit** — The service looks for the agent whose skills best fit the requirements of the call. In a case where two agents with the same skill fit are found, the service uses one of the following methods to decide which agent receives the call
  - **Longest Idle** — The call is assigned to the agent, among all the agents with the same skill fit, who has been idle the longest.
  - **Terminal** — The call is assigned to the first available agent, among all the agents with the same skill fit, in the order the agent is listed in the **Groupings** > **Groups** > **Agents** tab.

Note

Agents must be logged into the group associated with this service, as a primary group, to be assigned the call in the order listed in the **Groupings** > **Groups** > **Agents** tab. Agents logged into this group, but not as a primary group, receive the call only if all other agents in the list are not available.

Agents are assigned primary groups using the **Agents** > **Agents** > **Groups** tab or **Groupings** > **Groups** > **Agents** tab. Refer to Assigning Primary Groups to an Agent on page 52 and Assigning Agents to a Group on page 75 for details.

- **Circular** — The system searches the group's agent list, among all the agents with the same skill fit, starting from the last agent to receive a call, for the next available agent. This method attempts to distribute calls equally between agents in the group.

Note

When **Best Skill Fit** is combined with **Circular**, calls are routed to agents starting with the agent who has the best skill fit. For example, if you have 10 agents active, and agent number 3 has the best skill fit, calls will be routed to this agent before any other agent, and then calls will be routed from this agent forward. If agent number 3 is not available, the call will route to agent 4 and beyond. This scenario may mean that agent 3 has the highest number of calls, and agents 1 and 2 do not get calls routed to them.

5. Set Capabilities options:
   - Select **Chat Enabled** to turn on chat for the service; otherwise only voice is available.

- Select **Chat Interrupts Voice Interaction** to allow incoming chat interactions to be routed to an agent who is already engaged in a voice interaction. When this option is not selected, chat interactions are not routed to agents who are already engaged in a voice interaction. This option is disabled by default.
- Select **Voice Interrupts Chat Interaction** to allow incoming voice interactions to be routed to an agent who is already engaged in a chat interaction. This option is selected by default. When this option is not selected, voice interactions are not routed to agents who are already engaged in a chat interaction.

6. From the Timers area, specify the amount of time, in seconds, an agent has in wrap-up mode and to answer a call before being forced into release mode.
   - **Wrap-Up Time** — The time that an agent has for post call activity after the completion of the call. Though the agent's extension is idle, Connect Contact Center does not route another call to the agent until after this time period has expired.
   - **Forced Release Timeout** — The time that an unanswered call can ring at an agent extension before being rerouted to another destination, such as back to queue or to another available agent, and the agent is forced into released mode.

     If this option is left undefined, the system uses the default time specified in **System Parameters** > **Routing Preferences** > **Service Settings**.
7. In the Music Source area, select how the system connects a call waiting in queue to a music source in **Music Source**. If no music source is specified, the system uses the default source specified in **System Parameters** > **Routing Preferences** > **Service Settings**.

Tip

Mitel highly recommends that a music source always be selected.

   If the music source is a script, the call is connected to an IVR port and performs the actions indicated in the specified script. Typically, the script has a play action pointing to the music WAV file. Choose the specific script from the **Script** field. The scripts available in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.

   For a music source that is a music stream, the call is connected to streaming music. From the **Music Stream** field, choose the stream to be played from the drop-down menu. The available music streams in the menu have been previously defined. Refer to Configuring Music Streams on page 193 for details.

   If the music source is silence, the caller hears nothing.
8. Click **Create**.

Agent Selection with Multi-Interaction

Beginning with MCCC 9, when agents are configured to handle multiple interactions simultaneously, agent selection is determined by calculating utilization percentage (UP).

UP calculations compare the number of interactions an agent is on versus the maximum number of interactions the agent is configured to handle.

Agent selection strategy for email

When **Email interrupts Voice Interaction** is not selected, Connect Contact Center selects among all agents who are logged in to a group and who are not on a voice interaction, and then calculates the least busy agent using UP (email) with tie breaker UP (total). If required, Connect Contact Center also applies the second tie breaker as defined in **Routing** > **Services** > **General**.

When **Email interrupts Voice Interaction** is selected, Connect Contact Center selects among all agents who are logged in to this group, and then calculates the least busy agent using UP (email) with tie breaker UP (total). If required, Connect Contact Center also applies the second tie breaker as defined in **Routing** > **Services** > **General**.

Agent selection strategy for chat

When **Chat interrupts Voice Interaction** is not selected, Connect Contact Center selects among all agents who are logged in to this group and who are not on a voice interaction, and then calculates the least busy agent using UP (chat) with tie breaker UP (total). If required, Connect Contact Center also applies the second tie breaker as defined in **Routing** > **Services** > **General**.

When **Chat interrupts Voice Interaction** is selected, Connect Contact Center selects among all agents who are logged in to this group, and then calculates the least busy agent using UP (chat) with tie breaker UP (total). If required, Connect Contact Center also applies the second tie breaker as defined in **Routing** > **Services** > **General**.

Defining Service Announcements

You can define the announcements the caller hears while waiting in the service queue.

Complete the following steps to define a service announcement:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel, select the service for which you want to define a service announcement.
3. In the Details View panel, click the **Announcements** tab.
4. Use the Mandatory Announcement area to define the mandatory announcement for the service.
   - **Enabled** — Select to turn on the mandatory announcement. All callers entering the service hear the mandatory announcement, regardless of the availability of agents. An example of a mandatory announcement is “This call may be recorded for quality and training purposes,” which is heard by every caller.
   - **Script** — The script to be played. The scripts available in the drop-down menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.
   - **Time After Mandatory** — The length of time, in seconds, that the caller hears music before the next announcement.
5. If you want an announcement that is heard only once when the caller first enters the service queue, use the options in the First Announcement area.
   - **Enabled** — Select to turn on the first announcement.

- **Script** — The script to be played. The scripts available in the drop-down menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.
- **Time After First** — The length of time, in seconds, that the caller hears music before the next announcement.

6. Use the Secondary Announcement Settings area to specify which secondary announcements play and how often.
   - **Cycle All** — All secondary announcements are played repeatedly.
   - **Cycle Last** — The last secondary announcement is played repeatedly.
   - **No Cycle** — Each secondary announcement is played only once.
7. The Secondary Announcements area allows you to select the secondary announcements to be played.
   - **Enabled** — Select to turn on or off the selected secondary announcement in the list.
   - **Script** — Use to change the script to be played for the selected secondary announcement in the list. The scripts available in the drop-down menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.
   - **Time** — Enter a different length of time, in seconds, that the caller hears music before the next announcement, for the selected secondary announcement in the list.
   - **List of Secondary Announcements** — The secondary announcements that exist in the system. You can modify the properties of a secondary announcement by selecting it in the list and changing the **Enabled**, **Script**, and **Time** options.

     To define a secondary announcement, click **Add**. You can define up to 20 secondary announcements.

     To delete a secondary announcement, select it in the list and then click **Remove**.

     Once the list of secondary announcements is correct, place the announcements in the order that you want the them to be played, by selecting an announcement and using the and  to move it to the correct position in the list.
8. Click **Save**.

Changing a Service Destination

Agent groups and agent queues can be associated with a service as it's routing destination. You can also specify shift destinations, which are routing destinations used at different times of the day.

Complete the following steps to change a service destination:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service whose destination you want to change.
3. In the Details View panel, click the **Destination** tab.

4. Use **Type** to choose whether the destination is an agent group or an agent queue. This is the default destination of the service if a shift destination is not defined.

   Choose the **Group**. The groups in the list have been previously defined. Refer to Creating Agent Groups on page 73 for more information.

   If the destination is an agent queue, select the agent whose queue is the destination in **Agent Queue**. The agents in the list have been previously associated with an agent queue. Refer to Adding an Agent Queue Profile on page 105 for information.

5. If you want to add a shift destination to the service, use the options in the **Shift** area.

   - **Destination** — Use to change the type of destination for the selected shift in the Selected list.
   - **Group** — Use to change the agent group destination for the selected shift. The groups in the list have been previously defined. Refer to Creating Agent Groups on page 73 for more information.
   - **Agent Queue** — Enter a different agent whose queue is the destination for the selected shift. The agents in the list have been previously associated with an agent queue. Refer to Adding an Agent Queue Profile on page 105 for information.
   - **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the service, select the shift in the **Available** list, and then click ›. To add all shifts to the service, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

     To remove a shift from the service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

     You can modify the properties of a shift by selecting it in the **Selected** list and changing the **Destination** and **Group** or **Agent Queue** options.

6. Click **Save**.

Specifying a Service Overflow Destination

Overflow improves the way calls waiting in a service's group are handled, by sending these calls to another group or to an agent queue. This expands the number of agents who can answer waiting calls. Overflow is activated after the overflow timeout interval has been reached.

In addition to incoming calls, overflow can also be applied to outbound calls. You can also define separate overflow destinations for different timeout intervals and work shifts.

Complete the following steps to specify a service overflow destination:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service whose overflow destination you want to specify.
3. In the Details View panel, click the **Overflow** tab.
4. To also apply overflow to outbound calls, click **Outbound Call Overflows**.

5. If you want the service overflow destination to be an agent group, use the options in the Overflow Groups area.

   - **Timeout** — Use to change the timeout interval of the selected group in Selected list. The timeout interval is the number of seconds a call is in queue, after the mandatory announcement. Once reached, the call is overflowed into another group.

   - **Available** and **Selected** List of Overflow Groups — Displays the agent groups that exist in the system. To add an agent group to the service as an overflow destination, select the group in the **Available** list, and then click ›. To add all groups as an overflow destination, click ». The available groups have been previously defined. Refer to Creating Agent Groups on page 73 for details.

     To remove a group as an overflow destination, select the group in the **Selected** list, and then click ‹. To remove all groups as an overflow destination, click «.

     You can modify the overflow timeout properties of a group by selecting it in the **Selected** list and changing the **Timeout** option.

6. Use the options in the Overflow Agent Queues area if you want to specify an agent queue as the service overflow destination.

   - **Timeout** — Use to change the timeout interval of the selected agent's queue in the **Selected** list. The timeout interval is the number of seconds a call is in queue, after the mandatory announcement. Once reached, the call is overflowed into another agent queue.

   - **Available** and **Selected** List of Overflow Agent Queues — Displays the agents in the system with personal agent queues. Add and remove agents from the **Selected** list to specify the agent whose queue you want to be the service overflow destination. The available agents have been previously defined. Refer to Adding an Agent Queue Profile on page 105 for details.

     You can modify the overflow timeout properties of an agent queue by selecting it in the **Selected** list and changing the **Timeout** option.

7. To add an agent group as an overflow destination for a shift, use the options in the Overflow Shift Groups area.

   - **Shift** — Use to select a shift. The shifts in the drop-down menu have been previously defined. Refer to Defining Shifts on page 168 for more information.

   - **Group** — Use to change the agent group for the selected shift. The groups in the drop-down have been previously defined. Refer to Creating Agent Groups on page 73 for more information.

   - **Timeout** — Enter a different timeout interval for the selected shift in Selected list. The timeout interval is the number of seconds a call is in queue, after the mandatory announcement. Once reached, the call is overflowed into another group.

   - **List of Shifts** — The shifts that exist in the system. To define an overflow group destination for a shift, click **Add**. To delete a shift, select it in the list and then click **Remove**.

     You can modify the properties of a shift by selecting it in the list and changing the **Shift**, **Group**, and **Timeout** options.

8. To add an agent queue as an overflow destination for a shift, use the options in the **Overflow Shift Agent Queues** area.

   - **Shift** — Use to select a shift. The shifts in the drop-down menu have been previously defined. Refer to Defining Shifts on page 168 for information.
   - **Agent** — Use to change the agent whose personal agent queue is the overflow destination for the selected shift. The agents in the drop-down have been previously associated with an agent queue. Refer to Adding an Agent Queue Profile on page 105 for more information.
   - **Timeout** — Enter a different timeout interval for the selected shift in Selected list. The timeout interval is the number of seconds a call is in queue, after the mandatory announcement. Once reached, the call is overflowed into another agent queue.
   - **List of Shifts** — The shifts that exist in the system. Add and remove shifts to specify the shifts to which you want to add an agent queue as an overflow destination. The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

     You can modify the properties of a shift by selecting it in the list and changing the **Shift**, **Agent**, and **Timeout** options.

9. Click **Save**.

Determining a Service Interflow Destination

Interflow transfers calls that are waiting for a service and are not handled within a specific amount of time. Separate interflow destinations can also be defined for different shifts.

Once a call has been interflowed, it is no longer part of the ACD. If the interflow destination is an IRN or service, the call reenters the system as a new ACD call.

Complete the following steps to determine a service interflow destination:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service whose interflow destination you want to determine.
3. In the Details View panel, click the **Interflow** tab.
4. If you want calls to be automatically sent to the interflow destination based on the estimated wait time, rather than waiting in the service until the timeout interval has been reached, select the Predictive Interflow option.

   By default, the estimated wait time is 10 seconds. This default time can be changed using the **Announce Wait Time** action. Refer to Announce Wait Time on page 240 for more information.
5. Use the **Default Destination** area to choose the interflow destination for the service.

   - **Default Destination** — From the drop-down menu, choose the interflow destination.
   - **IRN** — If the default destination is an IRN, choose the IRN from the drop-down menu. The IRNs in the menu have been previously defined as explained in Complete the following steps to create an IRN: on page 98.

- **Service** — Use to specify the service destination from the drop-down menu. The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for information.
- **Device** — If the default destination is a device, enter the device number.
- **Script** — Use to specify the script destination from the drop-down menu. The scripts in the menu have been previously defined; see Chapter 12., Using Call Control Scripts for details.
- **Agent Queue** — If the default destination is an agent queue, choose the agent whose queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue, as explained in Adding an Agent Queue Profile on page 105.
- **Timeout** — The number of seconds that calls wait in a service before being interflowed. The maximum number of seconds that you can enter in this field is 9,999. If you require more time, contact your Mitel representative.

6. To add an interflow destination to a shift, use the options in the Shifts area.
   - **Destination** — Use to change the type of destination for the selected shift in the Selected list.
   - **IRN** — If the shift destination is an IRN, use the drop-down menu to choose the IRN. The IRNs in the menu have been previously defined. Refer to Complete the following steps to create an IRN: on page 98 for more information.
   - **Service** — Use to specify the service interflow destination for the shift from the drop-down menu. The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for information.
   - **Device** — If the shift destination is a device, enter the device number.
   - **Script** — Use to specify the shift script destination from the drop-down menu. The scripts in the menu have been previously defined; see Chapter 12., Using Call Control Scripts for details.
   - **Agent Queue** — If the shift destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue. Refer to Adding an Agent Queue Profile on page 105 for more information.
   - **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the service, select the shift in the **Available** list, and then click ›. To add all shifts to the service, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

     To remove a shift from the service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

     You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.
7. For details on a shift, click **Explain Shift**. In the resulting calendar, select the day whose shifts you want information.

8. Click **Save**.

Identifying a Destination for a Service with No Agents

The No Agents destination routes calls in a service with no logged in agents to another destination. By default, this is the Incomplete destination. If the No Agents destination is an IRN, the system counts it as a new, incoming call.

You can also define separate No Agents destinations for different work shifts.

Complete the following steps to identify a No Agent destination:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service for which you want to identify a No Agent destination.
3. In the Details View panel, click the **No Agent Destination** tab.
4. If you want the calls that enter the service when there are no agents logged in, to first be routed to an overflow destination, click **Use Overflow Destination**.

   Call are routed to the first interval overflow destinations. If these destinations do not have any logged in agents, the calls are then sent to the service's No Agent destination.

   Note that this is a special handling scenario, and if agents are logged into the primary group while the call is queued into the overflow destination, the call is not presented to the primary group.
5. Use the options in the Default Destination area to change the No Agent destination for the service. By default, the No Agent destination is the **Incomplete** destination defined in **System Parameters** > **Routing Preferences** > **Incomplete Destinations**.
   - **Default Destination** — From the drop-down menu, choose the new **No Agent** destination.
   - **IRN** — If the default destination is an IRN, select the appropriate **IRN**. The IRNs in the menu have been previously defined as explained in Complete the following steps to create an IRN: on page 98.
   - **Device** — If the default destination is a device, enter the device number.
   - **Script** — Use to specify the script destination from the drop-down menu. The scripts in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for details.
   - **Agent Queue** — If the default destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue, as explained in Adding an Agent Queue Profile on page 105.
6. To add a No Agent destination to a shift, use the options in the **Shifts** area.
   - **Destination** — Use to change the type of destination for the selected shift in the **Selected** list. The **System Default** is the **Incomplete** destination defined in **System Parameters** > **Routing Preferences** > **Incomplete Destinations**.

- **IRN** — If the shift destination is an IRN, use the drop-down menu to choose the IRN. The IRNs in the menu have been previously defined as explained in Complete the following steps to create an IRN: on page 98.
- **Device** — If the shift destination is a device, enter the device number.
- **Script** — Use to specify the shift script destination from the drop-down menu. The scripts in the menu have been previously defined; see Chapter 12., Using Call Control Scripts for details.
- **Agent Queue** — If the shift destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue. Refer to Adding an Agent Queue Profile on page 105 for more information.
- **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the service, select the shift in the **Available** list, and then click ›. To add all shifts to the service, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

  To remove a shift from the service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

  You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.

7. For details on a shift, click **Explain Shift**. In the resulting calendar, select the day whose shifts you want information.
8. Click **Save**.

Selecting a Destination for Scheduled Callbacks

Callback is used to enhance the customer experience during peak loads, by allowing callers to choose to be called back rather than continue to wait. The waiting call needs to be routed to a call control script that contains the Collect Callback Information action. This action asks the caller to specify the callback parameters (generally the callback phone number and the desired time for the callback). The service then makes the callback and routes the call to the callback destination.

You can also select separate callback destinations for different work shifts.

By default, the service generates callbacks at any time. You can instead define limited time ranges when you want the service to make callbacks (say only during business hours).

Note

If a callback is in queue when the time range you specified ends, the callback will not be attempted until the following day at the time the callback request was made. If the callback should be made at the earliest opportunity the following day, use shift routing instead of time ranges.

For off hours, configure the callback to point to a group that has no agents. For on hours, configure the callback to point to the appropriate callback group with available agents.

Complete the following steps to select a destination for scheduled callbacks:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service for which you want to select a **Scheduled Callbacks** destination.
3. In the Details View panel, click the **Scheduled Callbacks** tab.
4. Choose how the system validates the customer's callback number from the **Numbering Plan** menu.
   - **None** — No validity check is done. Any number is accepted.
   - **North American** — The system ensures that the number has the format NPX-NXX-XXXX, where
     - N — must be a digit between 2 and 9.
     - P — must be a digit between 0 and 8.
     - X — may be any digit.

     If the number is not valid, the system asks the customer to enter it again.
5. In the **Attempt Callback** field, set the limit in hours between the time that the customer requested the callback and the time it is actually dialed.
6. If you want to play a script before transferring the callback to an agent, click **Run Script** before Transferring to Agent. In the associated **Script** field, choose the specific call control script to be used.

Tip

When you configure your system to transfer a callback call to an agent upon connection, Mitel suggests you configure any related scripts to include an announcement to let the caller know that the call has been placed as a result of a callback request and to announce that the caller is being connected to an agent.

The scripts available in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.

7. Click **Require Agent Confirmation** if you want agents to be able to choose whether to accept or reject a callback. The agent sees a popup window displaying the call's parameters and providing the option to accept the callback. Only if the agent accepts the callback is the call transferred to the agent.

   You can then change the amount of time, from the default 10 seconds, that the system waits for the agent to either accept or reject the callback, in the **Wait for Agent Confirmation** field. If no action is taken by the agent within this amount of time, the system considers the callback rejected and forces the agent into release mode.
8. Use the options in the Default Destination area to specify the **Scheduled Callbacks** destination for the service.

- **Destination** — From the drop-down menu, choose the Scheduled Callbacks destination.
- **Group** — If the default destination is an agent group, choose the group from the drop-down menu. The groups in the menu have been previously defined. Refer to Creating Agent Groups on page 73 for more information.
- **Agent Queue** — If the default destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with a queue, as explained in Adding an Agent Queue Profile on page 105.

9. To add a Scheduled Callbacks destination to a shift, use the options in the Shifts area.
   - **Destination** — Use to change the type of destination for the selected shift in the Selected list.
   - **Group** — If the shift destination is an agent group, use the drop-down menu to choose the group. The groups in the menu have been previously defined, as explained in Creating Agent Groups on page 73.
   - **Agent Queue** — If the shift destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with a queue, as explained in Adding an Agent Queue Profile on page 105.
   - **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the service, select the shift in the **Available** list, and then click ›. To add all shifts to the service, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

     To remove a shift from the service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

     You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.

10. If you want to specify a limited time range for scheduled callbacks, use the options in the Time Range area.
    - **Time Range Enabled** — Select to turn on the Time Range feature.
    - **Start Time** — Use to change the start time of the selected time range in the list.
    - **Stop Time** — Use to change the stop time of the selected time range in the list.
    - **List of Time Ranges** — Displays the previously defined time ranges. To add a time range to the service, click **Add**. Then adjust the start and stop times, using the appropriate fields, as necessary. You can add multiple time ranges.

      To remove a time range from the service, select the time range in the list and click **Remove**.

11. Click **Save**.

Choosing an Abandoned Callbacks Destination

An abandoned call is a call that was disconnected (i.e. the caller hung up) before being handled by an agent. The service can automatically generate a callback to the caller who abandoned the call, if the incoming DID number has been captured. The service then routes the call to the Abandoned Callbacks destination.

You can also select separate Abandoned Callbacks destinations for different work shifts.

By default, the service generates callbacks to abandoned calls at any time. You can instead define limited time ranges when you want the service to make callbacks (for example, only during business hours).

Complete the following steps to choose an abandoned callbacks destination:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service for which you want to choose an abandoned callbacks destination.
3. In the Details View panel, click the **Abandoned Callbacks** tab.
4. Select **Abandoned Callbacks Enabled**.
5. In the **Callback if Call Abandoned After** field, set the time, in seconds, that a call must be in the IRN before being considered abandoned.

   This parameter allows you to filter out calls that were abandoned after only a relatively short time. In many cases, a short time in the IRN indicates that the call was a wrong number and a callback is not required.
6. If you want to play a script before transferring the callback to an agent, click **Run Script before Transferring to Agent**. In the **Script** field, choose the specific call control script to be used.

Tip

When you configure your system to transfer a callback call to an agent upon connection, Mitel suggests you configure any related scripts to include an announcement to let the caller know that the call has been placed as a result of a callback request and to announce that the caller is being connected to an agent.

The scripts available in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.

7. Click **Require Agent Confirmation** if you want agents to be able to choose whether to accept or reject a callback. The agent sees a popup window displaying the call's parameters and providing the option to accept the callback. The call is transferred to the agent only if the agent accepts the callback.

   Use **Wait for Agent Confirmation** to change the amount of time that the system waits for the agent to either accept or reject the callback. The default is 10 seconds. If the agent does not accept or reject the callback within the amount of time specified here, the system considers the callback rejected and forces the agent into release mode.

8. Use the options in the Default Destination area to specify the Abandoned Callbacks destination for the service. The options are

   - Destination. From the drop-down menu, choose the Abandoned Callbacks destination.
   - Group. If the default destination is an agent group, choose the group from the drop-down menu. The groups in the menu have been previously defined, as explained in Creating Agent Groups on page 73.
   - Agent Queue. If the default destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with a queue, as explained in Adding an Agent Queue Profile on page 105.

9. To add an Abandoned Callbacks destination to a shift, use the options in the **Shifts** area. These options are

   - **Destination** — Use to change the type of destination for the selected shift in the Selected list.
   - **Group** — If the shift destination is an agent group, use the drop-down menu to choose the group. The groups in the menu have been previously defined as explained in Creating Agent Groups on page 73.
   - **Agent Queue** — If the shift destination is an agent queue, choose the agent whose personal agent queue is the destination. The agents in the menu have been previously associated with a queue, as explained in Adding an Agent Queue Profile on page 105.
   - **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the service, select the shift in the **Available** list, and then click ›. To add all shifts to the service, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

     To remove a shift from the service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

     You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.

10. If you want to specify a limited time range for abandoned callbacks, use the options in the Time Range area.

    - **Time Range Enabled** — Select to turn on the Time Range feature.
    - **Start Time** — Use to change the start time of the selected time range in the list.
    - **Stop Time** — Use to change the stop time of the selected time range in the list.
    - **List of Time Ranges** — Displays the previously defined time ranges. To add a time range to the service, click Add. Then adjust the start and stop time, using the appropriate fields, as necessary. You can add multiple time ranges.

      To remove a time range from the service, select the time range in the list and click **Remove**.

11. Click **Save**.

Modifying Service Details and Properties

You can modify an existing service's details and properties.

Complete the following steps to modify a service:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service you want to modify.
3. To edit the service's details, click the **General** tab and make the appropriate changes. Refer to Adding a New Service on page 81 for details.
4. To change the service's announcements, click the **Announcements** tab and define new announcements as detailed in Defining Service Announcements on page 84.
5. To select a different service routing destination, click the **Destination** tab and follow the directions detailed in Changing a Service Destination on page 85.
6. To change the service's overflow destination, click the **Overflow** tab and select the appropriate options as explained in Specifying a Service Overflow Destination on page 86.
7. To modify the service's interflow destination, click the **Interflow** tab and change the appropriate options.

   These options are described in Determining a Service Interflow Destination on page 88.
8. To select a different No Agent destination for the service, click the **No Agent Destination** tab and follow the directions detailed in Identifying a Destination for a Service with No Agents on page 90.
9. To change the service's scheduled callback destination, click the **Scheduled Callbacks** tab and define a new destination as detailed in Selecting a Destination for Scheduled Callbacks on page 91.
10. To select a different abandoned callback destination for the service, click the **Abandoned Callbacks** tab and make the appropriate changes. The tab options are explained in Choosing an Abandoned Callbacks Destination on page 94.
11. Click **Save**.

Deleting a Service

Complete the following steps to delete a service:

1. From Connect Contact Center Director, click **Routing** > **Services**.
2. In the List View panel select the service you want to delete, and then click **Delete**.

Identifying IRNs

Intelligent Routing Numbers (IRNs) are dial numbers used as entry points into the Connect Contact Center routing system. Each number can be used to define rules for routing incoming calls to various destinations, such as services, call control scripts, and devices. These rules can also update call profile fields, including the call's priority and the skills required by the call.

Each entry to an IRN has a corresponding entry as a route point in the Mitel Connect system. Route points can reside either on the Mitel DVS server or on the main server. The IRN is reached from the Mitel Connect system by dialing the extension number assigned to the route point, which is then sent to the corresponding IRN.

For each different way a call can enter the system, there is typically a unique IRN. For example, you would configure an IRN for every toll free number used by your customers to call into the call center.

If you want to gather statistics on an IRN, the IRN must also be defined as a DNIS.

The process of identifying IRNs in Connect Contact Center includes the following steps:

1. *Specifying Prerequisite IRN Parameters*
2. *Creating an IRN*.
3. *Setting Call Profile Field Values for an IRN*.
4. *Configuring DNIS*.
5. *Defining Agent Skills for an IRN*.
6. *Changing an IRN Destination*.

You can also modify an IRN's details and properties, and delete an IRN from the system.

Specifying Prerequisite IRN Parameters

Before creating IRNs, you can specify the following parameters:

- Call control scripts that fill the Customer Number field in the call profile, allowing calls to be routed from the IRN by using the contents of the Customer Number field. Refer to Chapter 12., Using Call Control Scripts for more information.
- The enabled languages that can be selected for an IRN's call profile, as described in Enabling a Language on page 194.
- (Optional) User call profile fields to collect information used to route calls from the IRN. Refer to Creating Call Profile User Fields on page 176 for more information.
- Agent skills required for handling calls that enter the IRN. Refer to Identifying Agent Skills on page 175 for more information.
- IRN destinations, which can be a service, device — have the device number available, a call control script, or an agent queue. Refer to the following sections for more information:

- Adding a New Email Account on page 118
- Chapter 12., Using Call Control Scripts
- Adding an Agent Queue Profile on page 105

- If you want to use shifts, the routing destinations to be used at different times of the day. Refer to Defining Shifts on page 168 for more information.
- If you plan to implement the Connect Contact Center redundant server system, the IRNs used for backup on the secondary server. Refer to Complete the following steps to create an IRN: on page 98 for more information.

Once specified, these parameters automatically appear as options that you can choose, allowing you to more quickly and easily create new IRNs.

Creating an IRN

Complete the following steps to create an IRN:

1. From Connect Contact Center Director, click **Routing** > **IRN**.
2. Click **New**.

   If you have an existing IRN with parameters similar to what you want, you can quickly add a new IRN by selecting it and clicking **Copy**.
3. In the **General** tab, in the IRN field specify the entry, such as a dial number, to the IRN used to route voice and chat contacts.

Note

The IRN must match a route point defined in Connect Director for all voice contacts.

4. If you want to route calls directly to the default destination, which is specified in the **Routing** > **IRN** > **Destination** tab, select **Route Directly to Default Destination**.

   Do not select this option if you want to define routing by domain or customer routing.
5. Use the options in the Domain Routing area if you want to route calls to the IRN destination based on domain routing rules.
   - **Route by ANI Domains** — The system tries to match the call's CID (Caller ID or ANI) to one of the ANI domains defined in the system. If a match is found, the system applies the domain's routing rules to the call if one of the following conditions is true:
     - Customer routing is disabled, meaning **Route by Caller ID** is not selected.
     - Customer routing is enabled, meaning **Route by Caller ID** is selected and the **Domain Routing Precedes Customer Routing** option is also selected.

- Customer routing is enabled, meaning **Route by Caller ID** is selected and the **Domain Routing Precedes Customer Routing** option is not selected, but the system has not found a customer match.

- **Domain Routing Precedes Customer Routing** — Domain routing is preferable to customer routing. If both **Domain Routing** and **Customer Routing** are selected, this option sets the precedence between the methods.

6. If you want calls routed to the IRN destination based on customer routing rules, use the options in the Customer Routing area.

   - **Route by Caller ID** — The system tries to match the call's CID (Caller ID or ANI) to one of the customers defined in the system. If a match is found, the system applies the customer's routing rules to the call if one of the following conditions is true

     - **Route by ANI Domains** — If this option is not selected, domain routing is disabled.

     - **Route by ANI Domains** — If only this option is selected, domain routing is enabled.

     - **Domain Routing Precedes Customer Routing** — If this option and the Route by ANI Domains option, are selected, domain routing is enabled but the system does not find a domain match.

   - **Use Script to Collect Customer ID** — Calls are routed from the selected IRN by using the contents of the **Customer Number** field in the call profile even if no ANI is available.

     In the associated **Script** field, choose the specific call control script. This script should fill the **Customer Number** call profile field. If the script definition does not include the **Customer Number**, the system routes the call according to the normal IRN routing rules. Otherwise, the system searches the customer list by the customer number. If the customer is found, the system uses the customer information to route the call. If the customer is not found, the call is routed by the IRN routing rules.

     The call control scripts in the menu have been previously created as explained in Chapter 12., Using Call Control Scripts.

7. If you want to specify a number that appears as the caller ID for callbacks that the system generates for this IRN, enter the number in **Caller ID for Callback Calls**.

   The IRN for the callback call is the IRN through which the call that requested the callback was entered. There is no validity check on this number.

8. If you want to configure a backup IRN for the secondary server used in the Connect Contact Center redundant server system, use the options in the Redundancy area.

   - **IRN on Secondary Server** — Select to turn on the IRN backup feature.

   - **Synchronize with Primary IRN** — Select to synchronize the IRN with the main server.

   - **Primary IRN** — From the drop-down menu, select the backup IRN for the secondary server.

     The IRNs in this menu have been previously defined, as explained in Complete the following steps to create an IRN: on page 98.

9. Click **Create**.

Setting Call Profile Field Values for an IRN

You can set the initial value of the call profile fields for calls that enter the IRN. A call profile is attached to each contact in the system and consists of dynamic information used to route the contact and provide relevant history. Information is updated as the contact moves through the system. For example, the automatic number identification (ANI) information is recorded when the call enters from the PSTN, and the caller can add more information through IVR menus.

Each field in the call profile is either mandatory, which means it is required by the Connect Contact Center system, or user-defined, which means it is an optional field used for further call processing. These fields can be different on each installation. You can define the initial values of the **Language** and **Priority** mandatory fields and all user fields.

Complete the following steps to set call profile field values for an IRN:

1. From Connect Contact Center Director, click **Routing** > **IRN**.
2. In the List View panel select the IRN for which you want to set call profile field values.
3. In the Details View panel, click the **Call Profile** tab.
4. Select the initial language of the **Language** call profile field.

   The languages in the menu have been previously enabled, as described in Enabling a Language on page 194.
5. Use the **Priority** field to specify the initial value of the Priority call profile field.

Note

Setting the priority at the IRN level overwrites the default priority.

6. Use the **Value** field to change the initial value of the selected call profile field in the **Selected** list.
7. To add a call profile field to the IRN, select the field in the **Available** list and then click ›. To add all fields to the IRN, click ». The available call profile fields have been previously defined. Refer to Creating Call Profile User Fields on page 176 for details.

   To remove a call profile field from the IRN, select the field in the **Selected** list, and then click ‹. To remove all fields from the IRN, click «.

   You can change the value of a call profile field by selecting it in the **Selected** list and changing the **Value** option.
8. Click **Save**.

Configuring DNIS

The DNIS is the same as the IRN Dial Number. For the purpose of gathering statistics on an IRN, the IRN should also be defined as a DNIS.

Complete the following steps to create a new DNIS:

1. From Connect Contact Center Director, click **Routing** > **IRN** > **DNIS**.
2. Click **New**.

   If you have an existing DNIS with parameters similar to what you want, you can quickly add a new DNIS by selecting it and clicking **Copy**. Then make the necessary changes to the DNIS details, as explained here.
3. Specify a unique **DNIS Name**.
4. In the **Target ASA** field, set the target Average Speed of Answer (ASA).

   This is the amount of time, in seconds, in which the call should be answered from the time it is received. This value is used to calculate the DNIS Target Service Factor (TSF).
5. To specify the amount of time, in seconds, in which a contact must end to be counted as too short in Connect Contact Center reports, use **Short Calls Threshold**.
6. Use the **Max ACD Talk Time** field to set the amount of time, in seconds, that a contact must exceed to be counted as too long in the Connect Contact Center reports.
7. In the **Interval Time** field, specify the time period, in minutes, that will be monitored for real-time reports for the DNIS.

   For example, if this field is set to ten minutes, the real-time report for the DNIS shows statistical information relevant to the last ten minutes.
8. In **Service Time Intervals (STI)**, set the time intervals in which calls are monitored.

   Statistics on the calls can be viewed in STI histogram reports that show the number of calls waiting for each given interval.
9. Click **Save**.

Defining Agent Skills for an IRN

For each IRN in the system, you can define the agent skills required for handling calls that enter the IRN. An agent skill is measured by two factors: capability and preference. The value assigned to a skill is a combination of these factors expressed as a percentage.

Complete the following steps to define agent skills for an IRN:

1. From Connect Contact Center Director, click **Routing** > **IRN**.
2. In the List View panel select the IRN for which you want to define agent skills.
3. In the Details View panel, click the **Skills** tab.
4. To add a skill to the IRN, select the skill in the Available list and then click  . To add all skills to the IRN, click  . The available skills have been previously defined. Refer to Identifying Agent Skills on page 175 for details.

To remove a skill from the IRN, select the skill in the Selected list, and then click <. To remove all skills from the IRN, click <<.

5. You can change the value of the skill by selecting it in the **Selected** list and changing the **Value** option.
6. Click **Save**.

Changing an IRN Destination

As part of creating a Connect Contact Center IRN, you specified the IRN's default destination. You can change this destination and specify shift destinations (routing destinations used at different times of the day).

Complete the following steps to change an IRN destination:

1. From Connect Contact Center Director, click **Routing** > **IRN**.
2. In the List View panel select the IRN whose destination you want to change.
3. In the Details View panel, click the **Destination** tab.
4. Choose the new default destination for the IRN from the **Type** menu:
   - **Service** — Select the appropriate **Service**. The services in the menu have been previously defined as explained in Specifying Services on page 80.
   - **Device** — Specify the appropriate **Device** number.
   - **Script** — Select the appropriate **Script**. The scripts in the menu have been previously defined, as explained in Chapter 12., Using Call Control Scripts.

Note

Mitel highly recommends you do not select **Script** as the destination for an email IRN. If you select **Script** and the first action in the script you specify is not to set the service, the email will not be routed to any agents.

   - **Agent Queue** — Select the agent whose personal agent queue is the destination. The agents in the menu have been previously associated with a queue, as explained in Adding an Agent Queue Profile on page 105.
5. To specify a shift destination for the IRN, use the options in the Shifts area.
   - **Type** — Use to change the type of destination for the selected shift in the **Selected** list.
   - **Service** — If the shift destination is a service, use the drop-down menu to choose the service. The services in the menu have been previously defined as explained in Specifying Services on page 80.
   - **Script** — For a shift destination that is a script, choose the script from the drop-down menu. The scripts in the menu have been previously defined, as explained in Chapter 12., Using Call Control Scripts.

- **Device** — If the shift destination is a device, enter the device number.
- **Agent Queue** — If the shift destination is an agent queue, choose the agent whose personal agent queue is the destination. The agents in the menu have been previously associated with a queue, as explained in Adding an Agent Queue Profile on page 105.
- **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the IRN, select the shift in the **Available** list, and then click ›. To add all shifts to the IRN, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

  To remove a shift from the IRN, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the IRN, click «.

  You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.

6. For details on a shift, click **Explain Shift**. In the resulting calendar, select the day whose shifts you want information.
7. Click **Save**.

Modifying an IRN

Complete the following steps to modify an IRN:

1. From Connect Contact Center Director, click **Routing** > **IRN**.
2. In the List View panel select the IRN you want to modify.
3. To edit the IRN's details, click the **General** tab and make the appropriate changes.

   These options are described in Complete the following steps to create an IRN: on page 98.
4. To change the properties of the call profile fields for calls that enter the IRN, click the **Call Profile** tab. Refer to Setting Call Profile Field Values for an IRN on page 100 for information.
5. To select a different set of agent skills required for handling calls that enter the IRN, click the **Skills** tab and follow the directions detailed in Configuring DNIS on page 100.
6. To change the IRN's default destination, and specify shift destinations, click the **Destination** tab and select the appropriate options as explained in Changing an IRN Destination on page 102.
7. Click **Save**.

Deleting an IRN

Complete the following steps to delete an IRN:

1. From Connect Contact Center Director, click **Routing** > **IRN**.
2. In the List View panel select the IRN you want to delete, and then click **Delete**.

Creating Agent Queue Profiles

Agent queue profiles define common attributes that can be used across multiple agents queues. An agent queue allows ACD calls to be queued for a specific agent. If that agent is not available, the call can then be routed to another destination.

This feature is useful if you have a single agent responsible for a certain area of expertise or geographic location, or if your agents give customers their telephone number for direct calls. Agent queues can also be used as a routing destination by a service, IRN, or call control script.

The process of creating agent queue profiles in Connect Contact Center includes the following steps:

1. *Setting Prerequisite Agent Queue Profile Parameters*.
2. *Adding an Agent Queue Profile*.
3. *Assigning Agents to a Profile*.
4. *Changing a Profile's Threshold Value*.
5. *Defining Profile Announcements*.
6. *Specifying a Profile Overflow Destination*.
7. *Determining a Profile Interflow Destination*
8. *Identifying a Destination for a Queue with No Agents*.
9. *Selecting a Destination for Callbacks*.
10. *Choosing an Abandoned Calls Destination*.

You can also modify an agent queue profile, and delete an agent queue profile from the system.

Setting Prerequisite Agent Queue Profile Parameters

Before creating an agent queue profile, you can set the following parameters:

- The music source to which the system connects a call waiting in the agent queue. The music source can be a call control script, a music stream, or silence. Refer to the following sections for more information about setting up various music sources:
  - Chapter 12., Using Call Control Scripts
  - Configuring Music Streams on page 193
- The agent(s) to assign to the queue profile, as explained in Creating Agent Accounts on page 46.
- Announcement scripts, if you want callers waiting in the agent queue to hear announcements. Refer to Chapter 12., Using Call Control Scripts.
- The agent group or the queue of another agent, if you plan to use overflow destinations. Refer to Creating Agent Groups on page 73 and Adding an Agent Queue Profile on page 105 for details.

- The IRN, service, device, call control script, or the queue of another agent that you want to use as an interflow destination. If you plan to use a device as the destination, have the device number available. Refer to the following sections for more information:
  - Identifying IRNs on page 97
  - Adding a New Service on page 81
  - Chapter 12., Using Call Control Scripts
  - Adding an Agent Queue Profile on page 105
- If you plan to specify a No Agent destination, the IRN, device, call control script, or the queue of another agent that you want to use. For a device, have the device number available.Refer to the following sections for more information:
  - Identifying IRNs on page 97
  - Adding a New Service on page 81
  - Chapter 12., Using Call Control Scripts
  - Adding an Agent Queue Profile on page 105

Once specified, these parameters automatically appear as options that you can choose, allowing you to more quickly and easily create agent queue profiles.

Adding an Agent Queue Profile

Adding an agent queue profile involves specifying the name, settings, statistics, timers, and music source for the profile.

Complete the following steps to create an agent queue profile:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. Click **New** in the List View panel.

   If you have an existing agent queue profile with parameters similar to what you want, you can quickly add a new profile by selecting it and clicking **Copy**.
3. In the **General** tab, enter a unique name for the profile.
4. Use the options in the Settings area to specify how calls are handled in the agent queue.
   - **Interflow/Overflow on Requeued Calls** — Select if you want calls that are placed back in the queue by the agent to be subject to interflow and overflow routing rules.

     If this option is not selected, the call stays in the queue until the agent either retrieves it or logs out of the queue.
   - **Incoming Priority** — The priority of incoming calls in the agent queue.

