

CONTACT CENTER SOLUTIONS

RELEASE 7.1.3

USER GUIDE



NOTICE

The information contained in this document is believed to be accurate in all respects but is not warranted by Mitel Networks™ Corporation (MITEL®). The information is subject to change without notice and should not be construed in any way as a commitment by Mitel or any of its affiliates or subsidiaries. Mitel and its affiliates and subsidiaries assume no responsibility for any errors or omissions in this document. Revisions of this document or new editions of it may be issued to incorporate such changes.

No part of this document can be reproduced or transmitted in any form or by any means - electronic or mechanical - for any purpose without written permission from Mitel Networks Corporation.

Trademarks

Mitel and NuPoint Unified Messaging are trademarks of Mitel Networks Corporation.

Adobe Acrobat Reader is a registered trademark of Adobe Systems Incorporated.

Hewlett-Packard, HP, and the HP logo are all registered trademarks of the Hewlett Packard Company

Sun Microsystems, Sun, and the Sun logo are all registered trademarks of Oracle Sun Microsystems Inc.

VMware, VMware vMotion, VMware vCloud, VMware vSphere, ESX, and ESXi are trademarks of VMware Incorporated.

Other product names mentioned in this document may be trademarks of their respective companies and are hereby acknowledged.

Contact Center Solutions User Guide

Release 7.1.3

July 2015

Document Version 7.1.3

®,™ Trademark of Mitel Networks Corporation

© Copyright 2015, Mitel Networks Corporation

All rights reserved

CHAPTER 1 CONTACT CENTER SOLUTIONS

Contact Center Solutions	2
What's new in Version 7.1?	2
Contact Center Enterprise Edition, Business Edition, and Workgroup Edition	8
Licensing	9
About this user guide	9
Locating the latest version of our guides	13
Document conventions	13
Required and optional software components	14
Required components	14
Optional components	15
Client Component Pack	15

CHAPTER 2 CONTACT CENTER CONCEPTS

Contact Center Concepts	17
Automatic Call Distribution (ACD)	17
Understanding ACD call flow	17
Monitoring the call flow process	18
Ensuring traffic-carrying efficiency	18
Scheduling to optimize call flow	18
Routing calls	19
Dialing an agent's extension	19
Dialing a queue	19
Overflowing calls	20
Interflowing calls	20
Ring groups	20
The inbound call environment	21

CHAPTER 3 CONTACT CENTER PLANNING AND MANAGEMENT

Contact Center Planning and Management	24
Step #1 Establish a corporate service objective	26
Understanding the Service Level	26
Understanding why the Service Level is the most meaningful statistic	27
Choosing a Service Level goal	28
Understanding Quality of Service	28
Monitoring call handling techniques	29
Monitoring systems and tools	30
Automating help desk workflow	31

Step #2 Collect data	32
Collecting data on call handling	32
Step #3 Forecast the Call Load	33
Forecasting accurately	33
Conducting forecasts	33
Step #4 Calculate the resources required	34
Predicting agent requirements	34
Understanding Erlang C	34
Considerations when predicting resource requirements	35
Performing 'what-if' scenarios	35
Understanding the relationship between agents and trunks	36
Understanding Erlang B	36
Predicting trunk requirements	37
Step #5 Schedule agents	38
Understanding the Shrinkage Factor	39
Calculating the Shrinkage Factor	39
Optimizing schedules	40
Routing calls to optimize coverage	41
Scheduling considerations	42
Step #6 Determine contact center costs	43
Breaking down expenses	43
Anticipating growth	44

CHAPTER 4 GETTING STARTED WITH CONTACT CENTER MANAGEMENT

Getting Started	46
Registering Contact Center Management	46
Activating Contact Center Management	46
Updating license files on the Enterprise Server	47
Setting up Contact Center Management on the Enterprise Server	47
Setting up Contact Center Management on client computers	48
Starting Contact Center Management	48
Installing the latest version of Client Component Pack	48
Installing Client Component Pack using an administrative procedure	49
Installing the prerequisite software	50
Locating the client_setup_x86_x63.exe and extracting Client Component Pack.msi ...	50
Performing the MSI procedure for the administrative installation	50
Running the silent installation	51
Using the Client Role Selector to select your Contact Center Client role	51
Running Client Role Selector	52

Disabling the IE security warning	53
Providing Mitel Border Gateway functionality to remote employees	53
Setting up phones for remote agents and employees	54
Registering phones for use with Mitel Border Gateway	54
Approving the Mitel Border Gateway certificate	55
Running the Mitel Border Gateway Connector	55
Setting up user preferences	57
Specifying your language preference	57
Changing your password	57
Viewing security role properties	57
Configuring email contacts	58
Adding email contacts	58
Adding contact groups	58
Adding email contacts to contact groups	59

CHAPTER 5 SERVICES AND DATABASE ADMINISTRATION

Services and Database Administration	61
Backing up data	61
Backing up .xml files	61
Backing up raw telephone system data files	62
Backing up Enterprise Server configuration data	62
Backing up SQL Server data files	62
Understanding SQL Server recovery models	63
Management Console	64
Opening Management Console	64
Configuration	65
Updating server IP addresses	65
Maintenance	66
Running the maintenance routine immediately	66
Summarizing data	66
Support	66
Viewing contact information	67
System	67
Controlling services	67
Converting data files	68
Converting Inter-Tel data	68

CHAPTER 6 CONFIGURATION

Configuration	72
YourSite database application areas	72

YourSite Explorer	73
Starting YourSite Explorer	73
YourSite Explorer Start Page	74
Configuring the YourSite Explorer Start Page	74
Searching	74
Paging	75
Filtering	75
Customizing the user interface	75
Minimizing aspects of the user interface	76
Selecting the first record of each list	76
Changing the order of the columns	77
Changing column options	77
Duplicating devices in YourSite Explorer	77
Making multiple changes	78
Changing the YourSite Explorer view	78
Submitting feedback	79
Enterprise setup	79
Configuring enterprise settings	80
Configuring the Enterprise Server settings	80
Changing the global system language	81
Configuring enterprise maintenance functions	81
Configuring email settings	82
Adding sites	82
Adding mail servers	83
Configuring SMTP connections to Contact Center Solutions	83
Adding media servers	84
Adding 3300 ICP media servers	85
Configuring location settings for 3300 ICP media servers	87
Configuring data summary options for 3300 ICP media servers	87
Configuring data collection settings for a 3300 ICP	88
Configuring MiTAI options for 3300 ICP media servers	89
Enabling write-back functionality	89
Configuring telephone system settings for 3300 ICP media servers	90
Call recording	94
Configuring the Mitel Secure Recording Connector service	94
Configuring call recording integration	95
Managing historical media servers	96
Deleting media servers	97
Verifying name changes of remote servers	98
YourSite database configuration	98
Determining your contact center configuration needs	99

Recommended configuration scenario	99
Multiple voice agents for individual employees configuration scenario (not recommended)	100
Configuring YourSite database devices	101
Configuring the YourSite database using synchronization	101
Preparing for synchronization	102
Specifying synchronization settings	104
Performing synchronization	105
Ring Group synchronization	107
Active Directory synchronization	107
Editing telephone system assignment forms	109
Editing System options	109
Editing SMDR options	110
Editing Class of Service options	110
Editing Class of Restriction options	111
Adding resilient and/or Network ACD hot desking agents	111
Invalid ACD cluster programming	111
Configuring devices and device groups using Quick Setup	113
Extension Quick Setup	113
Trunk Quick Setup	113
Trunk group Quick Setup	114
DNIS Quick Setup	114
Account Code Quick Setup	114
Make Busy Reason Codes Quick Setup	115
Team Quick Setup	115
Device group Quick Setup	115
Configuring devices using .csv files	116
Fields required for successful .csv imports	117
Importing a range of devices using a .csv file	119
Configuring devices manually	120
Adding employees	121
Configuring general employee information	121
Configuring Employee Licensing	122
Adding employee Workload	127
Managing the media types an employee can handle	129
Configuring user account information	131
Assigning non-ACD extensions and Account Codes for employees	133
Configuring employee personal information	134
Adding employee groups	135
Adding employee divisions	135
Adding agents	136

Adding agent groups	138
Managing agent group membership, presence, and skill level	139
Specifying 3300 ICP options for agent groups	141
Adding teams	141
Associating agent groups to teams	141
Adding queues	142
Adding voice queues (ACD path)	142
Configuring general information for voice queues	143
Configuring voice queue membership	145
Configuring business hours for voice queues	146
Configuring queue spectrum settings for voice queues	146
Configuring 3300 ICP options for voice queues	147
Adding ring groups	147
Configuring general information for ring group queues	148
Configuring business hours for ring groups	149
Configuring membership for ring groups	149
Configuring queue spectrum settings for ring groups	150
Configuring ring group settings for ring group queues	151
Setting a queue as historical	152
Deleting a queue	152
Automatically opening and closing queues	152
Opening and closing queues with business hour schedules	153
Closing and re-opening queues with queue control plans	153
Adding queue groups	155
Adding Reporting queue groups	155
Adding Virtual queue groups	156
Adding extensions	158
Adding extension groups	160
Associating extensions with extension groups	160
Adding trunks	161
Adding trunk groups	161
Associating trunks with trunk groups	161
Adding DNIS	162
Adding DNIS groups	162
Associating DNIS to DNIS groups	162
Adding Account Codes	163
Adding Account Code groups	164
Associating Account Codes with Account Code groups	164
Adding Account Code categories	165
Defining ANI data	165
Adding Make Busy Reason Codes	166

Adding Do Not Disturb Reason Codes	167
Adding phone numbers	167
Adding phone number groups	168
Configuring employee scheduling preferences	169
Configuring employee roles	169
Configuring employee work hours	170
Configuring employment status	170
Configuring employee payroll information	170
Configuring employee availability	171
Configuring employee time off	171
Overriding employee time off	171
Configuring employee skills	172
Configuring scheduling options	172
Configuring holidays	173
Configuring overtime types	173
Configuring time off types	174
Configuring skills	175
Business hour schedules	175
Creating and modifying schedules	176
Managing schedule exclusion lists	177
Applying schedules	178
Monitoring and alarming subsystem	178
Validating alarms	181
Enabling SNMP agent for alarms	182
Configuring Windows SNMP service for the SNMP agent	182
SNMP MIB summary	184
Validating YourSite Explorer configuration	189
Security roles	189
Creating and applying security roles	190
Creating security lists	191
Configuring security roles	193
Viewing your security role properties	196
Assigning security roles to employees	197
Configuring Work Timer	197
Preparing media server agent timeout options for MCD 5.0 or greater	198

CHAPTER 7 REAL-TIME MONITORS

Real-time Monitors	200
Contact Center Client	202

Starting Contact Center Client	204
Configuring Contact Center Client options	205
Adjusting the Contact Center Client view	207
Employee and Agent states	207
Extension states	211
Understanding Contact Center Client features	212
Contact Center Client options	213
Diagnostics monitor	215
Viewing agent availability	215
Agent, Employee, and Extension State by Position	216
Viewing the activities of agents who can log on to multiple voice queues	217
Viewing the current logged on states of agents who log on to multiple queues	218
Agent State and Employee State by Time	219
Agent State by Time for Queue	220
Agent Shift	222
Agent Shift column heading definitions	222
Viewing Agent and Extension Availability and Resiliency	224
Modifying visual indicator settings for agents failing over	225
Viewing extensions	226
Extension Now	228
Extension Now column heading definitions	228
Viewing queue statistics	230
Queue by Period	230
Queue by Period column heading definitions	231
Queue Now and Queue Group Now	234
Queue Now and Queue Group Now column heading definitions	235
Viewing queue chart statistics	244
Queue Now and Queue Group Now	244
Queue Performance by Period and Queue Group Performance by Period	247
Navigating charts	248
Viewing callback lists with the Global callback monitor	249
Managing callbacks in the Global Callback monitor	250
Viewing ports	251
Port status monitor	251
Viewing webpages	253
Viewing and customizing real-time monitors	253
Opening monitors	253
Docking monitors	254
Adding and removing devices	256
Sorting monitor devices	256
Rearranging cells	257

Setting monitor dimensions	257
Hiding monitor columns	258
Configuring chart characteristics	258
Changing chart type	258
Configuring the legend	259
Configuring the color scheme	259
Defining queue chart properties	259
Enabling point labels	260
Modifying Properties	260
Filtering device variables	262
Setting alarms	263
Adding performance thresholds	263
Specifying performance threshold colors	264
Specifying threshold notification	264
Customizing the information displayed on position and time monitors	266
Selecting and customizing card designs	267
Defining monitor styles	268
Adding text to card designs	269
Grouping data	269
Building marquee monitors	270
Configuring marquee monitor styles	270
Configuring marquee text and variables	271
Using Contact Center Chat	272
Sending a Contact Center Chat message	272
Adding someone to a conversation	274
Responding to a Contact Center Chat message	274
Using Contact Center Chat with Lync	274
Sending an instant message	277
Hot desking	277
External hot desk agents	277
WallBoarder	278
WallBoarder parameters	278
Site	278
Edit WallBoarder Service for tab	278
Priority message tab	279
Database load log tab	279
Query signs tab	279
Sign groups	279
Edit sign group tab	279
Advanced tab	280
Signs	281