     If you choose **Set Fixed Value**, enter a **Fixed Value**. The value can be any number between 0 and 100 with 100 being the highest priority.

If you choose **Set Relative Value**, enter a **Relative Value**. The value can be any number between -100 and 100, with 100 being the highest priority.

- **Outgoing Priority**. The priority of outgoing calls in the agent queue. If you want to change the priority, choose how from the drop-down list. The priority can be specified as either a fixed value or a relative value.

  If you choose **Set Fixed Value**, in the **Fixed Value** field, enter a new fixed value. The value can be any number between 0 and 100, with 100 being the highest priority.

  If you choose **Set Relative Value**, in the **Relative Value** field, enter a new relative value. The value can be any number between -100 and 100, with 100 being the highest priority.

5. If you want the agent queue to be able to handle dial list calls, select **Dial Lists**. The agent that logs in with this agent queue assignment requires a license for handling outbound dial list calls.

6. You can define the amount of time to gather information for reports in the Statistics area.

   - **Target Average Speed of Answer (ASA)** — The amount of time, in seconds, that should elapse between the moment a call is received and answered. This parameter is used to calculate the queue's Target Service Factor (TSF) and used in Connect Contact Center reports.

   - **Interval Time** — The length of time, in minutes, that the queue is monitored for the purpose of reporting on real-time events.

7. In the Timers area, determine the amount of time agents have in wrap-up and release mode.

   - **Wrap-Up Time** — The time that an agent has for post call activity after the completion of the call. Though the agent's extension is idle, Connect Contact Center does not route another call to the agent until after this time period has expired.

   - **Forced Release Timeout** — The time that an unanswered call can ring at an agent extension before being routed to another destination, such as to another queue or available agent, and the agent is forced into released mode.

8. Select the **Music Source**. A music source can be a call control script, a music stream, or silence. If no music source is specified, the system default is used.

   If you choose **Script**, the call is connected to an IVR port and performs the actions indicated in the selected script. Typically, the script has a play action pointing to the music WAV file. The scripts available in the menu have been previously defined, as explained in Chapter 12., Using Call Control Scripts.

   If you choose **Music Stream**, the call is connected to streaming music from the file you select. The music stream files in the menu have been previously defined. Refer to Configuring Music Streams on page 193 for details.

9. Click **Create**.

Assigning Agents to a Profile

Complete the following steps to assign agents to an agent queue profile:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel select the profile to which you want to assign agents.
3. In the Details View panel, click the **Agents** tab.
4. To add an agent to the profile, select the agent in the **Available** list and then click ›. To add all agents to the profile, click ».

   Each agent can only be assigned to one profile at a time. If an existing agent does not appear in the **Available** list, that agent has already been assigned to an agent queue profile.

   The agents in the **Available** list have been previously defined, as explained in Creating Agent Accounts on page 46.
5. To remove an agent from the profile, select the agent in the **Selected** list and then click ‹. To remove all agents from the profile, click «.
6. Click **Save**.

Changing a Profile's Threshold Value

Threshold values are assigned to some of the fields that are shown in real-time reports to alert you to changing conditions of an agent queue.

Alerts are indicated in a queue report by being highlighted with default background colors. The Yellow threshold indicates that the value is in a low warning range meaning it is slightly too high or too low; by default fields that exceed this threshold are highlighted in yellow. The Red threshold indicates the value is in a high warning range meaning it is unacceptably high or low; by default fields that exceed this threshold are highlighted in red. You can change the default background color for these fields, as explained in Specifying Reporting Preferences on page 169.

Complete the following steps to change a profile's threshold value:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel, select the profile you want to change threshold values for.
3. In the Details View panel, click the **Thresholds** tab.
4. For the specific field, select the threshold number you want to change in the Yellow State or Red State area, and enter the new value.
5. Click **Save**.

Defining Profile Announcements

Complete the following steps to define a profile announcement:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profile**.
2. In the List View panel select the profile for which you want to define an announcement.
3. In the Details View panel, click the **Announcements** tab.
4. Use the Mandatory Announcement area to define the mandatory announcement for the queue.
   - **Enabled** — Select to turn on the mandatory announcement. All callers entering the queue hear the mandatory announcement, regardless of the availability of agents. An example of a mandatory announcement is “This call may be recorded for quality and training purposes,” which is heard by every caller.
   - **Script** — The script to be played. The available scripts have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.
   - **Time After Mandatory** — The length of time, in seconds, that the caller hears music before the next announcement.
5. If you want an announcement that is heard only one time when the caller first enters the agent queue, use the options in the First Announcement area.
   - **Enabled** — Select to turn on the first announcement.
   - **Script** — The script to be played. The scripts available in the drop-down menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.
   - **Time After First** — The length of time, in seconds, that the caller hears music before the next announcement.
6. Cycle Secondary allows you to specify which secondary announcements play and how often.
   - **Cycle All** — All secondary announcements are played repeatedly.
   - **Cycle Last** — The last secondary announcement is played repeatedly.
   - **No Cycle** — Each secondary announcement is played only once.
7. The Secondary Announcements area allows you to identify the secondary announcements you want to use for this agent queue profile.
   - **Enabled** — Select to turn on or off the selected secondary announcement in the list.
   - **Script** — Use to change the script to be played for the selected secondary announcement in the list. The scripts available in the drop-down menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.
   - **Time** — Enter a different length of time, in seconds, that the caller hears music before the next announcement for the selected secondary announcement in the list.

To define a secondary announcement, click **Add**. Use the **Enabled**, **Script**, and **Time** options to change the default properties for the announcement. You can define up to 20 secondary announcements.

To delete a secondary announcement, select it in the list and then click **Remove**.

Once the list of secondary announcements is correct, place the announcements in the order that you want the them to be played, by selecting an announcement and using the  and to move it to the correct position in the list.

8. Click **Save**.

Specifying a Profile Overflow Destination

Overflow improves the way calls waiting in a queue are handled, by offering these calls to another agent queue or to an agent group. This expands the number of agents who can answer waiting calls. Overflow is activated after the overflow timeout interval has been reached.

In addition to incoming calls, overflow can also be applied to outbound calls.

Complete the following steps to specify an overflow destination for the agent queue profile:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel select the profile whose overflow destination you want to specify.
3. In the Details View panel, click the **Overflow** tab.
4. To also apply overflow to outbound calls, click **Outbound Call Overflows**.
5. In the Selection Criteria on Overflow area, define the method by which an available agent is selected for a call that enters the queue of an Overflow group. This method is used whenever a call enters the queue of an Overflow group, and there is more than one available agent to handle the call. If only one agent is available at that time, that agent will get the call.
   - Longest Idle Agent — The call is assigned to the agent who has been idle the longest.
   - Terminal — The call is assigned to the first available agent, in the order the agent is listed in the **Groupings** > **Groups** > **Agents** tab.

Note

Agents must be logged into the group associated with this service, as a primary group, to be assigned the call in the order listed in the **Groupings** > **Groups** > **Agents** tab. Agents logged into this group, but **not** as a primary group, receive the call only if all other agents in the list are not available.

Agents are assigned primary groups using the **Agents** > **Agents** > **Groups** tab or **Groupings** > **Groups** > **Agents** tab. Refer to Assigning Primary Groups to an Agent on page 52 and Assigning Agents to a Group on page 75 for details.

- **Circular** — The system searches the Overflow group's agent list, starting from the last agent to receive a call, for the next available agent. This method attempts to distribute calls equally between agents in the Overflow group.
- **Best Skill Fit** — The system looks for the agent whose skills best fit the requirements of the call. In a case where two agents with the same skill fit are found, the system uses the selected following method to decide which agent receives the call.
  - **Longest Idle** — The call is assigned to the agent, among all the agents with the same skill fit, who has been idle the longest.
  - **Terminal** — The call is assigned to the first available agent, among all the agents with the same skill fit, in the order the agent is listed in the **Groupings** > **Groups** > **Agents** tab.
  - **Circular** — The system searches the queue's agent list, among all the agents with the same skill fit, starting from the last agent to receive a call, for the next available agent. This method attempts to distribute calls equally between agents in the queue.

Note

When **Best Skill Fit** is combined with **Circular**, calls are routed to agents starting with the agent who has the best skill fit. For example, if you have 10 agents active, and agent number 3 has the best skill fit, calls will be routed to this agent before any other agent, and then calls will be routed from this agent forward. If agent number 3 is not available, the call will route to agent 4 and beyond. This scenario may mean that agent 3 has the highest number of calls, and agents 1 and 2 do not get calls routed to them.

6. If you want the overflow destination to be an agent group, use the options in the Overflow Group area.
   - **Timeout** — Use to change the timeout interval of the selected group in Selected list. The timeout interval is the number of seconds a call is in queue, after the mandatory announcement. Once reached, the call is overflowed into another group.
   - **Available** and **Selected** List of Overflow Groups — Displays the agent groups that exist in the system. To add an agent group to the queue as an overflow destination, select the group in the **Available** list, and then click ›. To add all groups as an overflow destination, click ». The available groups have been previously defined. Refer to Creating Agent Groups on page 73 for details.

     To remove a group as an overflow destination, select the group in the **Selected** list, and then click ‹. To remove all groups as an overflow destination, click «.

     You can modify the overflow timeout properties of a group by selecting it in the **Selected** list and changing the **Timeout** option.
7. Use the options in the Overflow Queue of Other Agents area if you want to specify another agent queue as the overflow destination.
   - **Timeout** — Use to change the timeout interval of the selected agent's queue in the Selected list. The timeout interval is the number of seconds a call is in queue, after the mandatory announcement. Once reached, the call is overflowed into another agent queue.

- **Available** and **Selected** List of Overflow Agent Queues — Displays the agents in the system with queues. In the **Selected** list, add and remove agent queues to specify the queue to which you want to add another agent queue as an overflow destination. The available agent queues have been previously defined. Refer to Adding an Agent Queue Profile on page 105 for details.

  You can modify the overflow timeout properties of an agent queue by selecting it in the **Selected** list and changing the **Timeout** option.

8. Click **Save**.

Determining a Profile Interflow Destination

Interflow transfers calls waiting in a queue to another destination. Interflow is activated after a specified period of time (timeout) has been reached.

Once a call has been interflowed, it is no longer part of the ACD domain. If the interflow destination is an IRN or service, the call reenters the system as a new ACD call.

To determine a profile interflow destination:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel select the profile whose interflow destination you want to determine.
3. In the Details View panel, click the **Interflow** tab.
4. If you want calls to be automatically sent to the interflow destination based on the estimated wait time, rather than waiting in the queue until the timeout interval has been reached, select the **Predictive Interflow** option.

   By default, the estimated wait time is 10 seconds. This default time can be changed using the **Announce Wait Time** action. Refer to Announce Wait Time on page 240 for more information.
5. In Default Destination, choose the interflow destination, and then use one of the following fields to specify the destination:

   - **IRN** — Select an IRN for the default destination. The IRNs in the menu have been previously defined, as explained in Complete the following steps to create an IRN: on page 98.
   - **Service** —Select a **Service** for the default destination. The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for information.
   - **Device** —If the default destination is a device, enter the device number.
   - **Script** — Select a **Script** for the default destination. The scripts in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for details.
   - **Agent Queue** — If the default destination is another agent queue, choose the agent whose personal agent queue is the destination. The agents in the menu have been previously associated with an agent queue, as explained in Adding an Agent Queue Profile on page 105.

6. In **Timeout**, specify the number of seconds that calls wait in the queue before being interflowed. The maximum number of seconds that you can enter in this field is 9,999. If you require more time, contact your Mitel representative.
7. Click **Save**.

Identifying a Destination for a Queue with No Agents

The No Agents destination routes calls in an agent queue that has no agents logged into it to another destination. By default, this is the Incomplete destination. If the No Agents destination is an IRN, the system counts it as a new, incoming call.

Complete the following steps to identify a No Agent destination:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel, select the profile for which you want to identify a No Agent destination.
3. In the Details View panel, click the **No Agent Destination** tab.
4. If you want the calls that enter the queue when there are no agents logged in to it to first be routed to an overflow destination, click **Use Overflow Destination**.

   Calls are routed to the first interval overflow destinations. If these destinations do not have any logged in agents, the calls are then sent to the queue's No Agent destination.

Note

This is a special handling scenario, and if agents log in to the primary group while the call is queued into the overflow destination, the call is not presented to the primary group.

5. In Default Destination, choose the No Agent destination for the queue, and then use one of the following fields to specify the destination.By default, the No Agent destination is the Incomplete destination defined in **System Parameters** > **Routing Preferences** > **Incomplete Destinations**.
   - **IRN** — If the default destination is an IRN, choose the IRN from the drop-down menu. The IRNs in the menu have been previously defined, as explained in Complete the following steps to create an IRN: on page 98.
   - **Device** —If the default destination is a device, enter the device number.
   - **Script** —Use to specify the script destination from the drop-down menu. The scripts in the menu have been previously defined; see Chapter 12., Using Call Control Scripts for details.
   - **Agent Queue** —If the default destination is another agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue, as explained in Adding an Agent Queue Profile on page 105.
6. Click **Save**.

Selecting a Destination for Callbacks

Callback is used to enhance the customer experience during peak loads, by allowing callers to choose to be called back rather than continue to wait. The waiting call needs to be routed to a call control script that contains the Collect Callback Information action. This action asks the caller to specify the callback parameters, which are generally the callback phone number and the desired time frame for the callback. The system then makes the callback and routes the call to the callback destination.

By default, the system generates callbacks at any time. You can instead define limited time ranges when you want the system to make callbacks, for example, only during business hours.

Complete the following steps to select a destination for a callback:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel, select the profile for which you want to select a Callbacks destination.
3. In the Details View panel, click the **Callbacks** tab.
4. Use **Numbering Plan** to select how the system validates the customer's callback number.
   - **None** — No validity check is done. Any number is accepted.
   - **North American** — The system ensures that the number has the format NPX-NXX-XXXX, where:
     - N — must be a digit between 2 and 9.
     - P — must be a digit between 0 and 8.
     - X — may be any digit.

     If the number is not valid, the system asks the customer to enter it again.
5. In the **Attempt Callback** field, set the limit, in hours, between the time that the customer requested the callback and the time it is actually dialed.
6. If you want to play a script before transferring the callback to an agent, click **Run Script before Transferring to Agent**. In the associated **Script** field, choose the specific call control script to be used.

Tip

When you configure your system to transfer a callback call to an agent upon connection, Mitel suggests you configure any related scripts to include an announcement to let the caller know that the call has been placed as a result of a callback request and to announce that the caller is being connected to an agent.

The scripts available in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.

7. Click **Require Agent Confirmation** if you want agents to be able to choose whether to accept or reject a callback. The agent sees a popup window displaying the call's parameters and providing the option to accept the callback. The call is transferred to the agent only if the agent accepts the callback.

   You can then change the amount of time, from the default 10 seconds, that the system waits for the agent to either accept or reject the callback, in the Wait for Agent Confirmation field. If no action is taken by the agent within this amount of time, the system considers the callback rejected and forces the agent into release mode.

8. If you want to specify a limited time range for callbacks, use the options in the Time Range area.

   - **Time Range Enabled** — Select to turn on the Time Range feature.
   - **Start Time** — Use to change the start time of the selected time range in the list.
   - **Stop Time** — Use to change the stop time of the selected time range in the list.
   - **List of Time Ranges** — Displays the previously defined time ranges. To add a time range to the queue, click **Add**, and then adjust the start and stop times using the appropriate fields as necessary. You can add multiple time ranges.

     To remove a time range from the queue, select the time range in the list and click **Remove**.

9. Click **Save**.

Choosing an Abandoned Calls Destination

An abandoned call is a call that was disconnected (i.e. the caller hung up) before being handled by an agent. The system can automatically generate a callback to the caller who abandoned the call while in an agent queue, if the incoming DID number has been captured. The system then routes the call to the queue's Abandoned Calls destination.

By default, the system generates callbacks to abandoned calls at any time. You can instead define limited time ranges when you want the system to make callbacks (for example, only during business hours).

Complete the following steps to choose an abandoned calls destination:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel select the profile for which you want to choose an Abandoned Calls destination.
3. In the Details View panel, click the **Abandoned Calls** tab.
4. Select **Abandoned Callbacks Enabled**.
5. In **Callback if Call Abandoned After**, set the time, in seconds, that a call must be in the IRN before being considered abandoned.

   This parameter allows you to filter out calls that were abandoned after only a relatively short time. In many cases, a short time in the IRN indicates that the call was a wrong number, and a callback is not required.

6. If you want to play a script before transferring the callback to an agent, click **Run Script before Transferring to Agent**. In the **Script** field, choose the specific call control script to be used.

Tip

When you configure your system to transfer a callback call to an agent upon connection, Mitel suggests you configure any related scripts to include an announcement to let the caller know that the call has been placed as a result of a callback request and to announce that the caller is being connected to an agent.

The scripts available in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for information.

7. Click **Require Agent Confirmation** if you want agents to be able to choose whether to accept or reject a callback. The agent sees a popup window displaying the call's parameters and providing the option to accept the callback. The call is transferred to an agent only if the agent accepts the callback.

   You can then change the amount of time, from the default 10 seconds, that the system waits for the agent to either accept or reject the callback, in the Wait for Agent Confirmation field. If no action is taken by the agent within this amount of time, the system considers the callback rejected and forces the agent into release mode.

8. If you want to specify a limited time range for abandoned calls, use the options in the Time Range area.

   - **Time Range Enabled** — Select to turn on the Time Range feature.
   - **Start Time** — Use to change the start time of the selected time range in the list.
   - **Stop Time** — Use to change the stop time of the selected time range in the list.
   - **List of Time Ranges** — Displays the previously defined time ranges. To add a time range to the queue, click **Add**, and then adjust the start and stop time, using the appropriate fields, as necessary. You can add multiple time ranges.

     To remove a time range from the queue, select the time range in the list and click **Remove**.

9. Click **Save**.

Modifying an Agent Queue Profile

Complete the following steps to modify an agent queue:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel, select the queue you want to modify.
3. To edit the queue's details, click the **General** tab and make the appropriate changes.

   Refer to Adding an Agent Queue Profile on page 105 for information about the options on the **General** tab.

4. To change the agents assigned to the queue, use the options in the **Agents** tab, as described in Assigning Agents to a Profile on page 107.
5. To define different queue thresholds, click the **Thresholds** tab and follow the directions detailed in Changing a Profile's Threshold Value on page 107.
6. To change the queue's announcements, click the **Announcements** tab and define new announcements as detailed in Defining Profile Announcements on page 108.
7. To specify a different queue overflow destination, click the **Overflow** tab and select the appropriate options as explained in Specifying a Profile Overflow Destination on page 109.
8. To modify the queue's interflow destination, click the **Interflow** tab and change the appropriate options as described in Determining a Profile Interflow Destination on page 111.
9. To select a different No Agent destination for the queue, click the **No Agent Destination** tab and follow the directions detailed Identifying a Destination for a Queue with No Agents on page 112.
10. To change the queue's callback destination, click the **Callbacks** tab and define a new destination as detailed in Selecting a Destination for Callbacks on page 113.
11. To select a different abandoned calls destination for the queue, click the **Abandoned Calls** tab and make the appropriate changes as explained in Choosing an Abandoned Calls Destination on page 114.
12. Click **Save**.

Deleting an Agent Queue Profile

You can delete an agent queue profile from the system. However, profiles defining agent queues used as a routing destination by a service, IRN, or call control script, cannot be deleted until you remove the agent queue as a destination. Connect Contact Center displays an alert when you click Delete, if this needs to be done for a specific profile.

Complete the following steps to delete an agent queue profile:

1. From Connect Contact Center Director, click **Routing** > **Agent Queue Profiles**.
2. In the List View panel, select the profile you want to delete.
3. Click **Delete**.

CHAPTER

6

Defining How Email Reaches Agents

The email entities specify how email contacts reach agents. This chapter includes information about the following procedures for defining how email reaches agents:

Setting Prerequisite Email Parameters

Before working with email entities, you can set the following parameters:

- The agents who will be assigned to the email group. Refer to Adding a new agent account involves specifying general details for an agent. Agents records are automatically set to use a default class of service (COS), which is a configurable set of capabilities to which an agent can have access. on page 47 for details.
- Email groups to serve as a default, shift, or overflow destination of an email service. Refer to Creating Email Groups on page 121.
- The routing destinations to be used at different times of the day if Connect Contact Center uses multiple work shifts. Refer to Defining Shifts on page 168.

- Interflow destinations, which can be an email IRN, another email service, an email address — have the address available, or a call control script. Refer to the following sections for more information:
  - Identifying Email IRNs on page 128
  - Specifying an Email Service on page 123
  - Chapter 12, Using Call Control Scripts
- IRN email accounts to be used as email entry points to the routing system. Refer to Adding a New Email Account on page 118 for more information.
- For an email IRN, the user-defined (optional) call profile fields used to route the email and provide relevant history. Refer to Creating Call Profile User Fields on page 176 for details.
- The skills to be used if you want to assign agent skills to the email IRN. For details, see Identifying Agent Skills on page 175.
- The service, call control script, or email address to use as the default or shift destination for an email IRN. Refer to the following sections for more information:
  - Identifying Email IRNs on page 128
  - Specifying an Email Service on page 123
  - Chapter 12, Using Call Control Scripts
- Email accounts that represent an email DNIS. Refer to Adding a New Email Account on page 118 for more information.

Once specified, these parameters automatically appear as options that you can choose, allowing you to more quickly and easily work with email entities.

Adding a New Email Account

An email account is a destination for emails in the system. The email account is where emails are routed from when they are routed to available agents.

Note

To avoid unexpected results, configure the Connect Contact Center email account to not use server-based rules. For example, ensure that there are no rules configured to copy or move any incoming email messages to the Connect Contact Center email account or to any other destination.

Note

Avoid accessing Connect Contact Center email accounts through the email client. To monitor the routing of Connect Contact Center emails, use the Diagnostic Console or use a test email account.

Complete the following steps to add a new email account:

1. From Connect Contact Center Director, click **Email** > **Email Accounts.**
2. Click **New**.

   If you have an existing email account with parameters similar to what you want, you can quickly add a new account by selecting it and clicking **Copy**.
3. In the **General** tab, specify the following parameters:

   - **Account Name** — The name of the account you are setting up email for. For example, if you are setting up email for the sales team, you might enter “sales” here.
   - **Account Address** — The email address for the account.

Note

If you need to change an **Account Address**, add a new one and maintain the original **Account Address** until any queues for it are empty. If you delete an **Account Address** while there are emails queued for it, the emails will be inaccessible.

   - **Agent-Inactivity Timeout Value** — The amount of time an agent can be inactive before the interaction times out. When the interaction times out, the timeout is logged and reported, and the email is rerouted to another agent. When the email is rerouted to another agent, the original agent enters wrap-up mode and becomes idle.
   - **Send Automatic Confirmation** — Automatically sends a reply email to the contact.
     - **Automated Response from Address** — The email address that the contact sees when they receive an automatic reply.
     - **Automated Response Text** — Content included in the automatic reply.

Note

- To manage read receipts, do the following:
  - Configure the mail server to suppress read receipts. For example, for Microsoft Exchange Management Shell, you might specify `set-ImapSettings -SuppressReadReceipt $true`. Refer to the documentation for your mail server for detailed information about suppressing read receipts.
  - Select **Send Automatic Confirmation** and configure the settings as appropriate for your system. If **Send Automatic Confirmation** is not selected and the MCCC email account receives a message that requires a read receipt, it is possible that the sender may receive a message indicating that their message was deleted without being read.
- If you are using Exchange server, you can enter text or your personal email address in **Automated Response from Address**, otherwise, Exchange will not send the automatic reply. Refer to Microsoft documentation about sending email on behalf of others for more information.
- If you are using a public email server, you only can use your personal email address for **Automated Response from Address**.

4. Click the **Incoming** tab, and specify the following parameters:

- **Email Server** — This is the IP address or fully qualified domain name of the email server.
- **Username** — This is the user name for the email account.
- **Password** — This is the password for the email account.
- **Protocol** — This field defaults to IMAP and cannot be changed.
- **SSL Enabled** — When selected, this field enables transport layer protocol (TLP) protection for the email account, which means that communication transmitted to and from the email account specified is encrypted and authenticated.
- **Port** — If **SSL Enabled** is checked, the default port is 993. If **SSL Enabled** is not checked, the default port is 143.
- **Priority** — A max of 100 emails may be queued for agents. Additional emails arriving in an incoming email account must wait for processing as backlog. When an agent becomes available and answers a queued email, the number of queued emails drops to 99, and the next highest priority email is selected from the backlog and submitted to Connect Contact Center for routing.

  The higher the number specified here, the higher priority is for the email.To prevent email account starvation, where emails from one account are never processed because the system is processing emails from another higher priority email account, Connect Contact Center processes one email by earliest arrival time for every nine emails processed by priority.

5. Select the **Outgoing** tab and specify the following parameters:

- **Use Incoming Settings** — When selected, the rest of the fields on this page default to the settings you set on the **Incoming** tab.
- **Email Server** — This is the IP address or fully qualified name of the email server.
- **Username** — This is the user name for the email account.
- **Password** — This is the password for the email account.
- **Protocol** — This field defaults to SMTP and cannot be changed.
- **Start TLS** — TLS (Transport Layer Security) provides a way to change data, such as your username and password, into code as it travels across the Internet. This ensures that the data is secure and private. TLS begins with an unsecured connection to the mail servers, and then upgrades to a secure connection when information is sent.

Note

MiVoice Connect Contact Center support for TLS 1.1 and 1.2 has been verified on Exchange Server 2013 and Exchange Server 2016, and Exchange Server 2019.

Note

If you select **Use Incoming Settings** and you selected **SSL Enabled** on the **Incoming** tab, **Start TLS** is also enabled.

- **Port** — The default port is 25.

6. Select the **Advanced** tab and use **Reporting Interval** to specify how often you want information about this email account to be collected for reporting purposes.
7. Click **Create**.

Creating Email Groups

Agents can be organized into primary email groups, which are typically a collection of agents that can deliver the same service to incoming email contacts. Using Interaction Center, agents can then log into their primary email groups. Agents can also log into other email groups if the **Agents** > **Class of Service** > **Initiate Specific Login/Logout** option is selected. Refer to Creating an Agent Class of Service on page 55 for more information.

Note

Each agent assigned to an email group must have an email address configured in **Agents** > **Agents** > **General**. Connect Contact Center sends email that is routed to an agent to this email address.

Emails sent to the group are presented to the most appropriate agent according to the specified routing policy.

Threshold values are assigned to some of the fields that are shown in real-time reports to alert you to changing conditions of the email group. The system assigns a default value to a low and high warning level for these fields, which you can change. Alerts are indicated in a group report by being highlighted with default background colors. The Yellow threshold indicates that the value is in a low warning range, meaning that it is slightly too high or too low. By default, fields that exceed this threshold are highlighted in yellow. The Red threshold indicates the value is in a high warning range, meaning it is unacceptably high or unacceptably low. By default, fields that exceed this threshold are highlighted in red. You can change the default background color for these fields. Refer to Specifying Reporting Preferences on page 169 for more information.

You can also identify the number of agents required by an email group on a daily basis. Once these numbers are identified, they become the group's default staffing setting. A calendar is then generated for the group displaying the number of staff members required for each day of the week. These parameters are also used for the group's staffing real-time and historical reports, which measure actual vs. required staffing.

Complete the following steps to create an email group:

1. From Connect Contact Center Director, click **Email** > **Email Groups**.
2. Click **New**.

   If you have an existing email group with parameters similar to what you want, you can quickly add a new group by selecting it and clicking **Copy**.
3. In the **General** tab, specify a unique name for the group.

4. Use the options in the Statistics area to change the time intervals that are relevant to the monitoring of emails in the Connect Contact Center system for the group:

   - **Target Average Speed of Answer (ASA)** — The amount of time, in hours and minutes, that should elapse between the moment an email is received and answered. This parameter is used to calculate the group's Target Service Factor (TSF) and used in Connect Contact Center reports.
   - **Max ACD Talk Time** — The length of time, in hours and minutes, that interaction with an email must exceed to be counted as a long contact.
   - **Short Calls Threshold** — The length of time, in seconds, that an email must be under to be counted as a short contact.
   - **Interval Time** — The length of time, in hours and minutes, that the email group is monitored for the purpose of reporting on real-time events.

     For example, if this option is 10 minutes, the report for the group shows statistics for the last 10 minutes.

5. In the Service Time Intervals (STI) area, specify the time intervals, by hour and minutes, for which email statistics are monitored for the purpose of reporting.

   For example, intervals can be 0 to 2 hours, 2 to 4 hours, 4 to 6 hours, and so on.

6. Click **Create**.

Assigning Agents to Email Groups

Complete the following steps to add agents to email groups:

1. From Connect Contact Center Director, click **Email** > **Email Groups**.
2. Click the **Agents** tab.
3. Select the agent in the **Available** list and then click ›. To add all agents to the group, click ». The agents in the **Available** list have been previously defined, as explained in Creating Agent Accounts on page 46.

   To remove an agent from the email group, select the agent in the **Selected** list and then click ‹. To remove all agents from the group, click «.

   Once the list of agents for the email group is correct in the **Selected** list, reorder the agents by using the ^ and v to reflect the order, such as by ability, in which you want emails to be routed from the group to the agent.

Changing Email Group Threshold Values

Complete the following steps to change email group threshold values:

1. From Connect Contact Center Director, click **Email** > **Email Groups**.

2. Click the **Thresholds** tab.
3. Select the threshold number you want to change, and enter the appropriate value in the **Yellow State** and **Red State** fields.

Identifying Staffing Requirements for Email Groups

Complete the following steps to identify staffing requirements for email groups:

1. From Connect Contact Center Director, click **Email** > **Email Groups.**
2. Click the **Staffing** tab.
3. Specify the number of agents needed in the group for each day of the week.

   You can change the staffing requirement for an individual day, such as a national holiday, by selecting the day on the calendar and then entering the number of agents in the **Number of Required Agents** field.

   Changes to the number of required agents take effect at midnight on the day the change is made.

Specifying an Email Service

The Email Services entity defines how incoming emails are processed. Email services are analogous to a waiting room where emails are managed until they can be answered or otherwise handled. Every incoming email contact is assigned to a specific service with destination, overflow, and interflow settings along with other business rules.

An email service is associated with an email group as its routing destination. You can also specify shift destinations, which are routing destinations used at different times of the day.

Overflow improves the way emails waiting in an email service are handled by offering these emails to another group. This expands the number of agents who can answer waiting email. Overflow is activated after a specified period of time — the overflow timeout interval — has been reached.

Interflow transfers emails waiting in a service to a destination other than a group. Interflow is activated after a specified period of time — timeout — has been reached. Separate interflow destinations can also be defined for different shifts.

Complete the following steps to specify an email service:

1. From Connect Contact Center Director, click **Email** > **Email Services**.
2. Click **New**.

   If you have an existing email service with parameters similar to what you want, you can quickly add a new service by selecting it and clicking **Copy**.

3. In the **General** tab, specify a unique **Name** for the email service.

4. In **Agent Selection Criteria** — The method by which an available agent is selected for an email that enters the service.

   - **Longest Idle** — The email is assigned to the agent who has been idle the longest.
   - **Terminal** — The email is assigned to the first available agent, in the order the agent is listed in the **Email > Email Groups > Agents** tab.

Note

To be assigned the email in the order listed in the **Email > Email Groups > Agents** tab, Agents must be logged in to the group associated with this email service as a primary group. Agents logged into this group, but not as a primary group, receive the email only if all other agents in the list are not available.

Agents are assigned primary email groups using the **Email** > **Email Groups** > **Agents** tab. Refer to Creating Email Groups on page 121 for details.

   - **Circular** — The system searches the service's agent list, starting from the last agent to receive an email, for the next available agent. This method attempts to distribute email equally between agents in the service.
   - **Best Skill Fit** — The system looks for the agent whose skills best fit the requirements of the email. In a case where two agents with the same skill fit are found, the system uses the selected following method to decide which agent receives the email.
     - **Longest Idle** — The email is assigned to the agent, among all the agents with the same skill fit, who has been idle the longest.
     - **Terminal** — The email is assigned to the first available agent, among all the agents with the same skill fit, in the order the agent is listed in the **Email** > **Email Groups** > **Agents** tab.
     - **Circular** — The system searches the service's agent list, among all the agents with the same skill fit, starting from the last agent to receive an email, for the next available agent. This method attempts to distribute emails equally between agents in the service.

Note

When **Best Skill Fit** is combined with **Circular**, emails are routed to agents starting with the agent who has the best skill fit. For example, if you have 10 agents active, and agent number 3 has the best skill fit, emails will be routed to this agent before any other agent, and then emails will be routed from this agent forward. If agent number 3 is not available, the email will route to agent 4 and beyond. This scenario may mean that agent 3 has the highest number of emails, and agents 1 and 2 do not get emails routed to them.

5. **Email interrupts Voice Interaction** — When selected, the system will route email interactions to agents who are currently on voice interactions. When this option is not selected, agents are not interrupted by email while on voice interactions. This option is disabled by default.
6. From the Timers area, specify the amount of time, in seconds, an agent has in wrap-up and release mode:

- **Wrap-Up Time** — The time that an agent has for post contact activity after the completion of the email. Though the agent's extension is idle, Connect Contact Center does not route another email to the agent until after this time period has expired.
- **Forced Release Timeout** — The time that an unanswered email can sit in the agent's inbox before being rerouted to another destination, such as back to a service or to another available agent, and the agent is forced into released mode.

  If this option is left undefined, the system uses the default time specified in **System Parameters** > **Routing Preferences** > **Service Settings**.

7. Use the options on the **Destination** tab to change default destination for the email service and to specify shift destinations:
   - **Default Destination** — From the **Type** drop-down menu, choose an email group or an email agent queue profile as the default destination of the service, if a shift destination is not defined.

     The groups in the list have been previously defined. Refer to Creating Email Groups on page 121.
   - Shifts area — Use the options in this area to add a shift destination to the service:
     - **Destination** — Use to select either **Group** or **Agent Queue** as the destination for the selected shift.
     - **Group** — Use to change the email group destination for the selected shift. The groups in the list have been previously defined. Refer to Creating Email Groups on page 121 for more information.
     - **Agent Queue** — Use to change the agent queue destination for the selected shift. The agent queues in the list have been previously defined. Refer to Creating Agent Queue Profiles on page 104 for more information.
     - **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the email service, select the shift in the **Available** list, and then click ›. To add all shifts to the service, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

       To remove a shift from the email service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

       You can modify the properties of a shift by selecting it in the **Selected** list and changing the **Group** or **Agent Queue** option.
     - **Explain Shift** — Click for details on a shift. In the resulting calendar, select the day for which you want shift information.

8. Use the **Overflow** tab options to specify the overflow destination for the email service:
   - **Overflow Group** area — Specify the service overflow destination to be an email group.
     - **Timeout** — Use to change the timeout interval of the selected email group in **Selected** list. The timeout interval is the amount of time (in hours, minutes, and seconds) an email is in the group. Once reached, the email is overflowed into another group.

- **Available** and **Selected** List of Overflow Groups — Displays the email groups that exist in the system. Add and remove groups from the **Selected** list to identify the email groups you want to be the overflow destination. The available groups have been previously defined. Refer to Creating Email Groups on page 121 for details.

  You can modify the overflow timeout properties of an email group by selecting it in the **Selected** list and changing the **Timeout** option.

- **Overflow Agent Queues** area — Specify the service overflow destination to be an agent queue.

  - **Timeout** — Use to change the timeout interval of the selected agent queue in **Selected** list. The timeout interval is the amount of time, in hours, minutes, and seconds, an email is in the agent queue. Once the timeout limit is reached, the email is overflowed into another agent queue.

  - **Available** and **Selected** List of Agent Queues— Displays the agent queues that exist in the system. Add and remove agent queues from the **Selected** list to identify the agent queues you want to be the overflow destination. The available agent queues have been previously defined. Refer to Adding an Email Agent Queue on page 132 for details.

    You can modify the overflow timeout properties of an email group by selecting it in the **Selected** list and changing the **Timeout** option.

- **Overflow Shift Groups** area — Add an email group as an overflow destination for a shift.

  - **Shift** — Use to change the shift for the selected shift. The shifts in the drop-down menu have been previously defined. Refer to Defining Shifts on page 168 for information.

  - **Group** — Use to change the email group for the selected shift. The groups in the drop-down have been previously defined. Refer to Creating Email Groups on page 121 for more information.

  - **Timeout** — Enter a different timeout interval for the selected shift. The timeout interval is the amount of time, in hours, minutes, and seconds, an email is in the group. Once the timeout interval is reached, the email is overflowed into another group.

  - **List of Shifts** — The shifts that exist in the system. You can modify the properties of a shift by selecting it in the list and changing the **Shift**, **Group**, and **Timeout** options.

    To define an overflow group destination for a shift, click **Add**. Use the **Shift**, **Group**, and **Timeout** options to change the default properties for the shift.

    To delete a shift, select it in the list and click **Remove**.

- **Overflow Agent Queues** area — Add an agent queue as an overflow destination for a shift.

  - **Shift** — Use to change the shift for the selected shift. The shifts in the drop-down menu have been previously defined. Refer to Defining Shifts on page 168 for information.

  - **Group** — Use to change the agent queue for the selected shift. The agent queues in the drop-down have been previously defined. Refer to Adding an Email Agent Queue on page 132 for details.

- **Timeout** — Enter a different timeout interval for the selected shift. The timeout interval is the amount of time, in hours, minutes, and seconds, an email is in the agent queue. Once the timeout interval is reached, the email is overflowed into another agent queue.
- **List of Shifts** — The shifts that exist in the system. You can modify the properties of a shift by selecting it in the list and changing the **Shift**, **Group**, and **Timeout** options.

  To define an overflow agent queue destination for a shift, click **Add**. Use the **Shift**, **Group**, and **Timeout** options to change the default properties for the shift.

  To delete a shift, select it in the list and click **Remove**.

9. Use the **Interflow** tab to identify the interflow destination for the email service:
   - **Timeout** — The amount of time, in hours, minutes, and seconds, that emails wait in the service before being interflowed.
   - **Default Destination** area — Choose the default interflow destination for the service.
     - **Default Destination** — From the drop-down menu, choose the interflow destination.
     - **IRN** — If the default destination is an email IRN, choose the IRN from the drop-down menu. The email IRNs in the menu have been previously defined as explained in Identifying Email IRNs on page 128.
     - **Service** — Use to specify the service destination from the drop-down menu. The email services in the menu have been previously defined. Refer to Specifying an Email Service on page 123 for information.
     - **Email Address** — If the default destination is an email address, enter the address.
     - **Script** — Use to specify the script destination from the drop-down menu. The scripts in the menu have been previously defined; see Chapter 12, Using Call Control Scripts for details.
     - **Agent Queue** — Use to specify the agent queue destination from the drop-down menu. The agent queues in the menu have been previously defined. Refer to Adding an Email Agent Queue on page 132 for details.
   - **Shifts** area — Add an interflow destination to a shift.
     - **Destination** — Use to change the type of destination for the selected shift in the **Selected** list.
     - **IRN** — If the shift destination is an email IRN, use the drop-down menu to choose the IRN. The email IRNs in the menu have been previously defined as explained in Identifying Email IRNs on page 128.
     - **Service** — Use to specify the service interflow destination for the shift from the drop-down menu. The email services in the menu have been previously defined. Refer to Specifying an Email Service on page 123 for information.
     - **Email Address** — If the shift destination is an email address, enter the address.

- **Script** — Use to specify the shift script destination from the drop-down menu. The scripts in the menu have been previously defined. Refer to Chapter 12, Using Call Control Scripts for details.
- **Available** and **Selected** List of Shifts — Shows the existing worker shifts. Add or remove shifts from the **Selected** list to identify the shifts to which you are adding an interflow destination. For details, see Defining Shifts on page 168.

  You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.
- **Explain Shift** — Click for details on a shift. In the resulting calendar, select the day you want shift information for.
- **Agent Queue** — Use to specify the agent queue destination from the drop-down menu. The agent queues in the menu have been previously defined. Refer to Adding an Email Agent Queue on page 132 for details.

10. Click **Create**.

Identifying Email IRNs

Intelligent Routing Nodes (IRNs) are entry points to the routing system. Each email IRN is defined with rules for routing the incoming email contact.

You can set the initial value of the call profile fields for emails that enter the IRN. A call profile is attached to each contact in the system and consists of dynamic information used to route the contact and provide relevant history. Information is updated as the contact moves through the system. Each field in the call profile is either required by the Connect Contact Center system, or is an optional field used for further email processing. These fields can be different on each installation. You can define the priority and language mandatory fields and all user fields. Refer to Call Profiles on page 12 for more information.

A set of skills can be assigned to an email IRN to further refine how emails are routed to agents. If more than one agent is available to receive an email, the system routes the email based on the best skill fit.

Email IRNs can be associated with a service, call control script, or email address as its routing destination. You can also specify shift destinations, which are routing destinations used at different times of the day.

Complete the following steps to identify an email IRN:

1. From Connect Contact Center Director, click **Email** > **Email IRN.**
2. Click **New**.

   If you have an existing email IRN with parameters similar to what you want, you can quickly add a new IRN by selecting it and clicking **Copy**.
3. Use the following options of the **General** tab to specify the IRN details:

- **IRN** — A unique number or string used as an entry point to the routing system.
- **Email Account** — The email account associated with the email IRN. The email accounts in the menu have been previously defined, and are not associated with an existing IRN, as explained in Adding a New Email Account on page 118.
- **Route Directly to Default Destination** — Select to route emails directly to the default destination, as defined in the **Email > Email IRN > Destination** tab.

4. To set initial call profile field values for the IRN, use the following options on the **Call Profile** tab:
   - **Language —**The initial language of the Language call profile field.

     The languages in the menu have been previously enabled, as described in Enabling a Language on page 194.
   - **Priority** — The initial priority for emails associated with the call profile.
   - **Value** — Specify the value of the user defined call profile field selected in the **Selected** list.
   - **Available and Selected** List of Call Profile fields — Displays the user-defined (optional) call profile fields that exist in the system. To add a call profile field to the email IRN, select the field in the **Available** list, and then click ›. To add all fields to the IRN, click ». The available fields have been previously defined. Refer to Creating Call Profile User Fields on page 176 for details.

     To remove a field from the IRN, select the field in the **Selected** list, and then click ‹. To remove all call profile fields from the email IRN, click «.

     You can change the value of a field by selecting it in the **Selected** list and changing the **Value** option.
5. To set a dialed number identification service (DNIS), click the **DNIS** tab and set the following parameters:
   - **Target ASA** — Set the target Average Speed of Answer (ASA). This is the amount of time in which the email should be answered from the time it is received, and is used to calculate the DNIS Target Service Factor (TSF).
   - **Short Calls Threshold** — Specify the amount of time in which interaction with an email must end to be counted as too short.
   - **Max Talk Time** — Set the amount of time that interaction with an email must exceed to be counted as too long in the Connect Contact Center reports.
   - **Interval Time** — Specify the time period that will be monitored for real-time reports for the email DNIS.

     For example, if this field is set to ten minutes, the real-time report for the DNIS shows statistical information relevant to the last ten minutes.
   - **Service Time Interval** — Set the time intervals in which emails are monitored.

     Statistics on the emails can be viewed in STI histogram reports that show the number of emails waiting in each given interval.

6. Click the **Skills** tab and use the following options to assign agent skills to the email IRN:

   - **Value** — Change the value of the selected skill in the **Selected** list.
   - **Available** and **Selected** List of Skills — Displays the skills that exist in the system. Add and remove skills from the **Selected** list to identify the skills you want to be the IRN. The skills in the **Available** list have been previously defined. Refer to Identifying Agent Skills on page 175 for information.

     You can change the value of a skill by selecting it in the **Selected** list and changing the **Value** option.

7. Use the options on the **Destination** tab to change destination for the email IRN:

Note

If the default destination is **Email Address** and you enter an external email address in this field, you may need to modify the SMTP security settings to enable the local SMTP service be able to send email out to your external address. Refer to Internet Information Services documentation for information about how to modify the SMTP security settings.

   - **Default Destination** — From the drop-down menu, choose the destination.
     - **Service** — Use to specify the email service destination from the drop-down menu. The services in the menu have been previously defined. Refer to Specifying an Email Service on page 123 for information.
     - **Email Address** — If the default destination is an email address, enter the address.
     - **Script** — Use to specify the script destination from the drop-down menu. The scripts in the menu have been previously defined. Refer to Chapter 12, Using Call Control Scripts for details.
     - **Agent Queue** — Use to choose the agent whose personal agent queue is the destination.If the destination is an agent queue, use the **Agent Queue** drop-down menu to choose the agent whose personal agent queue is the destination. The agents in the list have been previously associated with an agent queue. Refer to Adding an Agent Queue Profile on page 105 for information.
   - **Shifts**
     - **Type** — Use to change the type of destination for the selected shift in the **Selected** list.
     - **Service** — If the shift destination is an email service, choose the service from the drop-down menu. The email services in the menu have been previously defined. Refer to Specifying an Email Service on page 123 for information.
     - **Email Address** — If the shift destination is an email address, enter the address.
     - **Script** — Use to specify the shift script destination from the drop-down menu. The scripts in the menu have been previously defined. Refer to Chapter 12, Using Call Control Scripts for details.
     - **Agent Queue** — Use to choose the agent whose personal agent queue is the destination.

- **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. Add and remove shifts from the **Selected** list to identify the shifts you want to be the destination for the IRN. The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

  You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.

  For details on a shift, click **Explain Shift**. In the resulting calendar, and select the day for which you want shift information.

8. Click **Create**.

Modifying Email Entities

Complete the following steps to modify an email entity:

1. To edit an email account, from Connect Contact Center Director click **Email** > **Email Accounts**. Refer to Adding a New Email Account on page 118 for information.
2. To change an email group, from Connect Contact Center Director click **Email** > **Email Groups** and make the appropriate changes. Refer to Creating Email Groups on page 121 for more information.
3. If you want to modify the email service, from Connect Contact Center Director click **Email** > **Email Services** tabs. Refer to Specifying an Email Service on page 123 for information.
4. To change the IRNs used as email entry points to the routing system, from Connect Contact Center Director, click **Email** > **Email IRN**. Refer to Identifying Email IRNs on page 128 for details
5. To change the email DNIS from Connect Contact Center Director, click **Email** > **Email IRN** > **DNIS**. Refer to Adding a New Email Account on page 118 for more information.
6. Click **Save**.

Deleting an Email Entity

Complete the following steps to delete an email entity:

1. From Connect Contact Center Director, click **Email**.
2. Click the type of email entity you want to delete an item for. For example, if you want to delete an email group, click **Email** > **Email Groups**.
3. In the List View panel, select the specific entity that you want to delete.
4. Click **Delete**.

Defining Email Agent Queue Profiles

Email agent queue profiles define common attributes that can be used across multiple email agent queues. An email agent queue allows ACD email calls to be queued for a specific agent. If that agent is not available, the email call can then be routed to another destination. This feature is useful if you have a single agent responsible for a certain area of expertise or geographic location, or if your agents give customers their email address for direct email calls. Email agent queues can also be used as a routing destination by a service, IRN, or call control script.

Up to 2,000 individual email agent queues can be created in Connect Contact Center.

Adding an Email Agent Queue

Complete the following steps to create an email agent queue profile:

1. From Connect Contact Center Director, click **Email** > **Email Agent Queue Profiles**.
2. Click **New** in the List View panel.

   If you have an existing email agent queue profile with parameters similar to what you want, you can quickly add a new profile by selecting it and clicking **Copy**.
3. In the **General** tab, enter a unique name for the profile.
4. Use the options in the Settings area to specify how calls are handled in the agent queue.

   - **Interflow/Overflow on Requeued Calls** — Select if you want calls that are placed back in the queue by the agent to be subject to interflow and overflow routing rules.

     If this option is not selected, the email call stays in the queue until the agent either retrieves it or logs out of the queue.

   - **Incoming Priority** — The priority of incoming calls in the agent queue.

     If you choose **Set Fixed Value**, enter a **Fixed Value**. The value can be any number between 0 and 100 with 100 being the highest priority.

     If you choose **Set Relative Value**, enter a **Relative Value**. The value can be any number between -100 and 100, with 100 being the highest priority.
5. **Email interrupts Voice Interaction** — When selected, the system will route email interactions to agents who are currently on voice interactions. When this option is not selected, agents are not interrupted by email while on voice interactions. This option is disabled by default.
6. You can define the amount of time to gather information for reports in the Statistics area.

   - **Target Average Speed of Answer (ASA)** — The amount of time, in seconds, that should elapse between the moment an email call is received and answered. This parameter is used to calculate the queue's Target Service Factor (TSF) and used in Connect Contact Center reports.

   - **Interval Time** — The length of time, in minutes, that the queue is monitored for the purpose of reporting on real-time events.

7. In the Timers area, determine the amount of time agents have in wrap-up and release mode.
   - **Wrap-Up Time** — The time that an agent has for post email call activity after the completion of the email call. Though the agent's extension is idle, Connect Contact Center does not route another email call to the agent until after this time period has expired.
   - **Forced Release Timeout** — The time that an unanswered email call can alert for an agent before being routed to another destination, such as to another queue or available agent, and the agent is forced into released mode.
8. Click **Create**.

Assigning Agents to a Profile

Complete the following steps to assign agents to an email agent queue profile:

1. From Connect Contact Center Director, click **Email** > **Email Agent Queue Profiles.**
2. In the List View panel select the profile to which you want to assign agents.
3. In the Details View panel, click the **Agents** tab.
4. To add an agent to the profile, select the agent in the **Available** list and then click ›. To add all agents to the profile, click ».

   Each agent can only be assigned to one profile at a time. If an existing agent does not appear in the **Available** list, that agent has already been assigned to an email agent queue profile.

   The agents in the **Available** list have been previously defined, as explained in Creating Agent Accounts on page 46.
5. To remove an agent from the profile, select the agent in the **Selected** list and then click ‹. To remove all agents from the profile, click «.
6. Click **Save**.

Changing a Profile's Threshold Value

Threshold values are assigned to some of the fields that are shown in real-time reports to alert you to changing conditions of an email agent queue.

Alerts are indicated in a queue report by being highlighted with default background colors. The Yellow threshold indicates that the value is in a low warning range meaning it is slightly too high or too low; by default fields that exceed this threshold are highlighted in yellow. The Red threshold indicates the value is in a high warning range meaning it is unacceptably high or unacceptably low. By default, fields that exceed this threshold are highlighted in red. You can change the default background color for these fields, as explained in Specifying Reporting Preferences on page 169.

Complete the following steps to change a profile's threshold value:

1. From Connect Contact Center Director, click **Email** > **Email Agent Queue Profiles**.

2. In the List View panel, select the profile you want to change threshold values for.
3. In the Details View panel, click the **Thresholds** tab.
4. For the specific field, select the threshold number you want to change in the Yellow State or Red State area, and enter the new value.
5. Click **Save**.

Specifying a Profile Overflow Destination

Overflow improves the way email calls waiting in a queue are handled by offering these calls to another agent queue or to an agent group. This expands the number of agents who can answer waiting calls. Overflow is activated after the overflow timeout interval has been reached.

In addition to incoming email calls, overflow can also be applied to outbound email calls.

Complete the following steps to specify an overflow destination for the agent queue profile:

1. From Connect Contact Center Director, click **Email** > **Email Agent Queue Profiles**.
2. In the List View panel select the profile whose overflow destination you want to specify.
3. In the Details View panel, click the **Overflow** tab.
4. In the Selection Criteria on Overflow area, define the method by which an available agent is selected for a email call that enters the queue of an Overflow group. This method is used whenever an email call enters the queue of an Overflow group, and there is more than one available agent to handle the email call. If only one agent is available at that time, that agent will get the email call.
   - **Longest Idle** — The call is assigned to the agent who has been idle the longest.
   - **Terminal** — The call is assigned to the first available agent, in the order the agent is listed in the **Groupings** > **Groups** > **Agents** tab.

Note

To be assigned the email call in the order listed in the **Groupings** > **Groups** > **Agents** tab, agents must be logged into the group associated with this service as a primary group. Agents logged into this group, but not as a primary group, receive the call only if all other agents in the list are not available.

Agents are assigned primary groups using the **Agents** > **Agents** > **Groups** tab or **Groupings** > **Groups** > **Agents** tab. Refer to Assigning Primary Groups to an Agent on page 52 and Assigning Agents to a Group on page 75 for details.

   - **Circular** — The system searches the Overflow group's agent list for the next available agent, and the search starts from the last agent to receive an email call. This method attempts to distribute calls equally between agents in the Overflow group.

- **Best Skill Fit** — The system looks for the agent whose skills best fit the requirements of the call. In a case where two agents with the same skill fit are found, the system uses one of the following methods to decide which agent receives the email call.
  - **Longest Idle** — The call is assigned to the agent, among all the agents with the same skill fit, who has been idle the longest.
  - **Terminal** — The call is assigned to the first available agent, among all the agents with the same skill fit, in the order the agent is listed in the **Groupings** > **Groups** > **Agents** tab.
  - **Circular** — The system searches the queue's agent list, among all the agents with the same skill fit, starting from the last agent to receive an email call, for the next available agent. This method attempts to distribute email calls equally between agents in the queue.

Note

When **Best Skill Fit** is combined with **Circular**, email calls are routed to agents starting with the agent who has the best skill fit. For example, if you have 10 agents active, and agent number 3 has the best skill fit, email calls will be routed to this agent before any other agent, and then email calls will be routed from this agent forward. If agent number 3 is not available, the email call will route to agent 4 and beyond. This scenario may mean that agent 3 has the highest number of email calls, and agents 1 and 2 do not get email calls routed to them.

5. If you want the overflow destination to be an agent group, use the options in the Overflow Group area.
   - **Timeout** — Use to change the timeout interval of the selected group in **Selected** list. The timeout interval is the number of seconds an email call is in queue, after the mandatory announcement. Once reached, the email call is overflowed into another group.
   - **Available** and **Selected** List of Overflow Groups — Displays the agent groups that exist in the system. To add an agent group to the queue as an overflow destination, select the group in the **Available** list, and then click ›. To add all groups as an overflow destination, click ». The available groups have been previously defined. Refer to Creating Agent Groups on page 73 for details.

     To remove a group as an overflow destination, select the group in the **Selected** list, and then click ‹. To remove all groups as an overflow destination, click «.

     You can modify the overflow timeout properties of a group by selecting it in the **Selected** list and changing the **Timeout** option.
6. Use the options in the Overflow Queue of Other Agents area if you want to specify another agent queue as the overflow destination.
   - **Timeout** — Use to change the timeout interval of the selected agent's queue in the **Selected** list. The timeout interval is the number of seconds an email call is in queue, after the mandatory announcement. Once reached, the email call is overflowed into another agent queue.

- **Available** and **Selected** List of Overflow Agent Queues — Displays the agents in the system with queues. In the **Selected** list, add and remove agent queues to specify the queue to which you want to add another agent queue as an overflow destination. The available agent queues have been previously defined. Refer to Adding an Email Agent Queue on page 132 for details.

  You can modify the overflow timeout properties of an agent queue by selecting it in the **Selected** list and changing the **Timeout** option.

7. Click **Save**.

Determining a Profile Interflow Destination

Interflow transfers calls waiting in a queue to another destination. Interflow is activated after a specified period of time (timeout) has been reached.

Once an email call has been interflowed, it is no longer part of the ACD domain. If the interflow destination is an IRN or service, the email call reenters the system as a new ACD call.

Complete the following steps to determine a profile interflow destination:

1. From Connect Contact Center Director, click **Email** > **Email Agent Queue Profiles**.
2. In the List View panel select the profile whose interflow destination you want to determine.
3. In the Details View panel, click the **Interflow** tab.
4. In Default Destination, choose the interflow destination, and then use one of the following fields to specify the destination:

   - **IRN** — Select an IRN for the default destination. The IRNs in the menu have been previously defined.
   - **Service** — Select a **Service** for the default destination. The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for information.
   - **Email Address** — If the default destination is a device, enter the device number.
   - **Script** — Select a **Script** for the default destination. The scripts in the menu have been previously defined. Refer to Chapter 12., Using Call Control Scripts for details.
   - **Agent Queue** — If the default destination is another agent queue, choose the agent whose personal agent queue is the destination. The agents in the menu have been previously associated with an agent queue, as explained in Defining Email Agent Queue Profiles on page 132.

5. In **Timeout**, specify the number of seconds that email calls wait in the queue before being interflowed. The maximum number of seconds that you can enter in this field is 9,999. If you require more time, contact your Mitel representative.
6. Click **Save**.

Identifying a Destination for a Queue with No Agents

The No Agents destination routes calls in an agent queue that has no agents logged into it to another destination. By default, this is the Incomplete destination. If the No Agents destination is an IRN, the system counts it as a new, incoming call.

Complete the following steps to identify a No Agent destination:

1. From Connect Contact Center Director, click **Email** > **Email Agent Queue Profiles**.
2. In the List View panel, select the profile for which you want to identify a No Agent destination.
3. In the Details View panel, click the **No Agent Destination** tab.
4. If you want the email calls that enter the queue when there are no agents logged in to it to first be routed to an overflow destination, click **Use Overflow Destination**. **Use Overflow Destination** overrides any other no agent destination settings defined for the email agent queue.

   Email calls are routed to the first interval overflow destinations. If these destinations do not have any logged in agents, the email calls are then sent to the Email Incomplete Destination configured in **System Parameters > Routing Preferences > Incomplete Destinations > Email**. Refer to Determining the Incomplete Destination on page 172 for more information.
5. In Default Destination, choose the No Agent destination for the queue, and then use one of the following fields to specify the destination.By default, the No Agent destination is the Incomplete destination defined in **System Parameters** > **Routing Preferences** > **Incomplete Destinations**.
   - **IRN** — If the default destination is an IRN, choose the IRN from the drop-down menu. The IRNs in the menu have been previously defined, as explained in Complete the following steps to create an IRN: on page 98.
   - **Device** — If the default destination is a device, enter the device number.
   - **Script** — Use to specify the script destination from the drop-down menu. The scripts in the menu have been previously defined; see Using Call Control Scripts, starting on page 231, Using Call Control Scripts for details.
   - **Agent Queue** — If the default destination is another agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue, as explained in Defining Email Agent Queue Profiles on page 132.
6. Click **Save**.

CHAPTER

7

Identifying IVR Applications for Reporting

The IVR entity is used to monitor different points of the system and to generate reports using Connect Contact Center Agent Manager for real-time reports and Connect Contact Center Reports for historical reports. Refer to the online help for each of these applications to view the templates available for IVR applications reports.

IVR (interactive voice response) applications are used by the Contact Center to perform interactive tasks with the caller. Each application is composed of actions forming a script to execute a procedure. IVR ports, which are configured as route points in the Mitel Connect system, are used by Connect Contact Center to perform an IVR action on a call. An IVR group is a number of IVR ports that are combined as a statistical entity for the purpose of measuring IVR port performance.

Identifying IVR Applications

IVR applications are used by the Mitel Connect system to perform interactive tasks with the caller. Each application is composed of actions forming a script to execute a procedure. You can create an IVR application account to report on IVR application activity

IVR ports are used by the Mitel Connect system to perform an IVR action or play music-on-hold when a call enters Connect Contact Center. An IVR port is part of the system's numbering plan.

An IVR group is a number of IVR ports that are combined as a statistical entity for the purpose of reporting on IVR port performance. No limit exists on how you can define an IVR group. For example, all IVR ports in a particular call center can be part of a single IVR ports group. In another call center, the IVR ports can be grouped according to some physical parameter. For example, all ports on a specific distributed IVR server can be grouped as an IVR group.

The process of defining IVR applications in Connect Contact Center includes the following steps:

1. *Setting the Prerequisite IVR Group Parameter*.
2. *Creating an IVR Group*.
3. *Creating an IVR Application Account*.

You can also *Modifying an IVR Group*, and *Deleting an IVR Group*.

Setting the Prerequisite IVR Group Parameter

Before creating IVR groups, specify the IVR ports to combine into an IVR group. Refer to Creating IVR Ports on page 192 for details.

Once specified, this parameter automatically appears as an option that you can choose, allowing you to more quickly and easily create new IVR groups.

Creating an IVR Group

Create an IVR group to combine IVR ports as a statistical entity for the purpose of measuring IVR port performance.

Complete the following steps to create a new IVR group:

1. From Connect Contact Center Director, click **IVR Configuration** > **IVR Groups.**
2. Click **New**.

   If you have an existing IVR group with parameters similar to what you want, you can quickly add a new group by selecting it and clicking **Copy**.
3. In the **General** tab, specify a name for the group.
4. Specify the ports in the IVR group.

   To add an IVR port to the group, select the port in the **Available** list, and then click ›. To add all ports to the group, click ». The available ports have been previously defined. Refer to Creating IVR Ports on page 192 for details.

   Note that an IVR port can belong to only one IVR group. If you have assigned all your IVR ports to a group, there will not be any ports in the **Available** list.

To remove an IVR port from the group, select the port in the **Selected** list, and then click <. To remove all ports from the group, click <<.

5. Click **Create**.

Creating an IVR Application Account

IVR applications are used by Connect Contact Center to perform interactive tasks with the caller. Each IVR application is composed of different actions to form a script that executes a procedure. An IVR application may use a single script or multiple scripts in a single application.

You create an IVR application account in order to generate reports on IVR application activity.

Complete the following steps to create an IVR application account:

1. From Connect Contact Center Director, click **IVR Configuration** > **IVR Applications**.
2. Click **New**.

   If you have an existing IVR application account with parameters similar to what you want, you can quickly add a new account by selecting it and clicking **Copy**. Then make the necessary changes to the account details, as explained here.
3. In the **General** tab, specify a name for the account.
4. Use **Min Handling Time** to specify the number of seconds in which a call must end to be counted as too short.
5. In **Max Handling Time**, enter the number of seconds that a call must exceed to be counted as too long.
6. If you want to measure the length of time to be monitored for reports for the IVR application, specify the number of minutes in **Interval Time**.

   For example, if this field is set to ten minutes, the real-time report for the IVR application will show statistical information relevant to the last ten minutes.
7. Click **Create**.

Modifying an IVR Group

Complete the following steps to modify an IVR group:

1. From Connect Contact Center Director, click **IVR Configuration** > **IVR Groups**.
2. In the List View panel, select the group you want to modify.
3. Use the options on the **General** tab to change the group name or the ports assigned to the group.

   These options are described in Creating an IVR Group on page 140.
4. Click **Save**.

Deleting an IVR Group

Complete the following steps to delete an IVR group:

1. From Connect Contact Center Director, click **IVR Configuration** > **IVR Groups**.
2. In the List View panel, select the group you want to delete, and then click **Delete**.

CHAPTER

8

Specifying Call Handling by Domain and Dial List

Domains enable calls to be handled according to their geographical location. Domains are defined by the leading digits (such as the area code or area code plus a prefix) in the caller ID. The system can generate reports to show how many calls have been received from a particular geographical area or domain.

Dial lists are sets of telephone numbers, in a database, used for outbound calls. The dial list entities define the rules for dial lists.

Refer to the following sections for more information about domains and dial lists:

Specifying Domains

Domains enable calls to be routed according to their geographical location or source. This is done by analyzing the number prefix of the ANI (CID) of incoming calls. An ANI prefix is a series of digits that are part of a dial number, such as an area code, which represent the location from where the call was made.

You can also generate reports according to domains for specific information regarding a geographical location — for example, how many calls were received from a particular town or city.

The process of specifying domains in Connect Contact Center includes the following steps:

1. *Setting Prerequisite Domain Parameters*.
2. *Adding a New Domain*.
3. *Assigning an ANI Prefix to a Domain*.
4. *Identifying Customers*.

You can also *Modifying a Domain*, and *Deleting a Domain*.

Setting Prerequisite Domain Parameters

Before creating domains, specify the following parameters:

- (Optional) User call profile fields to collect information used to route calls from the domain. Refer to Creating Call Profile User Fields on page 176 for more information.
- Agent skills required for handling calls that enter the domain and for handling customer calls. Refer to Assigning a Set of Skills to an Agent on page 53 for more information.
- Domain default and shift destinations, which can be a service, a device, a call control script, or an agent queue. Refer to the following sections for more information:
  - Services — Adding a New Service on page 81
  - Call control scripts — Chapter 12, *Using Call Control Scripts*
  - Agent queues — Adding an Agent Queue Profile on page 105

Once specified, these parameters automatically appear as options that you can choose, allowing you to more quickly and easily create new domains.

Adding a New Domain

You can define the values of the user call profile fields for calls that are routed by the domain routing rules. User fields contain optional call profile information that is used for further call processing.

For each domain in the system, you can identify the agent skills required for handling calls that enter the domain. An agent skill is measured by two factors: capability and preference. The value assigned to a skill is a combination of these factors expressed as a percentage.

You can also specify a domain's default destination and shift destinations, which are routing destinations used at different times of the day.

Complete the following steps to add a new domain:

1. From Connect Contact Center Director, click **Domains** > **Domains**.

2. Click **New**.

   If you have an existing domain with parameters similar to what you want, you can quickly add a new domain by selecting it and clicking **Copy**.

3. In the **General** tab, specify the domain **Name**.

4. To gather statistical information on the domain for reporting purposes, click **Provide Statistical Information**. Otherwise, the domain is for routing purposes only and space is saved in the database, since data will not be compiled for reports.

5. Use the options on the **Call Profile** tab to define the parameters of a call profile(s) for the domain.

   - **Priority** — Enter the initial value of the priority call profile field.
   - **Value** — Use to change the initial value of the selected user-defined call profile field in the **Selected** list.
   - **Available and Selected List of Fields** — To add a user-defined call profile field to the domain, select the field in the **Available** list and then click ›. To add all fields to the domain, click ». The available call profile fields have been previously defined. Refer to Creating Call Profile User Fields on page 176 for details.

     To remove a user-defined call profile field from the domain, select the field in the **Selected** list, and then click ‹. To remove all fields from the domain, click «.

     You can change the value of a call profile field by selecting it in the **Selected** list and changing the **Value** option.

6. To identify agent skills for the domain, use the following options on the **Skills** tab:

   - **Value** — Use to change the value of the selected skill in the **Selected** list.
   - **Available and Selected List of Skills** —The skills that exist in the system. Add and remove skills from the **Selected** list to identify the skills for the domain, The available skills have been previously defined. Refer to Identifying Agent Skills on page 175 for details.

7. Click the **Destination** tab and use the options in the **Default Destination** area to specify the domain's destination

   - **Destination Type** — From the drop-down menu, choose the domain destination.
   - **Service** — Use to specify the service destination from the drop-down menu. The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for information.
   - **Device** — If the default destination is a device, enter the device number.
   - **Script** — Use to specify the script destination from the drop-down menu. The scripts in the menu have been previously defined. Refer to Chapter 12, *Using Call Control Scripts* for details.

- **Agent Queue** — If the default destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue, as explained in Adding an Agent Queue Profile on page 105.

8. To add a domain destination to a shift, use the options in the **Shifts** area:

   - **Destination Type** — Use to change the type of destination for the selected shift in the **Selected** list.
   - **Service** — Use to specify the service domain destination for the shift from the drop-down menu. The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for information.
   - **Script** — Use to specify the shift script destination from the drop-down menu. The scripts in the menu have been previously defined. Refer to Chapter 12, *Using Call Control Scripts* for details.
   - **Device** — If the shift destination is a device, enter the device number.
   - **Agent Queue** — If the shift destination is an agent queue, choose the agent whose personal agent queue is the destination from the drop-down menu. The agents in the menu have been previously associated with an agent queue, as explained in Adding an Agent Queue Profile on page 105.
   - **Available and Selected List of Shifts** — Displays the shifts that exist in the system. Add and remove shifts from the **Selected** list to identify the shifts you want to be the domain destination. The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

     You can change the destination of the shift by selecting it in the **Selected** list and changing the **Destination Type** options.

9. Click **Create**.

Assigning an ANI Prefix to a Domain

Domains are routed by analyzing the number prefix of the ANI (CID) of incoming calls. An ANI prefix is a series of digits that are part of a dial number (such as an area code), which represent the location from where the call was made.

Complete the following steps to assign an ANI prefix to a domain:

1. From Connect Contact Center Director, click **Domains** > **ANI Prefixes.**
2. Click **New**.

   If you have an existing ANI prefix with parameters similar to what you want, you can quickly add a new ANI prefix by selecting it and clicking **Copy**.

3. In the **General** tab, specify the ANI prefix in the **ANI Prefix** field.

   For example, any number that starts with ‘212’ has an ANI prefix of 212 (212-561-7080 and 212-5678 both start with the ANI prefix of 212).

A number can only belong to a single ANI prefix at any one time. Thus, if both 212 and 2124 have been defined as prefixes, the number 212-404-1234 belongs only to the second prefix.

4. From the **Domain** drop-down menu, select the domain to which you are assigning the ANI prefix.

   The domain in the menu have been previously defined. Refer to Adding a New Domain on page 144 for more information.

5. Click **Create**.

Identifying Customers

The Customers entity is used by IRNs that use customer routing (i.e., those IRNs for which the Customer Routing options have been specified, as explained in Complete the following steps to create an IRN: on page 98. When the system identifies a caller based on the Customers entity, the contact is routed to the customer's preferred service.

For example, when a call enters an IRN, the system searches for the ANI in the Customers entity. If no ANI is attached to the call, and **Routing** > **IRN** > **General** > **Use Script to Collect Customer ID** is selected, the system routes the call to the specified script. The script fills in the customer ID in the Customer Number call profile field. The system then uses the caller ID to search the Customers entity. If the customer is found, the system attaches the customer's priority and skills definitions to the call and routes the call to the preferred service.

A customer in the system might have one or more ANIs when dialing into the call center, which are listed in the system. For example, a customer in the system might have both cell and home phone numbers. When a customer calls, the system compares its ANI to the numbers in the Customer entity. If the system finds the ANI, the customer is identified.

For each customer in the system, you can define the agent skills required for handling calls from that customer. An agent skill is measured by two factors: capability and preference. The value assigned to a skill is a combination of these factors expressed as a percentage.

Complete the following steps to identify a customer:

1. From Connect Contact Center Director, click **Domains** > **Customers.**

2. Click **New**.

   If you already have a customer with parameters similar to what you want to specify, you can quickly specify a new customer by selecting it and clicking **Copy** and then changing details as needed for the new customer, as explained here.

3. In the **General** tab, specify the customer name and ID.

   The Customer ID is a unique number that identifies the customer. If no ANI is available, the system uses the contents of the Customer ID field for the call profile to search the customer entity.

4. From the **Preferred Voice/Chat Service** drop-down menu, choose the preferred service for the customer. This is the service to which contacts from the customer are routed.

The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for details.

5. Enter the initial priority of a contact from the customer in the **Initial Priority** field.
6. In the **Customer ANI** area, use the following options to add an additional ANI to the customer:
   - **Caller ANI** — Defines the ANI of the selected ANI in the Caller ANI list.
   - **Caller ANI List** — The list of ANIs associated with the customer. To add an ANI, click **Add**, and then enter the ANI in the **Caller ANI** field.

     To delete an ANI associated with the customer, select the ANI in the **Caller ANI** list and click **Remove**.
7. To define agent skills for a customer, select the **Skills** tab and fill out the following options:
   - **Ability** — Changes the skill level of the selected skill in the **Selected** list.
   - **Available and Selected List** — Displays the skills that exist in the system. To add a skill to the customer, select the skill in the **Available** list, and then click ›. To add all skills to the customer, click ». The available skills have been previously defined. For information, see Identifying Agent Skills on page 175.

     To remove a skill from the customer, select the shift in the **Selected** list, and then click ‹. To remove all skills from the customer, click «.

     You can change the ability of the skill by selecting it in the **Selected** list and changing the **Ability** option.
8. Click **Create**.

Modifying a Domain

Complete the following steps to modify a domain:

1. From Connect Contact Center Director, click **Domains** > **Domains**.
2. In the List View panel select the domain to modify, click the **General** tab, and make changes as described in Adding a New Domain on page 144.
3. If you want to change the ANI prefixes for the domain, click **Domains** > **ANI Prefixes** and make the appropriate changes. Refer to Assigning an ANI Prefix to a Domain on page 146 for information about ANI prefixes.
4. To change information on the customers associated with the domain, click **Domains** > **Customers**. Refer to Identifying Customers on page 147 for information.
5. Click **Save**.

Deleting a Domain

Deleting a domain deletes all of the statistics associated with it.

Complete the following steps to delete a domain:

1. From Connect Contact Center Director, click **Domains** > **Domains**.
2. In the List View panel, select the domain you want to delete and then click **Delete**.

Dial Lists

Dial lists are sets of telephone numbers, in a database, used for outbound calls. The dial list entities define the rules for dial lists. These rules specify the input, which is the source for the set of telephone numbers, and the scheduling, which is the dates and times when the dial list is active. You can also have the system save output, which is every call result, to an external database.

The database connection of a dial list specifies the input required to query the database and retrieve the set of dial numbers to be dialed. It is recommended that your dial list database be case-insensitive, since the format of a dial list query is automatically converted to lower-case characters when run.

The input can also provide the system with information used by agents. For example, when agents are assigned an outbound call from a dial list, Interaction Center displays a notification, and the agent must click Yes to accept the call.

To make the information in the notification more useful to the agent, you can populate the **Customer Number** and **Customer Name** fields from the call profile. Use Connect Contact Center Director > **Dial Lists** > **Input** > **Mandatory Call Profiles** to assign these call profile fields to the account and fname columns, respectively.

The system retrieves the customer number and name from the call profile of each call in the dial list, and displays it in the notification.

Dial lists are in the form of a table in an SQL database. To activate a new dial list, you must define the scheduling parameters.

Setting Prerequisite Dial List Parameters

Setting prerequisite dial list parameters allows you to quickly and easily create new dial lists. Before creating dial lists, specify the following parameters:

- The destination for dial list calls, which can be a service or an agent queue. Refer to Adding a New Service on page 81) and Adding an Agent Queue Profile on page 105 for more information.
- The script that a customer hears before the call is transferred to an agent. Refer to Chapter 12 on page 231, for more information.
- The connections to databases containing the sets of telephone numbers used in the dial list. Refer to Working with Interfaces on page 186.

- SQL statements to query the database containing the data for dial lists. Refer to Defining SQL Statements on page 163 for more information.
- User-defined call profile fields to which you want to map database columns and to set initial values Refer to Creating Call Profile User Fields on page 176 for information.
- Agent skills to assign to dial list calls. Refer to Identifying Agent Skills on page 175 for more information.
- Do Not Call and Call tables to use in a dial list. Refer to Configuring DNC and Call Tables on page 162.
- Time zone data used to define the hours in which calls are made. Refer to Configuring Time Settings for Outbound Calls on page 181 for more information.
- The columns in the Input table in which the numbers to dial are located. Refer to Dial Lists on page 149 for more information.

Adding a Dial List Account

Complete the following steps to add a new dial list account:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**
2. Click **New**.

   If you have an existing dial list with parameters similar to what you want, you can quickly add a new dial list by selecting it and clicking **Copy**.
3. Complete the procedures in the following sections as appropriate:
   - Configuring General Settings for a Dial List on page 150
   - Configuring Input Settings for a Dial List on page 153
   - Specifying Dial List Results on page 155
   - Defining Call Profile Field Values for a Dial List on page 157
   - Identifying Agent Skills for a Dial List on page 157
   - Configuring Advanced Parameters for a Dial List on page 158
   - Creating Dialing Rules on page 158
   - Importing New Dial List Records on page 159

Configuring General Settings for a Dial List

1. In Connect Contact Center Director, click **Dial Lists** > **Dial Lists** > **General**.
2. Use the options in the **Details** area to specify details about the dial list:
   - **Name** — A unique name for the dial list.

- **Destination Type** — The destination of the dial list.
- **Service** — If the destination is a service, choose the service from the drop-down menu. The services in the menu have been previously defined. Refer to Adding a New Service on page 81 for information.
- **Agent Queue** — The agent whose personal agent queue is the destination. The agents in the menu have been previously associated with an agent queue, as explained in Adding an Agent Queue Profile on page 105.
- **Run Script Before Transferring to Agent** — Configures Connect Contact Center to play a script before the call is transferred to an agent.

Tip

When you configure your system to transfer a callback call to an agent upon connection, Mitel suggests you configure any related scripts to include an announcement to let the caller know that the call has been placed as a result of a callback request and to announce that the caller is being connected to an agent.

- **Script** — The script that the customer hears. The scripts in the menu have been previously defined, as explained in Using Call Control Scripts, starting on page 231.
- **Require Agent Confirmation** — The option to accept or reject the call.

  If you select this option, agents reserved for a dial list call receive a notification displaying the call details and the ability to accept or reject the call.

  If the call is accepted, it is transferred to the agent. If rejected, or if the amount of time specified in **Wait for Agent Confirmation** expires, the system releases the agent from reserved mode.
- **Wait for Agent Confirmation** — The number of seconds the system waits for the agent to accept the call.
- **Maximum Number of Retries** — The number of times that the system should retry the call, when the call is not answered or results in a busy signal.

  The maximum number of times the system attempts to dial this customer is one more than this number.

Tip

Connect Contact Center retries unanswered outbound calls every 45 seconds. When the retry is started, it applies to all calls that are due for a retry.

- **Retry Calls** — The percentage of retry calls from total initiated calls.
- **Retain Dial List** — The number of days that the dial list should be retained in the database once the dial list activity is completed.
- **Campaign Caller ID** — The number used by the system as the originating number of the call. This number is displayed to the customer as the Caller ID.

This option is especially useful for a dial list that is used for an outbound campaign.

Note

Only specific types of trunks, such as PRI, allow you to customize the CLID. Ensure that you have the right trunk before implementing this feature.

3. Use the following options in the **Active Dial List On** area to specify how the system treats calls in an active dial list:

   - **Transfer to Agent on** — Select **Connect** to transfer the call to the agent when the customer picks up. Select **Ring** if the call should be transferred to the agent when the customer's phone rings.

Note

The Ring option for this setting is supported only with PRI trunk service.

   - **Customer Disconnect in IVR** — If a customer hangs up before the call is transferred to the agent, and you want the system to call the next customer in the list, select **Stop**. To have the system repeat the call at a later time, select **Continue**.
   - **Maximum Dial Numbers in Queue** — Specify the maximum number of dial list calls that should be waiting in the queue simultaneously.
   - **Conditional Call Placement** — A call is activated whenever this option is selected and the associated statistical condition is true.
     - **Condition** — Use the drop-down menu to select the statistical condition.
     - **TSF Greater Than** — If the statistical condition is **TSF Greater Than**, the percentage of the level of service (TSF) that is greater than this number.
     - **Number Queued Calls Less Than** — If the statistical condition is **Queued Calls Less Than**, the number of calls waiting in the queue that is less than this number.
     - **Average Wait Time Less Than** — If the statistical condition is **Average Wait Time Less Than**, the average wait time, in seconds, of a call in the queue that is less than this number.

4. The **Status** area shows the current status of the dial list. To refresh the information, click **Refresh**.

   The status information indicates whether the dial list is **Active**, **Not Active**, **Paused**, **Finished**, or **Terminated**.

5. To stop an active dial list, click **Terminate**.

Configuring Input Settings for a Dial List

Configuring the input settings for a dial list allows you to specify the information you want to import from an ODBC database to define the dial list.The information you import may include the phone numbers, customer names, and skills associated with the type of call. You also can configure monitoring capabilities for the database. For example, you can configure the dial list to check the status of the associated phone numbers.

1. In Connect Contact Center Director, click **Dial Lists > Dial Lists**.
2. In the List View panel, select the dial list for which you want to configure input settings, and then click the **Input** tab.
3. From the **Connection Name** drop-down menu, select the connection to the database containing the dial list.

   The connections in the menu have been previously defined, as explained in Working with Interfaces on page 186.
4. Use the **Response Timeout** field to specify the amount of time, in seconds, in which the selected database is expected to respond to queries.
5. In the **Table Key Column** field, identify the name of the column that is the index of the table that describes the dial list.
6. Use the **SQL Query – Import Dialing Information** field to write the SQL query to retrieve the necessary information for the dial list from the database.

   If you have already defined SQL statements, click **Show Predefined SQL**, select the appropriate statement in the **Predefined SQL** list, and click **Use Predefined SQL**. Click **Test** to validate the query.

   Refer to Defining SQL Statements on page 163 for information about defining SQL statements.

Note

Connect Contact Center modifies input and output queries to ensure optimal system performance. For example, an input dial list query is limited to 50 records. To customize a query to your specifications, create a SQL statement or a stored procedure.

7. In the **SQL Query - Check Status before Dialing Out** field, define a SQL query to check the status of the phone numbers before dialing. This query is useful since, because the query to import dialing information is done before the dialing process starts, a telephone number may no longer be valid for the list. The query is performed before a specific number is dialed.

8. Use the **Dial Number** fields to specify which columns in the Input table the numbers to dial are located:

Notes

- **Dial Number - 1**, **Dial Number - 2**, and **Dial Number - 3** are dialed in the sequence configured in this step and if **Max Number of Retries** is set to a value greater than zero, the sequence starts over as many times as configured. You configure the **Max Number of Retries** in the **Dial Lists** > **Dial Lists** > **General** tab.
- If **Dial Number - 1**, **Dial Number - 2**, and/or **Dial Number - 3** are included in a **DNC/Call Table** list, the number(s) will not be dialed. You configure a **DNC/Call Table** in **Dial Lists** > **Dial Lists** > **Advanced** tab.
- The calling number displayed in Interaction Center will always be **Dial Number - 1**, even when an alternative number is dialed. Call Back Destination, if added, will show the actual number dialed.

- **Dial Number - 1** — The name of the column from which the main phone number is retrieved.
- **Dial Number - 2** — The name of the column from which the first alternative phone number is retrieved. The dialing rules for this dial list define when this number is used.
- **Dial Number - 3** — The name of the column from which the second alternative phone number is retrieved. The dialing rules for this dial list define when this number is used.

9. To map a call profile field to a database column, use the options in the Mandatory Call Profiles and the User Call Profiles areas.

   When dial list records are retrieved, the contents of the database columns are copied into the call profile fields of the dialed calls, as listed below:

   - **Name** — Use to change the database column associated with the call profile field selected in the Selected list.
   - **Available** and **Selected** list of call profile fields — Displays the call profile fields that exist in the system. To add a field, select the field in the **Available** list, and then click ›. To add all fields, click ». The available call profile user fields have been previously defined. Refer to Creating Call Profile User Fields on page 176 for details.

     To remove a field, select the field in the **Selected** list, and then click ‹. To remove all fields, click «.

     You can change the database column associated with a call profile field by selecting it in the **Selected** list, and changing the **Name** option.

10. If you want to add a skill to the dial list, use the options in the Skills area:

    - **Name** — Use to change the database column associated with the skill selected in the Selected list.

- **Available** and **Selected** list of skills — Displays the skills that exist in the system. In the **Selected** list, add and remove skills to identify the skills that you want to use as a destination. The available skills have been previously defined, as explained in Identifying Agent Skills on page 175.

  You can change the database column associated with a skill by selecting it in the **Selected** list, and changing the **Name** option.

11. Click **Create**.

To activate the new dial list, you must define the scheduling parameters.

Specifying Dial List Results

Use the **Output** tab to specify the information you want to store about the dial list activity. For example, you can store information about successful calls, calls that fail, calls that continue to fail, and calls made to numbers that are contained in a DNC (Do Not Call) table.

Specify how long the results of a dial list are stored in the **Retain Dial List For** field in **Dial Lists > Dial Lists > General** tab. These result are used to generate reports on dial lists.

You can also update your input table with a result and a timestamp when the connection was dialed.

Complete the following steps to specify the location for dial list results:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**
2. In the List View panel, select the dial list for which you want to specify an output location, and then click the **Output** tab.
3. In the **Connection Name** drop-down menu, select the connection to the database where you want to store the dial list results. This connection can be the same one used for dial list input.