Diagnostics	281
Tools tab	281
Sign messages	281
Add sign tab	282
Add sign message tab	283
Sign variables	283
Add sign variable tab	284
Advanced tab	284
Sign plans	284
Add sign plan tab	285
Business hours tab	285
Connecting Spectrum wall signs	285
Configuring wall signs and wall sign messages	287
Selecting the computer on which the WallBoarder Service is installed	287
Creating sign groups	288
Adding signs to sign groups	290
Configuring sign variables	291
Configuring sign messages	292
Creating sign plans	293
Creating sign plans for daisy-chained signs	294
Activating priority messages	296
Scheduling messages	297
Troubleshooting real-time issues	298
Interactive Contact Center and resiliency	298
Enabling Contact Center Chat with Lync	298

CHAPTER 8 REPORTS

Reports	300
Understanding reports	300
Setting the Service Level objective	302
Voice queue Service Level objective	302
Multimedia queue Service Level objective	303
Report types	303
Top five recommended reports	305
Using reports to identify problems	306
Reporter	308
Reporter options	308
Setting up contacts and contact groups	309
Setting up email contacts for emailing reports	309
Setting up email contact groups for emailing reports	309

Generating on-demand reports	310
Generating reports	310
Generating Workforce Scheduling reports	312
Emailing reports	314
Printing reports	314
Scheduled Reports	315
Scheduled reports options	315
Generating scheduled reports	315
Creating report schedules	315
Creating Contact Center Management Report schedules	316
Creating user report schedules	317
Creating Employee schedule mailer schedules	318
Adding Contact Center Management reports to schedules	319
Adding agent and employee reports to User report schedules	319
Adding work schedules to an Employee schedule mailer schedule	319
Generating scheduled reports immediately	320
Report Inbox	320
Reporter Inbox options	321
Viewing reports	322
Editing reports in Excel	322
Deleting reports	322
Configuring user printer settings	323
Excluding junk mail statistics from email Handled and Completed counts	323
Troubleshooting reporting issues	323
Troubleshooting missing data	323
Troubleshooting Reporting Service	324

CHAPTER 9 FORECASTING

Forecasting	326
Forecasting terms	326
Forecasting tool	327
Loading historical data	329
Modifying historical data	330
Modifying Average Handle Time	330
Modifying Contacts Offered	332
Modifying the weekly total for Contacts Offered	333
Performing forecasts	334
Exporting forecasts	335
Saving forecasts as Excel files	335
Exporting forecasts to Workforce Scheduling	335

CHAPTER 10 DATA-MINING

Data Mining	337
ACD Inspector	338
Running searches in ACD Inspector	339
Agent events criteria for searches	339
Queue events criteria for searches	345
Option events criteria for searches	347
Running agent events searches	348
Agent events search results	349
Narrowing an Agent events search	350
Running queue events searches	352
Queue events search results	353
Narrowing a Queue events search	354
Running wild card queue events searches	356
Wild card queue events search results	358
Running searches for error and information records	358
Exception events search results	358
SMDR Inspector	359
Starting SMDR Inspector	359
Running searches in SMDR Inspector	359
Call parties criteria for searches	360
Call types criteria for searches	361
Options criteria for searches	363
SMDR search results information	365
SMDR record boxes	370
Running call parties searches	373
Call parties search results	374
Running call types searches	374
Call types search results	375
Running option searches	375
Options search results	376
Running searches for error and information records	377
Exception search results	377
Wild card searches	378
Exporting search results	379
Auditor	379
Auditor icons	380
Viewing historical real-time events	382
Starting and using Auditor	382

CHAPTER 11 DATA COLLECTION

Data Collection	384
Verifying media servers are receiving telephone system data	384
Troubleshooting data collection issues	385
SMDR data is not streaming	385
ACD data is not streaming	386
Viewing the data collection TCP/IP ports	386
Restarting Collector Service	386

CHAPTER 12 INTERACTIVE CONTACT CENTER

Interactive Contact Center	388
Using Interactive Contact Center	388
Supervisors and Interactive Contact Center	388
Agents and Interactive Contact Center	388
Starting Contact Center Client	389
Employee and Agent control	389
Agents and Agent Group Presence	390
Hiding the Monitor control option	392
Logging on an agent	392
Logging off an agent	393
Joining and leaving agent groups	394
Placing agents in Make Busy	394
Removing employees from Make Busy	395
Placing employees in Do Not Disturb	396
Removing employees from Do Not Disturb	396
Canceling Work Timer for employees	397
Canceling the Reseize Timer for external hot desk agents	398
Extension Control	398
Ring group presence	399
Joining and leaving ring groups	400
Placing an extension in Do Not Disturb	400
Removing an extension from Do Not Disturb	401
Queue Control	401
Manually controlling queues	401
Hiding the Monitor control option	402
Placing queues in Do Not Disturb	402
Removing queues from Do Not Disturb	403
Controlling queues using a schedule	404
Scheduling queues to enter or leave Do Not Disturb	404
Controlling queues using queue control plans	404

Creating Queue control plans	404
------------------------------------	-----

CHAPTER 13 INTERACTIVE VISUAL QUEUE

Interactive Visual Queue	406
Using Interactive Visual Queue	406
Configuring options in Contact Center Management	406
Starting Contact Center Client	406
Opening Interactive Visual Queue	407
Interactive Visual Queue monitor grids	408
Sorting contacts by columns	412
Redirecting calls	412
Redirecting calls between queues	413
Redirecting voice contacts to specific agents	413
Redirecting calls to specific numbers	413
Removing calls	414
Calling back abandoned callers	415
Configuring alarms	415
Understanding call priority	416
Viewing callback information in Interactive Visual Queue	416
Managing callbacks in Interactive Visual Queue callback monitors	417

CHAPTER 14 CONTACT CENTER PHONESET MANAGER AND CONTACT CENTER SOFTPHONE

Contact Center PhoneSet Manager and Contact Center Softphone	420
Using Contact Center PhoneSet Manager and Contact Center Softphone	420
Starting Contact Center Client	420
Tested headsets	421
USB-to-headset adaptors	421
Integrating the GN 8120 with Contact Center Softphone	423
Setting up the soft phone	423
Configuring sound and audio device properties	423
Opening the soft phone	424
Changing soft phone IP addresses	426
Thumbnail soft phone toolbar	426
Logging on to the ACD	427
Phone and Functions toolbars	428
Phone functions	428
Customizing the soft phone	431
Configuring soft phone settings	431
Specifying the address book source for contacts	431

Resizing toolbar buttons	431
Displaying, hiding, and retiring toolbar buttons	431
Repositioning toolbar buttons	432
Configuring sounds and notifications	432
Making calls ring through your computer speakers	433
Adjusting the volume of your speakers and microphone	433
Configuring call forward destinations	433
Configuring speed dial numbers	434
Configuring shortcut keys	434
Configuring pre-announcement messages	435
Making and terminating calls using Contact Center PhoneSet Manager	436
Making calls	437
Making calls to your contacts	437
Making calls using speed dial	437
Terminating calls	437
Forwarding and answering calls using Contact Center PhoneSet Manager	438
Forwarding calls	438
Answering calls	438
Handling calls using Contact Center PhoneSet Manager	439
Placing calls on hold	439
Retrieving calls	439
Adding call notes to a call	440
Transferring calls	440
Conferencing calls	441
Consulting with people while on calls	441
Requesting help while on calls	442
Using Camp on	442
Leaving and retrieving messages	442
Using Call me back	443
Tagging calls with Account Codes	443
Making and terminating calls using Contact Center Softphone	443
Making calls	444
Making calls to your contacts	444
Making calls to contacts who have called you recently	444
Making calls using speed dial	445
Redialing numbers	445
Terminating calls	445
Forwarding and answering calls using Contact Center Softphone	445
Forwarding calls	445
Answering calls	445
Handling calls using Contact Center Softphone	446

Placing calls on hold	446
Retrieving calls	447
Using Mute	447
Transferring calls	447
Conferencing calls	448
Consulting with people while on calls	448
Requesting help while on calls	448
Using Camp on	449
Leaving and retrieving messages	449
Using Call me back	450
Tagging calls with Account Codes	450
Controlling your availability	450
Making and handling calls using Contact Center Client	451
Making calls	451
Forwarding calls	452
Answering calls	452
Adding call notes	452
Recording calls	452
Silent monitoring calls	453
Coaching agents and extensions on a call with customers	454
Transferring calls	456
Consulting with employees while on calls	456
Requesting help while on calls	456

CHAPTER 15 CONTACT CENTER SCREEN POP

Contact Center Screen Pop	458
Using Contact Center Screen Pop	458
Configuring options in YourSite Explorer	458
Enabling Contact Center Screen Pop	459
Configuring Contact Center Screen Pop options	459
Configuring Contact Center Screen Pop display variables	460
Enabling MiTAI event logging	462
Ignoring MiTAI events on UPiQ and callback capture ports	463
Configuring DNIS linkage	463
Configuring time spent in IVR	463
Deleting completed calls from memory	464
Preventing blank or duplicate pop-ups	464
Testing Contact Center Screen Pop search functions	465
Disabling Contact Center Screen Pop	465

CHAPTER 16 MICOLLAB CLIENT AND IGNITE INTEGRATION

MiCollab and Ignite integration	467
Basic MiCollab Client and Ignite integration	467
MiCollab Client and Ignite user interface	468
Before handling voice contacts with the MiCollab Client and Ignite integration	469
Handling voice contacts with the MiCollab Client and Ignite integration	470
Agent presence indicators	472
MiCollab Client	473
Logging into MiCollab Client	473
Ignite	473
Getting started with Ignite	473
Opening and closing Ignite	474
Logging into and out of Ignite	475
Performing agent actions in the Sidebar and the Action bar	475
Viewing and adjusting Agent Group Presence	476
Setting and removing Make Busy	477
Setting and removing Do Not Disturb	478
Tagging calls with Account Codes	478
Tagging calls with Classification Codes	479
Removing Work Timer	480
Accessing agent handling statistics by media type	481
Configuring profiles	482
General settings	482
Sidebar Stats settings	482
Call handling using the Action bar	483
Viewing agent state and statistics in the Status bar	483
Handling calls in Ignite	484
Viewing call information	484
Answering and ending calls	485
Picking calls out of queue	485
Blind transferring calls to internal and external destinations	486
Putting calls on hold and retrieving calls from hold	487

CHAPTER 17 FLEXIBLE REPORTING

Flexible Reporting	489
Using Flexible Reporting	489
Starting Flexible Reporting	489
Viewing the Flexible Reporting user interface	490
Report Designer wizard	491
Layout designer window	491
The File tab	492

Ribbon	492
Toolbox window	492
Creating new reports	493
Modifying standard Contact Center Management report templates	494
Modifying existing Flexible Reporting report templates	496
Designing reports	496
Adding images to report headers	496
Deleting images on report headers	497
Editing report header titles	497
Moving report header titles and values	497
Removing report header titles and values	497
Adding report header titles and values	498
Adding existing columns	498
Adding custom columns	498
Moving columns	499
Deleting columns	500
Editing column heading names	500
Specifying column width	500
Specifying row height	500
Specifying row colors	501
Freezing columns	501
Unfreezing columns	501
Managing your Flexible Reporting reports	501
Changing access properties	501
Renaming reports	502
Deleting reports	502
Running Flexible Reports	502
Running reports in the Contact Center Management website	502
Running reports in Flexible Reporting	503
Saving templates and reports	503
Printing reports	504

CHAPTER 18 IVR ROUTING

IVR Routing	506
IVR Routing enhancements	507
Workflow navigation in IVR Routing	507
Viewing workflows at a glance: The Outline pane	507
Viewing specific portions of a workflow: Focusing and the Breadcrumb view	508
Navigating the Workflows Canvas: The MiniMap window and the Pan mode	509
Resizing workflows: The Zoom feature	509

Manipulating all activities in a workflow: The Expand All, Collapse All, and Restore buttons	509
Customizing your IVR Routing workspace	510
Configuring IVR Routing	510
Viewing IVR Routing	510
Using the Import Wizard	510
Changing multiple IVR Routing items at a time	511
Viewing IVR Routing devices by category or type	511
Configuring media servers for IVR Routing	511
Configuring extensions	512
Adding extensions for IVR Routing	512
Deleting extensions	514
Using Extension Quick Setup	514
Configuring hunt groups	516
Adding hunt groups	516
Adding extensions to hunt groups	517
Configuring hunt group IVR settings	518
Deleting hunt groups	518
Configuring queues	518
Configuring Inqueue routing	518
Configuring UPIQ options	520
Playing Expected Wait Time announcements	520
Configuring RAD messages for queues	520
Configuring queue groups	521
Building workflows	522
Workflow types	522
Workflow examples	523
Adding new Inbound, Outbound, RAD, and Inqueue workflows	525
Naming workflows	526
Copying workflows	526
Cutting, pasting, and copying workflow items	526
Deleting workflows	527
Importing and exporting subroutines and workflows	527
Recommended practices for importing workflows and subroutines	528
Saving and copying workflows as images	528
Locating workflow items with the Search field	528
Associating workflows to devices	529
Dynamic RAD messages	530
Building resilient workflows	531
Configuring prompts	532
Adding prompts	532