   The connections in the menu have been previously defined, as explained in Working with Interfaces on page 186.
4. Specify the amount of time, in seconds, in which the selected database is expected to respond to queries in the **Response Timeout** field.

   If the response time exceeds this number, an alarm is sent to the supervisor about a potential database problem.
5. Use the **SQL Statement On** fields to create a SQL statement used to update the database:

   - **SQL Statement on Success** — Use to update the database when there is a successful call.
   - **SQL Statement on Single Failure** — Use to update the database upon failure (busy, no answer, and so on), while retries are still in effect.
   - **SQL Statement on Final Failure** — Use to update the database when there is a failure after the last retry.
   - **SQL Statement on DNC** — Use to update the database when the entry is contained in a DNC table.

Note

Connect Contact Center modifies input and output queries to ensure optimal system performance. For example, an input dial list query is limited to 50 records. To customize a query to your specifications, create a SQL statement or a stored procedure.

If you use a customer number with an output query on an external database, be aware that Connect Contact Center updates the status and record associated with that ID along with all the records that belong to that customer.

6. To include a call profile field in the query, select the field in the Call Profiles list, and then click the appropriate associated **Append Call Profile** button to insert the field as either a string or a number. The call profile user fields in list have been previously defined. Refer to Creating Call Profile User Fields on page 176 for details.
7. If you have already defined SQL statements, click **Show Predefined SQL,** select the appropriate statement in the **Predefined SQL** list, and click **Use Predefined SQL**. Click **Test** to validate the query.

   Refer to Defining SQL Statements on page 163 for information about defining SQL statements.
8. Click **Save**.

Example

Input

- `SELECT customer_id, customer_name, amount_owed, phone FROM collections WHERE dialer_status = 'active'`

  Check It is not necessary to specify a `WHERE` clause because Connect Contact Center will automatically add a `WHERE dialer_id = x` to the query.
- `SELECT customer_id FROM collections`

  Output It is not necessary to specify a `WHERE` clause because Connect Contact Center will automatically add a `WHERE` dialer_id = x to the query.
- **Success** `UPDATE· collections SET status = 'success', change_time =GETDATE() The function here returns the current date in Microsoft SQL. In MySQL it is now()`
- **Pending retries** `UPDATE collections SET status = 'retry', change_time =GETDATE()`
- **Failure** `UPDATE collections SET status = 'failed', change_time = GETDATE()`

dialer_id	customer_id	customer_name	amount_owed	phone	dialer_status	status_change_time
1	372038	Bob Parker	$128.20	(707) 555-0101	active	
2	182038	Joe Thomson	$650.21	(707) 555-0102	active	
3	687203	George William	$92.17	(707) 555-0103	active	
4	158203	Bruce Angler	$9,012.12	(707) 555-0104	active	

Defining Call Profile Field Values for a Dial List

You can define the values of the call profile fields for dial list calls. This includes defining both the Priority and user fields. User fields contain optional call profile information that is used for further call processing.

Complete the following steps to define a call profile value:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**
2. In the List View panel select, the dial list for which you want to define call profile field values, and then click the **Call Profile** tab.
3. Use the **Priority** field to specify the initial value of the **Priority** call profile field.
4. To add a user-defined call profile field to the dial list, select the field in the **Available** list and then click ›. To add all fields to the dial list, click ». The available user-defined call profile fields have been previously defined. Refer to Creating Call Profile User Fields on page 176 for details.

   To remove a user-defined call profile field from the dial list, select the field in the **Selected** list, and then click ‹. To remove all fields from the dial list, click «.
5. Use the **Value** field to change the initial value of the selected user-defined call profile field in the Selected list.
6. Click **Save**.

Identifying Agent Skills for a Dial List

For each dial list, you can identify the agent skills required for handling the placed calls. An agent skill is measured by value.

Complete the following steps to identify agent skills for a dial list:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists**.
2. In the List View panel, select the dial list for which you want to identify agent skills, and then click the **Skills** tab.

3. To add a skill to the dial list, select the skill in the **Available** list and then click ›. To add all skills to the dial list, click ». The available skills have been previously determined, as explained in Identifying Agent Skills on page 175.

   To remove a skill from the dial list, select the skill in the **Selected** list, and then click ‹. To remove all skills from the dial list, click «.

4. Use the **Value** field to change the value of the selected skill in the **Selected** list.

5. Click **Save**.

Configuring Advanced Parameters for a Dial List

Advanced parameters for a dial list include specifying Do Not Call (DNC) and Call tables and setting calling hours.

Complete the following steps to configure advanced parameters for a dial list:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**

2. In the List View panel select, the dial list for which you want to configure advanced parameters, and then click the **Advanced** tab.

3. Use the options in the DNC/Call Table area to specify the tables for the dial list. Up to four DNC or Call tables can be used.

   To add a table to the dial list, select the table in the **Available** list and then click ›. To add all tables to the dial list, click ». The available tables have been previously defined. Refer to Configuring DNC and Call Tables on page 162 for details.

   To remove a table from the dial list, select the table in the **Selected** list, and then click ‹. To remove all tables from the dial list, click «.

   The order of the tables in the list determines which table is used first. To reorder the selected table in the list, click ^ or v.

4. If you want to specify the hours in which calls are made, based on the destination local time, in the **Calling Hours** area create a time range by clicking **Add**. Use the **Start Time** and **Stop Time** options to define the time range parameters.

   This feature uses the previously defined time zone data. Refer to Configuring Time Settings for Outbound Calls on page 181 for details.

   To remove hours from the list, select the range and click **Remove**.

5. Click **Save**.

Creating Dialing Rules

Dialing rules specify the numbers to call, when to call them, and how long the system waits if it retries an unanswered call.

Complete the following steps to create a dialing rule:

1. In Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**
2. In the List View panel, select the dial list for which you are creating dialing rules, and then click the **Dialing Rules** tab.
3. In the Default area, use the **First Dial**, **Second Dial**, and **Third Dial** drop-down menus to choose which number should be used for each try.

   The numbers in drop-down menus have been previously defined in the **Dial Numbers** fields of the **Dial Lists > Dial Lists > Input tab**. Refer to Adding a Dial List Account on page 150 for information about defining dial numbers.
4. In the **Retry on Busy for** and **Retry on No Answer for** fields, enter the amount of time, in seconds, that the system spends retrying a call. For example, if you specify four minutes, Connect Contact Center will retry the call four minutes after a busy signal or after a call is not answered. Because Connect Contact Center queries the database for retries every 45 seconds, unanswered or busy calls subject to the four-minute retry time may be retried in 3 minutes and 15 seconds.
5. If you want to specify the hours in which calls are made, based on the destination local time, use the options in the **Specific Times** area.
   - **From** — Use to change the start time of the selected period in the **Selected** list.
   - **To** — Allows you to change the end time of the selected period in the **Selected** list.
   - **First Dial** — Use to modify number dialed first for the selected period in the **Selected** list.
   - **Second Dial** — Change the number dialed second for the selected period in the **Selected** list.
   - **Third Dial** — Use to change the number dialed third for the selected period in the **Selected** list.
   - **Retry on Busy** — Modify the amount of time for the selected period, in seconds, that the system waits after a busy signal, before retrying the call.
   - **Retry on No Answer** — Change the amount of time for the selected period, in seconds, that the system wait after a call is not answered, before retrying the call.
   - **List of Time Periods** — To add a time period to the dialing rule, click **Add**, and then make the appropriate changes in the **From**, **To**, **First Dial, Second Dial**, **Third Dial**, **Retry on Busy** and **Retry on No Answer** options.

   To remove a time period from the dialing rule, select the period in the list, and then click **Remove**.
6. Click **Save**.

Importing New Dial List Records

You can import new dial records, either automatically or manually. New dial list records are those records that would be retrieved by the Import query, but have not yet been retrieved.

Complete the following steps to import dial list records:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**
2. In the List View panel select the dial list for which you want to import new records, and then click the **Import** tab.
3. If you want to automatically import the records, define the following options in the **Automatic** area:
   - **Automatic Import** — Select to turn on this feature.
   - **Import Mode** — New records are imported periodically.
     - **Interval** — The import is executed at the interval, hh:mm, entered in the Interval field. For example, 1:30 equals 90 minutes.
     - **Cyclic** — The import of new records is started immediately after the previous import is complete. This option is recommended only for large tables.
4. To import the records, click **Import Now**.
5. Click **Save**.

Note

Unlike Callback Outbound Automatic Call Distributor (OACD) calls, duplicate phone numbers **will be** called if imported to the Dial List. The customer controls the data to dial and Mitel makes no check to ensure that a number is not dialed twice unlike with multiple Callback requests made to the same number.

Modifying a Dial List Account

You can modify an existing dial list account to change any properties.

Complete the following steps to modify a dial list account:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**
2. In the List View panel select the dial list account you want to modify.
3. Make the appropriate changes in the **General** tab. These options are described in Configuring General Settings for a Dial List on page 150.
4. Use the **Output** tab to change the location of dial list results.

   The **Output** tab options are described in Specifying Dial List Results on page 155.
5. If you want to change the definition of the value of call profile fields for the dial list, use the **Call Profile** tab.

   The **Call Profile** tab options are explained in Defining Call Profile Field Values for a Dial List on page 157.

6. To identify different agent skills for the dial list by modifying the options in the **Skills** tab. Refer to Identifying Agent Skills for a Dial List on page 157 for information.
7. If you want to change the advanced parameters for the dial list, click the **Advanced** tab. Then modify the options, as explained in Configuring Advanced Parameters for a Dial List on page 158.
8. Use the **Dialing Rules** tab to create different rules for retrying calls that were busy or not answered.

   The Dialing Rules tab options are described in Creating Dialing Rules on page 158.
9. You can change when a new dial list records are imported by using the options on the Import tab. Refer to Importing New Dial List Records on page 159 for details.
10. Click **Save**.

Deleting a Dial List Account

Complete the following steps to delete a dial list account:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial Lists.**
2. In the List View panel select the dial list account you want to delete.
3. Click **Delete**.

Scheduling a Dial List

Complete the following steps to schedule a dial list:

1. From Connect Contact Center Director, click **Dial Lists** > **Dial List Schedules.**
2. In the List View panel, select the dial list that you want to schedule.
3. In the Details View panel, click **Add** and then specify the **Start Date**, **Stop Date**, and **Periodic Type**. The **Periodic Type** defines if the dial list is run **Daily**, **Weekly** or **Monthly** between the **Start Date** and **Stop Date**.

   To remove a date range, select it in the list and click **Remove**.
4. Click the **Active Days** tab.
5. Select **Specified Time Range** and define the time range for the dial list to run.
6. If you want to specify a time range other than the one you specified in **Specified Time Range**, select **Specified Time Range for Days** and specify a time range you want to run the dial list for each day.

Note

If you select **Specified Time Range for Days** and do not specify a time range, the dial list will run for 24 hours each day that does not have a specified time range.

7. Click **Save**.

Configuring DNC and Call Tables

You must define the Do Not Call (DNC) and Call tables used for outbound calling. You can also edit and delete DNC and Call tables.

Before configuring DNC and Call tables, you can specify the database connection. Doing so allows you to more quickly and easily configure tables. Refer to for information.

Complete the following steps to configure DNC and Call tables for outbound calls:

1. From Connect Contact Center Director, click **Dial Lists** > **DNC/Calls Table.**
2. Click **New**.

   If you have an existing table with parameters similar to what you want, you can quickly add a table by selecting it and clicking **Copy**.
3. In the **General** tab, choose a **Database Connection**.The connections in the menu have been previously defined. Refer to Specifying External Database Connections on page 187 for information.
4. Identify the **Database Table**.
5. In **Response Timeout**, specify the number of seconds that must elapse before the response is considered timed out.
6. Choose whether numbers are blocked or allowed in the **Block Allow Mode** field.
7. In the **Phone Number Column Name** fields, specify the database column for the 1st, 2nd, and 3rd phone numbers, respectively.
8. In the **Status Column Name** and **Status Value** fields, identify the name and value for the database Status column.
9. Click **Save**.

Editing a DNC or Call Table

Complete the following steps to edit a DNC or Call table:

1. From Connect Contact Center Director, click **Dial Lists** > **DNC/Call Tables.**
2. In the List View panel select the table you want to edit.
3. Make the appropriate changes in the **General** tab.
4. Click **Save**.

Deleting a DNC or Call Table

Complete the following steps to delete a DNC or Call table:

1. From Connect Contact Center Director, click **Dial Lists** > **DNC/Call Tables** entity.
2. In the List View panel select the table you want to delete, and click **Delete**.

Defining SQL Statements

You can define SQL statements to use in dial lists. Both SQL queries and stored procedures can be defined.

Before defining a SQL statement, you can create user call profile fields to use in the statement. Doing so allows you to more quickly and easily define SQL statements. Refer to Creating Call Profile User Fields on page 176 for details.

You can also edit and delete SQL statements.

Defining a SQL Query

SQL queries can be used to retrieve data from a database for a dial list, or to write data to a database.

Complete the following steps to define a SQL query:

1. From Connect Contact Center Director, click **Dial Lists** > **Predefined SQL** > **Query.**
2. Click **New**.

   If you have an existing SQL query with parameters similar to what you want, you can quickly add a query by selecting it and clicking **Copy**.
3. In the **General** tab, specify a name for the query in the **Predefined Query Name** field.
4. In the **Category** field, enter the query's category.
5. Type the query in the **SQL Query** field.
6. If you want to insert a call profile field into the query, select the field in the **Available Call Profile Fields** list. Then click either **Append as String** or **Append as Number** to insert the field as either a string or number, respectively.

   The user-defined fields in the list have been previously specified. Refer to Creating Call Profile User Fields on page 176 for details.
7. Click **Create**.

Defining a SQL Procedure

SQL stored procedures are used to update the database with call results. You should only use SQL stored procedures if this feature is supported by your database.

Complete the following steps to define a SQL procedures:

1. From Connect Contact Center Director, click **Dial Lists** > **Predefined SQL** > **Procedures.**
2. Click **New**.

   If you have any existing SQL procedures with parameters similar to what you want, you can quickly add a procedure by selecting it and clicking **Copy**.
3. In the **General** tab, specify a name for the procedure in the **Predefined Stored Procedure Name** field.
4. In the **Category** field, enter the procedure's category.
5. Use the **Name** field to specify the name of the procedure in your database.
6. If you want to insert specific elements into the procedure, click **Add**. Then use the following options to define the element's parameters.

   - **In/Out** — The input/output type of the stored procedure. The selected input/output type must match the type defined in the database.
   - **Data Type** — The format of the data returned from database. The selected data type does not have to match the data type defined in the database; Connect Contact Center can convert one data type into another.
   - **Assigned To** — The type of field from which the input and output values is to be taken from, or stored, respectively.
   - **Constant** — If the **Assigned To** value is **Constant**, enter the value of the field used to provide and store the input/output values.
   - **Call Profile** — If the **Assigned To** value is **Call Profile**, choose the call profile field used to provide and store the input/output values from the drop-down menu.
7. Click **Create**.

Editing a SQL Statement

Complete the following steps to edit a SQL query and stored procedure:

1. From Connect Contact Center Director, click **Dial Lists** > **Predefined SQL >** and either **Query** or **Procedure**, depending on the type of SQL statement you want to edit.
2. In the List View panel, select the statement you want to edit.
3. Make the appropriate changes to the SQL statement definition, as explained in Defining a SQL Query on page 163 and Defining a SQL Procedure on page 163.
4. Click **Save**.

Deleting a SQL Statement

Complete the following steps to delete a SQL statement:

1. From Connect Contact Center Director, click **Dial Lists** > **Predefined SQL** > and either **Query** or **Procedure**, depending on the type of SQL statement you want to delete.
2. In the List View panel, select the statement you want to delete, and then click **Delete**.

CHAPTER

9

Setting System Parameters

The System entities are used to set the various parameters that affect the behavior of the entire system. Connect Contact Center includes the system entities listed below:

- Schedules — Used by the Connect Contact Center server to route calls to different destinations according to the day and time.
- Reporting Preferences — Monitors different points of the system and are used to generate reports using Agent Manager (for real-time reports) and Connect Contact Center Reports (for historical reports).
- Routing Preferences — Defines the handling of incoming calls.
- Client Preferences — Specifies how the system interacts with the user or user's system.
- Tagged Codes — Agents use tagged codes when they have finished handling a call. In most cases, these codes provide information for evaluating calls based on statistical reporting.
- Outbound — Specifies how outbound calls are handled.
- Chat and Email — Made up of the various parameters that define how chat and email contacts are to be handled by the Connect Contact Center system.
- External Interfaces — Defines the interface between Connect Contact Center and external interfaces.

Refer to the following sections for information about system parameters:

Scheduling Routing to Destinations

You can define day types, a calendar, and shifts for Connect Contact Center. The day type and shifts are used by the Connect Contact Center server to route calls to different destinations according to the day and time.

Defining Day Types

Day types are used to identify special days, such as national holidays, and working or non-working days. Each day type can be assigned a color so it can be easily viewed in the calendar.

Information on working and non-working days is used to calculate the daily average for Connect Contact Center historical reports in intervals that span more than one day. The average is calculated by dividing the totals by the number of working days in the report period. This information is also used by the Connect Contact Center Reports scheduler to determine whether to generate or print reports on a non-working day, if either of these options are selected. Refer to the *Connect Contact Center Supervisor Guide* for details.

Complete the following steps to define a day type:

1. From Connect Contact Center Director, click **System Parameters** > **Schedules** > **Day Types**.
2. Click **New**.

   If you have an existing day type with parameters similar to what you want, you can quickly create a new day type by selecting it and clicking **Copy**. Then make the necessary changes to the day type details, as explained here.
3. In the **General** tab, specify a **Name** for the day type.
4. If the day type is a working day, select **Working Day**.

5. Use the color sliders to select a color for the day type. This color is used to highlight the day type in the calender.
6. Click **Create**.

Defining a Calendar

The calendar displays the day types and shifts as defined in your system. The current and following two months can be seen at a glance. You can scroll through the calendar to see other months. Days are color-coded according to their type.

You can also use the calendar to change the day type associated with a specific date.

Complete the following steps to define a calendar:

1. From Connect Contact Center Director, click **System Parameters** > **Schedules** > **Calendar**.
2. For information on a specific date, in the **General** tab, select the date in the calendar.
3. To change the day type associated with the selected date, choose the appropriate option from the **Day Type** drop-down menu, and then click **Save**.

   The available day types have been previously defined. Refer to Defining Day Types on page 167 for details.
4. To change the day type of a specific day of the week, use the following options in the Advanced Update area. For example, if your company will be working every Saturday for the next month, use the options in this area to specify that. When you are finished making changes, click **Update** and **Save**.
   - **Day of Week** — Choose the day for which you want to change the associated day type.
   - **Which Period** — Choose if you want the change to apply to the Current Month, Current Year, or Always.
   - **Day Type** — Choose the new day type for the day of the week.

Defining Shifts

Shifts are service routing destinations used at different times of the day. Shifts are associated with a day type. The system translates the current date to a day type, and then translates the current time to a shift that is associated with the day type.

Up to 40 shifts can be defined.

Note

When you define a shift for a holiday, to indicate that the contact center is not available for the shift defined, you must also define a shift for the following day to ensure that the holiday shift ends. Otherwise, the holiday shift will continue.

For example, if your call center is not available for Christmas day, and you define a shift for December 25th with a **Day Type** that indicates a holiday, you must define a shift for December 26th with a **Day Type** of working day.

Complete the following steps to define a shift:

1. From Connect Contact Center Director, click **System Parameters** > **Schedules** > **Shifts**.
2. Click **New**.

   If you have an existing shift with parameters similar to what you want, you can quickly create a new shift by selecting it and clicking **Copy**.
3. In the **General** tab, specify a **Name** for the shift.
4. Use **Start Time** to specify the time the shift starts.
5. In **Day Type**, choose the day type you want to associate with the shift.

   The available day types have been previously defined. Refer to Defining Day Types on page 167 for details.
6. Click **Create**.

Specifying Reporting Preferences

The Reporting Preferences entities specify how the Reporting application computes and displays report data.

Determining the Reporting Settings

The Reporting settings determine the basic interval of historical reports, the Target Service Factor (TSF) formula, and other parameters.

The historical reports basic interval is the time period that is monitored for historical statistical data purposes. This interval determines the amount of detail provided in a historical report. A smaller interval results in historical reports with more detail. This interval also affects the amount of disk space needed by your database. Smaller intervals require more disk space to store the information; for larger intervals, less disk space is needed.

The TSF is the percentage of calls answered within the Target Average Speed of Answer (ASA), out of all the calls that are routed to a group. This factor indicates how well a group is providing the level of service defined for it, based on the Target ASA. The Target ASA is specified for each group, as explained in Adding an Agent Group on page 74.

Complete the following steps to determine reporting settings:

1. From Connect Contact Center Director, click **System Parameters** > **Reporting Preferences** > **Reporting Settings**.
2. In the **Company Name** field, enter the name you want to appear at the bottom of each historical report.
3. In **Retain Historical Data**, choose how long you want to keep historical data. The options are 12 or 24 months.
4. Select the appropriate TSF formula option to define how the TSF is calculated:
   - **Answered** — The percentage of calls answered within the Target ASA out of all calls answered by the group.
   - **Abandoned after TASA** — The percentage of calls answered within the Target ASA out of the sum of the Calls answered by the group plus the Calls abandoned after the Target ASA.
   - **Accepted** — The percentage of calls answered within the Target ASA out of the sum of calls answered by the group, plus the calls abandoned after the Target ASA, plus the calls which interflowed out, plus the calls answered by another group (for example, overflowed in).
5. Enter the length of time to retain data on abandoned calls in the **Days to Store Abandoned Calls** field.

   Information on abandoned calls can be retrieved by generating reports. This data is used by Connect Contact Center to initiate callbacks.
6. Use **Provide Statistics for Domains** to specify the number of domains for which you want statistics. Be aware that specifying a higher number of domains will require more system memory.
7. To see data on agents by domain, in addition to groups by domain, select **Provide Agent by Domain Statistics**.

   Enabling this option takes up considerable database space.
8. Click **Save**.

Changing Real-Time Report Colors

You can change the display colors used to highlight different states in real-time reports. You can use a different color for the state's background, foreground, or text in the report.

Complete the following steps to specify real-time report colors:

1. From Connect Contact Center Director, click **System Parameters** > **Reporting Preferences** > **Real-Time Report Colors**.
2. In the **General** tab, select the report for which you want to set the color, and then use the color sliders to select a color for the background and foreground.
3. Click **Save**.

Selecting the Routing Preferences

To streamline the process of specifying routing preferences, you can specify the following parameters first:

- The music script or music stream that the system connects to a call waiting in queue. Refer to Chapter 12, Using Call Control Scripts and Configuring Music Streams on page 193 for more information.
- The Incomplete destination for voice calls and shift destinations, which can be an IRN, a device — have the device number available, or a call control script. Refer to Complete the following steps to create an IRN: on page 98 and Chapter 12, Using Call Control Scripts for more information.
- The No IVR Port Destination specification can route an unanswered call to a Dialed Number when IVR ports are not available. This capability addresses the challenge of a call not being answered initially because no IVR ports are available, but also not being answered after an IVR port becomes available. If the incomplete destination involves a script, the call might never be answered; this capability alleviates the problem of an incomplete destination that involves a script.

  For the response, the call should not be routed to a script, which requires an IVR port, but should be routed to a Dialed Number (DN) to ensure that the call is answered. There is a 15-second timeout associated with this scenario, and this timeout should not be modified.

  If a port becomes available for the call before the 15 seconds passes, Connect Contact Center routes the call by using that IVR port. If the IVR port becomes unavailable after the 15 seconds passes, the call is routed to an incomplete destination. If the incomplete destination involves a script, this requires an IVR port as well and the call is effectively never answered.

  To use shifts, which are the different periods of the day that can affect routing destinations, refer to the Defining Shifts on page 168.

  Once specified, these parameters automatically appear as options that you can choose, allowing you to quickly and easily specify routing preferences.

Specifying Service Settings

Complete the following steps to specify service settings:

1. From Connect Contact Center Director, click **System Parameters** > **Routing Preferences** > **Service Settings**.
2. In the Call Priority Settings area, select the default priorities for calls:
   - **Default Priority for IRNs** — Choose the default priority for newly created IRNs.

     This parameter can be overridden by setting a different initial value for the Priority field in an IRN's call profile, as explained in Identifying IRNs on page 97.
   - **Priority Increase Interval** — Enter how often the priority is increased.
   - **Priority Increase Step** — The step by which the priority is increased. For example, if the interval is ten seconds and the step is five, the priority is increased by five every ten seconds.

3. In **Forced Released Timeout**, enter the amount of time, in seconds, an agent station can ring before being forced into the release state.

4. In **Music Source**, select a default method for the system to use when connecting a call in the queue to a music source.

   If the music source is a script, the call is connected to an IVR port and performs the actions indicated in the specified script. Typically, the script has a play action pointing to the music WAV file. Choose the specific script from the **Music Script** field. The scripts available in the menu have been previously defined. Refer to Chapter 12, Using Call Control Scripts for information.

Note

For scripts used for Music-on-Hold, the Play File action must have the **Play Continuously in a Loop** option selected. Otherwise, secondary announcements do not play correctly if the music script is shorter than the time specified in **Routing** > **Services** > **Announcements** > **Secondary Announcements Time** in Connect Contact Center Director. Refer to Play File on page 252 for information about configuring the Play File action.

   For a music source that is a music stream, the call is connected to streaming music. In **Music Stream** field, select the stream to be played. The available music streams in the menu have been previously defined. Refer to Configuring Music Streams on page 193 for details.

5. Click **Save**.

Determining the Incomplete Destination

When a call or email enters the system with no valid routing destination, the system routes it to the Incomplete call destination. For example, if a call enters an IRN with a call control script as a destination, but the script does not have a value for the service required mandatory call profile field, this leaves the IRN without a destination. In this case, the system uses the Incomplete destination for that call.

Separate Incomplete destinations can be defined for different work shifts.

Determining the Incomplete Destination for Voice Calls

The Incomplete destination for voice calls can be an IRN, device, or call control script.

If the destination of an incomplete call is a call control script, we advise also specifying an IVR port for the No IVR Port Available capability. Refer to Determining the Incomplete Destination on page 172 for details.

Complete the following steps to specify the Incomplete destination for voice calls:

1. From Connect Contact Center Director, click **System Parameters** > **Routing Preferences** > **Incomplete Destinations** > **Voice**.

2. Use the following options in the Default area to specify the default Incomplete destination.

   - **Type** — From the drop-down menu, choose the type of default destination.

- **IRN** — If the default destination is an IRN, choose the IRN from the drop-down menu. The IRNs in the menu have been previously defined, as explained in Identifying IRNs on page 97.
- **Device** — If the default destination is a device, enter the device number.
- **Script** — Select a script destination. The scripts in the menu have been previously defined. Refer to Chapter 12, Using Call Control Scripts for details.

3. To add an Incomplete destination to a shift, use the options in the **Shifts** area:
   - **Type** — Use **Type** to change the type of destination for the selected shift in the **Selected** list.
   - **IRN** — If the shift destination is an IRN, use the drop-down menu to choose the IRN. The IRNs in the menu have been previously defined, as explained in Complete the following steps to create an IRN: on page 98.
   - **Device** — If the shift destination is a device, enter the device number.
   - **Script** — Use to choose the shift script destination from the drop-down menu. The scripts in the menu have been previously defined; see Chapter 12, Using Call Control Scripts for details.
   - **Available** and **Selected** List of Shifts — Displays the shifts that exist in the system. To add a shift to the service, select the shift in the **Available** list, and then click ›. To add all shifts to the service, click ». The available shifts have been previously defined. Refer to Defining Shifts on page 168 for details.

     To remove a shift from the service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

     You can change the destination of the shift by selecting it in the **Selected** list and changing the **Type** options.
4. For details on a shift, click **Explain Shift**. In the resulting calendar, select the day for which you want shift information.
5. Click **Save**.

Determining the Incomplete Destination for Emails

Email contacts can interflow only to an email account. The system automatically identifies the media type and sends the contact to the correct Incomplete destination.

Complete the following steps to determine the Incomplete destination for emails:

1. From Connect Contact Center Director, click **System Parameters** > **Routing Preferences** > **Incomplete Destinations** > **Email**.
2. Use the following options in the Default area to specify the default Incomplete destination.
   - **Type** — From the drop-down menu, choose the type of default destination.
   - **Email Address** — If the default destination is an email address, enter the address in the field.

Note

If the default destination is **Email Address** and you enter an external email address in this field, you may need to modify the SMTP security settings to enable the local SMTP service be able to send email out to your external address. Refer to Internet Information Services documentation for information about how to modify the SMTP security settings.

3. To add an Incomplete destination to a shift, use the options in the Shifts area:

   - **Email Address** — The destination for the selected shift in the Selected list.
   - **Available** and **Selected** List of Shifts — Displays the time periods for work that exist in the system. Refer to Defining Shifts on page 168 for information about defining these time periods. To add a shift to the service, select that shift in the **Available** list, and then click ›. To add all shifts to the service, click ».

     To remove a shift from the service, select the shift in the **Selected** list, and then click ‹. To remove all shifts from the service, click «.

     You can change the destination for an individual the shift by selecting it in the **Selected** list and changing the **Type** options.

4. For details on a shift, click **Explain Shift**. In the resulting calendar, select the day for which you want to view shift information.
5. Click **Save**.

Determining the Incomplete Destination for IVR

If a call control script is running in the system, Mitel recommends the additional configuration step of specifying the **No IVR Port Destination** to route calls outside of the Contact Center (that is, a Destination Number) when all IVR ports are busy. The system will route calls to the **No IVR Port Destination** only after 15 seconds when there is no Service associated to the call and all IVR ports are busy.

Note

The caller will hear a silence if the call has reached a “Service”.

Complete the following steps to specify the No IVR Port Destination:

1. From Connect Contact Center Director, click **System Parameters** > **Routing Preferences** > **Incomplete Destinations** > **IVR**.
2. In **No IVR port destination**, enter the Destination Number (DN) on the Connect system.

Identifying Agent Skills

Tip

If **No IVR port destination** occurs frequently, review the IVR port requirements. You may need to add more IVR ports to resolve this issue.

Agent skills are used by the system to determine the routing of calls to the most suitable agent. When more than one agent is available to receive a call, the system routes the call based on the best skill fit. However, if only one agent is available, a call does not wait in the queue but instead goes to that agent even if the agent's skills do not fit the requirements of the call.

Once an agent skill is identified, multiple approaches are available for specifying the skill requirements for a call. You specify skill requirements by the following categories:

- Agent
- IRN
- Domain
- Customer
- Dial List
- Call control script actions that set a value in a call profile field

Complete the following steps to identify an agent skill:

1. From Connect Contact Center Director, click **System Parameters** > **Routing Preferences** > **Skills**.
2. Click **New**.
3. In the **General** tab, specify a name for the skill.

   The skill name must be unique. Reserved skill names are listed below.

Note

The reserved skill names listed below cannot be reused for skills or for call profile fields.

- ACD Enter Date
- ACD Enter Time
- ANI
- Average Q Time
- Callback Dest
- Callback Time
- Customer Name
- Customer Number
- Dial List ID
- DNIS
- Language
- Media
- Priority
- Q Position
- Service ID
- Session ID

4. Click **Create**.

Creating Call Profile User Fields

A call profile is attached to each call. It consists of dynamic information that the system uses to route the call and provide relevant history. The call profile information is updated as the call moves through the system. Refer to Call Profiles on page 12 for more information.

Each field in the call profile is either required by the Connect Contact Center system or is a user-defined field used for further call processing. You can create a call profile user field, which can then be used by IRNs, domains, and dial lists to gather and update information about a call.

Complete the following steps to create a call profile user field:

1. From Connect Contact Center Director, click **System Parameters** > **Routing Preferences** > **Call Profiles**.
2. Click **New**.
3. In the **General** tab, specify a **Name** for the call profile field.
4. Click **Create**.

Setting Client Preferences

Complete the following steps to set client preferences:

1. Select Connect Contact Center Director, click **System Parameters** > **Client Preferences**.
2. In the Timezone area, select the **Timezone** and **DST** settings to apply to clients. This information must match the time zone and DST settings specified for the contact center server in order for time-based features, such as reporting and schedules, to work correctly.
3. In the Agent Settings area, select the appropriate options for how the system interacts with Interaction Center.
   - **Enable Transfer to Agent List** — Select this option to enable the broadcasting of information on agents currently logged in from the server to Interaction Center. Agents use this information to transfer a call to another agent based on agent ID (rather than agent extension, which can vary every time an agent logs in).
   - **Logout from all Groups on Primary Logout** — Select to cause the system to automatically log out an agent from all groups when the agent clicks the **Log Out of my queues** button in Interaction Center. If this option is not selected, the system logs the agent out of only the agent's primary groups.
   - **Reset Idle Time on Non-ACD Call** — Select to have the system reset the idle time for an agent after a non-ACD call. The way that the system measures an agent's idle time is significant, since it determines when a call is routed to an agent if the Longest Idle agent selection criteria is defined for a service.
   - **Auto Answer on Pickup** — Select to cause the system to automatically answer a call that is transferred to the agent according to a pick up request. If this box is not selected, the agent must manually answer the picked up call.
   - **When Disconnected from the Server**
     - **Agents are Logged Off** — Select if you want the system to not route calls to agents when Interaction Center is disconnected from the server due to networking problems. To continue receiving calls, agents must log on again either through a new instance of Interaction Center or through the telephone.
     - **Agents Continue to Work PC-less** — Select to have the system continue to route calls to agents when Interaction Center is disconnected from the server due to networking problems. When the networking problem is solved, Interaction Center is automatically reconnected to the server and updated.

WARNING!

Do not use **Agents Continue to Work PC-less** if the agent is using a softphone. Assuming Interaction Center and the softphone are running on the same computer that has lost network connectivity, be aware that ACD calls will continue to route to an softswitch extension when the softphone is disconnected.

   - **When TAPI connect is Lost**

- **Agents go in release then auto-resume upon reconnect** — Select this option if you want agents to be automatically put in Release mode when a TAPI outage occurs while agents are using a device affected by the outage. Once TAPI recovers, agents are automatically returned to the mode they were in before the outage.
- **Agents are logged off** — Select this option to have agents automatically logged off the system when a TAPI outage occurs while agents are using a device affected by the outage.

- **Allow Late Email Replies** — Select to allow the agent to hang-up an email interaction before replying. The agent can then reply later or not reply at all.
- **Allow Reply for** — Specify the maximum number of days that can elapse between the receipt of an email and when an agent responds before the email is considered abandoned. This option is available only if **Allow Late Email Replies** is selected.

4. Click **Save**.

Defining Tagged Codes

Agents enter wrap-up and release tagged codes when they have finished handling a call. In most cases, these codes provide information for evaluating calls based on statistical reporting.

Defining Wrap-Up Codes

Wrap-up codes are internal codes that are used to label a call. They can be used to indicate the service received by the caller and/or identify the customer who received the service.

Wrap-up codes also are useful for labeling and reporting situations where email communication is terminated before the agent replies to the contact. In this case, the agent should use a wrap-up code to indicate why the communication was terminated without a reply.

Complete the following steps to define a wrap-up code:

1. From Connect Contact Center Director, click **System Parameters** > **Tagged Codes** > **Wrap-Up Codes**.
2. Click **New**.
3. In the **General** tab, specify the code **Name** and **Number**.

   The name is usually the subject of the code, and the number is the digits used to enter the code.
4. Click **Create**.

Defining Release Codes

Release codes are used by the system to classify the time and reason agents spend in the released state. In the system there are two predefined released codes that are always available: No Code and Forced Released.

Complete the following steps to define a release code:

1. From Connect Contact Center Director, click **System Parameters** > **Tagged Codes** > **Release Codes**.
2. Click **New**.
3. In the **General** tab, specify the following:
   - **Short Name** — Used in real-time reports.
   - **Full Name** — Used in historical reports.
   - **Code** — Used to sort the entries in Agent Web Interface, streamlining the process of finding a specific release code.
4. Click **Create**.

Configuring System Outbound Parameters

The system's outbound parameters specify how outbound calls are handled. Outbound calls are generated in the following sequence:

1. The system waits for an agent to handle the call, and then reserves that agent for the call.
2. The system then waits for an IVR port to become available. As soon as the IVR port is available, the IVR dials the outbound number.
3. According to the configuration for abandoned calls, callback calls, or dial lists, the system transfers the call from the IVR to the agent.
4. If, while reserved, the agent starts a telephony activity (i.e. places a call or receives a non-ACD or a consultation call), the system sends the outbound call to another other available agent or puts the call in the queue.

Defining how the system handles outbound calls involves configuring general preferences and time settings.

Before configuring outbound parameters you can specify the default callback service. Refer to Specifying Services on page 80 for details. Once specified, this service automatically appears as an option that you can choose, allowing you to more quickly and easily configure outbound parameters.

Configuring General Parameters for Outbound Calls

The general parameters for outbound calls includes options for phone prefixes, callbacks and dial lists, timers, and outbound behavior.

Complete the following steps to configure general parameters for outbound calls:

1. From Connect Contact Center Director, click **System Parameters** > **Outbound** > **General Preferences**.
2. In the **General** tab, specify the call prefix options:
   - **Local Area Code** — By specifying the local area code, the system knows to eliminate it from the CID of abandoned calls and from the numbers dialed from callback and dial lists.
   - **Outbound Prefix** — The number that must be dialed before a phone number when making a call to a number outside of the ST system. Connect Contact Center dials the outbound prefix + customer number when making an outbound call.

     The prefix depends on the trunk that routes your calls. Consult your system administrator for information.

     The outbound prefix directly affects the expected format of the callback extension. For example, if a 9 (the usual PSTN dial prefix) is specified as the outbound prefix, and the callback extension is an internal 301, the callback will fail.
3. In the Callback area, choose the appropriate options:
   - **Default Callback Service** — The service to be used for calls leaving callback information, or abandoned, during a point in the process in which no service is defined for the call.

     The services in the menu have been previously defined. Refer to Defining How Email Reaches Agents on page 117 for details.
   - **Number of Retries** — The number of times the system attempts to make a callback call.
4. In the System Timers area, specify the amount of time, in seconds, for the following timers:
   - **Reserved Agent Waits for IVR Port** — The time the system keeps an agent on reserve for an outbound call, while waiting for an IVR port to become available. Once this time expires, the agent's reserve status is removed, and the agent can engage in other activities. The outbound call is held for the next retry.
   - **IVR Waits for Answer** — The time an IVR waits for an answer to an outbound call.
   - **Retry on Busy** — The time the system waits after a busy signal before retrying the call.
   - **Retry on No Answer** — The time the system waits after a call is not answered, before retrying the call.
5. From the Auto Answer area, identify the type of outbound calls you want the system to automatically answer:
   - **Auto Answer on Progressive Dial List Calls** — The system automatically answers outbound progressive dial list calls.

- **Auto Answer Callbacks** — The system automatically answers callbacks scheduled using the phone system.
- **Auto Answer Web Callbacks** — The system automatically answers callbacks scheduled from the web.
- **Auto Answer Abandoned Callbacks** — The system automatically answers callbacks to abandoned calls.

6. Choose the behavior of the IVR when a customer hangs up on an outbound call, or when an outbound call is transferred to an agent, in the Outbound Behavior area:
   - **When Customer Disconnects in IVR**
     - **Stop** — The number is no longer dialed or redialed, and is identified as failed in the database.
     - **Continue** — The system dials or redials the call up to the number of total retries specified in **Number of Retries**.
   - **Transfer to Agent On**
     - **Connect** — Transfers the call to the reserved agent when the customer picks up.

Note

The Ring option for this setting is supported only with PRI trunk service.

     - **Ring** — Transfers the call to the reserved agent when the customer's phone rings.

7. Click **Save**.

Note

On SIP trunks, customers will hear a ring-back tone if the reserved agent delays to answer.

Configuring Time Settings for Outbound Calls

Complete the following steps to configure time settings for outbound calls:

1. From Connect Contact Center Director, click **System Parameters** > **Outbound** > **Time Settings**.
2. In the **General** tab, select the time difference in **GMT Offset** that indicates the correct time zone. For example, if you are configuring a system that is in the Pacific Standard Time zone, you select -7 or -8 depending on the time of year and whether daylight savings time is in effect.
3. Select **Observe Daylight Saving** if the location of your Connect Contact Center server observes daylight savings time.
4. In the Time Zone File Upload area, click **Browse**, locate and select the file containing the time zone data, and then click **Upload File**.

Connect Contact Center currently only works with a time zone data file which you must purchase. Refer to Appendix A, Using Time Zone Data for information.

5. In the Daylight Savings area, specify how you want daylight savings time to be defined:
   - **Specific Days** — Select to specify daylight savings time by a specific range of dates. Identify the date range in the Specific Dates area.
   - **Week, Day and Month** — Select to specify daylight savings time by a time period. Identify the time period in the Specify Week, Day, and Month area.
6. Click **Save**.

Configuring Parameters for Chat

You must configure various parameters for chat contacts to be handled correctly by the Connect Contact Center system.

Before configuring chat parameters, you can specify the default email address that appears in an emailed transcript's From field. Refer to Configuring Parameters for Email on page 184. Once specified, this address automatically appears, allowing you to more quickly and easily configure chat parameters.

Tip

For information about how administrators and supervisors can monitor agents' chat sessions, refer to Managing Chat on page 266 in this guide or to the Monitoring Chat Sessions section of the Monitoring Activity chapter in the Contact Center Supervisor Guide.

Complete the following steps to configure parameters for chat:

1. From Connect Contact Center Director, click **System Parameters** > **Chat and Email** > **Chat**.
2. Use the options in the **General** tab to specify general parameters for chat:
   - **Max Chat Calls** — Enter the maximum number of concurrent chat calls.
   - **Email Transcript to Chat Caller** — Select to email a transcript of the chat session to the customer on completion.
   - **Email Transcript to Archive** — Select to email a transcript of the chat session to an archive.
   - **Archive Email Address** — If you selected the Email Transcript to Archive option, enter the address of the archive.
   - **Email Subject Title** — The text that appears in the Subject field of the email.
   - **Append Call Profile** — Click to include a call profile field.
   - **Append Date/Time to Subject** — Select if you want the date and time of the email added to the subject.

- File Transcript — Set the following parameters to save chat transcripts to a file:
  - **Save to File** — Select to specify a file path and name to save chat transcripts to.
  - **Path** — Browse to the path on the Connect Contact Center server where you want to save the chat transcript file.
  - **File** — Specify a file name.
  - **Append Call Profile** — Click to include a call profile field in the saved file.

3. Click the **Responses** tab, and use the following options to provide standardized chat responses to chat customers:
   - **Add Folder** — Click to add a folder to the chat response tree, which is an Explorer type tree that organizes responses defined in the system. Use **Name** to specify the folder name.

     Folders on the same level should have unique names.
   - **Add Item** — Click to add a response to the selected folder. Use the following options to specify the response:
     - **Name** — The response item name.
     - **Type** — Specify the type of chat response that appears in the agent's response list. Select **URL** if you want to define a web link that will be pushed to the contact when used by the agent. Select **Text** if you want to define a message that will be displayed on the customer's computer when selected by the agent.
     - **Content** — If the chat response type is URL, enter the web link, such as http://support.shoretel.com. If the chat response type is **Text**, enter the actual text of the response.
   - **Remove** — You can remove folders and items by selecting them in the **Responses** tab and clicking **Remove**.
4. Click **Save**.

Configuring Custom Chat Messages

Chat messages are used in actions, such as Send Message, that involve a chat contact. For example, such actions can operate in a script that announces chat contacts.

Complete the following steps to configure custom chat messages:

1. From Connect Contact Center Director, click **System Parameters** > **Chat Messages**.
2. Click **New**, and then specify a **Name** and **Message**.
3. Click **Create**.

To modify an existing chat message, select the message, modify the **Name** and/or **Message** field, and click **Save**.

Note

Updated chat messages are applied only after each script they appear in is opened and saved in the GCCS application.

To delete an existing chat message, select the message and click **Delete**.

System Chat Messages

System chat messages, which are located in **System Parameters** > **Chat and Email** > **System Chat Messages**, are predefined. Users with administrator privileges can modify the predefined system chat messages, but you cannot add or delete them. Refer to Configuring Custom Chat Messages on page 183 for information about creating custom chat messages.

Tip

Connect Contact Center Director supports German, Spanish, and French characters, so system chat messages can be localized in these three languages.

System Email Messages

System email messages, which are located in **System Parameters** > **Chat and Email** > **System Email Messages**, are predefined. Users with administrator privileges can modify the predefined system email messages, but you cannot add or delete them.

Tip

Connect Contact Center Director supports German, Spanish, and French characters, so system email messages can be localized in these three languages.

Configuring Parameters for Email

You must configure various parameters for email to be handled correctly by the Connect Contact Center system.

If your default virus scanner prohibits sending emails from the Connect Contact Center server, you need to change your scanner settings. Depending on your virus scanner application, you can add the files `emma.exe` and `ChatTranscript.exe` to the exclude list that prevents mass mailing words from sending email. Or you can disable the default setting to block the action of preventing mass mailing worms from sending email.

Complete the following steps to configure parameters for email:

1. From Connect Contact Center Director, click **System Parameters** > **Chat and Email** > **Email**.
2. Use the options in the **General** tab to specify how email is assigned according to your site needs and the way email clients, such as Outlook, are configured.
   - **Reply Email Account** — Set the parameters of the email account you want to use for reply emails.
     - **Email Address** — Email address of the reply account.
     - **Server Address** — This is the IP address or fully qualified name of the email server.
     - **Username** — User name for the reply account.
     - **Password** — Password for the reply account.
     - **Protocol** — This value defaults to IMAP and is not available for updates.
     - **SSL Enabled** — When selected, this field enables SSL protection for the email account, which means that communication transmitted to and from the email account is encrypted and authenticated.
     - **Port** — If **SSL Enabled** is checked, the default port is 993. If **SSL Enabled** is not checked, the default port is 143.
   - **Deadletter Email Account** — The deadletter email account is an optional email account you can configure to handle email that could not be delivered for some reason, was answered by the wrong agent after transfer, if the email was replied to late, and so on.
     - **Email Address** — Email address to send deadletter emails to.
   - **General Outgoing Email Account** — Set the parameters of the email account you want to use for outgoing emails.
     - **From Email Address** — Email address of the general outgoing account.
     - **Server Address** — This is the IP address or fully qualified name of the email server.
     - **Username** — User name for the general outgoing account.
     - **Password** — Password for the general outgoing account.
     - **StartTLS** — When selected, this field enables transport layer security for the email account, which means that communication transmitted to and from the email account is encrypted and authenticated.

Note

MiVoice Connect Contact Center support for TLS 1.1 and 1.2 has been verified on Exchange Server 2013, Exchange Server 2016, and Exchange Server 2019.

     - **Port** — If **StartTLS** is checked, the default port is 587. If **StartTLS** is not checked, the default port is 25.

3. Click **Save**.

Working with Interfaces

You can work with the interface between Connect Contact Center and event feeds and database connections.

Enabling Event Feeds

Connect Contact Center provides event feeds that may be used by third-party applications that subscribe to the event feeds. Through the implementation of an API, Connect Contact Center provides information on agent and group activity in the form of a JavaScript Object Notation (JSON) event feed.

The Real Time Group Activity Event Feed provides:

- Extensive group information typically shown in a wallboard, such as calls in queue, calls answered or abandoned, average or max queue time, and number of agents in different states.
- Agent information for every group, for example agents logged in, agent states, call details, etc.
- DNIS information, such as calls answered or abandoned, and queue time.
- Specifics on agents requiring help.

These features are enabled through a license. The license only allows the use of the interface for applications built using the API.

Note

To receive documentation and support on the event feed APIs, you need to be a member of the Mitel Developer Network.

Viewing Information on Event Feed Ports

Complete the following steps to view information on event feed ports:

1. From Connect Contact Center Director, click **System Parameters** > **External Interfaces** > **Event Feed Ports**.
2. In the **General** tab, you can see the TCP ports used by the event feeds to accept incoming connections. For the Real Time Group Activity connections, the default port is 31456.

Note

Do not change these values unless there is a port conflict, which is very unlikely.

Configuring Event Feeds

You configure event feeds to specify the credentials of a connecting application. Repeat this process for each application that will connect to the system.

Complete the following steps to configure an event feeds:

1. From Connect Contact Center Director, click **System Parameters** > **External Interfaces** > **Event Feeds**.
2. Click **New**.
3. In the **General** tab, enter the **Username** and **Password** required by the application to connect to the Connect Contact Center server.
4. In **Connection Type**, select **Real-Time Group Activity**.
5. Use **Description** to provide a description of the application.
6. Click **Create**.

Specifying External Database Connections

The Connect Contact Center system uses information from an external database to direct the routing of calls, in call control scripts, in dial lists, and for other functions. The system relies on Open Database Connectivity (ODBC) to support the API for accessing external databases.

The process of configuring an external database connection is:

- Determine how a trust relationship, or security, is to be established between the operating system and network protocols.
- Set up the data source.
- Configure the ODBC connection.
- Determining the Trust Relationship

  You must determine how a trust relationship, or security, is to be established between the operating system and network protocols. For the SQL server and Connect Contact Center to establish a trust relationship, one or both of the following must be true:

  - The SQL server and Connect Contact Center system are in the same domain.
  - The names pipe resolution must be set on the SQL server when the server and Connect Contact Center system are in separate domains.

Setting Up the Data Source

The data source is the external database used by the ODBC connection.

The process for setting up the data source is different for running Connect Contact Center on a 32-bit system or a 64-bit system because Connect Contact Center runs on a 64-bit system as a 32-bit application, and uses only 32-bit ODBC drivers.

Complete the following steps to set up the data source for Connect Contact Center on a 32-bit system:

1. From the Windows Start menu, choose **Settings** > **Control Panel** > **Administrative Tools** > **Data Sources (ODBC)/ODBC Data Sources (32-bit)**.
2. From the **System DSN** tab, click **Add**.
3. From the Create New Data Source window, select the driver to use to set up the data source, and then click **Finish**.
4. In the ODBC Setup window for the data source, click **Select**.
5. In the Select Database window, locate and select the database, and then click **OK**.

   The database works correctly when the ODBC connection is set up locally. The database will fail when the connection uses a mapped network drive. This issue is a limitation of the Access ODBC driver.

Note

NT authentication is not supported on ODBC System DSN.

Complete the following steps to set up the data source for Connect Contact Center on a 64-bit system:

1. From the Connect Contact Center Server, double-click `\SysWOW64\odbcad32.exe`.
2. Follow the steps in Setting Up the Data Source on page 187.

Configuring the ODBC Connection

1. After setting up the data source, you need to configure the interface parameters that the system uses to access a new external database. You can also change the interface parameters of an existing external database connection, and delete a database connection.
2. Complete the following steps to configure the ODBC connection:
   a. From Connect Contact Center Director, click **System Parameters** > **External Interfaces** > **Database Connections**.
   b. Click **New**.
   c. If you have an existing database connection with parameters similar to what you want, you can quickly create a new connection by selecting it and clicking **Copy**.
   d. In the **General** tab, enter the connection name.
   e. Click **Refresh** to update the ODBC DSN drop-down list if you have configured a new ODBC data source that is not yet listed.

f. From the **ODBC DSN** drop-down menu, choose the Data Source Name (DSN) of the ODBC connection specified when setting up the data source.

g. Choose the database type of the selected ODBC DSN in **Database Type**.

h. In **Timeout**, enter the number of seconds before the system timeouts if a connection request to the external database does not get a response. The timeout is programmed as an action within a script.

i. In **Username** and **Password**, enter the user name and password required to connect to the database. Contact your database administrator for the user name and password.

j. In **Simultaneous Connections**, enter the maximum number of connections that can simultaneously connect to the database.

3. Although you can configure any number of simultaneous database connections to an external database, Connect Contact Center has an internal limitation of 10 simultaneous database connections.

4. If the database is to be used for Do Not Call (DNC) lists, make sure that the number of simultaneous connections is at least equal to the number of simultaneous pending dial numbers in queue configured for dial lists. This information is defined in **Dial Lists** > **Details** in Connect Contact Center Director.

5. Click **Create**. their Mitel Customer Success Manager Mitel Customer Success Manager

CHAPTER

10

Maintaining Connect Contact Center

Use the Maintenance the following entities to maintain the Connect Contact Center system:

- **Redundancy** — Configures the Connect Contact Center redundant server system. Information on implementing the Connect Contact Center redundant server system can be found in Chapter 11, Implementing the Redundant Server System.
- **Music Streams** — Music streams are WAV files that are played when a call is waiting in queue. Music streams can be specified for the entire system, by call, by caller, or to play a prompt.
- **Languages** — The required languages for IVR announcements.
- **Database Backup** — Determines how you want to backup your Connect Contact Center database.
- **License** — Allows you to add additional feature licenses and view information on the licenses you do have.
- **Printer Account** — In order to print scheduled historical reports, your printer account credentials must be configured and validated to access local or network printers.
- **Logging** — Specifies how long to keep backup logs.
- **Connected Users** — Provides information on users currently logged into the Connect Contact Center system.

Refer to the following sections for more information about maintaining Connect Contact Center:

Associating Route Points with IRNs

Before associating route points, which are the PBX dial numbers, with Connect Contact Center IRNs, the route points must be defined in Connect Director on the **Administration** > **Features** > **Call Control** > **Route Points** page.

After you have defined route points, complete the following steps:

1. If necessary, create an IVR server (IVR client) on the Connect Contact Center server.
2. Create IVR ports.
3. If necessary, upload additional IVR files.

Creating IVR Servers

You are provided with a default IVR server on the Connect Contact Center server. If you have larger Connect Contact Center installations, you may need to create additional IVR servers.

Complete the following steps to create IVR servers:

1. From Connect Contact Center Director, click **IVR Configuration** > **Route Points** > **IVR Servers.**
2. Click **New**.

   If you have an existing server with parameters similar to what you want, you can quickly create a new IVR server by selecting it and clicking **Copy**.
3. In the **General** tab, specify the new IVR Server name in **Name**.

   The IVR server name must be the actual network name of the server, for example MCCC_IVR1. Validate this name using network commands such as ping or by using the **ShoreTel Connect Contact Center Diagnostic Console > File menu > Open IVR View > Stations Status** button.
4. Assign a route point to the IVR server by clicking **Add** and then entering the digits of the dial number in **Route Point Extension** field.

5. If you want to define a range of dial numbers, use the **Range Start**, **Range End**, and **Step** fields to assign the first and last dial numbers and the increment step, and then click **Add Range**.

   The system adds as many ports as possible within the limits of the dial number range and the defined increment step. For example, if the first dial number is 1000, the last is 1060, and the increment step is two, the ports 1000, 1002, 1004, etc. are added until the number 1060 is reached.

6. Click **Create**.

Creating IVR Ports

In order to use an IVR server for IVR interactions, you must associate it with a Connect PBX route point. IVR ports are used for calls that required interactive handling (such as providing voice prompts and getting caller input). These ports are controlled by the Connect Contact Center system, and associate an IVR server with the Connect PBX route points.

Complete the following steps to create an IVR port:

1. From Connect Contact Center Director, click **IVR Configuration** > **Route Points** > **IVR Ports.**
2. Click **New**.

   If you have an existing port with parameters similar to what you want, you can quickly create a new IVR port by selecting it and clicking **Copy**.

3. In the **General** tab, enter the digits of a dial number in **Route Point Extension** field.
4. From the **IVR Server** drop-down menu, choose the server to which you want to associate the route point.

   The available servers have been previously defined. Refer to Creating IVR Servers on page 191 for details.

5. Click **Create**.

Uploading IVR Files

The Connect Contact Center system includes default announcement files with the IVR system. You also can upload additional announcement files for use with the IVR system. The default announcement files and any files you upload are located in the IVR directory in the installation location, as follows:

<*installation location*>\ShoreTel\Contact Center Server\IVR

Complete the following steps to add directories and/or upload additional announcement files:

1. From Connect Contact Center Director, click **IVR Configuration** > **IVR Files**.
2. If you want to add a directory, enter the directory **Name** in the Add Directory section, and then click **Add**. Otherwise, proceed to step 3.
3. To add an announcement file, click **Browse** in the Add File section, select the appropriate file, and then click **Add**.

Configuring Music Streams

Music streams are WAV files that are played when a call is waiting in queue. Music streams can be specified for the entire system, by call, by caller, or to play a prompt.

Complete the following steps to configure a music stream:

1. From Connect Contact Center Director, click **Maintenance** > **Music Streams**.
2. Click **New**.

   If you have an existing music stream with parameters similar to what you want, you can quickly create a new music stream by selecting it and clicking **Copy**.
3. In the **General** tab, specify a **Name** for the music stream.
4. From the **Stream Type** drop-down menu, select the type of music stream:
   - **System-Wide** — The audio stream is continuous. When callers enter the queue, they hear the audio at that position in time.
   - **Per Call** — The audio stream starts from the beginning for each call in queue, and then plays continuously. A caller hears the audio from the beginning when they first enter the queue; if they reenter the queue they hear the audio at that position in time.
   - **Per Caller** — The audio stream starts from the beginning for each call in the queue, and then pauses when the call leaves the queue. A caller hears the audio from the beginning when they first enter the queue; if they reenter the queue they hear the audio at the point where they left off.
   - **Play Prompt** — The audio stream starts from the beginning for each call in the queue. A caller hears the audio from the beginning when they first enter the queue; if they reenter the queue they hear the audio from the beginning again.
5. In the **WAVE File Path**, enter the location and name of the file to be played. The file must be located on the Connect Contact Center Server in the IVR directory. If IVR servers are being used, the file must also be copied into the IVR directory on all IVR servers.

   Click **Browse**, and use the resulting directory tree to locate and select a specific WAV file.

Note

WAVE files must not contain an apostrophe (‘). For example, do not use, “*Don't Know Why.wav*”, instead change the file name to “*Do Not Know Why.wav*”.

6. Click **Create**.

Enabling a Language

Complete the following steps to enable a language:

1. From Connect Contact Center Director, click **Maintenance** > **Languages**.
2. In the List View panel, select the language you want to enable, and then select **Enabled for Use**.

   The languages in the list are those currently supported by Connect Contact Center.
3. If you want the language to be used when the **IRN Language** call profile field is not set to any supported language, select **Default Language**.

   Only one language can be specified as the default language.
4. Click **Save**.

Note

i18n and special characters are not supported in WAV file names.

Backing Up the Connect Contact Center

Tip

Because the Connect Contact Center runs on a VMWare platform, Mitel recommends taking a VMWare snapshot to back up files as this is a simple and efficient way to ensure that all critical files are backed up.

Refer to the following sections for information about backing up your contact center system.

Critical Components of the Connect Contact Center System

The folders and files listed here are critical components of your Connect Contact Center system. Mitel strongly recommends you back up these components for disaster recovery, preparation for an upgrade, and to be used in the event you need to rollback.

By default, all of these components can be found on the server in `...\ShoreTel\Contact Center Server\`. Your installation path may vary.

- Backup — This directory contains backups of the contact center configuration database as well as all other contact center databases.
- Bin — This directory contains all binaries along with the keystore.exe.config ini file.
- CCD2 and Contact Center Director — These directories contain contact center-related files.

- DBProvider — This directory contains database related files. The location of this directory is configurable during install.
- Email — This directory contains email headers that will be used for all emails being routed by the contact center.
- IVR — This directory contains IVR files.
- Log — This directory contains all logs. The location of this directory is configurable during install.
- nginx — This directory contains nginx binaries and configuration files. ngnix is used by Connect Contact Center Director.
- Ruby — This directory contains Ruby binaries and configuration files. Ruby is used by Connect Contact Center Director.
- Web Agent — This directory contains two sub directories, which contain files related to the Interaction Center for the server and the client.
  - Server
    - Certs — This directory contains HTTPS certs. This content does not need to be backed up as the source for it is on the HQ. Refer to Restoring the Entire Connect Contact Center System on page 199 for more information.
    - Lib — This directory contains various javascript libraries used by the NodeJS Server. NodeJS is used by Web Agent.
    - Log — This directory contains WebAgent and External API logs.
    - Node_module — This directory contains NodeJS related files.
  - Client
    - Bin — This directory contains fonts, assets, Angular framework related files.

In addition, your particular configuration may include components that are critical to the system, but are not part of Connect Contact Center. These can include ODBC settings or local Microsoft Access files required by Connect Contact Center for database integrations. Make sure you back up these components as well, according to the manufacturer's specifications.

Backing up the Connect Contact Center Database

Regularly backing up your Connect Contact Center database is an important part of server maintenance and ensures that, in the event of a server or application failure, the downtime and data loss experienced by your call center is kept to a minimum.

The Connect Contact Center system automatically backs up its database. By default, the database backup takes place at 22:00 server time every night and is saved in `...\ShoreTel\Contact Center Server\backup`. You can change these default parameters and also specify the number of backup generations to keep.

You can also choose to perform a manual backup of the database at any time.

Backup information is displayed in Connect Contact Center Director.

If you need to restore your database from a backup, follow the directions in .

Connect Contact Center backs up your configuration and observation data.

Note

You must have at least 20 GB of disk space to backup Connect Contact Center.

Configuring the Automatic Database Backup Policies

There are three methods of backup: daily, weekly, and monthly. These methods can be combined for best results. However, note that there can only be one scheduled backup per day. So for example, if a daily backup and a weekly Sunday backup are scheduled, the daily backup for Sunday is omitted and only the weekly backup is performed.

Complete the following steps to configure the automatic database backup policies:

1. From Connect Contact Center Director, click **Maintenance** > **Database Backup**.
2. In the **General** tab, use the **Destination Path** field to specify the location where the backup files are to be stored. The path is relative to the server root directory.

   Use a complete path name, and avoid using a drive that is mapped in the server.

   Click **Browse** and use the resulting directory tree to locate and select a directory. Click **Refresh** to update the **Destination Path** drop-down list if you have specified a new location that is not yet listed in the drop-down menu.
3. From the **Start Time** drop-down menu, select a start time for the backup process.

   It is best to set the backup start time for off-peak hours. Avoid setting the time for midnight because many system background procedures are automatically carried out at this time.
4. Specify the backup frequency:
   - To schedule backup on a daily basis, select **Daily**, and then enter the number of daily backup copies to keep in the **Keep** field.
   - To schedule a weekly backup, select **Weekly**, and then select the appropriate day of the week from the **Day of Week** drop-down menu. Specify the number of daily backup copies to keep in the **Keep** field.
   - To schedule a monthly backup, select **Monthly**, and then select the appropriate day of the month from the **Day of Month** field. Specify the number of daily backup copies to keep in the **Keep** field.
5. Click **Save**.

Manually Backing Up the Connect Contact Center Database

You can manually backup the Connect Contact Center database. Perform manual backup before any major changes are done to the system, such as upgrading to a newer version of Connect Contact Center, to ensure that the system can be rolled back without any data loss. When a backup is performed, the contents of the database are saved to a SQL file in the backup directory.

You can choose to manually back up the entire database, which includes historical and configuration files, or just the configuration files. Backing up only the configuration files is usually done in conjunction with Mitel support for lab work and troubleshooting.

It is recommended that you manually backup the Connect Contact Center database during off-peak hours, because the action puts a load on the Connect Contact Center system. The database backup is saved in the path specified in **Maintenance** > **Database Backup** > **General** > **Destination Path**.

Complete the following steps to manually back up the Connect Contact Center database:

1. From Connect Contact Center Director, click **Maintenance** > **Database Backup**.
2. Select the amount of information you want to back up:
   - Click **All Data** to back up the entire Connect Contact Center database.
   - Click **Configuration Data** to back up on only the configuration files.
3. Click **OK**.

Viewing Backup Information

To view backup information, click **Maintenance** > **Database Backup**.

The Backup History area shows the type of backup, the name of the backup folder, when the backup started and finished, and whether the backup process was successful.

Replicating Files

The File Replication feature can replicate IVR files to the secondary server as well as replicate IVR files to IVR stations either on demand or as a scheduled process. When you use the File Replication feature, the ShoreTelCCFileRep account is created on all involved servers for proper functionality. Do not remove or modify this file once it is created. The Replication History lists results of all executed replications.

Note

Mitel recommends you set the file replication start time for off-peak hours. Avoid setting the time for midnight because many system background procedures are automatically carried out at this time.

Complete the following steps to replicate files:

1. In Connect Contact Center Director, click **Maintenance** > **File Replication**.

2. In **Schedule Type**, select the appropriate option.
3. If you selected **Daily** in **Schedule Type**, specify the **Hour** you want to run the replication process.
4. If you selected **Weekly** in **Schedule Type**, use **Day of Week** to specify the day you want to run the replication process.
5. Click **Save**.

Manually Replicating Files

Complete the following steps to manually replicate files:

1. In Connect Contact Center Director, click **Maintenance** > **File Replication**.
2. Click **Replicate Now**.

Restoring Connect Contact Center

With proper backups, the Connect Contact Center system can be restored from simple issues such as configuration mistakes, rebuilt from scratch in the case of catastrophic server failure, or rolled back in the event of a corrupted upgrade.

You can restore either individual components of Connect Contact Center, or you can restore the entire system.

Tip

If you have a VMWare snapshot of the system, Mitel recommends restoring from that snapshot. Restoring in this manner restores the entire contact center.

Restoring Connect Contact Center Components

If individual files are configured incorrectly or damaged, you need to only restore the specific component.

Restoring IVR\Wave Files

The IVR\Wave files can be replaced at any time, even when the server is operational.

To restore an IVR\Wave file, copy the backup files to `...\ShoreTel\Contact Center Server\IVR`. The next call to access an IVR or Wave file uses the newly restored file.

Restoring the Secondary Server

If you are using the redundant server system, you should resynchronize the secondary server with the primary server. Refer to the *Connect Contact Center Administrator Guide* for information.

Restoring the Database

It is recommended that you restore the Connect Contact Center database during non-business hours if at all possible. For emergency restoration, all agents should be logged out and incoming calls should be rerouted to alternate destinations until you can ensure that the restoration has been completed successfully. In the event of a database failure or corruption, keep the defective database in case it is required by Mitel TAC.

Before restoring the database, make sure you manually back it up. This ensures that the system can be rolled back without any data loss. Details on manually backing up the Connect Contact Center database are in the *Connect Contact Center Administration Guide*.

Restoring the database only restores configuration and historical data. To restore IVR prompts, you must restore these files, as explained in and Restoring IVR\Wave Files on page 198.

Once you have restored the database, you can check that the restored data is being used by running a report, or by launching Connect Contact Center Director and viewing your system information. If you have implemented the Connect Contact Center redundant server system, the servers need to be synchronized, as explained in the *Connect Contact Center Administrator Guide*.

Complete the following steps to restore the Connect Contact Center database:

3. Stop the *Contact Center Service* service.The *ShoreTel-MySQLCC* service must remain running.Locate the database backup you want to restore.
   Database backups are located in `C:\ShoreTel\Contact Center Server\backup\>d/w/n>>YYYY-MM-DD-hh-mm>\`.
4. Copy the `MCCC_master_db.sql` file from the database backup folder to the `C:\ShoreTel\Contact Center Server\DBProvider` folder.
5. Run `load_master_db.bat` from the DBProvider folder to restore the backup file.
6. Ensure that the restored data is available.
7.

Restoring the Entire Connect Contact Center System

You should restore the entire Connect Contact Center system in cases of catastrophic hardware or software failure. If you have a hardware failure, the new server will need to meet the system requirements of required by Connect Contact Center and must have the same IP address as the failed server. Refer to the *Connect Contact Center Installation Guide* for hardware requirements.

The newly installed replacement server must be brought up to the level of a new installation. This means installing Connect Contact Center and the Distributed Voicemail Software. The version of the Connect Contact Center software needs to match the previously installed version, even if a newer version is available. This ensures that Connect Contact Center can be put back into a functioning state before an upgrade is attempted. For help with a basic installation of Connect Contact Center, refer to the *Connect Contact Center Installation Guide*.

Complete the following steps to restore the Connect Contact Center System:

1. Restore the database, as explained in the Restoring the Database on page 199.
2. Restore cert files as follows:
   a. Copy the following three certificate files from the HQ server to the `<installation location>\ShoreTel\ShoreTel Contact Center Server\Bin` directory on the Connect Contact Center Server server:
      - c:\Shoreline Data\keystore\certs\BootstrapData.crt
      - c:\Shoreline Data\keystore\certs\hq_ca.crt
      - c:\Shoreline Data\keystore\private\BootstrapData.key

      If these three files are not on the HQ server, complete the following steps to generate them. Otherwise, proceed to step 4.

      a. On the HQ server, open a command prompt.

      b. Change directories to the Connect installation location, and then run bin\pki.bat -S BootstrapData as shown in the command sample below.

```
cd "<installation location>\Shoreware Director\App"

bin\pki.bat -S BootstrapData
```

3. Restore the IVR/Wave files, as detailed in the Restoring IVR\Wave Files on page 198.
4. Restart Connect Contact Center and verify restoration of configuration and historical reporting data.

Tip

You also can use these steps to move the Connect Contact Center installation to a new server partition.

Rebuilding a CCIR Server from Backup

Note

It is assumed that you do not have CCIR redundancy while rebuilding a CCIR server from backup.

Rebuild a CCIR server from backup by following these steps:

1. Backup the CCIR server database by following these steps:
    a. Navigate to *<Install path>\ShoreTel\ShoreTel CCIR Server\DBProvider\ directory.*
    b. Run the *unload_ccir_db.bat* batch file. A new **Command Line** window opens.

Note

The **Command Line** window disappears when the backup completes and a *ccir_db.sql* backup file is created in the same directory.

2. Remove all CCIR configurations from Contact Center Director.
3. Prepare the new CCIR server and install Roles and Features.

Note

Copy the CCIR *ccir_db.sql* backup database to the new CCIR server.

4. Run the CCIR installer.

Note

Do not launch Mitel Connect CCIR service.

5. Run *clear_ccir.bat* from the *DbProvider* folder on the CCIR server.
6. Copy the *ccir_db.sql* backup file to the *DbProvider* folder of the CCIR server.
7. Run the *load_ccir_db.bat* batch file from the *DbProvider* folder to restore the CCIR backup. A new **Command Line** window opens.

Note

The **Command Line** window disappears when the restore is complete.

8. Start the CCIR service and use Contact Center Director to configure the new CCIR server.

Working with Licenses

Software license keys are required to operate the Connect Contact Center system. There are two types of software license keys: the system key and feature keys. The system key is a node-locked license tied to your specific Connect Contact Center server. The feature keys are tied to the system key, and enable you to use specific Connect Contact Center features, including redundancy.

Note

LicensesToRequest is the key for **CONFIG_PARAM_LICENSESTOREQUEST**.

For information on requesting and installing a node-locked system key and upgrading your licenses, refer to the *Connect Contact Center Installation Guide*.

Adding New Feature Licenses

Once you have received your new feature license keys, you use Connect Contact Center Director to add the license to the system.

1. From Connect Contact Center Director click the **Maintenance** > **License** > **License Keys** > **Add New License(s)** tab.
2. Copy the license information from the email and paste it in the **New License(s)** field.
3. If the feature keys you received are for features already licensed, select **Overwrite Existing Feature Keys** to ensure that there are no duplicate licenses.
4. Click **Save**.

   The new license keys take effect immediately. You do not need to restart or reboot the Connect Contact Center system.

Viewing License Information

To view license information in Connect Contact Center Director, click **Maintenance** > **License** > **License Keys** > **Current Licenses**.

- **System** — The node locked system license key required for all systems.
- **Inbound/Outbound Voice** — The maximum number of agents who can be logged in to a group that requires a license to handle incoming and outbound voice calls concurrently.
- **Email** — The maximum number of agents, who log into a group that requires a license to handle incoming mail contacts, that can be logged on the system concurrently.
- **Chat** — The maximum number of agents, who log into a group that requires a license to handle incoming chat contacts, that can be logged into the system concurrently.
- **Dial Lists** — The maximum number of agents, who log into a group that requires a license to handle outbound dial lists calls, that can be logged into the system concurrently.
- **IVR Ports** — The maximum number of IVR ports the system will use. Note that you can define additional IVR ports than the number for which you are licensed. This allows you to use IVR stations to create redundant IVR stations.
- **Supervisors** — The maximum number of supervisors with Full Visor permissions (licenses) that can be logged into the system concurrently.

  Connect Contact Center currently supports up to 100 concurrent supervisors.
- **Redundancy** — Enables running the Connect Contact Center system in a redundant configuration.

- **Agent Activity API** — The number of external applications able to connect and receive agent data.
- **Group Activity API** — The number of external applications able to connect and receive group data.

Configuring Printer Account Credentials

In order to print scheduled historical reports, your printer account credentials must be configured and validated to access local or network printers.

If you plan to automatically email scheduled reports, you must create a printer account with local administrative privileges on the Connect Contact Center server. This ensures that scheduled reports are emailed successfully.

Complete the following steps to configure printer account credentials:

1. From Connect Contact Center Director, click **Maintenance** > **Printer Account**.
2. Enter the **Username**, **Password**, and **Domain** for the account.
3. Click **Save**.
4. To validate your printer account credentials, click **Test**.

   The results of the validation are displayed in the **Last Test Results** area. If the validation is unsuccessful, repeat this procedure.

Log Files

The following sections include information about the contents of Connect Contact Center log files and the procedure for determining how long log files are maintained.

Contents

Connect Contact Center system logs, including logs for Interaction Center, are located in the log directory as described in Refer to the following sections for information about backing up your contact center system. on page 194.

Component logs, such as those that are related to routing, telephony, system management, and so on, are combined into one log file, which is referred to as “Sys logs”. The sys logs also contain information related to the server and can be used to debug server related problems.

Client-related logs, such as those for Interaction Center, contain information such as the following:

- Authentication/bootstrapping issues
- Events received from the contact center server
- Errors or warnings thrown out by NodeJS while communicating with clients

Specifying Length of Time to Keep Logs

Client

Interaction Center logs roll over once a day and 5 days worth of logs are stored. The length of time to maintain Interaction Center logs is not currently configurable.

Server

You use Connect Contact Center Director to specify the length of time to keep information logs.

Note

Selecting a longer period affects disk utilization.

Complete the following steps to specify the length of time to keep logs:

1. From Connect Contact Center Director, click **Maintenance** > **Logs**.
2. In the **General** tab, choose whether to keep logs for one week or one month in the **Keep Logs For** drop-down menu.

Note

If you decrease the length from 1 Month to 1 Week, existing logs are deleted.

3. Click **Save**.

Viewing Information on Connected Users

Information on the users currently connected to the Connect Contact Center system can be viewed. This includes when the user logged in, the IP address of the client machine, and other information.

Complete the following steps to view information on connected users:

1. From Connect Contact Center Director, click **Maintenance** > **Connected Users**.
2. In the List View panel, select the user on which you want information, and then view information about the user in the **General** tab.

Changing Time Zones on the Server

If you change time zone settings on an Connect Contact Center server, you must restart Connect Contact Center. If you do not restart Connect Contact Center after changing the time zone for the server, the system will continue to operate schedules on the previous time setting. For example, if you change the server time to reflect that the system is operating in the Central Time Zone instead of the Pacific Time Zone and do not restart Connect Contact Center, the schedules you have defined for your

Connect Contact Center system will continue to operate in the Pacific Time Zone.

CHAPTER

11

Implementing the Redundant Server System

Mitel recommends that you implement the Connect Contact Center redundant server system under the following circumstances:

- Run a distributed call center that requires a robust disaster recovery solution
- Require a solution resistant to wide area network (WAN) failures in a topology that includes a remote site, such that your call center functions even if the WAN is unavailable
- Need a backup solution for server failure

In the Connect Contact Center redundant server system, the operational server is backed up by a secondary server. The secondary server can run as a remote server on a separate network segment. Switching operational control between servers is seamless and quick, because the secondary server is frequently updated with database contents.

You must have the appropriate license to implement redundancy. For information about obtaining the Redundancy license key, contact your Mitel representative. When you have the Redundancy license key, refer to Licensing on page 209 for more information.

Refer to the following sections for more information about the redundant server system:

Description of the Redundant Server System

This section provides the following background information and system requirements for the Connect Contact Center redundant server system:

- Terminology
- Licensing
- Network Requirements
- System Software and Hardware Considerations
- Normal Operational Behavior
- Failover Mode
- Failure States and Responses
- Failback Mode
- Limitations

Terminology

The following definitions help in understanding the Connect Contact Center redundancy server system:

- **Primary Server** — The primary server is configured to be the working Connect Contact Center server during normal operation.
- **Secondary Server** — The secondary server is the redundant server. It becomes the operational active server when the primary server is not visible to the secondary server (because the primary server is either non operational or unreachable due to a network failure).
- **Active Server** — The active server is the operational server (regardless of which server was configured to be the primary server). In normal operation, the primary server is the active server. During a fault condition, the secondary server becomes the active server.
- **Standby Server** — This server is the ready backup server. In normal operation, the secondary server is the standby server.

Note

Primary and **Secondary** are configurations. **Active** and **Standby** are runtime states. During normal operation, the secondary server is the standby, but it becomes the active server during a failover.

- **Normal Operation** — During normal operations, the primary server communicates with the Private Branch Exchange (PBX), and routes calls to agents. The secondary server ignores requests from the PBX or any other client, exchanges handshakes with the primary server, and receives database updates.

- **Failover** — The secondary server transitions to the active server role in response to one of the failure states described in Failure States and Responses on page 212. The failover process begins if six consecutive heartbeats are not acknowledged. Failover can be either automatic or manual.
- **Failback** — The system returns to normal redundant operation. Only manual failback is supported.

Licensing

Note

The Connect Contact Center redundant system requires the Redundancy license key. This license key is tied to the primary server. For information about obtaining the Redundancy license key, contact your Mitel representative.

Complete the following steps to license the redundancy feature:

1. Turn on the primary server.
2. Enter the Redundancy license key using **Maintenance** > **License** > **License Keys** > **Add New License(s)** tab in Connect Contact Center Director. Refer to Adding New Feature Licenses on page 202 for details.

   The license is tied to a specific server, which is automatically identified as your primary server in the redundant server system.

Network Requirements

Mitel approved QOS networks are supported as long as a TCP/IP connection exists between the primary server and the secondary server. To test the connection, send pings from each end of the connection between the primary server and the secondary server.

Client applications such as the Connect Contact Center supervisor applications must have a TCP/IP connection to both the primary and secondary servers.

Note

Any firewall in the network should not block communication to TCP port 4306 for MySQL.

If the primary and secondary servers reside at different sites, the network should be configured to allow traffic on ports 31452, 31453, and 31454.

System Hardware and Software Requirements

The operation of a redundant server system does not add any load or stress on the overall Connect Contact Center environment. The hardware and software requirements are as follows:

- The hardware and software on the secondary server must be identical to the primary server.

- The redundant server system must be able to communicate with phones wherever they are located.

Normal Operational Behavior

The normal operational behavior of the Connect Contact Center redundant server system is:

- The primary server functions as the active server, routing calls, maintaining call histories, updating the database. All configuration must be performed on the primary server.
- The secondary server functions as the standby server and receives administrative, historical, and database updates during normal operations, but ignores requests for services from the PBX or any client. The secondary server does not accept a connection from any other server other than the primary.
- When a configured secondary server joins the system, it is as an operational standby server. The databases are then synchronized.
- The database replication process runs in the background and updates the standby server quickly (in under 5 minutes).

  The redundant system provides two kinds of database replication: primary-to-secondary and secondary-to-primary. Replication occurs when Connect Contact Center is running on both servers. The replication starts when Connect Contact Center starts and stops when Connect Contact Center stops.

  Replication is based on the MySQL replication feature. It happens in real-time, provided the system has enough network bandwidth.

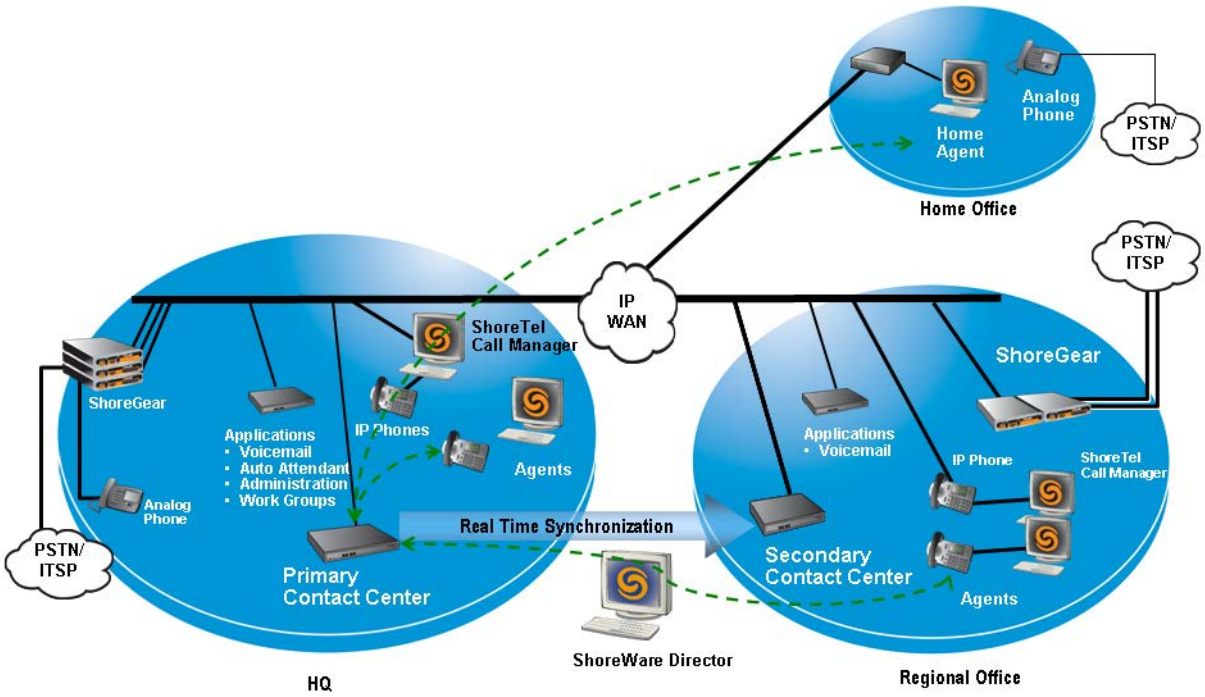
Note

If there is a power outage during the database replication process, the replication process is incomplete. Refer to Recovering a Primary Server from a Secondary Server on page 225 for information about recovering from this situation.

- The servers exchange handshake signals (or heartbeats) every 20 seconds to keep each other informed of their operational state and the state of the network.
- The active and standby servers are directly accessible by their IP address. Network Address Translation (NAT) traversal is not supported.

  For network connectivity, MySQL uses port number 4306 by default.

  Upon the first-time activation of the secondary server, it must be configured as the standby server while the primary server is operational.
- All agents and supervisors must be pointed at the primary server during normal operation.
- The redundant server system cannot be used to load-balance a call center.
- The PBX supports remote, or branch, offices such that, when a network failure occurs between the main location and remote offices, each server can continue operation independently.



- If the primary server is either turned off or not connected to an operational system (in which case the secondary server is running as a standalone active server), the primary server rejoins the system as a fault server. To return the primary server to active mode, from the secondary server click the **System** > **Redundancy** > **Return Primary Server to Normal Mode** > **Execute** in Connect Contact Center Director.

Failover Mode

A failure state exists if a server fails and/or communication between the two servers is lost. When failover occurs, the secondary server transitions to the active server role. The failover process begins if six consecutive heartbeats are not acknowledged. Failover mode is configured to take place either automatically or manually. Refer to Managing the Connect Contact Center Redundant Server System on page 223 for instructions.

During the failover process, the following processes occur:

- Failover finishes within approximately 3 - 5 minutes for a server with the maximum of 254 IVR ports.
- Agents and supervisors are reconnected to the secondary server within 2-3 minutes.