Adding files, queue statistics, or variables to prompts	533
Deleting prompts	533
Playing prompts	533
Using Prompts Quick Setup	534
Building subroutines	534
Adding subroutines to workflows	535
Deleting subroutines	535
Configuring callbacks	535
Enabling callbacks	536
Enabling abandon callbacks	537
Enabling web callbacks	539
Enabling queues for web callbacks	539
Enabling web callbacks for Windows 8 and Windows 8.1 users	540
Configuring the web callback template	540
Viewing the web callback template	541
Customizing the web callback templates	541
Enabling the web callback template for callbacks	543
Configuring rules	546
Adding rules	547
Adding routing conditions to rules	547
Adding variables to rules	550
Deleting rules	550
Configuring holidays	550
Configuring data providers	550
Adding a Microsoft SQL server as a data provider	550
Adding a Microsoft Excel worksheet as a data provider	551
Adding a LDAP as a data provider	551
Adding an ODBC as a data provider	552
Deleting data providers	552
Configuring variables	552
Adding variables	553
Deleting variables	554
Configuring music on hold	554
Adding music on hold	554
Deleting music on hold	555
Configuring security	555
Activities	555
Activities available in IVR Routing	555
Understanding activity categories	562
Configuring common activity options	563
Adding activities to workflows or subroutines	563

Deleting activities or branches from workflows	563
Naming activities, activity configurations, and branches	564
Configuring activities and branches for reporting	564
Configuring an activity's prompts	564
Finding activities in a workflow or subroutine	567
Editing branches	567
Annotating activities in workflows and subroutines	568
Troubleshooting workflow configuration with the Validation button	568
Changing the order in which branches are evaluated	569
Building conditions in IVR Routing	569
Adding and removing expressions	569
Understanding operators	570
Selecting expressions	570
Grouping expressions	570
Configuring the ANI activity	571
Adding branching conditions to ANI activities	571
Configuring the Answer activity	572
Configuring the Callback Request activity	573
Assigning callback subroutines to Callback Request activities	573
Assigning destinations to Callback Request activities	574
Adding new devices to Callback Request destinations	574
Configuring the Collect Digits activity	575
Configuring options for Collect Digits activities	575
Configuring collection settings for Collect Digit activities	576
Configuring the Conference activity	577
Setting the Conference activity's destination and call behavior	577
Configuring the Connect to Caller activity	579
Assigning subroutines to the Connect to Caller activity	579
Configuring the Date Time Validation activity	580
Configuring the Delay activity	580
Setting the duration of Delay activities	580
Configuring the DNIS activity	580
Adding branching conditions to DNIS activities	581
Configuring the Email activity	582
Configuring Email activity templates	582
Adding and editing SMTP mail server connections to Email activities	583
Configuring auto-response email settings	583
Configuring the Execute activity	584
Configuring options for Execute activities	585
Specifying the external processes to execute in workflows	585
Storing retrieved data as variables	588

Configuring the Go To activity	588
Configuring destinations for Go To activities	588
Configuring the Hang Up activity	588
Configuring the Hold State activity	589
Configuring the Hunt Group activity	589
Adding branching conditions to Hunt Group activities	590
Configuring the Language Activity	591
Setting and editing languages for Language activities	591
Configuring the Make Call activity	592
Configuring options for Make Call activities	592
Adding new devices to Make Call destinations	593
Configuring the Management activity	594
Assigning subroutines to Management activities	594
Configuring properties for remote access to the Default Management Subroutine ..	594
Configuring the Menu activity	595
Configuring options for Menu activities	595
Configuring Menu activity branches	596
Configuring the Mode of Operation activity	597
Configuring Mode of Operation activities for Emergency and Normal modes	597
Configuring the Play activity	598
Adding prompts to Play activities	598
Configuring the Query activity	600
Connecting Query activities to data providers	601
Running simple queries in workflows	601
Configuring Query activities with advanced queries	602
Defining write statements	603
Returning multiple results with queries	604
Configuring the Queue activity	604
Applying queue conditions to the Queue activity	605
Real-time queue conditions and queue groups	607
Configuring the Record activity	609
Configuring Record activities with prompts	609
Clearing prompts from Record activities	610
Configuring recording options	610
Configuring the Save, Discard, and Review branches of the Record activity	611
Configuring the Redirect activity	612
Adding branching conditions to Redirect activities	612
Configuring the Retrieve Callback activity	613
Configuring the Rules activity	613
Adding and editing rules for Rules activities	614
Configuring the Save Callback activity	614

Configuring the Schedule activity	615
Adding and modifying business hour Schedule conditions	615
Adding and modifying time and day of the week conditions for Schedule activities	616
Adding and modifying date or holiday conditions for Schedule activities	617
Importing and exporting Schedule conditions	618
Grouping schedule conditions in Schedule activities	618
Configuring the Set Device Mode of Operation activity	618
Configuring properties for Set Device Mode of Operation activities	619
Configuring the Set System Mode of Operation activity	619
Configuring properties for Set System Mode of Operation activities	619
Configuring the Set Variables activity	620
Populating the Set Variables activity with workflow data	620
Configuring the Subroutine activity	620
Assigning subroutines and variables to Subroutine activities	621
Configuring the Swap Prompt activity	621
Setting prompts to be exchanged in Swap Prompt activities	622
Configuring the Transfer activity	622
Configuring options and adding devices to Transfer activities	623
Configuring the Variable Compare activity	624
Applying branching conditions to Variable Compare activities	625
Grouping variable compare conditions	626
Passing agents call information in screen pops	626
Populating screen pops with workflow variables	626
IVR Routing default workflows and subroutines	627
Changes to callbacks and UPiQ	628
Customizing the default workflows and subroutines	628
Default Inqueue UPiQ workflow and subroutine	629
Default callback workflow and subroutines	631
Default Outbound Callback workflow	631
Default Outbound Callback subroutines	632
Default Inbound Voice Callback subroutine	636
IVR Routing workflow samples	639
Importing IVR Routing sample workflows	640
Associating sample workflows to extensions or hunt groups	640
Sample Schedule with Mode of Operation and Menu	641
Sample ANI and DNIS condition with unique Menus and a callback option	643
Sample Schedule condition followed by DNIS and Language with Menus	646
Sample Management Plan workflow	648
Sample Outbound workflow with Excel	650
Workflow for PCI Compliant systems	652
IVR Routing complex workflow configuration	655

Outbound workflow configuration	655
Configuring a database provider	656
Creating outbound ports	658
Defining variables	658
Creating an outbound workflow	659
Configuring the outbound workflow for abandoned contacts	660
Configuring the branches of the Make Call activity	662
Dial Active Directory workflow configuration	666
Preliminary configuration	667
Creating the main Dial Active Directory workflow	668
Configuring the DialByAD subroutine	671
Configuring the LDAP data provider	672
Configuring the Active Directory LDAP query	672
Configuring the Success branch of the query	674
Synchronizing IVR Routing Servers	676

CHAPTER 19 WORKFORCE SCHEDULING, SCHEDULE ADHERENCE, AND EMPLOYEE PORTAL

Workforce Scheduling	679
Before installing Workforce Scheduling	679
Enabling remote SQL Server connections	679
Granting SQL Server permissions	680
Installing Workforce Scheduling	680
Using Workforce Scheduling	681
Viewing the Workforce Scheduling user interface	681
People pane	682
Time bar pane	682
Totals pane	683
Schedule details pane	684
Understanding forecasting concepts	685
Understanding the Workforce Scheduling process	685
Workforce Scheduling and your contact center	688
Assigned shift-based scheduling configuration scenario	688
Availability-based scheduling configuration scenario	689
Rotational-based scheduling configuration scenario	689
Forecast-based scheduling configuration scenario	690
Before you start scheduling	691
Selecting a scheduling method	691
Scheduling using forecast data	692
Scheduling manually	692

Schedule setup and customization	692
Starting Workforce Scheduling on a client computer	693
Configuring schedule options	693
Configuring scheduling options using the Schedule wizard	694
Creating schedules	694
Adding employees to schedules	694
Configuring business hours for schedules	695
Renaming schedules	695
Deleting schedules	695
Activating / De-activating schedules	696
Configuring shifts	696
Adding fixed shifts	696
Adding variable shifts	697
Renaming shifts	697
Deleting shifts	698
Configuring breaks	698
Adding fixed breaks	698
Adding variable breaks	699
Renaming breaks	699
Deleting breaks	700
Configuring jobs	700
Adding fixed jobs	700
Adding variable jobs	701
Renaming jobs	701
Deleting jobs	701
Adding breaks or jobs to shifts	702
Removing breaks and jobs from shifts	702
Assigning shifts to schedules	702
Assigning shifts to employees	703
Configuring event display preferences	703
Configuring the time bar display	704
Configuring the smallest scheduling time interval	704
Preventing users from manually making changes that trigger warnings	704
Configuring the default colors on the time bar	705
Configuring the time format	705
Configuring tool tip display	705
Configuring warnings	706
Forecasting data for schedules	708
Schedule creation	708
Building schedules with Schedule Builder	709
Configuring the date and time range	709

Scheduling shifts	709
Scheduling breaks	710
Scheduling jobs	710
Generating schedules with forecast data	711
Generating schedules without forecast data	711
Generating schedules for your entire workforce	711
Selecting employees	711
Configuring scheduling options	712
Creating and adjusting schedules manually	713
Loading schedules	713
Populating schedules with events	713
Drop inserting events	714
Drag inserting events	714
Recurring events	714
Mass recurring events	715
Mass deleting events	715
Mass applying time off	715
Modifying forecast totals in the event totals pane	716
Modifying event times and notes in the schedule details pane	716
Schedule distribution	717
Viewing schedules	717
Viewing scheduled events	717
Changing the time interval of the time bar pane	718
Viewing event totals	718
Viewing schedule details	719
Synchronizing views	719
Running schedule reports	719
Running on-demand reports	720
Running scheduled reports	720
Creating report schedules	721
Modifying report schedules	721
Schedule Adherence	722
Configuring adherence preference	722
Configuring adherence parameters	722
Configuring state groups	723
Viewing adherence monitors in Contact Center Client	723
Adherence Detail Grid monitor	723
Adherence Timebars monitor	726
Employee State by Position/Time monitors	727
Running adherence reports	727
Employee Portal	727

Employee functionality	728
Starting Employee Portal	728
Creating a desktop shortcut to Employee Portal	729
Viewing currently scheduled shifts	729
Viewing the shifts of other employees in your schedule	729
Offering shifts for other employees to take or trade	729
Removing shifts from the bulletin board	729
Proposing to take shifts	730
Proposing to trade shifts	730
Accept or reject an employee proposal to take or trade your shift	730
Requesting time off	731
Requesting availability changes	731
Supervisor functionality	732
Handling employee scheduling requests	732
Employee Portal reports	732

CHAPTER 20 TRAFFIC ANALYSIS

Traffic Analysis	735
Using Traffic Analysis	735
Setting up telephone systems to collect traffic data	735
Setting up the 3300 ICP	736
Programming the Traffic Options Assignment form	736
Assigning ports	738
Verifying the traffic output	738
Configuring media servers	738
Verifying traffic data is saved on the Enterprise Server	738
Setting up Traffic Analysis reporting	739

CHAPTER 21 CONTACT CENTER MANAGEMENT REMOTE SERVERS

Contact Center Management Remote Servers	741
Collecting data with Remote Servers	741
Creating remote IVR Routing instances	742
Monitoring activity and viewing alarms	742
Viewing ACD/SMDR data collection	742
Updating Remote Servers	742
Displaying enterprise-wide statistics	742

CHAPTER 22 CTI DEVELOPER TOOLKIT

CTI Developer Toolkit	744
-----------------------------	-----

CTI Developer Toolkit sample applications	749
Best practices for custom development	754
Common user scenarios and source code examples	755
Click to dial	755
Call received notification	756
Add call detail (using a third-party IVR)	758
Troubleshooting CTI Developer Toolkit issues	758
Troubleshooting specific issues	759
Retrieve All commands does not display any devices	759
GetDevice method fails or returns null unexpectedly	760
Agent control actions succeed while call control actions fail	760
Unable to set monitor on agent device	761
Web service errors occurring in log files	761
'Softphone proxy did not respond after 30 seconds' error	761

CHAPTER 23 SALESFORCE.COM CONNECTOR

Salesforce.com Connector	763
Setting up a Call Center in Salesforce.com	764
Upgrading to Call Center v.4.0 in Salesforce.com	765
Creating Call Centers in Salesforce.com	766
Configuring Call Centers in Salesforce.com	768
Adding users to call centers	777
Configuring soft phone layouts	777
Configuring the New Lead button to display DNIS information	779
Adding custom ANI and DNIS fields to Call Logs	780
Logging into your Contact Center Salesforce.com Connector	780
Salesforce.com Connector functionality	784
Contact Center Solutions terms and definitions	798

Chapter 1

CONTACT CENTER SOLUTIONS

What's new in Version 7.1?

*Contact Center Enterprise Edition,
Business Edition, and Workgroup Edition*

Licensing

About this user guide

Document conventions

*Required and optional software
components*

CONTACT CENTER SOLUTIONS

Mitel Contact Center Solutions Enterprise, Business, and Workgroup Editions integrate with the 3300 MCD platform to provide contact centers with the tools they need to efficiently and effectively measure and manage contact center operations. Contacts are routed intelligently across all media types (voice, email, and chat), increasing customer satisfaction and streamlining agent interactions. Contact center efficiency and agent performance can be monitored both historically and in real time and can be measured using a wide variety of reports. Flexible licensing packages provide access to specific features and applications and enable you to build a contact center package that best suits your business needs.

WHAT'S NEW IN VERSION 7.1?

The following section briefly describes the features and product enhancements that were introduced in Contact Center Solutions and Business Reporter Version 7.1.