The Connect Contact Center redundant server system supports only warm redundancy. With warm redundancy, some of the records for the most recent call activity are lost. During the time that operation switches to the secondary server, only calls that have already been connected to an agent

remain intact. In addition, from the standpoint of the secondary server, the calls that survive the failover process are not Automatic Call Distribution (ACD) calls, because no call history is available to the secondary server. At most, the historical data from the last 15 minutes prior to the failover is susceptible to loss. In addition, the historical data for the existing calls that survived the failover transition might be inaccurate.

Incoming and queued calls are dropped until the failover transition has finished. After the secondary server becomes the active server, the secondary server becomes viewable but still cannot be used to configure anything, including itself.

In the event of a failure on the network that links two server sites, each server continues to provide services but operates as a separate system. In this scenario, the primary server is called the standalone primary server, and the secondary server is called the standalone secondary server to indicate that each server is independently operating as a active server. The system does not support independent, site-specific reports.

Automatic Failover Mode

The Connect Contact Center redundant server system automatically enters failover mode under the following conditions:

- Connect Contact Center fails on the primary server.
- The primary server's network interface card (NIC) fails.
- The primary server encounters a problem and reboots.
- Not all system or server problems cause an automatic failover. For instance, the following scenarios do not cause an automatic failover:
  - If the WAN connection is lost, after the timeout, the secondary server becomes a standalone active server and starts routing calls. Since the primary server is still routing calls, this scenario is not considered a failover.
  - If the instances of TMS/DTAS on the primary server go down, no failover occurs. When TMS/DTAS come back up, no changes in the system occur.
  - A PBX failure does not cause a failover if Connect Contact Center is still running and the network connection remains intact.

Manual Failover Mode

You may want to manually initiate failover mode, for example if you are upgrading or servicing your system. Refer to Initiating a Manual Failover on page 224 for details.

Failure States and Responses

These codes describe failure scenarios of a server:

- **FCOS** — A failure on the connection between this server and the other server. The mechanism for tracking the connection is a handshake between the servers.

- The active indicates a failed or nonexistent standby, when the standby server does not respond after three retries within 30 seconds.
- The standby indicates a failed or nonexistent active server, if the active server does not respond after six retries within two minutes.

- **FC** — A failure of the connection to all clients. In the current release, the system does not recognize the FC code and does not address any event that generates this code.
- **FOS** — A failure on the other server (where the other server changed its state to failed server).

The following list describes the behavior of the redundant server system during failover:

- If the primary server is the active server and fails, the secondary server becomes a standalone active server.
- If the standby fails while in the standalone role, then the active server becomes a standalone active server.
- If the PBX fails or is initializing, then the active and the standby stay the same and continue to track for the presence of a PBX. After the reappearance of the PBX, the system resumes the same operational state as before the failure (or initialization).
- A server is a faulty server under the following circumstances:
  - The server initializes three times within 15 minutes.
  - The primary server detects that the secondary server is already an operational active server during the initialization process.
  - The server fails to complete the initialization processes.
- If the network link between the servers fails, which might be due to a connection failure between the PBX and one of the servers in a multi-site installation, the redundancy system becomes two separate systems; going into what is known as Island Mode. The system should return to Normal Mode as soon as possible.

Failback Mode

After a failover occurs, and once the problem that caused the failover has been solved, you must initiate manual failback from the secondary server, as explained in Initiating Failback on page 224.

The following processes constitute a failback:

1. The primary server reboots.
2. Once the primary server is running, the secondary server reboots.
3. The primary server becomes the active server.
4. After the secondary sever comes back online, it becomes the standby server.

5. The secondary server replicates statistical data back to the primary database.

Note

Mitel recommends that you start failback during a maintenance period when the call center is not taking calls.

Island Mode

The Island mode exists when there is a network issue and the Keep-Alive timers between the primary and the secondary servers fail. As a result, both the servers function as the Active server and each server starts handling calls independently.

To recover from the Island mode, restart the Contact Center service on the Secondary server.

Limitations

The following limitations apply to the Connect Contact Center redundancy server system:

- You can perform provisioning only on the primary server. This limit applies even while the secondary server is operating as the active server.
- The behaviors and limits described in this section are based on a Connect Contact Center installation with 1,000 agents, 100 supervisors, and 10,000 calls per hour.
- The primary and secondary servers must be in the same time zone.
- MCCC with redundancy and IVR stations should be aware of the possibility of losing the audio (no-audio issue) issue while in Island Mode. The calls that are routed on the primary MCCC server and which use any IVR stations will have no audio if the caller is queued because the IVR station is connected to the secondary MCCC server. To avoid this problem, the MCCC should return to Normal Mode. If the issue persists, you can disable the Contact Center Service on the primary MCCC server to force all calls to be handled on the secondary MCCC server.

Agent Redundancy Considerations

Agents might receive an error indicating that they have lost connection to the server. If this happens, the agents must close the current **Interaction Center** tab and open a new tab, so that the proxy server automatically sends the request to the Secondary server.

Table 1: Interaction Center URLs

Setup	HTTP URL	HTTPS URL
Contact Center MiVoice Connect without Redundancy	http://<contact center server IP address>:3000/MCCC	https://<contact center server IP address>:8433/ MCCC

Contact Center MiVoice Connect with Redundancy	http://<HQ server IP address>:8080/ MCCC	https://<HQ server IP address>:8446/MCCC
		Note: By default, 8446 port is used if available. If this port is already in use, you can specify any other HTTPs supported port. However, you must manually modify the port number in the `pikpzaMCCC0eqph"`file in the reverse proxy or HQ, depending upon the configuration option chosen by you (as shown below
		`ugtxgt"}`
		`nkuvgp":668"uun=`

Contact Center MiVoice Connect with Edge Gateway Redundancy	http://<Contact Center FQDN defined in the Edge Gateway>/MCCC	https://<Contact Center FQDN defined in the Edge Gateway>/ MCCC
Contact Center MiVoice Connect with CCD	http://<contact center server IP address>:3000/ccd	-
Contact Center MiVoice Connect with AIC on https	-	https://<contact center server IP address>:8433/ MCCC

Refer to the following diagrams for information about the flow of information between the Connect HQ server and the primary and secondary contact center servers.

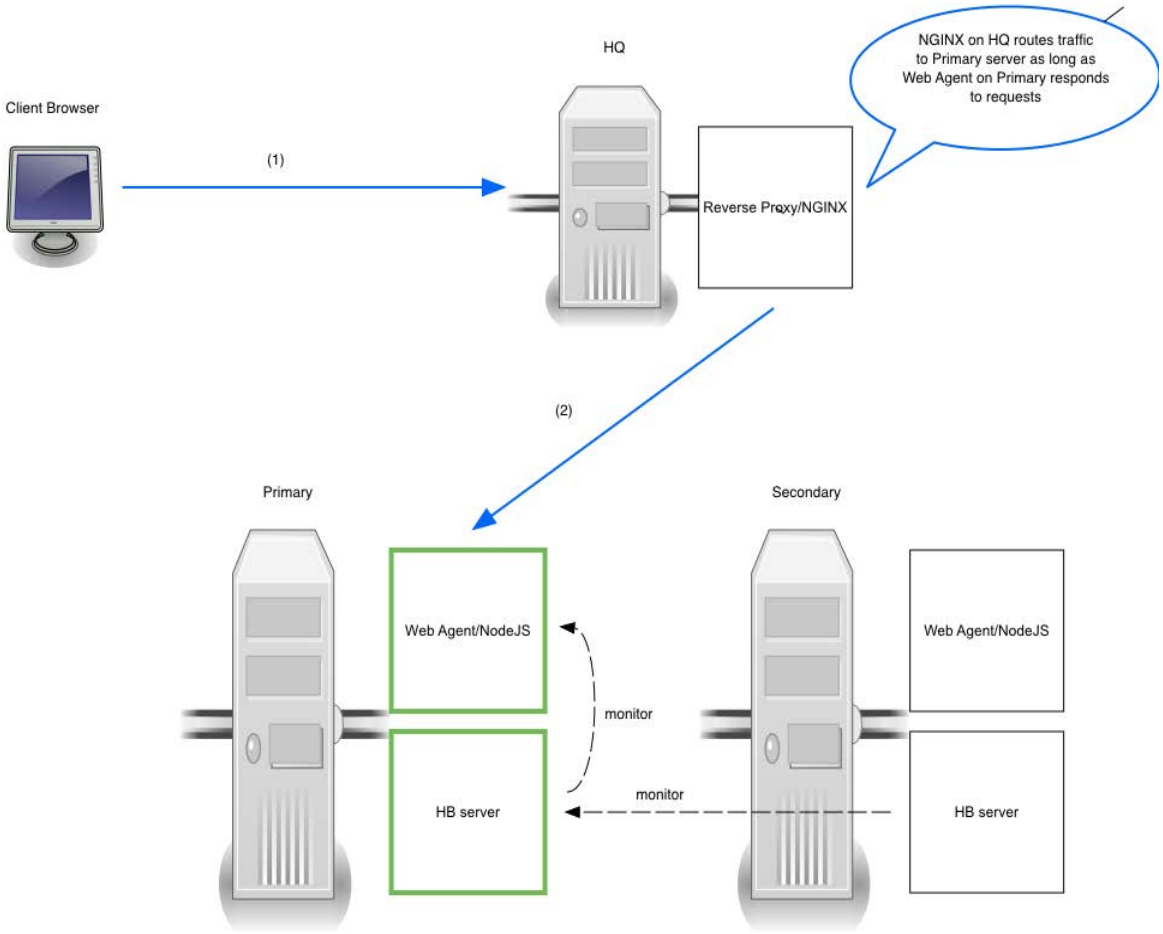


Figure 1: Connect Contact Center Agent Redundancy with Primary Working

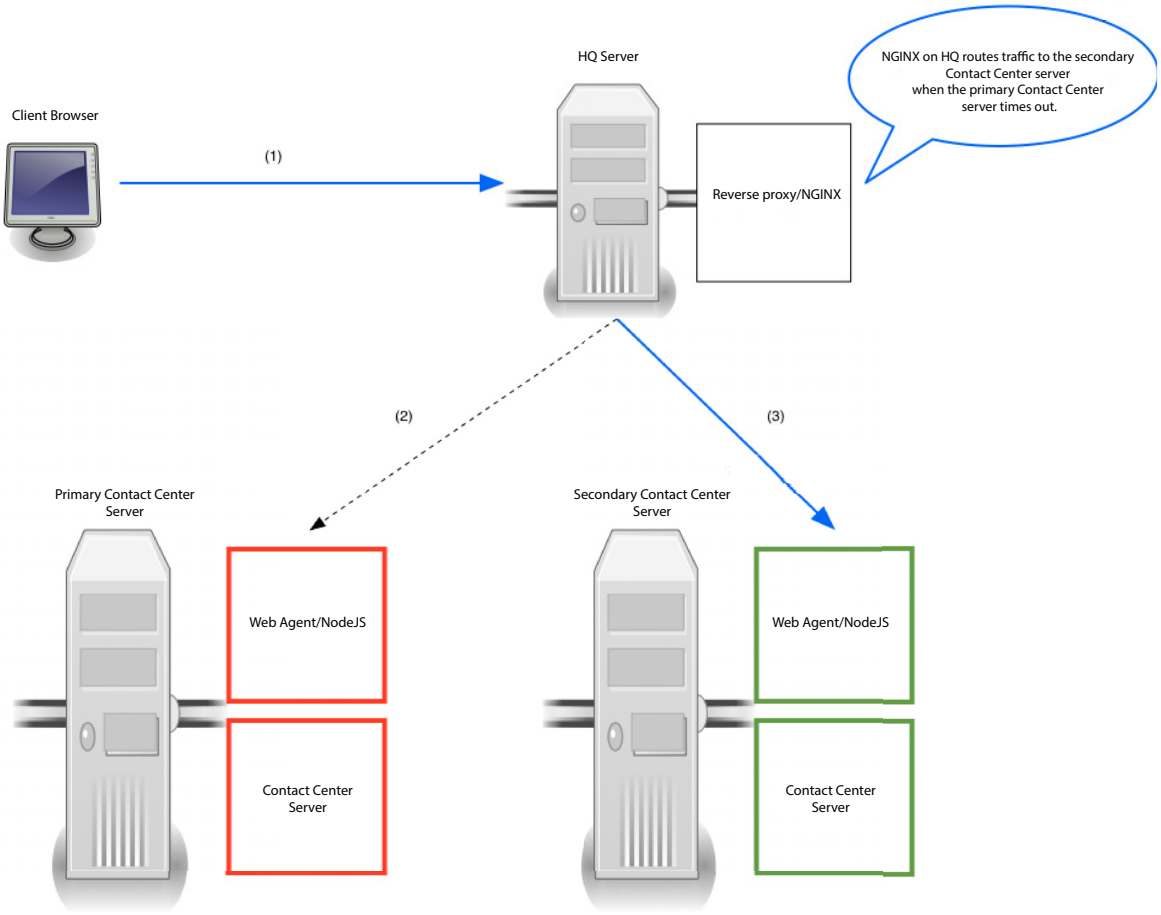


Figure 2: Connect Contact Center Agent Redundancy During Failover

Implementing the Connect Contact Center Redundant Server System

The following sections include information about implementing the redundant server system.

Configure the Servers

The process for implementing the Connect Contact Center redundant server system for the first time includes the following steps:

1. *Starting the Redundant System Servers*.
2. *Copying Custom Databases to the Secondary Server*.
3. *Specifying Route Points*.
4. *Configuring and Linking the IRNs*.
5. *Configuring IVR Ports*.
6. *Configuring Dedicated Standalone IVR Servers (Optional)*.

Copy Files to the PBX

Complete the following steps to place appropriate configuration files on the HQ server. This ensures that if the system fails over, HQ is configured to run the contact center properly:

HTTP Redundancy

1. On the contact center server, navigate to <ShoreTel Connect Contact Center installation location>\nginx\conf, and copy the following files:

- `nginx_MCCC.template`
- `readme.txt`
- `Redundancy.bat`
- `Redundancy_config.rb`

2. On the HQ server, navigate to <ShoreTel Connect installation location>\nginx\conf\more_conf directory, and paste the files you copied in step 1.

3. Double-click the `Redundancy.bat` file.

HTTPS Redundancy

1. On the contact center server, navigate to <ShoreTel Connect Contact Center installation location>\nginx\conf\, and copy the following files:
   - `Crt_location.vbs`
   - `nginx_MCCC_https.template`
   - `Redundancy_https.bat`
   - `Redundancy_config_https.rb`
2. On the HQ server, navigate to <ShoreTel Connect installation location>\nginx\conf\ directory, and paste the files you copied in step 1.
3. Double-click the Redundancy_https.bat file.
   When the Windows console loads, follow the instructions on the console, and enter the IP addresses of the headquarters server, primary contact center server, and secondary contact center server.
4. Restart the ShoreWare-DirectorProxy service as follows:
   a. In the Windows **Start** menu, click **Control Panel** > **Administrative Tools** > **Services**.
   b. Select the ShoreWare-DirectorProxy service, and click **Restart**.

Note: The MCCC server must be installed or upgraded with HTTPS option for HTTPS redundancy to be effective.

Starting the Redundant System Servers

If you are implementing the Connect Contact Center redundancy feature for the first time, the process explained here automatically synchronizes the primary and secondary databases.

Complete the following steps to start the redundant system servers:

1. Turn on the primary server.

   The primary server must be turned on first for the following reasons:
   - If the secondary server comes up without the primary already running, it becomes the standalone active server.
   - If the primary server comes up and detects that the secondary is a standalone active server, the primary goes into a fault state.
   - If the primary server is not operational when the secondary server comes up, the secondary becomes the active and has a status of “standalone secondary.”
2. Ensure that sure you have entered the Redundancy license key, as explained in Licensing on page 209.
3. Turn on the secondary server.
4. From Connect Contact Center Director, click **Maintenance** > **Redundancy** > **Enable Redundancy**.

5. In the **Secondary IP Address** field, identify the secondary server by entering the IP address.
6. If you want to activate outbound calls on the secondary server, check the appropriate setting.
7. Click **Save**.

   The primary server finds the secondary server and starts it in standby mode. The databases are automatically replicated.

Copying Custom Databases to the Secondary Server

As part of the implementation process, you need to manually copy any custom databases you may have from the primary server to the secondary server. These custom files are not copied to the secondary server during either a Connect Contact Center installation or upgrade.

Copy these files on the secondary server using the same directory structure as on the primary server. Refer to the *Connect Contact Center Installation Guide* for details.

Specifying Route Points

On the HQ server, you specify route point values using Connect Director. These route point values must correspond to the values for IRNs as configured in Connect Contact Center, as follows:

- Each route point is identical to an IRN configured for the primary server.
- Each route point that is a forward destination in the case of a failover is identical to an IRN configured for the secondary server.

Base the route points on your current and anticipated use of numbers. For example, if you use the numbers 500 through 595 for your main numbers, and 700 through 795 for your forwarded numbers, the IRN 500 would be configured to have IRN 700 as its backup. No Answer/Busy destinations should be used for route points intended to be the IRNs on the secondary server.

Complete the following steps to specify route points:

1. In Connect Director, click **Administration** > **Features** > **Call Control** > **Route Points** > **New**.
2. Create a route point to be used during normal operation.
3. In the **Call Handling** > **Call Forward** area, click **No Answer/Busy**.
4. In the **Busy** field, enter the number to which the call should be forwarded on the secondary server if the primary server fails.
5. In the **No Answer** field, enter the number to which the call should be forwarded on the secondary server if the primary server fails.
6. Change the **Forward after** to 1.
7. Click **Save**.

Configuring and Linking the IRNs

You need to configure the IRNs specifically for forwarding in a redundant server system. Prior to configuring the IRNs, the numbers chosen for the IRNs must have been specified as route points on the HQ server using Connect Director.

You also must configure IRNs for chat specifically for forwarding in a redundant server system, but these IRNs do not need to be specified as route points.

(Devices can also be forwarded, even though this usage is unusual. Forwarding relies on the number of the device assigned in Connect Contact Center Director.)

The process of configuring and linking IRNs includes the following steps:

1. Configure IRNs for the primary server.
2. Configure backup IRNs for the secondary server.

As part of configuring the backup IRNs for the secondary server, you link the backup IRNs with the IRNs on the primary server. The purpose of linking the IRNs is that, if Connect Contact Center on the HQ server must forward calls to the secondary server, all agents, groups, services, and other information in Connect Contact Center is sent to the correct IRN.

Refer to Complete the following steps to create an IRN: on page 98 for information about creating an IRN.

Complete the following steps to configure IRNs for the primary server:

1. From Connect Contact Center Director, click the **Routing** > **IRN > General** tab.
2. Click **New**.
3. Specify a new IRN number in the **IRN** field; leave the options for IRN on Secondary Server and Synchronized with Primary IRN unselected.

   These options are used when specifying the IRN details of the secondary server.
4. Click **Create**.

Complete the following steps to configure backup IRNs for the secondary server:

1. From Connect Contact Center Director, click the **Routing** > **IRN > General** tab.
2. Click **New**.
3. Specify a new backup IRN number in **IRN**.

   This secondary IRN must be the route point specified as the forwarding destination in Connect Director.
4. Select the **IRN on Secondary Server** and **Synchronize with Primary IRN** options. In **Primary IRN**, select the primary IRN that you want to link with the backup IRN.
5. Click **Create**.

Configuring IVR Ports

You must also configure your system's interactive voice response (IVR) ports as part of implementing your routing plan for redundancy.

Complete the following steps to configure IVR ports:

1. From Connect Contact Center Director, click **IVR Configuration** > **IVR Ports.**
2. Click **New**.
3. Specify the digits of a dial number in **Route Point Extension**.
4. From the IVR Server drop-down menu, choose the server to which you want to associate the route point.

   The available server have been previously defined. Refer to Creating IVR Servers on page 191 for details.
5. Click **Create**.

Configuring Dedicated Standalone IVR Servers (Optional)

If you have dedicated, standalone IVR servers as part of your Connect Contact Center installation, the IVR servers must be configured to implement redundancy. Doing so protects your IVR servers against primary redundant server failure and WAN failure.

Once configured, the primary IVR server(s) routinely exchange heartbeats with both the primary and secondary redundant servers. If the primary redundant server enters a failed state, the primary IVR server proactively registers itself to the secondary redundant server; it does not wait for the secondary redundant server to initiate registration. The standby IVR server(s) remains inactive.

If the WAN fails, the standby IVR servers must be manually started. They then register to the secondary redundant server. The primary redundant server continues to get the services of the IVR server(s).

You need to have, at a minimum, one primary IVR server and a standby IVR server. If you have more than one primary IVR server, you must have an equal number of standby IVR servers.

Complete the following steps to configure standalone IVR servers:

1. Configure the primary IVR server(s) to point to the primary redundancy server IP address.

Tip

Mitel highly recommends that all primary IVR server(s) be located on-site and not distributed over the WAN.

2. Point the standby IVR server(s) to the secondary redundancy server IP address.
3. Set up the primary and standby IVR servers. Refer to Creating IVR Servers on page 191 for details.

4. In the standby IVR servers, set the Connect Contact Center to manual, but do not start the service.

Managing the Connect Contact Center Redundant Server System

Note

When managing your redundant server system, ensure that the Connect Contact Center installation on the secondary server exactly matches the version and path of the Connect Contact Center installation on the primary server.

Once you have implemented the redundant server system, you can manage the system using the following procedures:

- *Changing the Redundancy Settings*
- *Synchronizing System Databases*
- *Initiating a Manual Failover*
- *Initiating Failback*
- *Checking the Role of a System Server*
- *Starting Up a Redundant Server System After Replacing a Server*
- *Converting to a Redundant Server System*
- *Upgrading the Redundant Server System*
- *Troubleshooting Redundancy*

Changing the Redundancy Settings

You can enable, disable and reconfigure redundancy by changing the redundancy settings in Connect Contact Center Director. In addition, you identify whether failover is automatic or manual.

Complete the following steps to change redundancy settings:

1. From Connect Contact Center Director, click **Maintenance** > **Redundancy**.

Note

The Redundancy page is only active if you have the appropriate license.

2. To turn on redundancy select **Enable Redundancy**. Deselect to turn off redundancy.
3. Specify the IP address of the secondary server and then select the failover mode.

Manual failover mode requires that, in the case of a failover, you manually promote the secondary server to the active server, and when appropriate, manually return the primary server to the active server role. This process is explained in Initiating a Manual Failover on page 224 and Initiating Failback on page 224.

4. Select **Activate Outbound Calls on Secondary Server** if you want to activate outbound calls on the secondary server.

5. Click **Save**.

Synchronizing System Databases

To synchronize the servers, on the secondary server, navigate to the Contact Center Server folder on the Contact Center installation CD. Run `setup.exe` and select the Repair function.

Initiating a Manual Failover

If you experience a system failure, and you have selected the manual failover mode, you need to manually promote the secondary server to the active server, and when appropriate, manually return the primary server to the active server role.

Note

When you have selected manual failover mode, the secondary server will automatically be promoted to Active server if the Connect Contact Center on the Primary server restarts three times in less than 5 minutes.

Complete the following steps to initiate a manual failover:

1. Launch Connect Contact Center Director from the secondary server.

   You can launch the secondary server's instance of Connect Contact Center Director from your primary server by clicking **Maintenance** > **Redundancy**, and then clicking **Login** next to **Secondary IP Address**.

2. Select **Save**.

Initiating Failback

Failback is a manual operation. You initiate failback after an issue the system encountered has been solved or after a replacement server is installed.

Complete the following steps to initiate failback:

1. Launch Connect Contact Center Director from the secondary server.

Note

You can also launch the secondary server's instance of Connect Contact Center Director from your primary server by clicking **Maintenance** > **Redundancy**, and then clicking **Login** beside the **Secondary IP Address** field.

2. On the secondary server, click **Execute** beside the **Promote Secondary Server to Master mode** field to operate with the secondary server while the primary server is being maintained or recovered.
3. When the primary server maintenance is complete, click **Execute** beside the **Return Primary Server to Normal mode** field to restart it and return to normal operation.
4. Read the warning and click **OK** to confirm.

Note

If the system recovers from Island Mode, you must restart the Contact Center and WebAgent services on the primary server after executing **Return Primary Server to Normal mode** when both Diagnostic Consoles display **Normal operation** status.

Checking the Role of a System Server

You can check the role of a server in the redundant system by performing one of the procedures listed below:

1. Using the Diagnostics Console — On a redundant system, the role of your server is displayed on the title bar of the Diagnostics Console. For example, if your server is acting as the primary, the title bar on the Diagnostics Console includes "Primary." Chapter 13, Troubleshooting Connect Contact Center Configuration provides information about using the Diagnostics Console.
2. Examine the registry.ini file. Each server has an initialization file with important details about the local server and the other server. Refer to Examining the Server Registry.ini File on page 229 for details.

Recovering a Primary Server from a Secondary Server

Complete the following steps to recover a primary server from a secondary server:

1. On the primary server, install the same build of Connect Contact Center that is installed on the secondary server.
2. Stop Connect Contact Center on both primary and secondary.

3. Run “unload_master_db.bat” on the secondary server to dump the Connect Contact Center database.

Note

All necessary batch files for this process are located in the `\<Contact Center Server installed directory>\DBProvider\` folder and should be launched from this location. Make sure that the appropriate batch files exist before running them.

4. Compress the database dump file, which is called `MCCC_db_master.sql`, to reduce the size of the file.
5. Copy the compressed dump file to the `<InstallDir>\DBProvider dir` on the primary server.
6. Decompress the dump file. Decompressing the dump file results in `MCCC_db_master.sql`.
7. Run `load_master_db.bat` on the primary server to load the Connect Contact Center database.
8. Start Connect Contact Center on the primary server.
9. Log in to Connect Contact Center Director on the primary server and click **Maintenance** > **Redundancy** > **Enable Redundancy**.
10. Install Connect Contact Center on the secondary server, and then navigate to the Contact Center Server folder on the Contact Center installation CD. Run `setup.exe` and select the Repair function.

Note

Ensure that the Connect Contact Center installation on the secondary server exactly matches the version and path of the Connect Contact Center installation on the primary server.

11. Start Connect Contact Center on the secondary server.

After you complete these steps, the primary server will start replicating with the secondary server and both servers will sync up. The Connect Contact Center system will automatically be in the 45-day grace period for licensing if you have installed it on new hardware. Request new license keys for your server before the 45-day grace period expires.

Starting Up a Redundant Server System After Replacing a Server

If one of the servers in the redundant server system has been replaced, take the steps described in this section to restart redundancy operations. These steps distinguish between the primary and secondary server. The replacement server in this procedure is the server added to the system to replace an old server.

Note

Mitel recommends assigning the IP address of the removed server to the replacement server.

Note

When the Primary server is replaced by different hardware, a new Connect Contact Center license is required.

Complete the following steps to start redundancy after replacing a server:

1. Power off and remove the old server.
2. Mount the replacement server.
3. Turn on the replacement server.
4. Make sure that the software version on the replacement server is identical to the operational server that has remained in the system.
5. Follow the steps in Starting the Redundant System Servers on page 219.
6. Launch Connect Contact Center Diagnostic Console and verify that the Redundancy LCD is green.

Converting to a Redundant Server System

To convert an existing server installation to a redundant server system you must install a new Redundancy feature license.

Complete the following steps to convert to a redundant server system:

1. Make sure your redundant server meets all requirements as listed in System Hardware and Software Requirements on page 209.
2. Install a new Redundancy feature license. Refer to Adding New Feature Licenses on page 202 for information.
3. Start the redundant servers. Refer to Starting the Redundant System Servers on page 219 for details.
4. If necessary, make any changes to redundancy settings as described in Changing the Redundancy Settings on page 223.

Upgrading the Redundant Server System

If you upgrade your Connect Contact Center system to a new version, you should also upgrade your redundant server system.

Complete the following steps to upgrade:

1. Change your system to manual failover mode using **Maintenance** > **Redundancy** > **Failover Mode** > **Manual** option in Connect Contact Center Director. This prevents the primary server from restarting as faulty.

Once upgrading is complete, you can change your system back to automatic failover mode. Refer to Changing the Redundancy Settings on page 223 for full details.

2. Synchronize the primary and secondary databases, as explained in Synchronizing System Databases on page 224.
3. Stop the Connect Contact Center.
4. Upgrade the primary server by downloading and installing the new Connect Contact Center software.

   Refer to the *Connect Contact Center Installation Guide* for details.
5. Upgrade the secondary server. After initialization, the secondary server automatically rejoins the system.

CCIR Redundancy

Beginning with Connect Contact Center 8, external CCIR supports redundancy. CCIR redundancy functionality is as follows:

- When the primary CCIR service is operational, all events are written to the primary CCIR.
- When the primary CCIR service is not operational, all events are written to the secondary CCIR after a 15-second timeout.
- When the primary CCIR service comes back online, all events are immediately written to the primary CCIR.
- When the primary CCIR service is up but the database cannot be written to, all events are written to the secondary CCIR after 120 seconds.
- When the primary CCIR database is back online, all events are immediately written to the primary CCIR.

CCIR Replication

Replication happens whenever both the primary and secondary CCIR are online, and CCIR replication is bi-directional. During replication, only the following data tables are replicated:

- Events
- Event_groups
- Event_parties
- Event_call_profile

Promoting CCIRs

When the primary CCIR is permanently damaged, the secondary CCIR can be promoted to be the new primary. Promoting the secondary CCIR should be performed only when necessary.

CCIR Redundancy Caveats

- An internal CCIR cannot be part of a redundancy system.
- Connect Contact Center Director prevents 127.0.0.1 from being configured as part of a redundancy system.
- The Connect Contact Center server will ignore the secondary IP address if any of the CCIR stations are not external to the Connect Contact Center server.

Setting up CCIR Redundancy

Complete the following steps to set up redundancy for CCIR:

1. Install a CCIR external to the Connect Contact Center server and configure it as primary.
2. Install a CCIR external to the Connect Contact Center server and configure it as secondary.

Troubleshooting Redundancy

There are two methods for troubleshooting your redundant server system: using Contact Center Diagnostics Console and examining each server's `Registry.ini` file.

Using Contact Center Diagnostics Console

Information on the redundant server system is automatically displayed each time you launch Contact Center Diagnostics Console. A red Redundancy LED means that redundancy or replication is broken.

Information on using Contact Center Diagnostics Console is provided in Troubleshooting Tools on page 257.

Examining the Server Registry.ini File

Each server has an initialization file, `Registry.ini`, with important details about the local server and the other redundant server. This file is stored in `C:\ShoreTel\Contact Center Server`.

WARNING!

Do not modify the `Registry.ini` file.

The following list includes the most important contents of the `Registry.ini` file:

- A single-digit ID number for each server — This ID applies only to a redundant server system. In the example of the Registry.ini file contents shown here, the current (primary) server ID is near the top ("Id=1"). A subsequent ID entry, Id=2, refers to the secondary server.
- The IP address of each server is read from the server itself and placed in the file. During initialization, these IP addresses go into each server's `Registry.ini` file.

- The TCP port number used is 31452 (TCP Port=31452). Make sure that this port is open between your primary and secondary servers.
- The port used for database replication does not appear in the `Registry.ini` file because MySQL determines the port number. By default, MySQL uses port number 4306.
- The software version number (`Version=Mitel x`).
- In the `Registry.ini` file, information about the other redundant server follows the Contact Center-specific designation NET-STATIONS-Stn1. This designation is an internal name used only for historical reasons. Items of interest in this section are the IP address (IpAddress), port (31454), and ID (2).

CHAPTER

12

Using Call Control Scripts

This chapter explains how to use call control scripts to affect a call in the Contact Center system. Contact Center provides the Graphical Call Control Script (GCCS) Administration application for the purpose of creating and working with call control scripts. For information about launching and using GCCS Administration, refer to Configuring Connect Contact Center on page 27.

In this release, the system-wide script capacities that Contact Center supports are a maximum of 500 scripts and 100 actions per script. Contact Center also comes with additional protected scripts you cannot modify.

Refer to the following sections for more information about using call control scripts:

Overview of Call Control Scripts

A call control script is a collection of actions that the system performs on automatic call distribution (ACD) calls. These actions are sequentially executed until either the script is exhausted or an action causes a branch to another script.

Mitel provides sample call control scripts that you can use as is, or as the basis for new scripts. Sample audio files, in the WAV format, are also provided that you can include in your call control scripts.

Note

If you define your script to use both services and agent queues as routing destinations, be aware that Connect Contact Center uses the service as the routing destination and disregards the queue.

Note

WAV files are in the following format: u-law, 8000Hz, 8 bit, and mono.

Note

Ensure that the IVR folders on the Contact Center and IVR servers have the identical folder structure and file content. All IVR files must be placed in the IVR folder created when installing the IVR server. A built-in path conversion handles the difference between the install directories of the IVR and Contact Center servers.

Using Scripts to Affect Calls

Scripts can be used to affect a call in many ways, such as the following:

- Gather information from the caller.
- Present information to the caller.
- Make logical decisions that affect the routing of a call based on information gathered from the caller or from your company's database.

You can activate scripts at various stages of call processing:

- At the incoming call entry point — An intelligent routing number (IRN) defines the rules for routing an incoming call (or contact). The script can announce an option menu to the caller. The system then routes the call based on the caller's menu choice.
- The script can also dynamically change the parameters of an incoming call. Changed parameters can be used later in the processing of the call according to choices made by the caller and other call parameters.
- In a call queue and a personal agent queue — The activation of one or more scripts can announce different options to the caller, such as more information or an offer to contact the caller at a later time (call back).
- Upon interflow.
- When no agents are logged into the system.
- When a called party answers an outbound call.
- In an incomplete call scenario. The call ends up having no valid destination.

The Change Call Profile action can be used to change the value of a call profile field, and the modified call profile can affect the call routing. For example, the script can change the service that the call requires by adding information about the caller from a database. Alternatively, the call profile can change how the script defines the actions that require a caller to provide input from a menu.

Call Control Scripts Provided by Mitel

Mitel provides sample call control scripts that you can use as is, or as the basis for new scripts.

Note

Do not make any changes to the sample call control scripts because your changes will be lost when you upgrade. If you want to make changes, use the sample script as a template for a new call control script, and save the template with a unique name.

The sample call control scripts are displayed when you launch GCCS Administration:

- **Login** — Logs in agents without a PC to the Contact Center system. This script can be used as is.
- **Login Fail Confirm** — Informs an agent, without a PC, that their attempt to log into the system has failed. This script can be used as is.
- **Logout** — Logs out a agent without a PC from the Contact Center system. This script can be used as is.
- **Release** — Puts an agent without a PC into the Release state. This script can be used as is.
- **Resume** — Puts an agent without a PC into the Resume state. This script can be used as is.
- **Sample First Ann** — Identifies the first announcement a caller hears when entering the Contact Center system. This script is only an example; any script identifying the first announcement should play a customer-specific file.
- **Sample Incomplete** — Specifies the announcement a caller hears when their call can't be handled by the system. This script is only an example; any script specifying the incomplete announcement should play a customer-specific file.
- **Sample Mandatory Ann** — Identifies the mandatory announcement a caller hears when entering the Contact Center system. This script is only an example; any script identifying the mandatory announcement should play a customer-specific file.
- **Sample Music** — Specifies the music a caller hears while waiting. This script is only an example; any script specifying music should play a customer-specific file.
- **Sample Second Ann** — Identifies the second announcement a caller hears when entering the Contact Center system.This script is only an example; any script identifying the second announcement should play a customer-specific file.

Audio Files Provided by Mitel

Sample audio files, in the WAV format, that you can include in your call control scripts, are provided by Mitel.

Note

WAV files are in the following format: u-law, 8000Hz, 8 bit, and mono.

The sample audio files are located on your Contact Center server in the IVR directory and can be selected from options within GCCS Administration. These files are available in multiple languages on the Contact Center server IVR directory as follows:

- **Arabic** (U.A.E) in the ar_AE folder
- **German** (Standard) in the de_DE folder
- **English** (United Kingdom) in the en_GB folder
- **English** (United States) in the en_US folder
- **Spanish** (Spain) in the es_ES folder
- **Spanish** (Mexico) in the es_MX folder
- **French** (Standard) in the fr_FR folder
- **Italian** (Standard) in the it_IT folder
- **Swedish** in the sv_SE

Working with Call Control Scripts

You can create, edit, and delete call control scripts. You can also specify prerequisite script parameters, allowing you to more quickly and easily work with call control scripts.

For script actions that have exit points, the action can have only one exit point or several exit points. The call continues to the next action that is connected to the exit point. The specific exit point from an action depends on the result of the action. For example, the Give Menu action has an exit point for each digit that a caller might press in addition to an exit point for a timeout. In this scenario, the script proceeds to the action that is connected to the exit point when the caller presses the number 1.

To change a call profile field, you must use the Change Call Profile action.

Specifying Prerequisite Call Control Script Parameters

Before creating a new call control script, you can specify the following parameters:

- For scripts using a music source, defined the music source. Refer to Configuring Music Streams on page 193 for information.
- If a script includes a chat message, create the message. Refer to Configuring Custom Chat Messages on page 183 for information.

- For scripts accessing the database through the use of SQL actions, if you want to test the script, define the database connection.

Once specified, these parameters automatically appear as options that you can choose, allowing you to more quickly and easily create new call control scripts.

Creating Call Control Scripts

Complete the following steps to create a call control script:

1. From GCCS Administration, choose **File** > **New Script**.
2. The new script, with a default name, is added to the bottom of the Script list.

   If you want the script to have a more descriptive name, double-click on the new script in the list, and then edit the script name.
3. Click the **Palette** tab. From the Palette, drag-and-drop the appropriate actions onto the **Action** area. You can also right-click in the Action area to display and select an action.

   A script begins with the first action on the left and continues along the path that is mapped out by the script. For example, the course of script execution is affected by a yes or no response from the called party, or the decision at a multiple choice junction.

   Refer to Call Control Script Actions Reference on page 237 for an explanation of each script actions.
4. Click the action in the Action area and use the Properties area to specify the appropriate properties for the action.
5. Connect the actions by selecting the exit point for an action and dragging it to the next action. When you complete this action, a blue arrow is displayed indicating the flow between actions.

   When a script is saved, the system automatically removes all actions that are not connected.
6. Use the **Comment** area to explain the purpose of the script or selected action.

   A maximum of 2,048 characters can be entered.
7. If the script accesses the database, test it by running a database query. Refer to Testing and Database Query on page 237 for details.
8. Click **File** > **Save Script**.

Editing a Call Control Script

Complete the following steps to edit a call control script:

1. To get the latest scripts created or modified by other users, click **File** > **Reload and Sort**. Choose whether to display the scripts in the Script List by name, or by date the script was created.

2. Click the **Scripts** tab. From the **Scripts List**, select the script you want to edit. You can also select a script from the **Scripts** menu.
3. Make the appropriate changes to the script name, script actions, action properties, action connections, and comments. Refer to Complete the following steps to create a call control script: on page 235 for details.
4. Click **File** > **Save Script**.
5. To make your new script available to other users and to appear as an option in Contact Center Director, click **Reload Current Script**.

Importing and Exporting Call Control Scripts

To import or export a call control script, click **File > Import/Export** in GCCS Administration, and then select the appropriate option. Navigate to the script file you want to import or to the location you want to export the script file to, and then click **Open** or **Save**, depending on which action you have selected.

Checking Imported Scripts

Complete the following steps to check an imported script:

1. Click **File** > **Import/Export** > **Import**, navigate to the script you want to check, and click **Open**.
2. Click **File** > **Import/Export** > **Check Imported Script**.

   If the entity referenced in the imported script is no longer present in the system, GGCS will detect the error and prompt the user to change it to another valid entity, such as a service.

   For some entities the references will be removed automatically. For example, a reference to a call profile for which there is no match will be removed.
3. Based on the information that appears in the top **Description** field, use the drop-down menu for the bottom **Description** field to select a value to replace the one listed above.
4. Click **Accept**.
5. Click **OK**.

Deleting a Call Control Script

You can delete a call control script that is not used in Contact Center Director from the system. If you want to delete a script used in Contact Center Director, first delete it from anywhere it is used in that application.

Complete the following steps to delete a call control script:

1. Click **File** > **Reload and Sort**, and then choose whether to display the scripts in the Script List by name or by the date the script was created.
2. Click the **Scripts** tab, select the script you want to delete, and then click **File > Delete Script**.

Testing and Database Query

Complete the following steps to test a script:

1. From GCCS Administration, click **Tools** > **Database Test Query**.
2. Select a database connection in the drop-down menu.

   The connections in the list have been previously defined.
3. In the text field, enter the query.

Note

Test queries must begin with the SELECT statement.

4. Click **Execute** to test the connection.
5. Click **OK**.

Call Control Script Actions Reference

A call control script is made up of a collection of actions that the system performs on automatic call distribution (ACD) calls. These actions are sequentially executed until either the script is exhausted or an action causes a branch to another script.

Some actions are telephony-related, such as transferring a call. Some actions obtain information from your organization's database, for example performing a SQL query. Other actions might involve an interactive voice response (IVR). When the system executes IVR actions, such as announcing a menu, getting digits, or playing a file, the call is automatically transferred to an available IVR port.

In GCCS Administration, the Branch option is implemented by the matched exit point.

This section describes each action that GCCS Administration supports.

Announce 

The Announce action announces numerical values to the caller (for example, "Your customer number is 2763"). Numerical values are defined in the call profile fields. The announcement can be played in the caller's language.

The Announce action includes the following properties:

- **Announce Field** — From the drop-down list, choose the call profile field from which you want to extract the numeric information to be announced.

User (optional) call profile fields are created using Contact Center Director. Refer to Creating Call Profile User Fields on page 176 for information.

- **File to Play** — Locate and select the file to play before the announcement.
- **Format** — Choose from the drop-down list the numerical format.

  The remaining options in the Properties area change based on the format chosen. You can select from the following formats:

  - **Number** — The system announces the contents of the announced field as a number. If the Number format is chosen, the following additional properties must be specified:
    - **Language** — The list of currently enables languages.