MiCollab Client and Ignite integration

The MiCollab Client and Ignite integration combines the advanced call handling features of MiCollab Client with the multimedia handling abilities provided by Ignite, resulting in an all-inclusive agent desktop experience. The MiCollab Client and Ignite integration also offers Enterprise presence, extended ACD presence, and Enterprise Instant Messaging presence indicators, informing co-workers of your real-time availability.

This integration is also available in conjunction with Basic MiCollab Client, but with reduced functionality.

For information regarding voice handling using Ignite and MiCollab Client, see "MiCollab and Ignite integration" on page 467. For information regarding handling non-voice media types using Ignite and MiCollab Client, see the *Multimedia Contact Center Installation and Deployment Guide*.

Workgroup Edition

Workgroup Edition is a competitively priced, entry level contact center solution for the MiVoice Business platform. General business reporting, contact center reporting, contact center real-time monitoring, client desktops, and advanced IVR Routing capabilities are included in a single starter pack with available options for customization. Workgroup Edition supports single and multi-node MiVoice Business environments. If your contact center needs increase in size or sophistication, you can seamlessly upgrade to either Contact Center Business or Enterprise Edition.

For more information, see the licensing section of the *Contact Center Solutions and Business Reporter System Engineering Guide*.

Business Reporter

Business Reporter, formerly Call Accounting, has been revamped for Version 7.1. While continuing to provide call costing, Traffic Analysis, and Subscriber Services, Business Reporter now also includes support for ring group monitoring and reporting for general business purposes.

Business Reporter is included in all licensing starter packs but is also available as a standalone product. A Business Reporter license must be owned for each extension, including non-ACD extensions, that will be reported on or viewed in real time. All licensed Business Reporter extensions can be monitored in real-time using the new Extension Now monitor, available in Contact Center Client.

For more information, refer to the *Business Reporter User Guide*.

Support for ring groups

Members of ring groups can now be reported on and viewed in real-time.

In Version 7.1, voice queue reports apply to both ACD paths and ring group configurations (when applicable). For more information regarding ring group reporting, see the reports guide that applies to your contact center edition (Enterprise, Business, Workgroup, or Business Reporter).

Ring group members can be monitored in all Contact Center Client queue monitors, except the Agent State by Time for Queue monitor. Interactive Visual Queue does not support ring groups. For more information regarding ring group real-time monitoring, see the Real-time Monitors chapter in this guide.

Ring group support requires MCD 7.0+.

For information regarding ring group configuration, see "Adding ring groups" on page 147. MadCap Software

Ignite enhancements

Version 7.1 includes several enhancements to Ignite, including the following.

For more information regarding updated Ignite features, see the *Multimedia Contact Center Installation and Deployment Guide*. and "MiCollab and Ignite integration" on page 467.

- **Ability to send outbound emails**

Outbound emails can be sent from email queues in Ignite using the New Email button. In-progress outbound emails are stored in the Drafts folder. Queue signatures are automatically inserted into outbound emails if configured for the queue. Preferred agent routing is supported to enable ongoing conversations between agents and email recipients.

- **Ignite profile settings**

Selecting options within the new General Settings tab in Ignite dictates how Ignite displays and behaves on startup, when the inbox is emptied, and in conjunction with MiCollab Client. For example, if you primarily focus on voice contacts, you can set Ignite to show only the Sidebar and, when a multimedia item is accepted, the main Ignite window will also open allowing full access to email and chat processing application areas.

- **Additional Ignite Sidebar functionality**

Options have been added to the Ignite Sidebar that enable agents to set Account Codes and Classification Codes (supported for voice contacts only), remove Work Timer, set Ignite profile options, and view handling statistics by media type using only the Sidebar. This optimizes desktop real estate when agents are handling voice-only items in conjunction with MiCollab Client desktop.

- **Licensing updates that increase access to Ignite**

Availability of Ignite has been expanded to include:

- Contact Center Workgroup Edition Standard employees
- Contact Center Business Edition Desktop agents
- Contact Center Enterprise Edition Standard, Advanced, and Premium agents (pre-7.1, only Premium agents gave access to Ignite)

- **Support for email signatures**

Custom email signatures can be created and applied on a queue by queue basis, providing uniform and consistent customer responses. Signatures can be applied to email queues and automatically inserted into agent email responses or, if permitted, agents can create and use personalized signatures.

- **Email requeue behavior**

You can now specify, by queue, whether emails in employees' inboxes requeue automatically on employee logout or remain in the inbox for a designated duration after employee logout.

- **Security settings**

Security setting options have been expanded to include the ability to prevent employees from picking contacts out of queue, transferring contacts from queues to their inbox, and designating contacts as Junk.

- **Agent group presence control**

Agents can now choose to be present in all groups or absent from all groups with a single click by selecting 'Select All' or 'Clear All' agent groups.

- **Changes to Ignite folder structure**

The following folders have been added to Ignite:

- **Drafts** - contains in-progress emails
- **My History** - contains historical email and chat contacts
- **Processed** – a queue level folder that contains in-progress and historical email and chat contacts by queue for agents associated to that queue. Emails and chats there were not able to route are also contained here
- **In Progress** – provides supervisors with a view of all email and chat contacts currently in agent inboxes
- **Outbox** – contains outbound emails and agent email replies in the process of being sent. If send attempts exceed the default limit of five, the contact's media icon flashes and displays in red

The following folder has been updated:

- **Queue Folder** – the Queue Folder view displays agent availability, number of contacts in queue, longest wait time, and service level for each Unified Queue, Reporting Queue, and Individual Queue for which an employee's agent group answers contacts.

- **Improved Ignite search ability**

Supervisors and agents, depending on licensing level, can now more readily locate specific items in Ignite's folders using search filters.

- **Rerouting failed emails**

Emails that fail to route are stored in Ignite's Failed folders. Clicking the Reroute button removes emails from these folders and transfers them back to the queue. Alternatively, agents can choose to forward emails from this folder or mark them as Junk.

- **Chat transcript actions**

Agents can forward chat transcripts to multiple parties as an email (with additional recipients copied and blind-copied if needed). If chat transcripts route to the Failed folder in Ignite, agents can remove them by designating them as Junk.

- **Enhancements to chat request page customization**

There is now a greater range of customization choices available for the CCMWa/Chat chat request form and the individual chat queue request forms. Using a new JavaScript file, you can:

- Control chat request form customizations on a queue by queue basis
- Add a corporate logo and customize its placement on the chat request form
- Change the background color and whether it displays as a solid color or gradient
- Show or hide the Estimated Wait Time statistic
- Show or hide the topic field on the chat request form
- Provide a label for the queue that displays both on the chat request form and the browser title bar

Support for non-empty Namespace IMAP providers

Multimedia Contact Center now supports integration with IMAP providers that use non-empty Namespace. Non-empty Namespace support has been tested with BlueHost.

For more information, see the *Multimedia Contact Center Installation and Deployment Guide*.

IBM Domino mail server support

Multimedia Contact Center now supports IBM Domino Version 9.0.1 or greater as a mail server.

See the following KB article for more information:

<http://micc.mitel.com/kb/KnowledgebaseArticle52166.aspx>

Enhancements to Silent Monitor

Contact Center Solutions Version 7.1 leverages MCD 7.0 and MCD 7.0.1 capabilities to improve silent monitoring. For example, in conjunction with MCD 7.0/7.0.1, up to six supervisors can monitor the same agent across all call states. Also, supervisors can access Class of Service controlled monitoring of non-prime lines and can start monitoring an agent or extension before they handle a call. When the call starts, silent monitoring begins automatically.

For more information, see "Silent monitoring calls" on page 453.

Addition of Whisper Coach ability

Whisper Coach is a feature of Silent Monitor, enabling supervisors to talk to the agent and coach them throughout the call without the customer hearing what the supervisor is saying. If needed, supervisors can conference into an active call to talk to the customer.

Whisper Coach requires either MCD 7.0+ on a MiVoice Business for ISS platform, a Multi Instance Platform, or VMWare for Virtual Appliance. Whisper Coach is not supported on Mxe platforms.

For more information, see "Coaching agents and extensions on a call with customers" on page 454.

IVR support for PCI compliancy

An IVR Routing workflow for PCI compliant systems is now available. This workflow supports the security protocols and feature capabilities that can enable organizations to comply with PCI DSS.

For more information, see "Workflow for PCI Compliant systems" on page 652.

Inter-Tel database import tool

The Inter-Tel database import tool enables customers with historical CSM data (collected using either a 5000 or 3300 media server) to convert their data when migrating to Contact Center Solutions Business, Workgroup, or Enterprise Edition. The import tool is designed to process data from either Access or DB2 databases.

For more information, see the *Contact Center Management Installation Guide*.

Updates to Interactive Visual Queue

The following changes have been made to Interactive Visual Queue:

- Supervisors monitoring queues in Interactive Visual Queue can preview the contacts of queued email and chat contacts. Previewed emails display in a window that shows the contents of the email. Supervisors can preview embedded files in the email and download attachments, such as images and e-signatures, but they cannot edit previewed emails or preview emails that are in an agent's inbox. Only one email can be previewed at a time. Previewed chats show the content of the chat session. Supervisors can open links in the previewed chat session but they cannot view embedded media or participate in the chat. Only one chat can be previewed at a time.
- In the Queued media grid, supervisors can redirect multimedia contacts between queues or directly to agents who are available or in Make Busy/Overloaded states. They can also redirect email contacts to specific email addresses.
- The Interactive Visual Queue monitor can now be sorted by column.

Enhanced queue routing using IVR Routing

Quick configuration shortcuts can be used with IVR Routing to minimize the MCD programming required to simulate resilient queues. In YourSite Explorer, administrators can copy and paste and use write back to retain the properties of the original queue and configure a duplicate queue on an alternate MCD in the cluster. Then they can multi-select the duplicate queues and create a virtual queue group. These virtual queue groups can be referenced by the IVR during routing or in queue conditions. When routing to a virtual queue group, if the primary PBX is offline, then the IVR will transfer the call to the secondary PBX.

For more information, see "Duplicating devices in YourSite Explorer" on page 77, "Adding Virtual queue groups" on page 156, and "Configuring options and adding devices to Transfer activities" on page 623

You can also refer to the article located here:

<http://micc.mitel.com/kb/KnowledgebaseArticle52215.aspx>

Lifecycle report filtering

Lifecycle reports now include Classification Codes.

Licensing changes

In Contact Center Solutions Version 7.1, licensing components have been added to enable:

- Workgroup Edition
- MiCollab and Ignite integration

Additional changes to licensing for Version 7.1 include the following:

- Business Reporter is now included in all starter pack levels for all contact center editions.
- Previously, Call Accounting reports could be run against an unlimited number of non-ACD extensions, however, in Version 7.1, a Business Reporter (previously Call Accounting) license must be applied to each extension that will be viewed in real time or reported on.
- Business Reporter now includes support for ring groups and, although it continues to include call costing capabilities, they are no longer its primary focus. The call costing features included in Business Reporter are supported in the following areas only: North America, Latin America, United Kingdom, and the Benelux regions. Other regions can access Business Reporter for its general business features and functionality.
- The OAISYS Call Recording Connector is now included in the following starter packs: Contact Center Workgroup Edition, Contact Center Business Edition base package, and Contact Center Enterprise Edition Standard, Advanced, and Premium packages. The OAISYS Call Recording Connector is not included in Business Reporter or the Contact Center Enterprise Edition Basic package (however it is available as an option for this package level).
- Ignite is now available to more licensing levels, including Contact Center Business Edition Desktop Agents (if Multimedia Contact Center is not owned, Desktop Agents will have access to Ignite for voice contacts only), Workgroup Edition Standard Employees, and Contact Center Enterprise Edition Standard, Advanced, and Premium level agents.
- The number of System Administrators included in contact center edition starter packs has been aligned. All starter packs now include two System Administrators. Contact Center Business Edition includes two Desktop Supervisors.

Licensing is described in detail in the *Contact Center Solutions and Business Reporter System Engineering Guide*.

Technology changes

The following technology changes have been introduced in Version 7.1.

Support for:

- MCD 7.0 and MCD 7.0.1 (some features included in Contact Center Solutions Version 7.1 require at least MCD 7.0)
- SQL Server 2014

Support for the following technologies has been discontinued in Version 7.1:

- Intelligent Queue (used as a historical media server only)
- MCD Versions 4.0 SP4, 5.0 SP2
- VMware ESXi Versions 4.5 and 5.0

CONTACT CENTER ENTERPRISE EDITION, BUSINESS EDITION, AND WORKGROUP EDITION

The Contact Center Solutions portfolio comprises Contact Center Enterprise Edition, Contact Center Business Edition, and Contact Center Workgroup Edition.

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

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

Workgroup Edition is a competitively priced, entry level contact center solution for the MiVoice Business platform. General business reporting, contact center reporting, contact center real-time monitoring, client desktops, and advanced IVR Routing capabilities are included in a single starter pack with available options for customization. Workgroup Edition supports single and multi-node MiVoice Business environments. If your contact center needs increase in size or sophistication, you can seamlessly upgrade to either Contact Center Business or Enterprise Edition.

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

Contact Center Solutions includes the following applications, depending on your licensing level:

- Contact Center Management
- Contact Center Client
- Interactive Contact Center
- Interactive Visual Queue
- Contact Center PhoneSet Manager
- Contact Center Softphone
- Multimedia Contact Center
- Contact Center Screen Pop
- Flexible Reporting
- IVR Routing
- Salesforce.com Connector
- Workforce Scheduling
- Employee Portal
- Schedule Adherence
- Traffic Analysis
- Ignite
- MiCollab Client

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

LICENSING

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

To view details on your software license

- Click **Help=>About your Mitel applications**.