      Languages are enabled using Contact Center Director, as explained Enabling a Language on page 194.
    - **Gender** — From the drop-down menu that is displayed when you click on the gender field, choose the gender in which the numbers are announced for each enabled language.
    - **Type** — Choose whether the number is announced as an integer or decimal. If the number type is decimal, from the Decimal Places drop-down menu choose how many digits to the right of the decimal point are announced.
    - **Negative Number Prompt** — Locate and select the recording that indicates a negative number prompt. If you want the Negative Number Prompt file to play before the number, select Before Number.
    - **Positive Number Prompt** — Locate and select the recording that indicates a positive number prompt. If you want the Positive Number Prompt file to play before the number, select Before Number.
    - **File to Play [end]** — Locate and select the file that plays the concluding announcement.
  - **Digit by Digit** — The number is announced digit by digit. For example, this format could be used to announce a social security number. If the **Digit by Digit** format is chosen, the following additional properties must be specified:
    - **Language** — The list of currently enables languages.

      Languages are enabled using Contact Center Director, as explained in Enabling a Language on page 194.
    - **Gender** — From the drop-down menu that is displayed when you click on the gender field, choose the gender in which the numbers are announced for each enabled language.
    - **Negative Number Prompt** — Locate and select the recording that indicates a negative number prompt. If you want the Negative Number Prompt file to play before the number, select Before Number.
    - **Positive Number Prompt** — Locate and select the recording that indicates a positive number prompt. If you want the Positive Number Prompt file to play before the number, select Before Number.

- **File to Play [end]** — Locate and select the file that plays the concluding announcement.

- **Sequential** — The number is announced as a sequential number (for example, to announce a caller's place in queue). If the Sequential format is chosen, the following additional properties must be specified
  - **Language** — The list of currently enables languages.

    Languages are enabled using Contact Center Director, as explained in Enabling a Language on page 194.
  - **Gender** — From the drop-down menu that is displayed when you click on the gender field, choose the gender in which the numbers are announced for each enabled language.
  - **File to Play [end]** — Locate and select the file that plays the concluding announcement.
- **Date** — The number is announced as a date. If the Date format is chosen, the following additional properties must be specified
  - **Announce Format** — From the drop-down menu, choose the format of the date announcement. If you want the day of the week to be announced before the date, select Week Day.

Note

The dd/mm/yyyy date format is no longer supported. For scripts using this date format, the date is announced in mm/dd/yyyy date format instead.

  - **File to Play [end]** — Locate and select the file that plays the concluding announcement.
- **Money** — The number is announced as units and subunits. For currency, it can be dollars and cents; for weight, it can be kilos and grams. If the **Money** format is chosen, the following additional properties must be specified:
  - **Language** — The list of currently enables languages.

    Languages are enabled using Contact Center Director, as explained in Enabling a Language on page 194.
  - **Gender** — From the drop-down menu, choose the gender in which the numbers are announced for each enabled language.
  - **Type** — Choose whether the number is announced as an integer or decimal. If the number type is decimal, choose how many digits to the right of the decimal point are announced in **Decimal Places**.
  - **Currency Units Prompt** — Locate and select the recording that denotes the type of currency units prompt, for example dollars.
  - **Currency Subunits Prompt** — Locate and select the recording that denotes the type of currency subunits prompt, for example cents.

- **Negative Number Prompt** — Locate and select the recording that indicates a negative number prompt. If you want the **Negative Number Prompt** file to play before the number, select **Before Number**.
- **Positive Number Prompt** — Locate and select the recording that indicates a positive number prompt. If you want the **Positive Number Prompt** file to play before the number, select **After Number**.
- **File to Play [end]** — Locate and select the file that plays the concluding announcement.

- **Time** — The number is announced as a time. If the **Time** format is chosen, the following additional properties must be specified:
  - **Announce Format** — From the drop-down menu, choose the format of the time announcement.
  - **File to Play [end]** — Locate and select the file that plays the concluding announcement.

Announce Place in Queue 

The Announce Place in Queue action announces the caller's position in the queue. For example, this action might announce "You are the fifth caller in line."

The following list includes the properties of the Announce Place in Queue action:

- **File to play [start]** — Locate and select the file that plays the starting announcement.
- **File to Play [end]** — Locate and select the file that plays the concluding announcement.
- **Place in Queue Offset** — Choose the number to be added to the true queue position to offset the caller's position. This allows a high priority call to go before someone in line without the person in line querying the wait time.

Announce Wait Time 

The Announce Wait Time action announces the expected wait time for a call in queue.

The estimated wait time is determined by the following formula:

```
Average queue time = Average treatment time * position in queue / number of non-
release agents

Average treatment time = (total wait till answer time + total talk time + total
wrap-up time) / calls answered
```

The following list includes properties of the Announce Wait Time action:

- **File to Play [start]** — Locate and select the file that plays the starting announcement.

- **File to Play [end]** — Locate and select the file that plays the concluding announcement.
- **Wait Time Offset (sec)** — Choose the number of seconds to be added to the expected wait time to offset the caller's wait time. This allows a high priority call to go before someone in line without the person in line querying the wait time.
- **Resolution** — Choose the minimal resolution of the announced time. For example, if you set it to 10 seconds and a particular wait time currently is 15 seconds, the announced wait time is 20 seconds.

Branch to Script 

The Branch To Script action stops processing a call's current script and starts processing the script specified by this action.

The property of the Branch to Script action is Branch to Script, which is the script to which the action branches.

Change Call Profile 

The Change Call Profile action allows you to add or change a call profile field for a call that is being processed by a script. Any new fields that are created using the Change Call Profile action are added to the call's profile. If a field already exists, its value is updated according to the modifications defined by the script. All user-defined call profile fields, such as optional fields and skills, are defined in Contact Center Director. Refer to Creating Call Profile User Fields on page 176 for information.

The value of a field is maintained throughout the life of a call. For example, it can be viewed by an agent using Interaction Center.

As an example of call profile management, consider the following call sent to a script:

The default call profile field definitions are as follows:

- **Field**: Value
- **Service Required**: Sales Dept.
- **DNIS**: 7100

A call enters the system and passes through an action that changes the Service Required field and adds a new Customer Type field:

- **Field**: Value
- **Service Required**: Complaints Dept.
- **Customer Type**: Foreign

After processing the action, the call profile is modified as follows:

- **Field**: Value
- **Service Required**: Complaints Dept.
- **DNIS**: 7100
- **Customer Type**: Foreign

Call profile fields can also be modified by the following actions: *Logic Switch*, *Give Menu*, *Get Digits*, and *Customer Query*.

Complete the following steps to add a new call profile field:

1. In the Change Call Profile action's Properties area, right-click and choose **Insert**. In the resulting menu, choose the call profile field you want to add to the action.

   The menu lists the default call profile fields and the user-defined call profile fields specified in Contact Center Director. Refer to Creating Call Profile User Fields on page 176 for more information about creating call profile fields.

2. Double-click **Value** for the newly added field and enter a value.

To modify the value for any user-defined call profile field, double-click **Value** for the appropriate user-defined field and enter a value.

To delete a call profile field, right-click the appropriate field and select **Delete**.

Collect Callback Info 

The Collect Callback Info action defines the dialog box used to obtain information from a caller for callback purposes. Once the action completes, both the call and script are terminated. Any action that follows it is not performed.

The Collect Callback Info action includes the following steps:

1. Prompt the caller to enter the callback phone number, which is the destination for the call.
2. Prompt the caller to enter the callback time.
3. The IVR announces the callback confirmation.
4. The IVR disconnects the call.

The properties of the Collect Callback Information action include the following:

- **Get Destination** tab
  - **Prompt** — The file that prompts the caller to enter the number to be called back.
  - **Timeout Prompt** — The file to play if the caller has not responded within a defined time.
  - **Maximum Number of Digits**— The number of digits the system requires the caller to enter.

- **Variable Number of Digits less than Maximum**— Select if the number of digits can vary. Then specify the character that the caller presses to signal the end of the number, which can be * or #.
- **Retry** — The number of times the system tries to obtain the callback number after the time specified in the Timeout field has passed.
- **Timeout (sec)** — The number of seconds that the system waits for the caller to enter the required information.
- **Announce Destination** — The system repeats the destination information that the caller entered, for example “The number you entered is...). Specify the following:
  - **Prompt** file — Announces the destination
  - **Customer Feedback Prompt** file — Requests the caller to confirm the information. The customer feedback prompt announces prompt such as “To confirm this number, please press one.” or “To change the number, please press two.”
  - **Confirmation Digit** — Digit the caller presses for confirmation
  - **Retry Digit** — Digit the caller presses to signal an intention to re-enter the information

- **Get Time** tab

Tip

To configure an immediate callback, leave all items on this tab blank.

- **Callback Time** — The caller specifies a callback time by pressing five digits. The ending numbers of 2 and 7 denote am and pm, respectively. For example, to specify a 7:00 am callback time, the caller presses 07002; for a callback time of 4:55pm the caller presses 04557.
- **Callback Period** — The customer specifies the length of time the system should wait before it calls the customer back. This time is entered in four digits. For example, to receive a callback in 2 hours and 10 minutes the caller presses 0210.
- **Prompt** — The file that prompts the caller to enter the number to be called back.
- **Timeout Prompt** — The file to play if the caller has not responded within a defined time.
- **Error Prompt** — The file that tells the customer that an error has occurred.
- **Retry** — The number of times the system tries to obtain the callback number after the time specified in the Timeout field has passed.
- **Timeout (sec)** — The number of seconds that the system waits for the caller to enter the required information.
- **Announce Time** — The system announces the entered information back to the caller. Then specify the Prompt file to announce the time (for example “The number you entered is … .”), the Customer Feedback Prompt file that requests the caller to confirm the information (for example “To confirm this number, please press one. To change the number, please press two.”), the Confirmation Digit the caller presses for confirmation, and the Retry Digit the caller presses to signal an intention to re-enter the information.

- **Ending** tab
  - **File to Play** — Locate and select the file that plays the concluding announcement.
- **Hang Up tab** — Indicates that once the action completes, both the call and script are terminated.

Customer Query 

The Customer Query action verifies that a customer exists in the database, using a call profile field. If the customer is in the database, the system routes the call according to customer-specific routing rules.

Any call profile field can be used to find a matching customer in the database. The value used as the search key is either the Caller ID or a number that the Get Digits action receives from the caller and then stores in the call profile.

The Customer Query action has one of three exit points: if the customer is found in the database (OK), if the customer is **not** found in the database (N.F.), and a following action (CONTINUE). To change the call profile, you should add a Change Call Profile after each exit point.

The Customer Query action includes the **Look up customer according to the value in the call profile field** property, which is the call profile field you want to use as a search key for a customer in a database.

Decision 

The Decision action compares a call profile field value to either another call profile field value or a constant (number).

The properties of the Decision action include the following:

- **If** — The call profile field whose value you want to compare.

  The call profile fields in the drop-down menu are default fields and user-defined fields and skills as defined in Contact Center Director. Refer to Creating Call Profile User Fields on page 176 for details.

  For those call profile fields that can be described as either a **String** or **Number**, choose the appropriate option in the associated field.

- **Operator** field — The operator used in the comparison.

  The comparison operations are as follows:

  = — Call parameter value is equal to compare value.
  <> — Call parameter value is not equal to compare value.
  < — Call parameter value is less than compare value.
  > — Call parameter value is greater than compare value.

<= — Call parameter value is less than or equal to compare value.

>= — Call parameter value is greater than or equal to compare value.

- **CP Field** or **Constant** — Determines if the call profile field value is compared to another call profile field value or to a constant. In the associated field, choose either the call profile field or enter the constant.

Dial Digits 

The Dial Digits action allows the system to dial digits to the other call's party. For example, this action can function in an outbound call to send DTMF digits to the other party if the other party is a machine that responds to DTMF. The dialed digits can be predefined or can be the contents of a call profile field.

The properties of the Dial Digits action includes the following:

- **Dial Predefined Digits** — Dials a predefined sequence of digits. In the associated field, enter the digits to dial.
- **Dial Digits from CP Field** — Dials a sequence of digits according to the contents of a user-defined call profile field. In the associated field, from the drop-down menu choose the call profile field.

  The user-defined call profile fields are specified using Contact Center Director, as explained in Creating Call Profile User Fields on page 176.
- **Dialing Protocol** — The dialing protocol is DTMF.

Factory Hook 

The Factory Hook action is a customized DLL. The DLL is created by Mitel based on a special request from you. The instructions in the DLL can provide the ability to perform specific operations on a call in a way that is not supported by the standard set of actions. For example, a Factory Hook action can perform mathematical calculations that use call profile field values.

The properties of the Factory Hook action include the following:

- **Link to DLL** — Locate and select the DLL file to use in the action.
- **DLL Notes** — Enter information about the DLL.

Get Digits 

The Get Digits action prompts the caller to enter a sequence of digits which is stored in a call profile field. For example, the caller can be prompted to enter a customer ID.

The properties of the Get Digits action include the following:

- **Prompt** — The file that contains the voice prompt instructing the caller to enter the numbers to be stored in the call profile field.
- **Timeout Prompt** — The file that contains the voice prompt instructing the caller on what to do if they have has not responded within a defined time.
- **Insert into CP** — The call profile field into which the digits entered by the caller should be placed.
- **Retry** — The number of times the system tries to obtain the number after the time specified in the Retry Timeout field has passed.
- **Retry Timeout (sec)** — The number of seconds that the system waits for the caller to enter the required information.
- **Number of Digits** — The number of digits expected. If the caller enters fewer digits and a timeout occurs, the system will retry until the number of retries has been exceeded. If a variable number of digits is expected, this field defines the maximum number of digits to collect.
- **Variable Number of Digits** — If selected, the system collects the digits entered by the caller until the caller presses the end digit, or until the **Number of Digits** value is reached. Then specify the End Digit, which is the character that the caller presses to signal the end of the number. Choices are * or #.
- **Decimal Number** — Select if the digits that the caller enters represent a decimal number. Then specify the Decimal-Point Digit that represents the decimal point. When the caller enters this digit, the system takes all the digits that have been collected and makes them the integer part of the decimal number. The digits that the caller continues to enter are counted as the fraction part of the decimal number. Choices are * or #.
- **Clear DTMF on Start** — When selected, the system ignores all the previously entered digits and restarts digit collection. When this option is not selected, any previously entered digits are included in this action.
- **Stop Prompt on DTMF** — The prompt file stops when the caller begins to enter a digit.

Get Next Record 

The Get Next Record action is associated with a SQL Execute action. It loads the results of the next record from the associated SQL Execute action into a call profile field according to the SQL Execute assignment rules.

The property of the Get Next Record action is **Refer to SQL Execute**. Choose the name of the SQL Execute action to which this Get Next action refers.

Give Menu 

The Give Menu action provides a menu to the caller. The caller receives a voice prompt and can choose an option by entering a digit.

Complete the following steps to set the Give Menu action:

1. Define the voice prompt and other parameters such as number of retries and the wait time for the caller input.
2. Define the behavior of the system as a consequence of the caller's choice.

The following list includes the properties of the Give Menu action:

- **Voice File** — Locate and select the file instructing the caller on the menu options (for example "For technical support please press one, for product information please press two").
- **Invalid File** — Locate and select the file that is played if the caller presses a meaningless digit and for which there is no specific behavior defined for such an error.
- **Retries** — The number of times the system tries to obtain the number after the time specified in the Timeout field has passed.
- **Timeout** — The number of seconds that the system waits for the caller to enter the required information.
- **Clear DTMF on Start** — When selected, the system clears any previously received digits for this call. When unselected, the system uses any previously received digits.
- **Stop Prompt on DTMF** — Any digit pressed by the caller immediately terminates the currently playing voice message.

Hang-Up 

The Hang-Up action hangs up the call. It terminates both the call and the script. If the agent is receiving an email, this button is unavailable until the agent clicks the **Answer** button. If an agent clicks the Hang-Up button before replying to an email, a wrap-up code must be entered to document the reason for terminating contact before replying. Refer to Defining Wrap-Up Codes on page 178 for information about setting up wrap-up codes.

Increase/Decrease 

The Increase/Decrease action allows numerical changes to a user-defined call profile field. This allows the you to perform numeric functions, such as managing a counter and increasing the current priority.

The property of the Increase/Decrease action is **CP Field**, which is the user-defined call profile field to be changed by this action. Choose whether you want the value to Increase or Decrease, and then choose the increment by which to increase or decrease the call profile field value.

The user-defined call profile fields are specified using Contact Center Director, as explained in Creating Call Profile User Fields on page 176.

IVR Application End 

The IVR Application End action stops the data collection from the current IVR application. An IVR application is a statistical entity that can be used to collect data about how calls perform a script or a part of a script. IVR applications are defined in Contact Center Director. Refer to Creating an IVR Application Account on page 141.

IVR Application Start 

The IVR Application Start action starts data collection for the specified IRV Application. An IVR application is a statistical entity that can be used to collect data about how calls perform a script or a part of a script. IVR applications are defined in Contact Center Director. Refer to Creating an IVR Application Account on page 141.

The property of the IVR Application Start action is **IVR Application**, which is the IVR application from which data is to be collected. When this action is performed on a call, the action is counted as part of the statistics for this IVR application.

Logic Switch 

The Logic Switch action enables you to logically define how a call is handled, based on call profile field values.

The Logic Switch action properties are referred to as logic branches. Each Logic Switch action relates to one call profile field, but can contain up to 10 logic branches. A logic branch consists of an operation, such as equals (=), and a compare value, such as Friday. The Logic Switch action matches a single call profile field with the correct logic branch so that the call is handled according to actions defined in the branch. When the first matching branch is found, it is used and no more matching is done.

The following list includes the properties of the Logic Switch action:

- **If** — The call profile field whose value you want to use. If the call profile field is a field that can be compared as a number or string, from the associated field choose the comparison type.

  The call profile fields in the drop-down menu are default fields and user-defined fields and skills as defined in Contact Center Director. Refer to Creating Call Profile User Fields on page 176 for details.

- **Operator field** — The operator used in the comparison.

  The comparison operations are

  = —The logic branch is triggered if the value is equal to compare value.

  <> — The logic branch is triggered if the value is not equal to compare value.

  < — The logic branch is triggered if the value is less than compare value.

  > — The logic branch is triggered if the value is greater than compare value.

  <= — The logic branch is triggered if the value is less than or equal to compare value.

  >= — The logic branch is triggered if the is greater than or equal to compare value.

- **else** — The logic branch is triggered by all the relations. A branch using the else operator should be placed as the last logic branch in the list, otherwise the branches that follow will never be checked.

- **Compare To field** —The call profile field parameter to be compared. For example, if the call profile field is Media, parameters are “voice”, “chat”, and “email.” If you enter a number in the field, specify integers only. Use of a decimal will result in unexpected results since the system does not recognize the decimal part of the value. For example, 1.5 would be treated as the number 1 by the system.

Login Primary Groups 

Note

The Login Primary Groups action is obsolete and exists only for backward compatibility. Mitel recommends using the Login/Logout Primary Groups action instead.

The Login Primary Groups action performs a login to an agent’s primary groups. Before performing this action, the Agent Number call profile field must be filled with the required agent number. Use the Get Digits action to fill the Agent Number call profile field. The agent extension is assumed to be the call’s calling device. The system is shipped with a predefined script named login. An agent’s primary groups are defined in Contact Center Director as explained in Assigning Primary Groups to an Agent on page 52.

Login/Logout Primary Groups 

The Login/Logout Primary Group action plays a file informing the agent caller of their current logged in primary group status, and allows the caller to change that status.

The Login/Logout Primary Group action is constructed from three steps, each represented by a different tab:

1. A file that informs the agent of their current status and asks the agent for an input to change this state.
2. When a login takes place, the action gets the agent number.
3. A file informs the agent of the action results, success or failure, of either a login or logout.

The following list includes properties of the Login/Logout Primary Groups action:

- **Details** tab — Use to specify the file that informs the agent of their current status, and asks the agent for an input to change this state.
  - **Logged-In Status** — This section is used if the agent is an already logged onto the extension. By pressing 1 the status change is initiated. Otherwise the system hangs up the call.
    - **Logged-In Status Prompt** — The file that informs the agent that the extension being used is already logged on.
    - **Logout Option Prompt** — The file that tells the agent to change their current state and perform a logout.
  - **Logged-Out Status** — This section is used if the agent is not logged onto the extension. By pressing 1 the status change is initiated. Otherwise the system hangs up the call.
    - **Logged-Out Status Prompt** — The file that informs the agent that the extension being used is logged-out (not logged in yet).
    - **Login Option Prompt** — The file that informs the agent to change their current state and to perform a login.
- **Get Agent Number** tab — When login is activated, the action retrieves the agent number.
  - **Prompt** — The file that prompts for the agent number.
  - **Timeout Prompt** — The file to play if the agent has not responded within a defined time.
  - **# of Digits** — The number of digits the system waits for the caller to enter.
  - **Announce** — The system repeats the information that the agent entered. Specify the Prompt file to announce the information, the Customer Feedback Prompt file that requests the agent to confirm the information, the Confirmation Digit the agent presses for confirmation, and the Retry Digit the agent presses to signal an intention to re-enter the information.
- **Action Results** tab — The files that inform the agent of the action results (success or failure) of both login and logout.
  - **Login**
    - **Success Prompt** — The file that plays when login succeeds.
    - **Failed Prompt** — The file that plays when login activation.
  - **Logout**

- **Success Prompt** — The file that plays when logout succeeds.
- **Failed Prompt** — The file that plays when logout fails.

Logout Primary Groups 

Note

The Logout Primary Groups action is obsolete and exists only for backward compatibility. Mitel recommends using the *Login/Logout Primary Groups* action instead.

The Logout Primary Group action performs a logout from an agent's primary groups. The agent extension is assumed to be the call's calling device.

The system is shipped with a predefined script named logout. The agent's primary groups list is defined in Contact Center Director as explained in Assigning Primary Groups to an Agent on page 52.

Overflow 

The Overflow action causes the call to overflow to a group or personal agent queue.

Note that the Overflow action presents the call to the overflow group, or personal agent queue, only once. If the call is not answered in the overflow group, the call is resubmitted to the original group. For example, if the call is presented to an agent in forced released, the call is resubmitted to the original group instead of the overflow group. If the call has already overflowed, the action is ignored.

Groups and personal agent queues are defined using Contact Center Director. Refer to Adding an Agent Group on page 74 and Creating Agent Queue Profiles on page 104 for more information.

The following list includes properties of the Overflow action:

- **Overflow Groups** — The groups that the call will overflow to once the action is performed.

  To add a group to the **Overflow To** list, select the group from the **Available** list and click **Add**.

  To delete a group from the **Overflow To** list, select the group from the **Overflow To** list and click **Remove**.

- **Overflow Agent Queue Agents** — The personal agent queue that the call will overflow to once the action is performed.

  To add an agent's queue to the **Overflow To** list, select the agent from the **Available** list and click **Add**.

  To delete a agent's queue from the **Overflow To** list, select the agent and click **Remove**.

Play Callback File 

The Play Callback File action is obsolete. Mitel recommends using the Play File action instead.

Play File 

The Play File action plays a pre-recorded voice file to the caller. The file can be either predefined in the action or dynamically defined by the content of a call profile field. The length of time the file is played is determined by the **Timeout** and **Play Continuously in a Loop** properties.

For scripts selected in **System Parameters** > **Routing Preferences** > **Service Settings** > **Default Music on Hold** > **Music Script** in Contact Center Director, the Play File action must have the Play Continuously in a Loop option selected. Otherwise, secondary announcements do not play correctly if the music script is shorter than the time specified in **Routing** > **Services** > **Announcements** > **Secondary Announcements Time** in Contact Center Director.

The following list includes properties of the Play File action:

- **Predefined File Name** — The action plays the predefined file specified in the associated field.
- **Use Call Profile Field** — The action plays the file defined by the content of the call profile field specified in the associated field.
- **Timeout** — The time, in seconds, after which the script ends the file being played and continues to the next action.
- **Play Continuously in a Loop** — The file is played repeatedly until the **Timeout** parameter expires. If this option is not selected, the voice file plays only once.
- **Clear DTMF on Start** — Clears any digits received before the action started. If this option is not selected, previously received digits might be used in the action.
- **Stop Prompt on DTMF** — Any digit entered terminates the message currently playing.

Play Music Stream 

The Play Music Stream action plays a music stream to the caller. The music stream can be either defined in the action (predefined) or dynamically defined by the content of a call profile field. The length of time the music stream plays is determined by the **Timeout** property.

The properties of the Play Music Stream action are:

- **Music Stream** — The music stream file to be played.

  Music streams are defined in **Maintenance** > **Music Streams** in Contact Center Director.

- **Timeout** — The time, in seconds, after which the script ends the file being played and continues to the next action.
- **Clear DTMF on Start** — Any digits received before the action started are cleared. If this box is not selected, previously received digits might be used in the action.
- **Stop Prompt on DTMF** — Any digits entered terminates the message currently playing.

Release 

Note

The Release action is obsolete and exists only for backward compatibility. Mitel recommends using the Release/Resume action instead.

When an agent is in a Release state, the system does not route ACD calls to the agent's phone. The agent can still receive calls through transfers from other agents or incoming private calls. The Release action is used to release an agent. For example, the Release action might be used to release agents without a PC from their groups.

The Release action assumes that the calling device is the agent device. It then looks for the agent who is logged into this extension. If such an agent is found, the action verifies that the agent is not already released, and then changes the agent state to released.

Release/Resume 

The Release/Resume action assumes that the calling device is the agent device. It then looks for the agent who is logged into this extension. If such an agent is found, the action verifies the agent's current status (released or resumed), and then plays a WAV file prompting the agent to press 1 to change the current status. After 1 is pressed, the action tries to change the status and then plays a WAV file telling the agent the action results (success or failure).

The following list includes properties of the Release/Resume action:

- **Details** tab — Defines the announcements on current status.
  - **Released Status Prompt** — The file that informs the agent their status is currently Release.
  - **Resume Option Prompt** — The file that tells the agent to press 1 to enter the Resume state.
  - **Resumed Status Prompt** — The file that informs the agent their status is currently Resume.
  - **Release Option Prompt** — The file that tells the agent to press 1 to enter the Release state.
- **Action Results** tab — Defines the announcements reports action results.
  - **Release Success Prompt** — The file that informs the agent their status is now Release.

- **Release Failed Prompt** — The file that informs the agent their status change to the Release status has failed.
- **Resume Success Prompt** — The file that informs the agent their status is now Resume.
- **Resume Failed Prompt** — The file that informs the agent their status change to the Resume status has failed.

Resume 

Note

The Resume action is obsolete and exists only for backward compatibility. Mitel recommends using the *Release/Resume* action instead.

When an agent is in the Resume state, the system routes ACD calls to the agent's phone. The Resume action is used to return an agent from the Release state to the state in which the system routes ACD calls to the agent's phone. For example, Release state can be used to put agents without a PC into a normal ACD mode.

The Resume action assumes that the calling device is the agent device. It then looks for the agent who is logged into this extension. If such an agent is found, the action verifies that the agent is in the Release state, and then changes the agent state to Resume.

Send Message 

The Send Message action is used for chat, defining the message to be sent to a chat contact.

The properties of the Send Message action are:

- **Message Name** — The message to be sent to the chat contact.

  Chat messages are predefined as explained in Configuring Custom Chat Messages on page 183.

- **Message Text** — The selected message's text.

  If you want to change the text, refer to Configuring Custom Chat Messages on page 183 for information.

Send Page 

The Send Page action is used for chat, defining the web page (URL) to be sent to a chat contact.

The property of the Send Page action is URL, which is the URL of the web page to be sent to the chat contact.

No validity check is performed on the address entered in the URL field.

Set Route Destination 

The Set Route Destination action changes the call profile field of a call to indicate a new destination.

The following list includes the properties of the Set Route Destination action:

- **Not Defined** — Disables the Set Rout Destination action.
- **Service** — The call is routed to a service.
- **Agent Queue** — The call is routed to an agent's personal agent queue.

SQL Connect 

The SQL Connect action connects to an external database to make a query. For example, this action can be used to establish a connection with the your organization's database, after which it is possible to branch to another script containing database queries, assuming that this database connection has been established.

The property of the SQL Connection action is **Connection Name**, which is the database connection.

Database connections are predefined using **System Parameters** > **External Interfaces** > **Database Connections** in Contact Center Director.

SQL Disconnect 

The SQL Disconnect action disconnects currently connected databases, which were connected through the SQL Connect action.

The property of the SQL Disconnect action is Connection Name, which is the database connection.

SQL Execute 

The SQL Execute action sends a query to the database to obtain specific information, such as stored procedures you created in Connect Contact Center Director. For example, you might use SQL Execute to do one of the following:

- Obtain output from a stored procedure to put information in a CP variable.
- Use data returned by a stored procedure to attach specific columns to CP variables.

The query is a SQL statement. For example, the query can find and retrieve caller priority and then update the priority value in a call profile field. If the result of the query is more than one record, you can loop over the result set using the **Get Next Record** action, and then perform actions on every record fetched.

The SQL Execute action assumes that the connection to the database already exists.

The following list includes properties of the SQL Execute action:

- **Query Name** — The name that is referred by the Get Next Record action to loop over all the records fetched by the SQL Execute action.
- **Connection Name** — The name of the currently connected database.

  Database connections are predefined using Contact Center Director > System Parameters > External Interfaces > Database Connections.
- **Execution Timeout** — The period of time, in seconds, that the system tries to query the database before timing out.
- **Handle Single Record** — The query fetches one record.
- **Handle Multiple Records** — The query fetches more than one record. Use the Update number of records found in CP field drop-down menu to select the call profile field used by the system to set the number of fetched records.

  Use the Get Next Record action to perform actions on every record fetched.
- **Predefined Queries** — Click to select a SQL statement. The contents of the statement are shown in the associated field. No automatic syntax checking is performed on this field.

  SQL statements are created in **Dial Lists** > **Predefined SQL** in Contact Center Director.
- **Test** — Click to test your query. If your query contains a stored procedure, you are unable to test the query and will see an error message instead to ensure the integrity of the database.
- **Assign column from DB to update CP** field — The list of call profile fields to be updated by the action. To insert a new call profile field to the list, right-click in the area, choose Insert, and then the appropriate field from the drop-down menu. Next in the Column field, double-click to enter the name of the database column that should be used as a source for updating the call profile field.

  The column names are not automatically checked against the database and should be entered carefully.

Transfer 

The Transfer action defines the transfer destination of a call. The destination can be either defined in the action itself (predefined), or dynamically defined by the content of a call profile field.

The following list includes properties of the Transfer action:

- **Predefined Destination** — The transfer destination is defined by the Transfer action. The transfer destination must be a valid dial number in the PBX. (It can be an external dial number to the PBX.)
- **Use CP Field as Destination** — The transfer destination is dynamically defined by the content of a call profile field. The system transfers the call to the dial number contained in the specified call profile field.

Wait 

The Wait Action causes a delay in the execution of a script. It can be used to allow a previous action to complete before the script execution continues.

The property of the Wait action is **Seconds to Wait**, which is the length of the delay in seconds. The maximum length of delay is 1000 seconds.

CHAPTER

13

Troubleshooting Connect Contact Center Configuration

This chapter provides information on troubleshooting the Connect Contact Center system, and details on problems or errors you may encounter when configuring and using Connect Contact Center.

In addition to the information in this chapter, always consult the Connect Contact Center documentation and knowledge base to help you solve common system issues.

When you start troubleshooting, first try to determine if the problem is Mitel related or involves your network.

Refer to the following sections for more information about troubleshooting Connect Contact Center configuration:

Troubleshooting Tools

Connect Contact Center provides the following troubleshooting tools you can use to diagnose and remedy basic system problems:

- *Diagnostic Windows*
- *Contact Center Log Monitor*

Connect Contact Center Diagnostics Console

Connect Contact Center Diagnostics Console is a powerful yet easy-to-use tool designed to provide administrators and senior supervisors with advanced information on the system. In addition, the Diagnostics Console provides a quick look at the operational status of the system's main components.

Complete the following steps to start Connect Contact Center Diagnostics Console:

1. From the Windows desktop, click **Start** > **Programs** > **ShoreTel** > **ShoreWare Contact Center Supervisor** > **ShoreTel Connect Contact Center Diagnostics Console**.
2. In the Connect Contact Center Logon window, specify **User**, **Password**, **Extension**, and **Server**, and then click **Login**.

Tip

If not all of the fields listed in this step are visible, click **More** to expand the Connect Contact Center Login Console window.

LED Indicators

Connect Contact Center Diagnostics Console displays LEDs indicating the status of various system components. Each LED has four colors (red, yellow, green, and gray). When the ACD, IVR, and PBX LEDs are green, the system is operational. Yellow LEDs for Chat and Email indicate that a system is not licensed for web chat or email.

Redundancy

- Grey — No redundancy is configured
- Green — Replication and redundancy is working
- Yellow — Redundancy is configured, but Connect Contact Center communications have failed
- Red — Replication has failed

Redundancy Information

If you have implemented the Connect Contact Center redundant server system, information on the system is automatically displayed each time you launch Connect Contact Center Diagnostics Console.

IVR Ports Status

The IVR Ports Status window, available from **File** > **Open IVR View**, provides a look at the IVR ports and their activity. Click **Show Stations Status** to display information on the IVR stations. If you want the IVR Ports Status window to be your top window, click **Always on Top**.

Tip

Mitel recommends you do not keep this window open for long periods of time.

- **Queued Req** shows the number of calls waiting for the IVR port.
- **Time Out** indicates the number of calls that have timed out while waiting for the port.
- **Errors** displays the number of errors in the system.

The IVR Ports Status window includes columns that contain the following information:

- **RP Extension** — The extension of the route point.
- **Status** — The status of the port.
- **Initializing** — Indicates that the port is being initialized.
- **Idle** — The port is idle and ready to receive calls.
- **Pending Connect** — The port is waiting to receive calls.
- **Processing** — The port is processing the call.
- **Finished Action** — The port has finished an action.
- **Hanging Up** — The port is hanging up on the call.
- **Port Busy** — The port is between states but not ready to receive calls.
- **Error State** — The port is unable to receive calls.

Diagnostic Windows

Connect Contact Center Diagnostics Console provides various windows that provide detailed information on the current internal processes of Connect Contact Center.

The main Diagnostics Console window shows messages that are provided by the subsystem, which may define progress of a startup process or loss of connection with the PBX. The messages provide general information, and not specific errors.

All Diagnostics Console windows indicate when the information displayed was last updated. The window columns can be sorted in ascending or descending order by clicking on the column title. And you can change the rate at which data is refreshed in **Settings** > **Refresh Rate**.

You must have either the Supervisor Administrator or Entity Administrator permission to view and use the Diagnostics Console diagnostic windows. Supervisors with the Entity Monitor permission are able to see only the main window. Supervisor permissions are configured using **Supervisors** > **Accounts** > **General** in Connect Contact Center.

Agent Status

The Agents window provides information on the agents currently logged into the Connect Contact Center system. This includes an agent's current state and whether an agent is without a PC.

You can also manage an agent's login status using the Agents window. To do so, right-click on an agent in the list. From the resulting menu, choose whether to log the agent out of all their groups, or to log the agent out of the system.

- **Cnctd** — The call is connected.
- **Fail** — The call is in a fault state. This state will clear itself.
- **Held** — The call is on hold.
- **Initd** — The call is being made.
- **Routw** — The call is being routed.
- **Unkwn** — The status of the call is unknown.
- **SIntmon** — The call is being monitored.
- **SIntmon+** — The call was monitored.
- **Barge** — The call is being barged-in.
- **Barge+** — The call was barged-in.

Scheduled Callbacks Status

Provides summary information for every outbound call created in the system. This includes the status of the call, which is indicated by an icon next to the call in the list.

To clear a call from the system, right-click the call and select **Clear Call**.

The Scheduled Callbacks window includes the following columns:

- **Callback ID** — The ID for the callback.
- **Call Type** — The type of callback, which can be one of the following values:
  - **DL** — A progressive dial list call.
  - **CB** — A callback all.
  - **ABND** — An abandoned call.
  - **WCB** — A web callback call.
  - **DL-CAMP** — A campaign dial list call.
  - **DL-PRED** — A predictive dial list call.
- **Dial List Name** — If the call type is a dial list, the name of the dial list.
- **Dial List Inst** — If the call type is a dial list, the instance of the dial list.
- **Callback Destination** — The callback number.
- **Service Name** — The name of the service to which the call is connected.
- **Time to Initiate** — The time that the callback will be made.
- **Start Active** — The time the callback becomes active.

- **Retries** — The number of times the callback has been tried.
- **Last Return Code** — The last code returned for the callback. The code can be
  - **Unknown** — The state before the callback is initiated.
  - **Success** — The callback was successful.
  - **Dest Busy** — The callback destination is busy.
  - **No Answer** — There was no answer at the callback destination.
  - **Cust Disc** — The customer ended the call before it was transferred to the agent.
  - **Answ/M** — The call was answered by an answering machine.
  - **Answ/M/Msg** — The call was answered by an answering machine, and the system left a message.
  - **Cbsrt_IVR_No_Port** — The callback could not be connected because no IVR port was available.
  - **Cbsrt_IVR_Failure** — The callback could not be connected because the IVR failed.
  - **Srv_Not_Act** — The callback failed because the service was not active.
  - **AG_Aborted** — Before receiving the call, the agent became unavailable.
  - **Time_Range_Ended** — The time range specified in Connect Contact Center Director ended before the callback could be completed.
  - **Date_Range_Ended** — The date range specified in Connect Contact Center Director ended before the callback could be completed.
  - **Period_Ended** — The period specified in Connect Contact Center Director ended before the callback could be completed.
  - **DI_Terminated** — The dial list was terminated before the callback could be completed.
  - **Max_Time_In_Active** — The amount of time the callback was active, but not dialed, before the system ended the callback.
  - **Overdue_Call** — The callback is no longer attempted since the attempted callback time specified in Connect Contact Center Director has expired.
  - **Time_To_Init_Passed** — The callback has exceeded the specified time (in Connect Contact Center Director) for making the call.
  - **Alternative_Number** — The callback was made to the customer's alternative number.
  - **Failed_To_Reach_Dest** — The system was unable to make the callback.
  - **Missing_Data** — The system did not have the necessary data to make the callback.

Dial Lists Status

Many of the initial problems with dial lists are related to configuration errors. Use the Dial Lists window to verify that Connect Contact Center is routing calls retrieved from the dial list database.

If you want to monitor only a specific dial list, select it in the list and click **Show Selected**. Use the Ctrl key to select multiple dial lists. To monitor all dial lists, click **Show All**.

The Dial Lists window includes the following columns:

- **Instance** — The current instance for the dial list.
- **Name** — The name of the dial list.
- **Type** — The type of dial list. The type can be
  - **Progressive**
  - **Predictive**
  - **Campaign**
- **Status** — The current status of the dial list, which can be one of the following values:
  - **Not Active** — The dial list is not active.
  - **Active** — The dial list is active.
  - **Active Pause** — The dial list is active, but paused.
  - **Finished** — The dial list has finished processing.
- **Periodic** — How often the dial list is processed, which can be one of the following values:
  - **None** — The dial list is not scheduled to be processed.
  - **Daily** — The dial list is processed every day.
  - **Weekly** — The dial list is processed every week.
  - **Monthly** — The dial list is processed every month.
- **Active Calls** — The number of calls ready to be dialed.
- **Waiting Calls** — The number of calls waiting to be dialed.

Email Status Windows

The following diagnostics windows, which are available from **Diagnostic** > **Email**, show if Connect Contact Center has the proper email configuration and flow:

- **Email Agents** — Shows all of the active agent accounts The items in this window are the temporary mailboxes created when an agent logs into the system. This window includes the following columns:

- **IRN** — The IRN from which the email entered the system.
- **GUID** — Globally unique identifier of the email.

Managing System Users

The System Management windows allow you to manage supervisors and agents and identify the version of Connect Contact Center they are currently using.

The System Management - Supervisors window includes the following columns:

- **Applications** — The applications the supervisor has currently active.
- **Station ID** — The ID of the supervisor's station.
- **Agent ID** — The supervisor's agent ID, if used.
- **Agent Number** — The supervisor's agent number, if used.
- **Supervisor Name** — The name of the supervisor.
- **IP Address** — The IP address of the supervisor's station.
- **Build Version** — The current version of Connect Contact Center being used by the supervisor.

You can change an agent's login status using the Agents window. Right-click an agent in the list, and then choose whether to log the agent out of all their groups, or to log the agent out of the system.

The System Management - Agents window includes the following columns:

- **Station ID** — The ID of the agent's station.
- **Number** — The number of the agent.
- **Extension** — The telephone extension of the agent.
- **IP Address** — The IP address of the agent's station.
- **Build Version** — The current version of Connect Contact Center being used by the agent.

Agents logged into the system using a telephone, rather than a PC, will have a Station ID of 0 and an empty IP Address column.

Managing External Database Connections

Using Connect Contact Center Diagnostics Console, you can now get details on a database connection, connect to all external databases, and fully disconnect from all external databases.

Disconnecting from the external databases is useful when you need to change the Windows ODBC DSN configuration, since Connect Contact Center does not register these configuration changes automatically.

Complete the following steps to manage external database connections:

1. From Connect Contact Center Diagnostics Console, click **Diagnostic** > **External Database Connections**.

   The External Database Connections window opens, displaying information on your current external database connections.

   The External Database Connections window includes the following columns:

   - **Name** — The database name.
   - **Total Number of Connections** — The total number of connections that can simultaneously connect to the database.
   - **Idle Connections** — The number of currently idle connections.
   - **Active Connections** — The number of currently active connections.

2. To get more information on a specific connection, right-click the connection in the list, and choose **Show Details**.
3. If you want to disconnect from the external databases in the list, right-click in the External Database Connections window, and choose **Disconnect All**.
4. To connect to the external databases in the list, right-click in the External Database Connections window, and choose **Connect All**.

Managing Chat

Tip

For information about how administrators and supervisors can monitor agents' chat sessions, refer to Managing Chat on page 266 in this guide or to the Monitoring Chat Sessions section of the Monitoring Activity chapter in the Contact Center Supervisor Guide.

Click **Diagnostic** > **Chat** > **Servlets** to display information about the IP address and version of the Connect Contact Center chat servlet.

Click **Diagnostic** > **Chat** > **Active Chats** to display the following information about active chat sessions:

- **Call ID** — The number that identifies the chat in Connect Contact Center.
- **Chat ID** — The number that identifies the chat in the chat server. This is the session ID.
- **Client** — The name of the client on the chat call.
- **Agent** — The name of the agent on the chat call.
- **Other Parties** — The name of supervisor(s) on the chat call.

Click **Diagnostic** > **Chat** > **Chat Servlets** to display the following information about chat servlets:

- **IP** — The IP address of the chat servlet.
- **Version** — The version of Connect Contact Center installed on the chat servlet.

Contact Center Log Monitor

Contact Center Log Monitor tracks the activity of every entity and subsystem maintained by Enterprise Contact Center. The information displayed in Contact Center Log Monitor can be viewed, formatted, and filtered in real-time. Past data is archived in text format.

This tool is targeted for administrators and is intended to be used for troubleshooting purposes.

Starting Contact Center Log Monitor

Complete the following steps to start Contact Center Log Monitor:

1. From your Contact Center server Windows desktop, navigate to ...`\ShoreTel\ShoreTel Contact Center Server\Bin`.
2. Double-click `BswLogMon.exe`.
3. To display data on the currently selected facilities, click **Action** > **Play**. To stop the display of data, click **Action** > **Stop.**

Viewing Data

You can specify the channel and facilities for which you information.

1. Click **Tools** > **Settings**.
2. To display data in the Log Monitor window, choose **Contact Center Log Monitor Channel** in **Channel Description**. If you want the data written to log files, select **MCCC Log File**.
3. Select the **Level** of information you want.
4. Specify the facilities on which you want information by moving the appropriate facilities from the **Available** list to the **Active** list.

   Pointing to a facility displays a tool tip with a description of the facility.

   Some facilities should not be used because they are for internal Mitel use only. Retrieving data on other facilities can slow down your system. Contact Center provides warnings for these facilities.

   Use the following options to specify the facilities you want information for:

   - **Show All Facilities** — Select to display all facilities in the **Available** list.
   - **Select All** — Click to move all facilities in the **Available** list to the **Active** list.
   - **Add** — Click to move the selected facilities from the **Available** list to the **Active** list.
   - **Remove** — Click to move the selected facilities from the **Active** list to the **Available** list.

6. If you want to filter the information, click **Tools** > **Filter**. Click **All** to filter all the facilities. Click **None** to remove filtering from all the facilities. Select an individual facility to turn off filtering for that facility.
7. To save the log file, click **File** > **Save**. To save the log file under a new name, click the **Save As** icon.
8. To clear the Contact Center Log Monitor window of data, click the **Clear** icon.

Problems with Database Synchronization

If the primary and secondary databases are not successfully synchronized after completing the process included in Synchronizing System Databases on page 221, it may be necessary to manually synchronize system databases. If the automatic synchronization process continues to be unsuccessful, you must upgrade your Connect Contact Center system to a build that contains an updated database schema.

Manually Synchronizing System Databases

Synchronizing the databases involves running batch files on both the primary and secondary servers.

Note

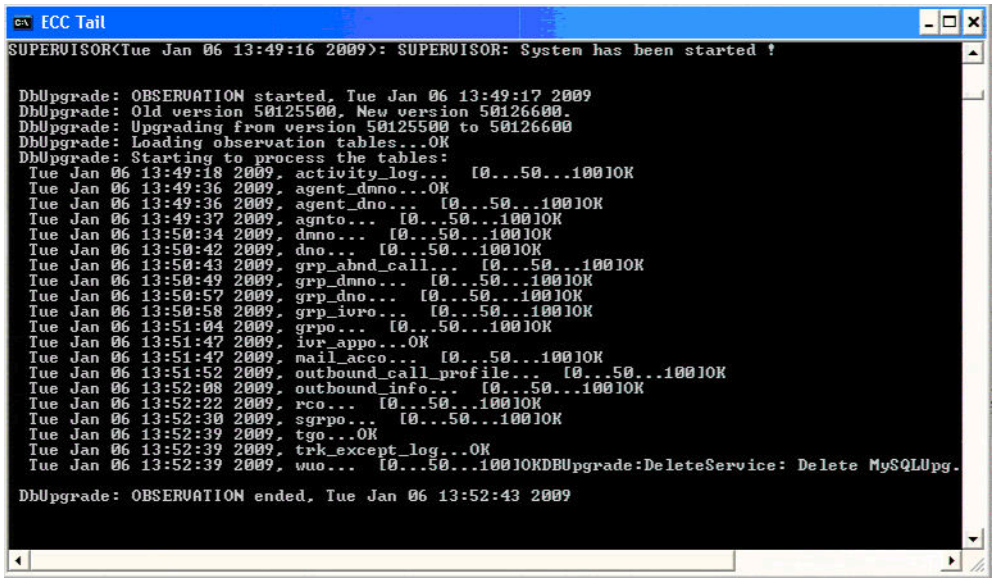
All necessary batch files for this process are located in the `\Contact Center Server\DBProvider\` folder and should be launched from this location. Make sure that the appropriate batch files exist before running them.

Complete the following steps to synchronize the redundant system databases on the primary server:

1. Wait until the database upgrade process on the primary server is complete.

   The ending of the database upgrade process is indicated in the Connect Contact Center Tail console window with the message

   ```
   DbUpgrade: OBSERVATION ended <Date Time>
   ```



2. Stop the SLAVE mode of the database, which is a command batch file, by running the `stop_slave.bat` file.
3. Run the `reset_master.bat` file.
4. Create a database dump file with the current log file and position information by running the `unload_master_db.bat` file.

   This process should take a few minutes. The `MCCC_db_master.sql` file is created in the same folder.
5. Copy the file `MCCC_db_master.sql` file to the `\Contact Center Server\DBProvider\` folder on the secondary sever.
6. Run `reset_position.bat` file.

Complete the following steps to synchronize the redundant system databases on the secondary server:

1. Stop the Connect Contact Center using the Windows Services window.
2. Disable the Connect Contact Center.
3. Stop the SLAVE mode of the database by running the `stop_slave.bat` file.
4. Execute the primary server database dump file by running the `load_master_db.bat` file.

   This fully recreates the database and loads current data from the primary database. Wait until the operation is done.
5. Run the `reset_master.bat` file.
6. Run `set_secondary.bat` file.

7. Enable the Connect Contact Center.
8. Start the Connect Contact Center.

Run the `start_slave.bat` file to complete the synchronization process on the primary server.

The database information on both the primary and secondary servers are now be synchronized and identical.

Problems when Using Connect Contact Center

This section provides information on specific problems or errors you may encounter when configuring or using Connect Contact Center.

Browser error message

When HTTPS for Contact Center Client is enabled, you may see various browser errors while using the contact center web applications. The recommended HTTPS configuration is to use a trusted 3rd party certificate and a fully qualified domain name (FQDN). With this configuration, there should be no security errors while using the system. The system installation defaults to use a certificate issued by the HQ to the Contact Center server's IP address. If the system is used with this default configuration, the web browsers displays security errors due to not trusting the certificate.

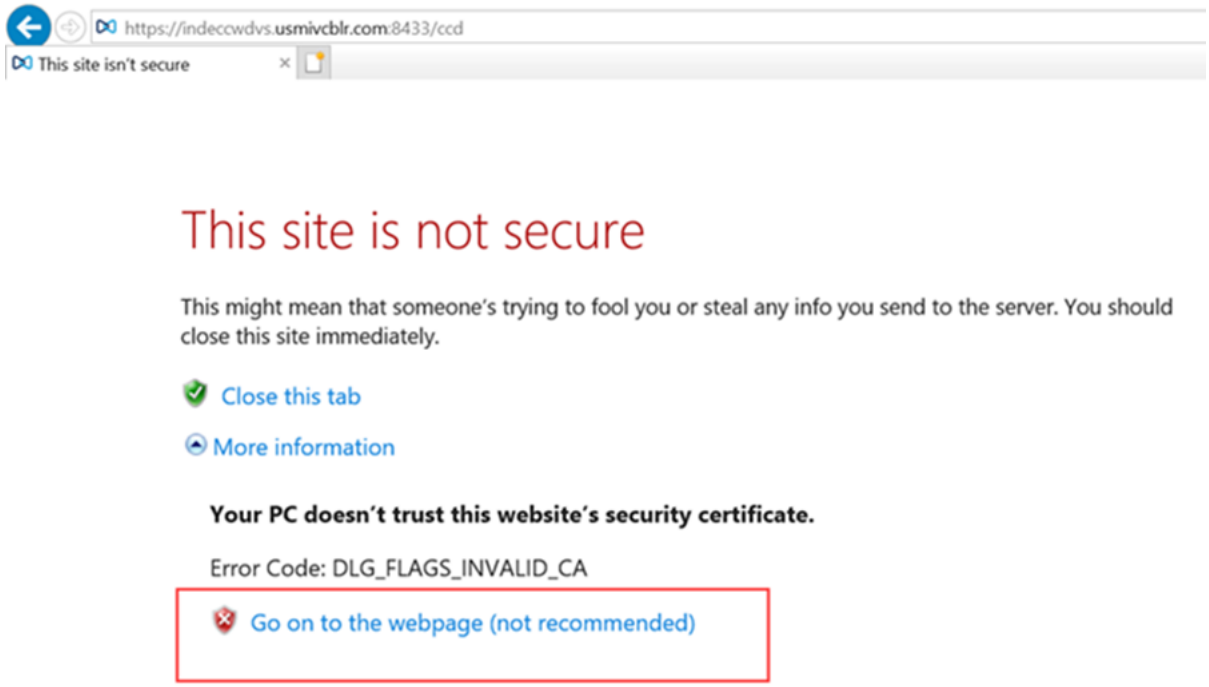
The following scenarios show how to work around the common browser errors when using the HQ certificate and accessing the server by IP address instead of fully qualified domain name (FQDN):

- If you install the Connect Contact Center and do not install the HQ certificate as one of the trusted certificate authorities, the system uses the default HQ certificate authority, which causes certificate issues. See the following section for information about bypassing the error messages and logging in to the Connect Contact Center directory.
- If you install the Connect Contact Center and also install the HQ certificate as one of the trusted certificate authorities, some of the certificate issues are resolved. Google Chrome and Mozilla Firefox browsers might still display the error messages that can be bypassed as explained in the following section.

Bypassing certificate errors

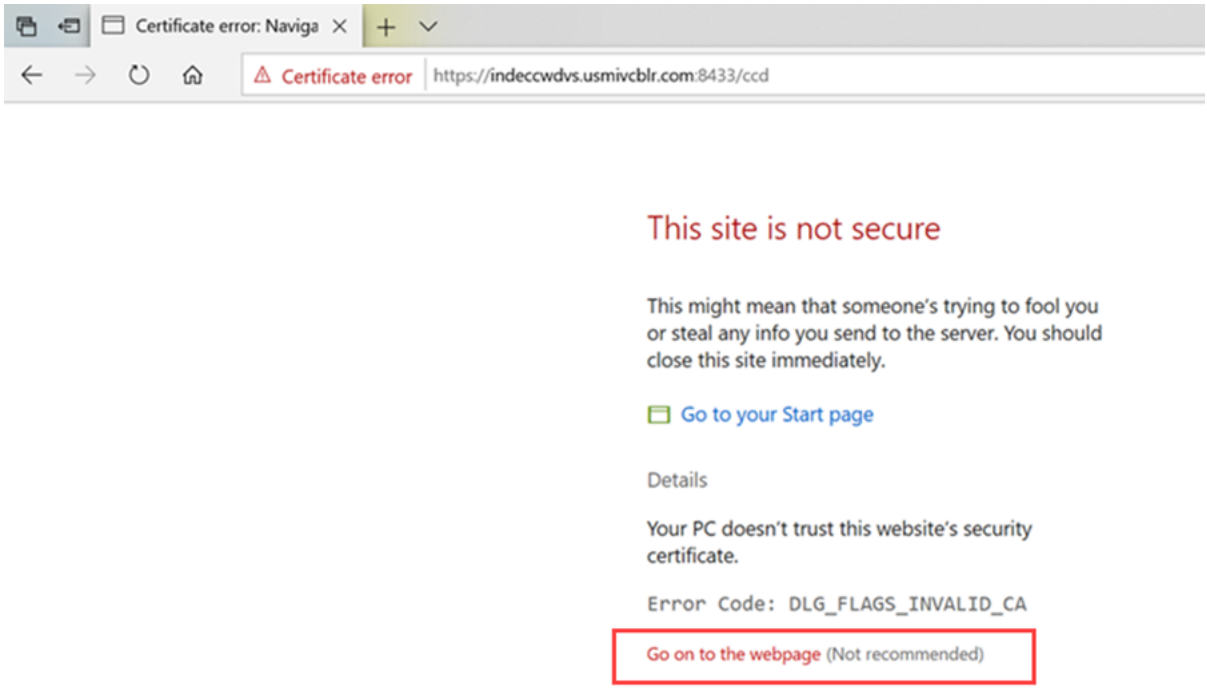
Complete the following actions based on the your browser:

- Microsoft Internet Explorer — Click **Continue to this website**.



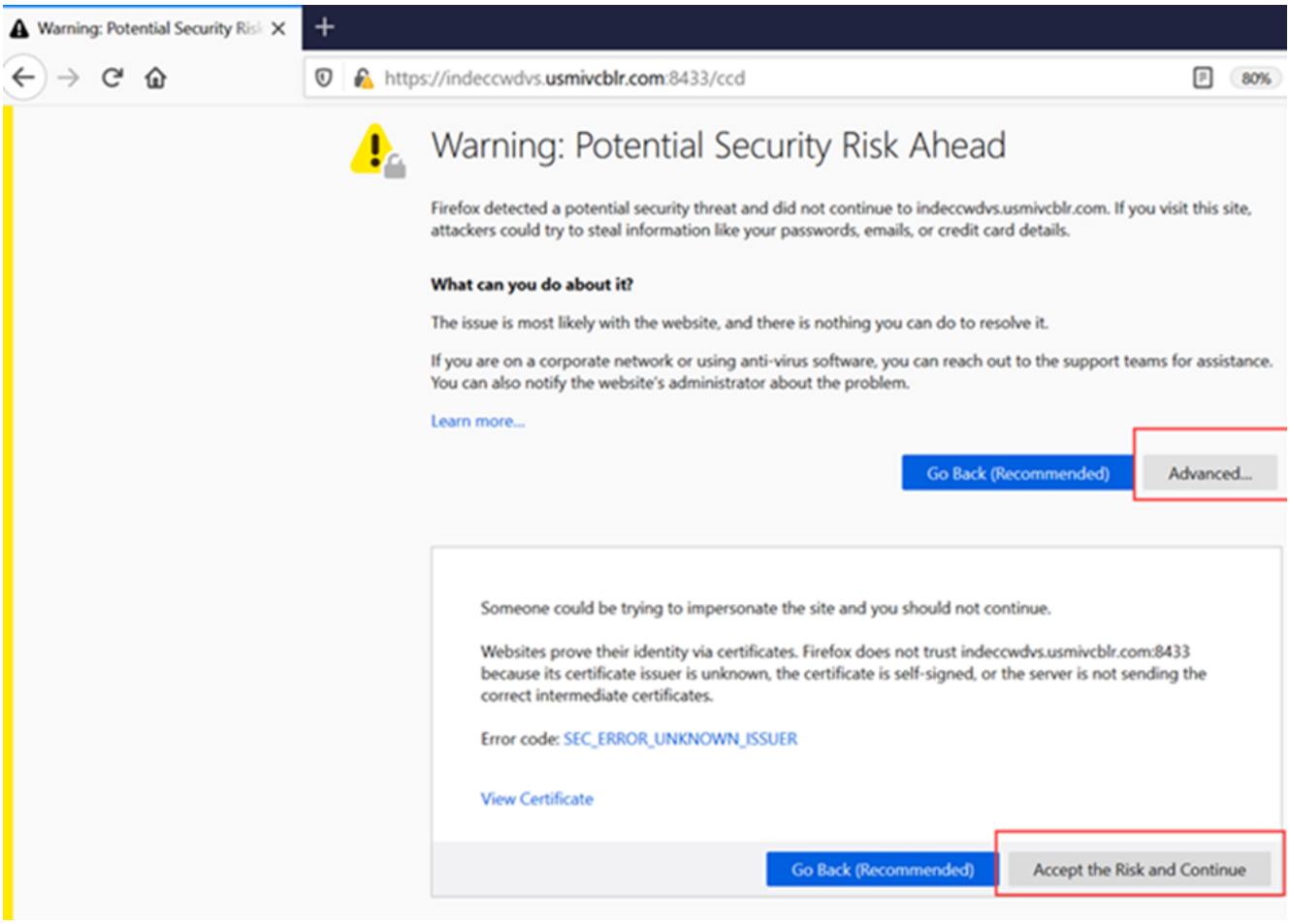
The login page opens with a *Certificate error* message on the location bar.

- Microsoft Edge — Click **Continue to this webpage**.

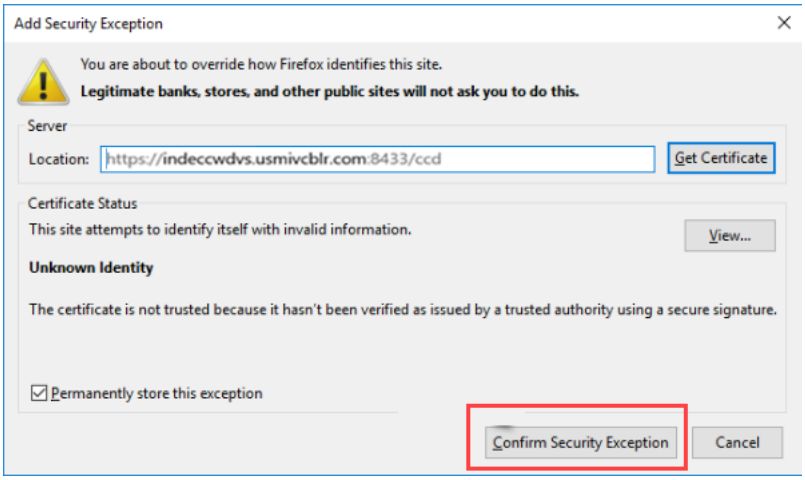


The login page opens with a C*ertificate error* warning message on the location bar.

- Mozilla Firefox — Click **Advanced** > **Accept the Risk and Continue**.

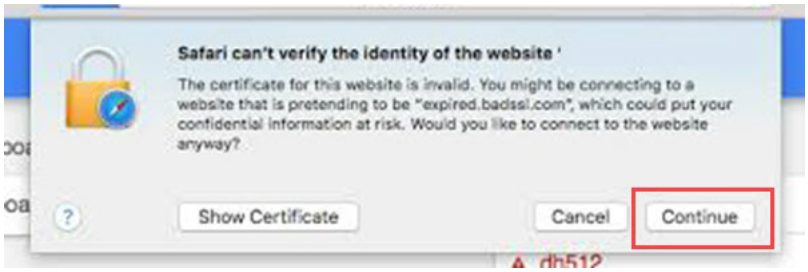


Click **Confirm Security Exception**.



The login page opens with a green lock and yellow warning icon on the location bar.

- Apple Safari — The browser displays the warning message with a **Continue** button. Mark the HQ certificate authority as trusted to bypass the warning message and navigate to the login page.



Support on Windows Server 2016 and Windows Server 2019 HTTP/2

A common browser error that appears in Google Chrome when one attempts to view web sites hosted on IIS7 on Windows Server 2016 and Windows Server 2019, caused by HTTPS handshake failure is:. **ERR_SPDY_INADEQUATE_TRANSPORT_SECURITY.** If you are installing Connect Contact Center on Windows Server 2016 or Windows Server 2019 and enabling HTTPS, you can resolve this error during installation.

To resolve the error, use one of the following methods:

- Change the available HTTPS ciphers using the registry keys available for the ciphers. For details about the cipher registry keys, see https://support.microsoft.com/en-us/help/245030/how-to-restrict-the-use-of-certain-cryptographic-algorithms-and-protoc.

  Alternatively, you can modify the ciphers without editing the Windows registry using the IIS Crypto 2.0 program. For details about the IIS Crypto 2.0 program, see https://www.nartac.com/Products/IISCrypto.

- Do either of the following depending on the server version:
  - **For Windows Server 2016:** Disable HTTP/2 on IIS of the Windows Server 2016.
  - **For Windows Server 2019:** Disable HTTP/2 on IIS of the Windows Server 2019

Unexpected Results when using Park

Parking a call places a call on hold on another extension. This allows agents to park a call on one extension and pick it up from a different extension. Unparking a call is retrieving a call that an agent previously parked on another extension. A call can be unparked only by the person that parked it. Park and unpark is not supported in Connect Contact Center, so if you implement this feature in your call center, note that the data recorded when a call is parked is not completely accurate and you may get unexpected results in your reports. In addition, using park can cause agent states to get stuck or be incorrect.

Client Application Not Displaying on Monitor

Your supervisors and agents have previously used multiple monitors when running the Connect Contact Center client applications, such as Agent Manager and Interaction Center. Now they are using only one monitor and the Connect Contact Center client applications are not displaying.

The Connect Contact Center client applications do not check available screen space when starting up. They open at the previous X,Y coordinates. If these coordinates are for a second monitor that is no longer being used, the client applications launch off-screen. If your Nvidia chip sets does not allow you to correct this problem, reset the X and Y values in the appropriate `ini` file.

Agent Manager

1. Open `%userprofile%\Local Settings\Application Data\ShoreTel Contact Center\config\NLAFormSettings.ini`.
2. Under the `[Main Form]` section, change the `Top` and `Left` values to `0`.
3. Save the file.

GCCS Administration Crashes When Selecting IVR Files for Play File Action

The Play File action plays an IVR file to the caller. The user locates and selects the predefined file to be played by clicking the ellipses (...). If the file is located in a folder with a large number of files, GCCS Administration crashes when that folder is selected.

To resolve this issue, move the required IVR file to another folder that contains fewer files, and then make the folder with a large number of files unavailable to users from GCCS Administration by completing the following steps:

1. On the Connect Contact Center server, open `...\ShoreTel\ShoreTel Contact Center Server\wecc.ini`. On the Connect Contact Center supervisor system, open `...\ShoreTel\Contact Center\Supervisor\wecc.ini`.

   A new `[FileList]` section has been added to the `wecc.ini` file with the parameters `ExcludeDir=` and `FoldOnlyDir=`. Folders listed in the `ExcludeDir=` parameter are not shown in the File Browse dialog box in GCCS Administration. Folders listed in the `FoldOnlyDir=` parameter are displayed in the File Browse dialog box, but only as a folder without a listing of contents.

2. Add the folders to be unavailable to the `ExcludeDir=` parameter, and add the folders to display without contents in the File Browse dialog box to the `FoldOnlyDir=` parameter. Multiple folders names are separated with a semicolon (;), as shown below:

   ```
   [FileList]
   ExcludeDir=Log;Ruby;ccd2;ContactCenterDirector
   FoldOnlyDir=CustomerNames
   ```

3. Save the `wecc.ini` file, and restart GCCS Administration.
4. Repeat steps 2 and 3 on the secondary server when you are using a redundant system.

Agent Outbound Call Notification Truncated

When agents are assigned an outbound call from a dial list, Interaction Center displays a notification. This notification is truncated if the agent's client display setting is higher than100%.

To resolve this issue, on the agent's client, use the Windows **Control Panel** > **Appearance and Personalization** > **Display** screen to change the display setting to 100%, which is the default.

Historical Reports on Agents and DNIS not Displaying Data

Supervisors want to generate a historical report on a large number of agents. When run, the report shows the entire list of agents in the Agent Name field, but no data is displayed.

To resolve this issue, Complete the following steps to truncate the Agent Name field to only 100 characters, and display report data:

1. On the Connect Contact Center server, open...`\ShoreTel\ShoreTel Contact Center Server\ wecc.ini`. On the Connect Contact Center supervisor system, open `...\ShoreTel\Contact Center\Supervisor\ wecc.ini`.
2. In the `[Admin Configuration]` section, add the value `reduce_header_size=1`.
3. Save the `wecc.ini` file, and restart Connect Contact Center Reports.

Remotely Accessing the Connect Contact Center Server

You can remotely access the Connect Contact Center server, and gather information to diagnose problems, using a Windows Remote Desktop connection.

When using a Remote Desktop connection to access the Connect Contact Center server, make sure that you are accessing the server using the console session. The console session is the Windows desktop that the administrator sees when looking at the monitor physically connected to the server. By default, the Remote Desktop application connects only to a virtual session on the remote server. Accessing the Connect Contact Center server using a virtual session causes an error message to display when attempting to open Connect Contact Center applications on the server.

Complete the following steps to remotely access the Connect Contact Center server:

1. Right-click the Remote Desktop icon on your desktop and choose **Properties**.
2. Click the **Shortcut** tab, and enter `%SystemRoot%\System32\mstsc.exe /console` or `%SystemRoot%\System32\mstsc.exe /admin` in the Target field. Enter the text that is appropriate for the version of Windows you are using.
3. Click **OK**.
4. Launch Remote Desktop.
5. In the Connection dialog box, click **Options**.
6. Click the **Local Resources** tab, and select **Leave at remote computer** in **Remote computer sound**.
7. Click **Connect**.

TAPI Outage During Agent Activity

If a TAPI outage occurs, while agents are using a device affected by the outage, you can choose whether agents are automatically put in Release mode or logged off the system. Refer to Setting Client Preferences on page 177 for details.

Troubleshooting Email

Use Contact Center Diagnostics Console to identify the proper operation of the email configuration. An EMAIL LED indicator color of green indicates that an email account has been configured; yellow indicates that an email account has not been configured.

The following Contact Center Diagnostics Console windows show if Contact Center has the proper email configuration and flow:

- **Email Agents** — Shows all of the active agent accounts The items in this window are the temporary mailboxes created when an agent logs into the system.
- **Active Emails** — Lists the emails queued for distribution to agents logged into Contact Center. Use the IRN number to determine which email account is the target of the customer email. The relationship between the IRN number and the email account is shown in the Email Accounts window.
- **Email Accounts** — Displays the email accounts that Contact Center is retrieving from the Organizational Mail Server (OMS), which might be the corporate email server. Use this window to correlate the IRN number to the actual email account on the OMS.

Corporate Mail Server Issues

When troubleshooting issues with the corporate mail server, check configuration and connectivity with the corporate mail server using the following techniques:

- Verify configuration in Contact Center Director. Click **Email** > **Email Accounts**, and then use an email client to ensure that the client can connect to the corporate mail server using the same credentials.
- Check the corporate email account configuration and status using the Email Accounts window in Contact Center Diagnostics Console.
- Use the Active Emails Window in Contact Center Diagnostics Console to verify that emails are currently queued for distribution to agents, and that customer emails did reach the Contact Center email storage.
- If emails are not being pulled by the Contact Center server, reinitialize the email collection process using **Email** > **Email IRN** > **Destination** in Contact Center Director. In the List View panel select the IRN, and then from the Details View panel, choose **Not Active** in **Default Destination**. Click **Save**, and then choose the correct destination in **Default Destination** and click **Save** again.
- Verify the configuration using **Email** > **Email Accounts** > **Incoming** in Contact Center Director.
  - Ensure the **Email Server** is set to the corporate mail server domain name or IP address.

- Ensure that the IMAP **Port** is set to 993 if **SSL Enabled** is selected or 143 if **SSL Enabled** is not selected.

- Ensure the setting for **Email** > **Email Accounts** > **Incoming** > **SSL Enabled** matches the mail server configuration for **SSL Enabled**.

Agent Email Issues

When troubleshooting agent email issues, check the configuration and connectivity with the Contact Center server using the following techniques:

- Use the Email Agents window in Contact Center Diagnostics Console to check the agent email account information configuration routing process and to ensure that the email client information matches the account information.
- Verify that the agent is logged in to the appropriate email group(s).
- Verify the agent's email address in **Agent** > **Agent** > **General** is correct when **System Parameters** > **Chat and Email** > **Email** > **General** > **Email Address Assigned to Agent Using Director** is selected in Contact Center Director.
- Verify the agent has entered the email address correctly in the email client when the **System Parameters** > **Chat and Email** > **Email** > **General** > **Email Address Set by Agent (Client)** is selected in Contact Center Director.

Troubleshooting Chat

Many of the initial problems with chat are related to configuration errors. Use the Contact Center Diagnostics Console to identify the proper operation of the chat configuration.

If the CHAT LED indicator is green, the Tomcat server is communicating with the Contact Center server; yellow indicates that the Tomcat server has not been configured and is not communicating with the Contact Center server; red indicates that Contact Center has lost communication with the Tomcat server.

The Contact Center Diagnostics Console Active Calls window shows all chat contacts routed by Contact Center. The **Device 1** field shows the IP address of the caller. Use this window to identify that chat requests are reaching Contact Center.

To route chat properly in a redundant system, configure secondary IRN's as described in Configuring and Linking the IRNs on page 218.

Corporate Chat Server Issues

When troubleshooting issues with the corporate chat server, check the configuration and connectivity with the chat server using the following techniques:

- Verify and test the chat call flow configuration using the **System Parameters** > **Chat and Email** > **Chat** > **General** in Contact Center Director. Make sure the **Max Chat Calls** field has the correct number.

- Check the configuration of the `web.xml`, ensuring the correct chat server IP address is specified and the TCP port configuration is correct as described in the Installing and Implementing Enterprise Contact Center Chat guide.
- If the Contact Center configuration, and the web server and call flows, are correct, the problem may be with the Tomcat server. Consult the Tomcat server documentation for troubleshooting techniques.

Troubleshooting Dial Lists

Many of the initial problems with dial lists are related to configuration errors. The following Contact Center Diagnostics Console windows show if Contact Center has the proper dial list configuration and flow:

- **Active Calls** — Shows all calls, including outbound calls, routed by Contact Center. Use this window to verify that Contact Center is routing calls retrieved from the dial list database.
- **Scheduled Callbacks** — Lists the calls queued for outbound dialing. Use this window to verify that calls are retrieved from the database and are being queued for outbound dialing.
- **Dial Lists** — Provides summary information for each configured dial list.

Tracking Unusual Dial List Behavior

Using **Dial Lists** > **Dial Lists** > **Output** in Contact Center Director, you can create database entries based on the success, single failure, final failure, and do not call requests. These database entries track unusual behavior of an outbound dial campaign.

Troubleshooting Call Control Scripts

Many of the call control script issues are due to configuration errors. Call control scripts are configured using ShoreWare Graphical Call Control Scripts Administrator, selecting the appropriate script, selecting an action, and then specifying the action's options in the Properties area.

The following list includes most common problems with call control script:

- Incorrect WAV file specified or file not found. Many script actions use WAV files to prompt the customer or to provide confirmation for a customer action. When creating the script, the wrong WAV file may have been specified or not copied on to all IVR servers in the IVR folder.

  To resolve this issue, select the ellipses button (...) for **Predefined File Name** in the action's Properties area. In the File Browse dialog box, select **use specific file**, locate and select the correct WAV file, and then click **OK**. If the WAV file is not found, check the Event log of the server from which the file should be played. This server is either the Contact Center server or an IVR server. The event is logged with the exact filename and path of the WAV file.

Note

The WAV file must be in the following format: u-law, 8000Hz, 8 bit, and mono.

- Incorrectly referencing a call profile parameter — A call profile is the collection of parameters associated with each call. These include optional parameters that can be used for call routing. A common error when using a call profile is to define the name of the parameter in Contact Center Director and then reference the parameter incorrectly in the call control script.

  To resolve this issue, check the parameter name in **System Parameters** > **Routing Preferences** > **Call Profiles** > **General** in Contact Center Director. Make sure the exact parameter name is used in the SQL query for the script. The SQL query is defined in the SQL Execute action Properties area using **SQL Query**.

- The wrong call profile parameter is referenced in the script logic — Data is stored in a specific call profile parameter, but another parameter is referenced in the script logic.

  To resolve this issue, review the defined parameters in the **CP Field** of the SQL Execute action Properties area. For the other actions in the script, make sure the correct parameter is used in the fields in the Properties area.

- The script does not have logic to handle errors during the call flow — Script actions may need an error output connector that allows the behavior of the script to be configured for an error during the call flow. If an error occurs, and the script does not have error connection handles, the call is routed according to the configuration defined in **System Parameters** > **Routing Preferences** > **Incomplete Destinations** > **Voice** in Contact Center Director.

  To resolve this issue, add logic to the ERR connection handles of the **SQL Connect**, **SQL Execute**, and **Menu** script actions.

Event Messages

Enterprise Contact Center makes use of the Windows Event Viewer logs, reporting events pertaining to components initiated and controlled by the supervisor process on the Contact Center server or client. Event messages are reported to the application event log under the event source tag Mitel-CC.

Event Message ID	Severity	Description
47	Error	Failed to login to email account %1
48	Error	Failed to initialize the event pool names with EOS error %1
49	Error	Failed to create event pools with EOS error %1
50	Error	Failed to initialize the event pool names with EOS error %1
51	Error	Failed to open event pools with EOS error %1
52	Error	Failed to initialize the event pools with EOS error %1
53	Error	Failed to initialize the mutexes with EOS error %1
54	Error	Failed to initialize the queue names with EOS error %1
55	Error	Failed to create queue table with EOS error %1
56	Error	Failed to create mutexes with EOS error %1

Event Message ID	Severity	Description
57	Error	Thread with ID %1 exited message loop with error %2
58	Error	Thread %1 failed to CreateMutex %2
59	Error	Failed to start Eos Process. eos_rc = %1 thread_id = %2
60	Error	ThreadId=%1 in section [%2] is above %3
61	Error	ThreadId in section [%1] is incorrect or not found
62	Error	MainThreadName in section [%1] is incorrect or not found
63	Error	QueueName=%1 in section [%2] not found
64	Error	QueueName in section [%1] is incorrect or not found
65	Error	PriorClass=%1' in section [%2] is incorrect
66	Error	Can't read [Threads] section from threads.ini
67	Error	Thread section [%1] in THREADS.INI is incorrect
68	Error	Failed to create thread - thread1:%1 thread:%2 %nFile %3 Line %4
69	Error	Can't find DLL in PROXYDLLS.DAT for facility %1
70	Error	Can't load DLL %1
71	Error	Cannot find queue id for thread %1 [%2] %nFile %3 Line %4
72	Informational	Duplicate process launch of %1 detected. Exiting second session.
73	Informational	Thread %1 was terminated by %2
74	Error	Failed to Resume Thread %1. %2 %3
75	Error	Cannot find queue id for thread %1 [%2]
76	Error	Thread %1 failed in BswAddThreadToEos que_id %2 eos_rc %3
77	Error	Call to waitForSpecificEvent(...) failed. %nindex = %1 op_code = %2 m_thrd_id = %3 m_que_id = %4
78	Warning	Exception in TerminateSignal of thread %1
79	Error	Main thread %1 failed to restart work thread %2. %\nDidn't get Start Confirmation.
80	Informational	Main thread %1 restarted successfully. Work thread %2.
81	Error	Main thread %1 failed to restart work thread %2. %\nThread IDs invalid.
82	Error	Thread %1 failed in createResources() eos_rc = %2.
83	Error	Thread %1 failed in sup_agent.Init() eos_rc = %2.
84	Error	Thread %1 failed in main_th_ptr->Init() eos_rc = %2.

Event Message ID	Severity	Description
85	Error	Thread %1 failed in startThreads() eos_rc = %2.
86	Error	Thread %1 failed in setThrdsState(SS_PREOPER,..) eos_rc = %2.
87	Error	Thread %1 failed in setThrdsState(SS_OPER,..) eos_rc = %2.
88	Error	Can't find thread id for [%1]
89	Error	Can't find queue id for thread %1 [%2]
90	Error	BSWWORK-initThread: waitForSpecificEvent(...) failed. %nwait_rc = %1 opcd = OPCD_SET_PREOPER my_thrd_id = %2 my_que_id = %3 init_timeout = %4
91	Error	BSWWORK-initThread: waitForSpecificEventAndDispatchEvents(...) failed. %nwait_rc = %1 opcd = OPCD_SET_OPER my_thrd_id = %2 my_que_id = %3 init_timeout = %4
92	Warning	An internal message exceeded the maximum message buffer size and failed to be delivered. This could impact system behavior. The detailed return code was %1 and the message header detail is provided below for support purposes. %nEvent Header is: %n%top_code%t%t%2 %n%tdest_que_id%t%3 %n%tdest_info%t%t%4 %n%treply_que_id%t%5 %n%treply_info%t%t%6 %n%tdata_len%t%t%7

Event Message ID	Severity	Description
105	Warning	Process %1 was killed
106	Informational	%1 %nECC service stopped
107	Informational	%1
108	Informational	MCCC service started
109	Error	%1 does not exist. Going to recreate.
110	Informational	System Initialized.
111	Informational	Service stopped. All supervised processes were closed.
112	Informational	Stopping service.
113	Error	Failed to start the service. Attempting to restart.
114	Informational	Service stopped.
115	Error	Process with thread ID %1 does not exist.
116	Error	Thread %1 has exited with exit code %2.
117	Error	RESET MASTER query failed.
118	Error	SET GLOBAL server_id=2 query failed.
119	Informational	Redundancy state changed. %nMessage: %1 %nState: %2 %nSubState: %3 %ntime: %4
120	Informational	Received IP information from server. %nPrimary IP %1 , Secondary IP %2 %nData in user_registry.ini is: %nPrimary IP %3 , Secondary IP %4
121	Error	Event manager initialization failed. %nError code %1
122	Error	Threads initialization failed. %nError code %1
123	Error	Timer manager thread initialization failed. %nError code %1
124	Error	COM ports initialization failed. %nError code %1

Event Message ID	Severity	Description
125	Error	Attempt to launch second instance of oprocess.exe. %nExiting oprocess.
126	Informational	Starting Connect Contact Center Service.
127	Error	Can't launch sprocess
128	Error	Sprocess failed to start processes. %nFile %1 Line %2
129	Informational	Stopping Connect Contact Center Service.
130	Informational	Restarting Connect Contact Center Service.
131	Error	Attempt to restart the Connect Contact Center Service failed. Error %1.
132	Informational	Maximum license reached. Rejected RTA Client connection request from %1.
133	Informational	Primary server %1 has connected
134	Informational	Primary server %1 has connected. %nPrevious Primary IP: %2.
135	Error	Failed to restart the Connect Contact Center Service.
136	Error	Failed to open service %1.
137	Error	Failed to listen on API socket.
138	Error	Failed to create socket for API. Check for possible port collision.
139	Error	Failed to open file for reading %n%1 %nFile %2 Line %3
140	Error	No system keys were found in the database. %nFile %2 Line %3
141	Error	The database license_keys table could not be read. %nSQL error: %1
142	Error	Unable to write sring value %1 into soft_param table ID %2
143	Error	Unable to write long value %1 into soft_param table ID %2
144	Error	Could not update compliance information. %nResult is %1
145	Error	Could not decode license key %1

Event Message ID	Severity	Description
146	Error	Could not update days to OOC. %nSQL error: %1 %nDays to OOC: %2
147	Error	Could not write compliance information to DB. %nSQL error: %1
148	Error	Could not update license info from keys. %nSQL error: %1
149	Informational	Bootstrap key upgraded to valid system key.
150	Error	Bootstrap failed to upgrade to valid system key. %nRC = %1
151	Error	Failed to monitor process with thread ID %1
152	Error	Failed to find process handle for thread %1 with error %2.
153	Error	Failed to find initialize clean DB. %nFailed calling %1
154	Informational	New connection accepted. Client address %1
155	Warning	Client disconnected because of socket error. Client address %1.
156	Informational	Client disconnected. Client address %1.
157	Warning	Time out before successful authentication. Force disconnecting client. Client address %1.
158	Warning	Backlog detected - client may be too slow. Force disconnecting client. Client address %1.
159	Informational	New RTA client connected from address %1.
160	Informational	RTA connection from %1 disconnected by remote peer.
161	Informational	RTA connection from %1 disconnected by server.

TMS or DTAS Error

If a TMS or DTAS error occurs, MCCC automatically logs out all agents from Interaction Center and the system.

To resolve this issue, you must manually restart MCCC to ensure correct call routing after the error and to enable the agents to log back into the system.

APPENDIX A

Using Time Zone Data

As part of the process of configuring time settings for outbound calls, you can upload time zone data. Once uploaded, Connect Contact Center checks the database, and based on the area code of the destination, calls at the correct destination local time.

Connect Contact Center works with a time zone data file which you must purchase. Prior to December 2011, a CSV file named `areacodeworldpremium.csv` could be purchased. This file still works with Connect Contact Center but can no longer be obtained.

Starting in December 2011, the file you need is `area-code-database.asp`, which you can purchase from www.area-codes.com. This appendix provides information on purchasing, configuring and uploading this time zone data.

If you have any questions, contact Mitel TAC.

Purchasing Time Zone Data

You need to purchase the time zone data from Area-Codes.com. Choose the **Deluxe Area Code Database** version in the Comma Separated Values (CSV) format of their product.

Configuring Time Zone Data

Once you have purchased the time zone data, complete the following steps to configure the data:

1. Copy the data file to `<contact center install directory>\ruby\bin`.
2. Open a console window and run the following command from the `<contact center install directory>\ruby\bin` directory:

```
ruby convert_time_zone.rb [name of the csv file] > normalized_ac.csv
```

3. Once the script is done, open the `normalized_ac.csv` file.

   Verify that the following columns exist:

   - `NPA`
   - `NXX`
   - `TIMEZONE`
   - `OBSERVES_DST`

Uploading Time Zone Data

Complete the following steps to upload the time zone data file to Connect Contact Center:

1. From Connect Contact Center Director, click **System Parameters** > **Outbound** > **Time Settings**.
2. In the **General** tab, locate and select the file for the Time Zone File Upload field by clicking **Browse**. Next click **Upload File**. Uploading may take a few minutes; the Time Zone Data Loaded checkbox is automatically selected once uploading is complete.
3. Click **Save**.

Refer to Configuring Time Settings for Outbound Calls on page 181 for information about the other time setting options.