To view details on applications installed by Professional Services

- Click **Help=>About your Mitel applications=>Professional Services**

ABOUT THIS USER GUIDE

This user guide provides information on how to manage your contact center using the Contact Center Solutions applications. To make full use of Contact Center Solutions, you must have a working knowledge of the Microsoft Windows operating environment and Microsoft Excel 2007 or greater. The tutorials that accompany Microsoft Windows and Excel provide information on basic use.

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

Chapter 1 Contact Center Solutions

Chapter 1 describes

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

Chapter 2 Contact Center Concepts

Chapter 2 describes

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

Chapter 3 Contact Center Planning and Management

Chapter 3 provides information on how to plan and manage your contact center, including how to

- Establish a corporate Service Level objective
- Collect data.
- Forecast the Call Load.
- Calculate the resources required.
- Schedule agents.
- Determine contact center costs.

Chapter 4 Getting Started

Chapter 4 describes how to

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

Chapter 5 Services and Database Administration

Chapter 5 describes how to

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

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

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

Chapter 6 Configuration

Chapter 6 describes how to

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

Chapter 7 Real-time Monitors and device control

Chapter 7 describes how to

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

Chapter 8 Reports

Chapter 8 describes how to

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

Chapter 9 Forecasting

Chapter 9 describes how to

- Create forecasts
- Export forecasts to Excel

Chapter 10 Data-mining Tools

Chapter 10 describes how to

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

Chapter 11 Data Collection

Chapter 11 describes how to

- Verify media servers are receiving telephone system data

Chapter 12 Interactive Contact Center

Chapter 12 describes how to

- Control the availability of agents and ACD queues

Chapter 13 Interactive Visual Queue

Chapter 13 describes how to

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

Chapter 14 Contact Center PhoneSet Manager and Contact Center Softphone

Chapter 14 describes how to

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

Chapter 15 Contact Center Screen Pop

Chapter 15 describes how to

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

Chapter 16 MiCollab Client and Ignite integration

Chapter 16 describes how to

- Use MiCollab Client with Ignite for voice handling

Chapter 17 Flexible Reporting

Chapter 17 describes how to

- Design your own report templates and customize existing reports

Chapter 18 IVR Routing

Chapter 17 describes how to

- Install and configure IVR Routing

Chapter 19 Workforce Scheduling

Chapter 19 describes how to

- Schedule agents
- Measure employee adherence to schedules

Chapter 20 Traffic Analysis

Chapter 20 describes how to

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

Chapter 21 Contact Center Management Remote Servers

Chapter 21 describes how to

- Configure and deploy Remote Servers as part of your enterprise

Chapter 22 CTI Developer Toolkit

Chapter 22 describes

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

Chapter 23 Salesforce.com Connector

Chapter 23 describes how to

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

LOCATING THE LATEST VERSION OF OUR GUIDES

Mitel recommends you obtain the latest version of the *Mitel Contact Center Solutions User Guide* from <http://edocs.mitel.com>.

DOCUMENT CONVENTIONS

This document uses the following conventions.

UI syntax

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

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

For example,

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

Italics

Italic typeface is used

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

Bold

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

For example,

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

UI Menu items

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

Note

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

REQUIRED AND OPTIONAL SOFTWARE COMPONENTS

Contact Center Solutions applications have a number of required and optional applications you install on client computers. You can download these applications from Mitel Online under Support=>Software Downloads=>Contact Center Enterprise Edition or Contact Center Business Edition.

REQUIRED COMPONENTS

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

- Microsoft .NET Framework enables your computer to run applications created with .NET. All client computers must have supported versions of .NET Framework installed.
- Microsoft Internet Explorer updates your browser software to the latest version. All client computers require IE 8.0 or greater.
NOTE: If you use Internet Explorer 10 or 11, you must enable Compatibility View.
- Microsoft Report Viewer 2005 Redistributable Package includes Windows Forms and ASP.NET Web server controls for viewing reports designed using Microsoft reporting technology.
- Web Services Enhancements (WSE) 3.0 for Microsoft .NET is the Microsoft .NET Framework version 3.0 redistributable package that installs the common language runtime and associated files required to run applications developed to target the .NET Framework.
- Microsoft DirectX significantly enhances graphics, sound, music, and 3-D animation in Windows applications.

OPTIONAL COMPONENTS

You can install the following application on client computers.

- Adobe Reader enables you to view documents and reports in .pdf format. You require Acrobat Reader to view the online user guide, user tutorial, reporting guide, and reports
- Microsoft Excel 2007 or greater is required to both view Contact Center Solutions reports and automatically distribute reports for printing. Optionally, Microsoft Excel Viewer may be installed as an alternative to Microsoft Excel to view reports, but it cannot be used to automatically distribute reports for printing.
- Remote Server installs media servers and selected services on a computer other than the Enterprise Server. For more information on the services included with Remote Server installation, see the *Mitel Contact Center Management Installation Guide*.

CLIENT COMPONENT PACK

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

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

You can install the following software components.

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

Chapter 2

CONTACT CENTER CONCEPTS

Automatic Call Distribution (ACD)

Ring groups

Inbound call environment

CONTACT CENTER CONCEPTS

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

AUTOMATIC CALL DISTRIBUTION (ACD)

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

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

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

UNDERSTANDING ACD CALL FLOW

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

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

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

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

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

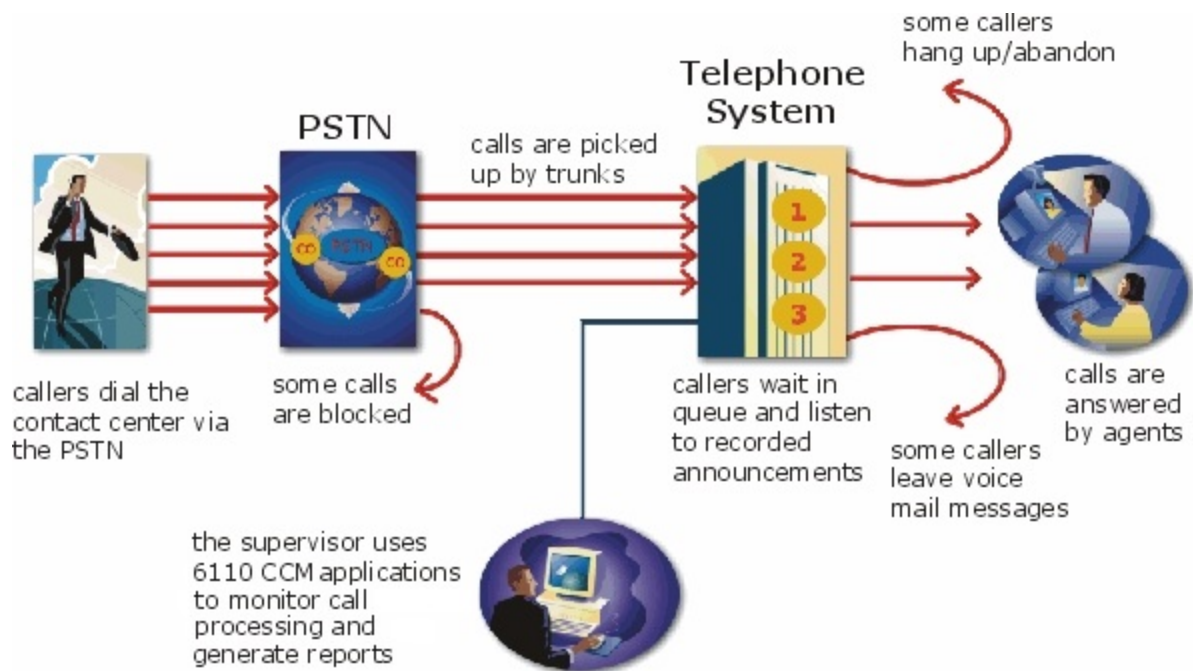


Figure 1: Call flow

Monitoring the call flow process

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

Ensuring traffic-carrying efficiency

To optimize traffic-carrying efficiency ensure

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

Scheduling to optimize call flow

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

Routing calls

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

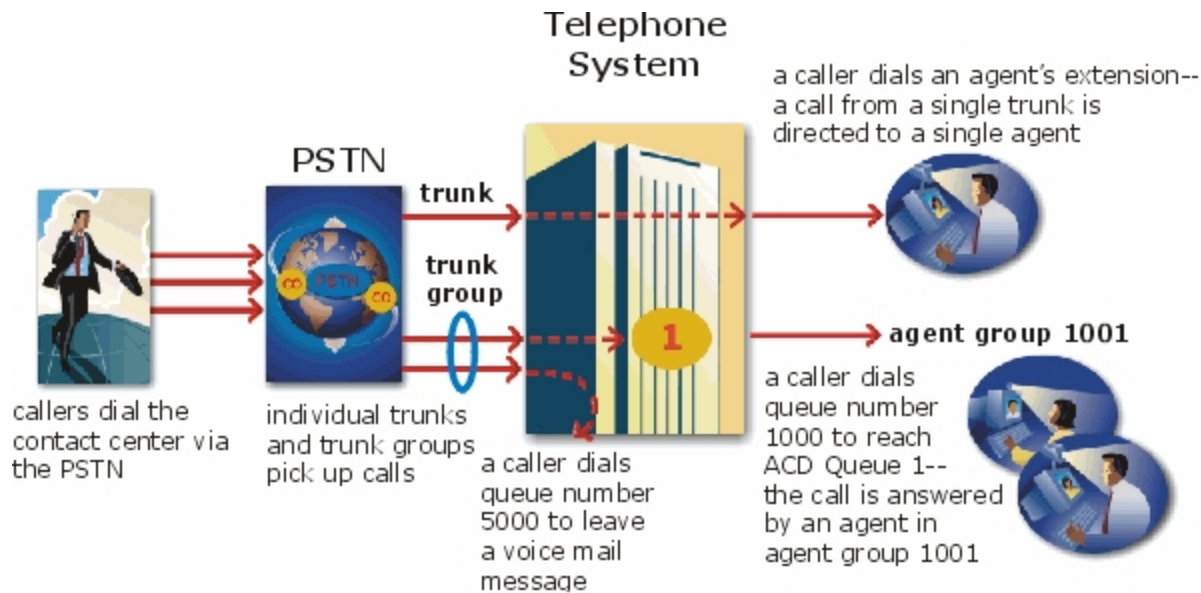


Figure 2: Call routing

Dialing an agent's extension

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

Dialing a queue

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

Overflowing calls

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

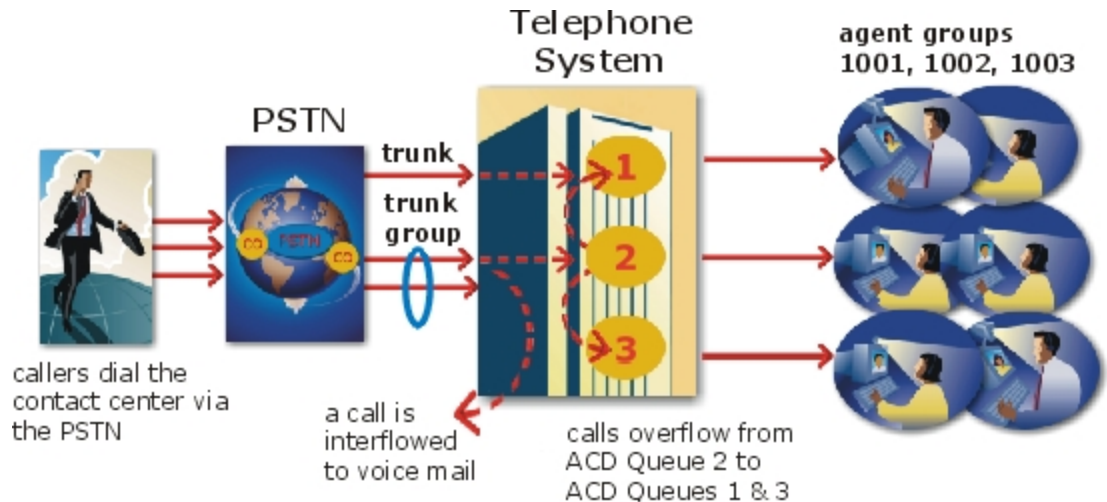


Figure 3: Multiple queue routing

Interflowing calls

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

RING GROUPS

Contact Center Solutions and Business Reporter support ring groups. Ring groups are a call distribution mechanism that offers an alternative to ACD for distributing calls in your business. While ACD is focused on rationing calls to pools of available agents, ring groups are configured to distribute calls to a pool of specific extensions. Users can configure ring groups within YourSite Explorer, monitor them in Contact Center Client, and report on them within CCMWeb.

When an incoming call rings the ring group, the member extensions configured in the ring group are rung until one extension answers. Ring groups can be programmed to offer calls to extensions using five different algorithms:

- **Ring All:** Rings all available extensions in the ring group simultaneously.
- **Terminal:** Starting from the first extension in the member list, rings the first available extension.
- **Terminal Cascade:** Starting from the first extension in the member list, rings the first available extension for the duration of the Cascade Ring Timer before calling the next available extension in the member list.

- **Circular:** Starting from the last member to handle a call, rings the next available extension in the members list
- **Circular Cascade:** Starting from the last member to handle a call, rings the next available extension in the member list for the duration of the Cascade Ring Time before calling the next available extension in the member list.

Ring groups enable a business to ensure that in settings where employees may not have a set physical location or mobile device, such as a warehouse or back office, calls can be effectively distributed to an answering extension. Calls to ring groups can be ACD or non-ACD in Contact Center Solutions real-time and reporting.

Incoming calls are handled differently than ACD path queues as well. If a call comes in, it will be queued if any one of the ring group's extensions are available. Available extensions are those that are:

- Idle
- Busy (ACD, Non ACD, or Out)

If the ring group's extensions are not available, the call is overflowed immediately (if an overflow point has been configured) or receives no answer. Extensions in the following states are not available:

- Do Not Disturb
- Out of Service
- Not Present
- Reseize Timer

For more information about extension states, see "Extension states" on page 211.

THE INBOUND CALL ENVIRONMENT

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

Predicting call arrivals

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

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

Understanding caller tolerance

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

- The immediacy of the caller's requirement
- The availability of similar products or services
- The caller's expectations for service

- The time available to make the call
- Whether or not the caller is paying for the call

Chapter 3

CONTACT CENTER PLANNING AND MANAGEMENT

Establish a corporate service objective

Collect data

Forecast the Call Load

Calculate the resources required

Schedule agents

Determine contact center costs

CONTACT CENTER PLANNING AND MANAGEMENT

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

Whether you are managing a start-up contact center or refining the performance of an existing operation, the process illustrated in Figure 4 applies. It is the basic framework for achieving and maintaining your service objectives.

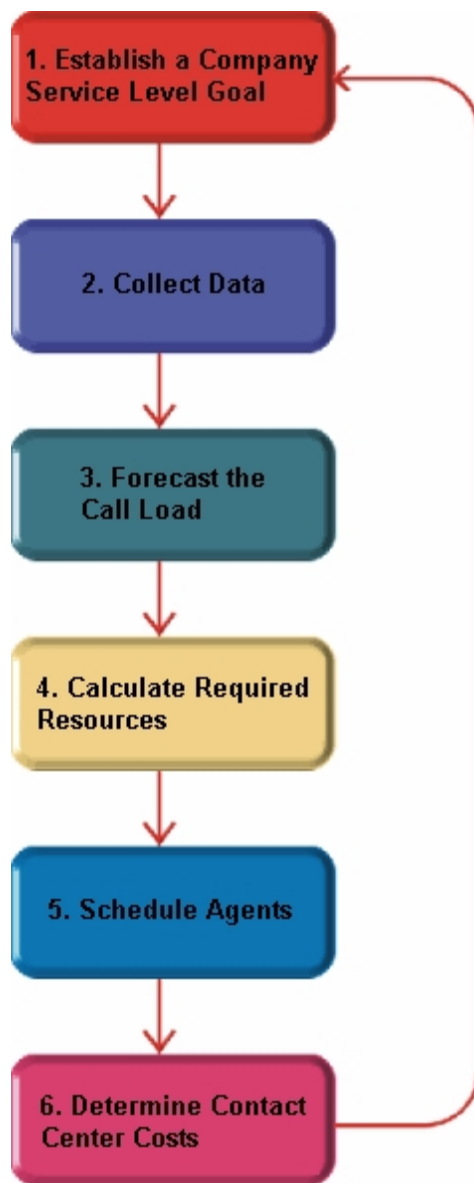


Figure 4: Planning cycle

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

STEP #1 ESTABLISH A CORPORATE SERVICE OBJECTIVE

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

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

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

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

UNDERSTANDING THE SERVICE LEVEL

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

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

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

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

For detailed information on Calls Offered, Calls Handled, Calls Abandoned, Calls Interflowed, and other Service Level parameters see "Choosing a Service Level goal" on page 28.

UNDERSTANDING WHY THE SERVICE LEVEL IS THE MOST MEANINGFUL STATISTIC

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

A *delayed call* is a call placed in the ACD queue because it cannot be answered immediately by an agent. The *probability of delay* statistic relates the number of agents or extensions to the level of traffic carried by the trunks and indicates the likelihood and amount of delay experienced. The GOS, probability of delay, and Quality of Service rendered by agents provide vital information about the callers' experience. (See Figure 5.)

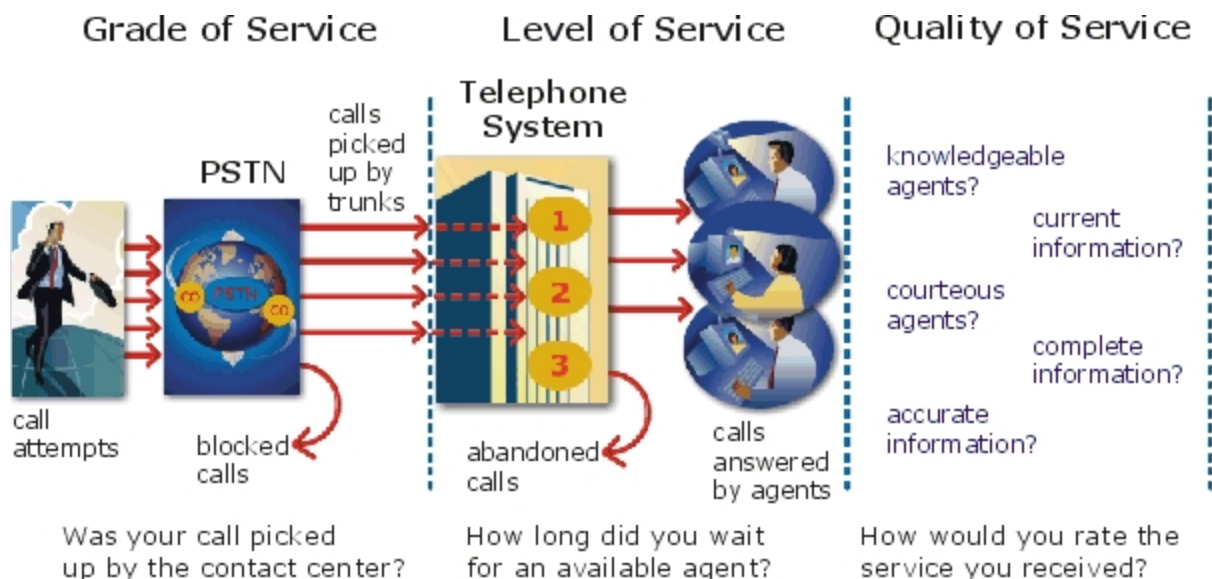


Figure 5: Service criteria

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

The following statistics are also meaningful contact center indicators:

ASA

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

Abandonment

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

CHOOSING A SERVICE LEVEL GOAL

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

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

An appropriate Service Level is one that

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

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

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

Is this acceptable service for you and for your callers?

UNDERSTANDING QUALITY OF SERVICE

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

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

MONITORING CALL HANDLING TECHNIQUES

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

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

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

You can use the information to

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

Defining scoring parameters

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

Setting performance standards and goals

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

Monitoring frequency

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

MONITORING SYSTEMS AND TOOLS

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

Silent monitoring systems

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

IT support systems

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

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

CTI

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

ANI

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

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

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

DNIS

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

AUTOMATING HELP DESK WORKFLOW

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

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

Automated help desk workflow systems track each step taken in answering a call, with automatic time stamping of all of the referrals, escalations, reminders, alerts, and email notifications. Calls are prioritized and referred to other departments without reassignment, reassigned (escalated) to other

technicians or specialized staff, and placed in an alert condition when they are not resolved promptly. Activities are date and time stamped automatically. Most help desks offer outgoing email notification and paging. Some help desks offer automated logging of incoming emails, and automated call acknowledgment emails to clients.

STEP #2 COLLECT DATA

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

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

COLLECTING DATA ON CALL HANDLING

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

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

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

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

Customer surveys provide valuable supporting information on callers' tolerance to delay, and expectations for service. They address some of the following questions: Was the agent accessible? Was the caller put on hold for too long? Was the agent courteous and responsive to my request? Was the agent well informed? Did the agent provide the correct information and keep commitments?

Contact centers use this information to estimate the repercussions of poor service: escalated costs, duplication of work, lost customers.

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

STEP #3 FORECAST THE CALL LOAD

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

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

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

FORECASTING ACCURATELY

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

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

CONDUCTING FORECASTS

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

To forecast the agent requirement, you

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

You may need to consider the following issues: hardware or software system changes, expected callers, advertising and media, changes to your products, services, or pricing, new products, product performance, competitors' actions, and international, national, and corporate events. It is vital to have a systematic forecasting process in place that all of the departments support. For detailed information on Call Load, ACD Handling time, Wrap Up Time parameters, see "Forecasting terms" on page 326.

STEP #4 CALCULATE THE RESOURCES REQUIRED

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

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

PREDICTING AGENT REQUIREMENTS

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

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

UNDERSTANDING ERLANG C

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

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

The industry standard Erlang C equation operates on these principals. Most contact center reporting packages use Erlang C. An Erlang measures telephone traffic, or the flow of calls and call attempts to your contact center during a given period. One Erlang equals one hour or $60 \times 60 = 3,600$ seconds

of telephone conversation. This could be one call lasting one hour, six calls lasting 10 minutes, or any combination of calls and call durations that equal 60 minutes. The Erlang formulas provide a mathematical basis for making predictions about randomly arriving workloads.

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

Limitations of Erlang C

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

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

Considerations when predicting resource requirements

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

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

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

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

PERFORMING 'WHAT-IF' SCENARIOS

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

UNDERSTANDING THE RELATIONSHIP BETWEEN AGENTS AND TRUNKS

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

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

Delay

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

Agent Load

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

Trunk Load

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

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

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

UNDERSTANDING ERLANG B

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

Predicting your trunk requirement involves

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

BHT

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

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

GOS

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

PREDICTING TRUNK REQUIREMENTS

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

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

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

Figure 6 illustrates the trunks required across a spectrum of GOS values. Whether you chose a GOS of 0.01, 0.05, or somewhere in between these values reflects how many calls per 100 call attempts you can afford to lose. In revenue-based contact centers minimal blocking and delay is a priority.

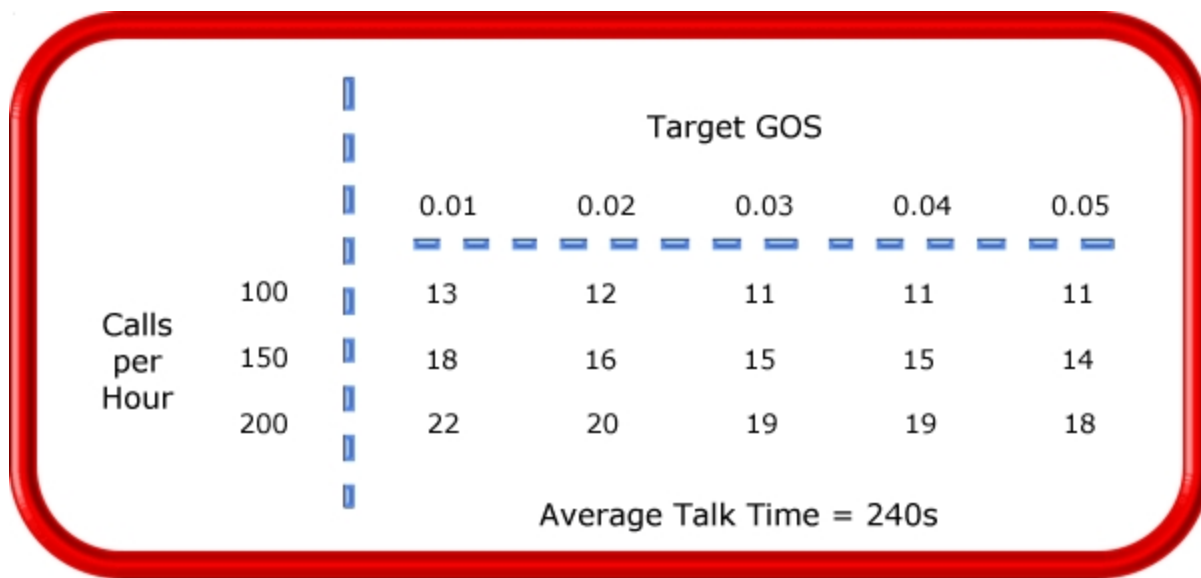


Figure 6: Estimating the trunk requirement

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

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

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

STEP #5 SCHEDULE AGENTS

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

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

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

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

UNDERSTANDING THE SHRINKAGE FACTOR

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

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

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

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

CALCULATING THE SHRINKAGE FACTOR

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

1. Determine the base staff forecasted by hour or half hour for the day.
2. Make a list of activities that prevent ACD agents from handling calls.
3. Add the base staff to the number of agents who are unavailable to handle calls because they are absent, on break, at an unanticipated meeting, etcetera.
4. Calculate the Shrinkage Factor for each time interval by dividing the scheduled staff by the base staff required to handle telephones.
The result is a set of Shrinkage Factors that represent the expected shrinkage by half hour.
See Figure 7.

	Base Staff Required on Phones	Break	Absent	Research & Unscheduled Non-ACD Work	Scheduled	Shrink Factor
13:00 - 13:30	50	12	5	4	71	1.1
13:30 - 14:00	54	0	5	7	66	1.22
14:00 - 14:30	48	8	5	3	64	1.33
$\text{Shrink Factor} = \frac{\text{Scheduled Staff}}{\text{On Phone Agents}}$						

Figure 7: Calculating the Shrinkage Factor

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

OPTIMIZING SCHEDULES

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

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

Scheduling split shifts

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

Staggering shifts

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

Staggering breaks

Making slight adjustments to the timing of morning, lunch, and afternoon breaks has a tremendous effect on call handling. The Erlang C equation predicts 28 agents can handle 300 calls, each lasting 280 seconds and delayed 20 seconds. (See Figure 8.)

Figure 8 illustrates that changing the availability by one agent decreases the average delay time by five seconds, and allows the contact center to handle 16 additional calls.

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

Figure 8: Staggering breaks to optimize call handling

Forecasting non-ACD work

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

Scheduling part-time agents and agents on call

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

ROUTING CALLS TO OPTIMIZE COVERAGE

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

Overflowing calls to less busy agent groups

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

Employing call-back messaging

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

Contracting calls to customer care bureaus

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

Employing ACD enterprise call routing

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

SCHEDULING CONSIDERATIONS

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

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

Measuring scheduling accuracy

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

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

Scheduling agents with workforce management tools

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

STEP #6 DETERMINE CONTACT CENTER COSTS

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

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

BREAKING DOWN EXPENSES

The costs associated with contact center operations include

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

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

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

ANTICIPATING GROWTH

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

Chapter 4

GETTING STARTED WITH CONTACT CENTER MANAGEMENT

Registering Contact Center Management

Setting up Contact Center Management on the Enterprise Server

Setting up Contact Center Management on client computers

Disabling the IE security warning

Providing Mitel Border Gateway functionality to remote employees

Setting up user preferences

GETTING STARTED

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

REGISTERING CONTACT CENTER MANAGEMENT

NOTE:

- If you have not registered your Contact Center Management software, seven days after you install it you will no longer be able to log on to Contact Center Management and will be required to contact Mitel to register the software. After you register your contact center Mitel emails permanent license files to you. You implement these license files on the Enterprise Server to activate your software.
- Registration information is processed during regular business hours only (Monday to Friday from 8:30 A.M. to 6:00 P.M. ET).

When you initially register your software with Mitel, for 90 days you receive

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

NOTE: When you purchase base products, 90 days of Software Assurance is included with the option of purchasing more. See the *Contact Center Solutions and Business Reporter System Engineering Guide* for more detailed Software Assurance information.

To register with Mitel

- Call Mitel at 1-800-722-1301 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific). The turnaround is immediate. (Recommended)
- Visit Mitel Online, click **Products=>Applications=>Mitel MiContact Center**. Under **Related Links**, click **MiContact Center Partner Portal**. Then click **Online tools=>Software Registration** and fill out the registration form. Click **Submit**.

ACTIVATING CONTACT CENTER MANAGEMENT

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

To activate the Contact Center Management software online

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

To activate the Contact Center Management software

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

Updating license files on the Enterprise Server

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

To implement new license files

1. On the Enterprise Server, start Windows Explorer.
2. Save the new license files in the following directory, **<drive>:\Program Files (x86) \prairieFyre Software Inc\CCM**.
3. Click **Yes** to overwrite the existing files.

SETTING UP CONTACT CENTER MANAGEMENT ON THE ENTERPRISE SERVER

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

SETTING UP CONTACT CENTER MANAGEMENT ON CLIENT COMPUTERS

NOTE:

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

To set up a client computer to use Contact Center Management on the client computer

1. Start Contact Center Management.
See "Starting Contact Center Management" on page 48.
2. Install Client Component Pack.
3. Use Client Role Selector to select your Contact Center Client role.

STARTING CONTACT CENTER MANAGEMENT

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

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

INSTALLING THE LATEST VERSION OF CLIENT COMPONENT PACK

NOTE:

- Microsoft .NET Framework 4.5 must be installed on your system before you install the Client Component Pack. If .NET Framework 4.5 is not installed on client machines and you are connected to the Internet, the installer will install .NET Framework 4.5. If you are not connected to the internet, you must install .NET Framework 4.5 on client machines manually. Note that Windows 8 includes .NET Framework 4.5
- The Microsoft Report Viewer 2010 Redistributable Package must be installed on all clients before you install the Client Component Pack. If Microsoft Report Viewer 2010 Redistributable Package is not installed on client machines and you are connected to the internet, the installer will install Microsoft Report Viewer 2010 Redistributable Package during the installation. If you are not connected to the internet, it must be installed manually. It can be downloaded from <http://www.microsoft.com/en-us/download/details.aspx?id=6442>.
- If you use Contact Center PhoneSet Manager or Contact Center Softphone, you must install Visual C++ Redist 2010 RTM on client machines. If connected to the internet, this will be installed automatically during the installation. You can download this application from Microsoft: <http://www.microsoft.com/en-ca/download/default.aspx>.

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

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

- VPN to the internal network and install the Contact Center Client, or
- Copy the Contact Center Client from the server to the client using a CD or USB key
- Use an administrative procedure to silently install Client Component Pack on remote desktops
See "Installing Client Component Pack using an administrative procedure" on page 49.

To install Client Component Pack on the client computer

1. On the client computer, start Internet Explorer and type **http://[your Enterprise Server IP address]/CCMWeb**.
2. If prompted, type your user name and password and click **Submit**.
3. Click **Help=>Software downloads/Installations**.
4. Click **Client Component Pack**.
The File Download - Security Warning window opens.
5. Click **Run**.
6. Click **Continue**.
The Mitel Contact Center Solutions Client Component Pack Self Extractor window opens.
7. Click **Accept** to install Microsoft Visual Studio 2010 Report Viewer.
8. Click **Install** to install Microsoft WSE 3.0 Runtime, CheckForEnterpriseServerInstall, prairieFyre-Enable .Net, and prairieFyre - Client System Requirements Check.
The Mitel Contact Center Solutions Client Component Pack - InstallShield Wizard opens.
9. Click **Next**.
10. After **Enterprise IP Address**, type the IP address of the Enterprise Server. Optionally, click **Test** to test the client computer connection to the Enterprise Server.
11. If your Enterprise uses SSL, select the **SSL** check box.
12. Click **Install**.
The program features you selected are installed.
13. Click **Finish**.
The Select role window opens. See "Using the Client Role Selector to select your Contact Center Client role" on page 51

INSTALLING CLIENT COMPONENT PACK USING AN ADMINISTRATIVE PROCEDURE

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

To install client software silently on remote desktops

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

Installing the prerequisite software

Before you install client software, you must install the prerequisite software. If client computers are connected to the Internet or run Windows 8, skip step 1.

To install the prerequisite software

1. If the client computer runs Windows 7 and is not connected to the Internet, install .NET Framework 4.5 on the machine.
2. On the Enterprise Server, start Internet Explorer and type the URL **http://[the Enterprise Server IP address]/CCMWeb/**.
3. Log in to CCMWeb and click **Help**.
4. Click on the **Software downloads/Installations tab**.
5. Click **Software Downloads**.
6. Download and run **Client Component Pack**.

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

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

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

Performing the MSI procedure for the administrative installation

NOTE: See "Installing the prerequisite software" on page 50 for a list of programs that must be installed on each computer before you install Client Component Pack.

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

To perform the MSI procedure for the silent installation

1. Open the command prompt window.
2. Open the folder where the msi file is located.
3. Type **MsiExec.exe /a**.
4. Press the spacebar.
5. Drag the msi file from the folder where it is located to the command prompt window.
6. Press the spacebar.
7. Type **SSLSTATUS=**.
8. If the Enterprise Server uses a secure socket layer, type **1**. If it does not, type **0**.
9. Press the spacebar.
10. Type **ENTERPRISEIPADDRESS=**.
11. Type the Enterprise Server IP address or DNS name.

12. Press **Enter**.
The InstallShield Wizard opens.
13. Follow the instructions of the Wizard.
14. Ensure the file is saved to a network drive.

Running the silent installation

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

To silently install Client Component Pack

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

USING THE CLIENT ROLE SELECTOR TO SELECT YOUR CONTACT CENTER CLIENT ROLE

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

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

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

NOTE: If you want to customize the client installation, select Power User. For example, if a supervisor also performs administrative functions, select the Power User role and choose the components and applications the supervisor will need.

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

Table 1: Client role installation

COMPONENTS/APPLICATIONS	SUPERVISOR	AGENT	ADMINISTRATOR	POWER USER
Ignite*	x	x		x
Contact Center Client		x	Optional	x
Flexible Reporting*	x			x
Contact Center Softphone*	x	x		x

Table 1: Client role installation (continued)

COMPONENTS/APPLICATIONS	SUPERVISOR	AGENT	ADMINISTRATOR	POWER USER
Mitel Border Gateway Connector*	x	x		x
Workforce Scheduling*	x			x
YourSite Explorer			x	x
Salesforce.com Connector*	x	x	x	x
Employee Portal*	x	x	x	x

*Ignite, Flexible Reporting, Contact Center Softphone, Mitel Border Gateway Connector, Salesforce.com Connector, Workforce Scheduling, Employee Portal, and Multimedia Contact Center are optional applications to Contact Center Management that you purchase separately depending on your license level. Some of these components are included in contact center starter packs. For more information, see the licensing section of the *Contact Center Solutions and Business Reporter System Engineering Guide*.

Running Client Role Selector

To run Client Role Selector:

1. If you are installing software on the client computer for the first time, go to step 2. Otherwise, open the **Client Role Selector**.
2. Click a client role.
3. Click **Next**.
4. Select the check boxes of the features to be installed.
 - Ignite
 - Contact Center Client
 - Flexible Reporting
 - Contact Center Softphone
 - Mitel Border Gateway Connector
 - Workforce Scheduling
 - YourSite Explorer
 - Salesforce Integration
 - Employee Portal
5. Click **Finish**.
After the wizard installs the features you selected, the Contact Center Client log on window opens.
6. Close the Contact Center Client log on window.

DISABLING THE IE SECURITY WARNING

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

To disable the IE security warning

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

PROVIDING MITEL BORDER GATEWAY FUNCTIONALITY TO REMOTE EMPLOYEES

The Mitel Border Gateway Connector replaces what was formerly called Teleworker support for Contact Center Solutions and Business Reporter software. Using Mitel Border Gateway Version 7.1 or greater, remote employees can connect to the Enterprise Server using a VPN-like connection, and use all Contact Center Solutions and Business Reporter applications as if they were in the office.

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

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

NOTE:

- The Mitel Border Gateway Connector supports Mitel Border Gateway V7.1 and V8.
- The following corporate firewall ports must be open in order to take advantage of the full features and functionality provided by the Mitel Border Gateway Connector: 80, 443, 1433, 5024, 5025, 5026, 5030, 7001, 7003, 8083, 8084, 36000-36004, 35001-35007, and 42440.
- You must disable IIS and SQL Server Reporting Service services as they consume port 80, which is required for the Mitel Border Gateway Connector. Any other applications or services that consume port 80 or 443 should also be disabled or shut down.
- You cannot use the Windows Authentication sign-in model for Contact Center Solutions and Business Reporter
- Ensure the Start button is enabled at all times on the Mitel Border Gateway web application user interface or the Mitel Border Gateway Connector will fail.
- You must be logged in as an administrator on a client computer in order to configure a connection to a Mitel Border Gateway. Once the connection has been made, any user on the computer can connect using the Mitel Border Gateway Connector.

SETTING UP PHONES FOR REMOTE AGENTS AND EMPLOYEES

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

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

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

1. Register your phones for use with Mitel Border Gateway V7.1 or V8.
2. Approve the Mitel Border Gateway V7.1 or V8 certificate.
3. Log in to client computers using an administrative account and set up the connection to the Mitel Border Gateway from the Mitel Border Gateway Connector.

REGISTERING PHONES FOR USE WITH MITEL BORDER GATEWAY

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

To register your phone with Mitel Border Gateway

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

APPROVING THE MITEL BORDER GATEWAY CERTIFICATE

The Mitel Border Gateway system administrator must approve the Mitel Border Gateway V7.1 or V8 certificate before agents and employees can use the Mitel Border Gateway Connector.

To approve the Mitel Border Gateway certificate

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

RUNNING THE MITEL BORDER GATEWAY CONNECTOR

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

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

To install and configure the Mitel Border Gateway Connector

1. If this is not the first time you have run the Mitel Border Gateway Connector, skip to step 9. Otherwise, consult your network administrator to confirm your soft phone extension number.
2. Ensure your headphone is connected.
3. Run Client Component Pack.
See the *Contact Center Management Installation Guide*.

4. If you are installing software on the client computer for the first time, go to step 5. Otherwise, open the **Client Role Selector**.
5. Click a client role.
 - Supervisor—The Supervisor role is for supervisors and managers who monitor devices, such as agents and queues, and schedule agents.
 - Agent—The Agent role is for agents who monitor themselves and/or other agents and queues.
 - Power user—The Power user role is for employees who may perform the functions of a supervisor, agent, and administrator.
6. Click **Next**.
7. Select **Mitel Border Gateway Connector** and all other options you need, such as Contact Center Softphone.
8. Click **Finish**.
9. In Windows, open the **Mitel Border Gateway Connector**.
Ensure you are logged in to the computer with administrative credentials.
10. Click **New**.
11. After **Name**, type a name for the connection to the Mitel Border Gateway.
12. After **IP address**, type the IP address of the Mitel Border Gateway.
13. After **MAC address**
 - If you have a desk phone, type the MAC address located on the sticker under your desk phone.
 - If you have a soft phone, click **Extension**, type your soft phone extension number, and click **OK**.
14. Click **OK**.
The connection to the Mitel Border Gateway you just created will display in the Mitel Border Gateway Connector list.

To run the Mitel Border Gateway Connector

1. Start the **Mitel Border Gateway Connector**.
2. Select a connection to a Mitel Border Gateway from the list.
3. Optionally, enable the **Connect automatically** checkbox.
Enabling this checkbox will automatically connect you to the configured Mitel Border Gateway when you launch the Mitel Border Gateway Connector.
4. Click **Connect**.
A message displays stating 'Waiting for certificate approval'. If the request is rejected, contact your system administrator to approve the certificate.

Once your certificate has been approved, you can begin using all Contact Center Solutions and Business Reporter applications remotely as if you were in the office. Any user configured with administrative credentials on the computer can change the Mitel Border Gateway connection settings and delete connections from the Mitel Border Gateway Connector at any time.

SETTING UP USER PREFERENCES

You can change your preferences at any time. They are found in CCMWeb (formerly known as the Contact Center Management website) under My options. From this menu, you can:

- Specify your language preference
- Change your password
- View your security role properties
- Configure email contacts

SPECIFYING YOUR LANGUAGE PREFERENCE

NOTE: Contact Center Solutions applications, such as YourSite Explorer and Contact Center Client, all leverage the language settings of the operating system in addition to the language preference set for Contact Center Solutions. Ensure that if you adjust the language settings of Contact Center Solutions, you also adjust the language settings of your operating system to match.

To specify your language preference

1. In CCMWeb, under **My options** tab, click **My preferences**.
2. After **Display this language**, select a language.
3. Click **Save**.

CHANGING YOUR PASSWORD

To change the password for your login

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

VIEWING SECURITY ROLE PROPERTIES

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

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

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

CONFIGURING EMAIL CONTACTS

You can create a list of email contacts and email contact groups to whom you email reports. Contact groups can contain both user-configured contacts from CCMWeb as well as all existing employees from YourSite Explorer.

NOTE: You must configure SMTP settings in YourSite Explorer before you can configure email contacts. See "Configuring SMTP connections to Contact Center Solutions" on page 83.

To create a contact group

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

Adding email contacts

To add an email contact

1. In the **My options** tab menu, click **My contacts=>My email contacts**.
Alternatively, click **My options**. In the **My contact** tab, click **My email contacts**.
2. Click **Add**.
3. After **First name**, type the first name of your contact.
4. After **Last name**, type the last name of your contact.
5. After **Email address**, type the email address of your contact.
6. To save this contact, click **Save**.
7. To save this contact and add another contact, click **Save & Add**.

Adding contact groups

To add a contact group

1. In the **My options** tab menu, click **My contact=>My email contact groups**.
Alternatively, click **My options**. In the **My contact** tab, click **My email contact groups**.
2. Click **Add**.
3. After **Name**, type the name of the contact group.
4. After **Description**, type the description of the contact group.
5. To share this contact group with other CCMWeb users, select **Shared Contact Group**.
A shared contact group can be viewed, used, and edited by other users.
6. To save this contact group, click **Save**.
7. To save this contact group and add another contact group, click **Save & Add**.

Adding email contacts to contact groups

To add an email contact to a contact group

1. In the **My options** tab menu, click **My contacts=>My email contact groups**.
Alternatively, click **My options**. In the **My contact** tab, click **My email contact groups**.
2. Click **Members** for the contact group with which you want to associate agents.
3. If you want to add members from your contacts configured in CCMWeb, click **Contacts**.
If you want to add members from the employees configured in YourSite Explorer, click **Employees**.
Both contacts and employees can be added to the same contact group.
4. Under **Available contacts**, select the check boxes of the members you want to add to the group and click **Add >>**.

Chapter 5

SERVICES AND DATABASE ADMINISTRATION

Backing up data

Management Console

SERVICES AND DATABASE ADMINISTRATION

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

BACKING UP DATA

We recommend backing up Enterprise Server data on a regular basis as a preventive measure in case of events that could cause loss of data and necessitate system restoration. The frequency of backups depends on how important the data is to your business. If losing one week of data is acceptable, then backing up once a week is sufficient. If losing more than one day of data is unacceptable, then a daily backup strategy should be implemented.

NOTE: We strongly recommend storing backup files in a location outside of the Enterprise Server in order to maintain essential data in the case of a hardware failure or catastrophic event. We recommend you back up the SQL server data files, YourSite Database configuration data files, and raw telephone system data files to an off-board media type (DVD, CD, tape, alternate network drive).

The data files contained in the following default folders should be backed up using your corporate backup solution. Suggested backup tools include Symantec Backup Exec and Microsoft System Center Data Protection Manager:

- **<drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\BackupFiles** - This folder contains the nightly .xml backups of configuration data and IVR Routing and Multimedia Contact Center workflows and prompts that are created during nightly maintenance.
- **<drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\DataDirectory** - This folder stores all raw telephone system data from the media servers. Using this data you can re-summarize your raw data to enable reporting. This folder also contains the Multimedia repository for all media, excluding voice.

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

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

BACKING UP .XML FILES

The maintenance routine automatically backs up an .xml file of the YourSite database every night. This backup file is stored in the directory: <drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\Backup Files. The maintenance routine keeps an .xml file for each of the last 30 days maintenance ran.

To back up or restore the .xml files

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

BACKING UP RAW TELEPHONE SYSTEM DATA FILES

To back up raw telephone system data files

1. On the Enterprise Server, right-click **Start=>Explore**.
2. Copy the <drive>:\Program Files (x86)\prairiefire software inc\CCM\DataDirectory folder to the desktop, a network share, or optionally store it on a CD.

BACKING UP ENTERPRISE SERVER CONFIGURATION DATA

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

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

NOTE: As a security measure, if backed up data is restored on an Enterprise Server with a different IP address than the Enterprise Server it was backed up on, all mail server incoming and outgoing usernames and passwords will be blank in YourSite Explorer. Administrators must manually re-enter mail server incoming and outgoing usernames and passwords.

To back up or restore the YourSite database

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

For any additional information contact Mitel technical support at 1-800-722-1301 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).

BACKING UP SQL SERVER DATA FILES

You back up SQL Server data files to ensure you can replace corrupted or lost data as a result of media problems, user errors, hardware failures, and natural disasters. Please review Microsoft procedure for creating a recovery model that controls the backup and restores operations for a database.

Understanding SQL Server recovery models

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

1. Simple
2. Full
3. Bulk logged

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

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

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

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

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

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

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

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

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

Frequency and scope of configuration changes may be a suitable indicator in determining which recovery model to use. If configuration changes are infrequent and point-in-time recovery is not critical, the Simple recovery model may be sufficient. However, when using the Simple recovery

model, we highly recommend that SQL Server backups are performed after any significant configuration changes have been made to the database.

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

MANAGEMENT CONSOLE

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

Management Console consists of the following menus:

- Configuration
- Maintenance
- Support
- System

OPENING MANAGEMENT CONSOLE

You open Management Console in Contact Center Client. The Console is available to users whose security permissions permit them to use Management Console. See Figure 9 for the options available in Management Console.

To open Management Console

1. Open **Contact Center Client**.
2. If prompted, type your user name and password.
3. Verify the Enterprise Server IP address.
4. Click **Log on**.
5. In the ribbon, click **Tools=>Management**.
6. Access the Configuration, Maintenance, Support, and System options by clicking on the applicable icon in the Console.

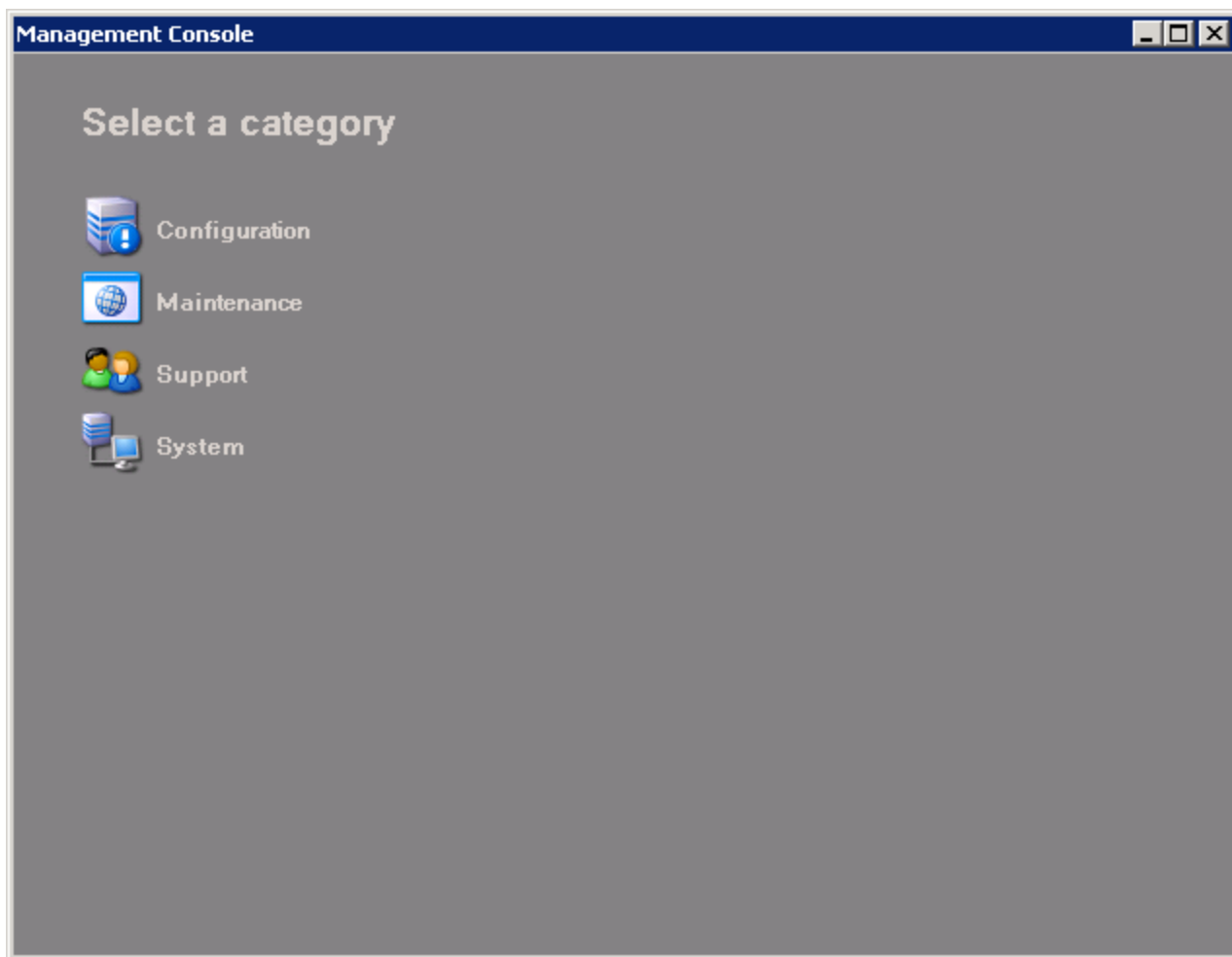


Figure 9: Management Console

CONFIGURATION

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

Updating server IP addresses

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

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

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

MAINTENANCE

Using the Maintenance menu, you can

- Run the maintenance routine
- Summarize data

Running the maintenance routine immediately

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

To run the maintenance routine

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

Summarizing data

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

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

NOTE:

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

To summarize data

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

SUPPORT

Using the Support menu, you can

- Create an Enterprise Server support package
- View contact information

Creating an Enterprise Server support package

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

To create an Enterprise Server support package

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

Viewing contact information

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

To view contact information

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

SYSTEM

Using the System menu, you can

- Control services
- Convert data files

Controlling services

Services Manager controls all Contact Center Management services and mandatory system services. A complete list of these services displays in the Services Manager.

To control services

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

Converting data files

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

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

Converting Inter-Tel data

The Inter-Tel database import tool enables customers with historical CSM data (collected using either a 5000 or 3300 media server) to convert their data when migrating to Contact Center Solutions Business, Workgroup, or Enterprise Edition. The import tool is designed to process data from either Access or DB2 databases. Telephone system information, such as agents and extensions will be imported and all historic records will be converted into ACD and SMDR files. A historical media server will be created, allowing you to retain data for reporting purposes.

Historical media servers enable

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

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

NOTE:

- If the CSM server that houses the DB2 database is offline or not accessible through the network, you must install and configure a DB2 Server on the host machine. After installing the DB2 Server, restore the DB2 databases onto this server. You will access the databases here using the import tool.
- For Access databases, the import tool requires the following files: System.mdw, config.mdb, and one or any combination of the following: Ha<MMYYYY>.mdb, Hc<MMYYYY>.mdb, Haday.mdb, Hcday.mdb, Hamonth.mdb, Hcmonth.mdb. For Version 4.11 or earlier, select cvgwcfg.mdb instead of config.mdb.
- You should run, save, and store a copy of your CSM reports before decommissioning your CSM server.
- Hunt groups and extensions in CSM convert into paths, agent groups, and agents when migrating to Contact Center Solutions.

To convert Inter-Tel data

1. Open the Inter-Tel Import Tool, which is found in the <InstallDir>CCM/Applications folder.
2. **Under Database Source**, select either **Microsoft Access** or **DB2**.
3. If DB2 is selected, in the **CSM Databases** text field, type the IP address of the machine where the DB2 database resides and the name of the DB2 database using the following format: <IP Address><Database Name>, and enter the login credentials of a DB2 Administrator on the host machine.
4. If Microsoft Access is selected, after **CSM Databases**, click **Browse** and browse to the location of the files to import/convert.
5. Click **OK**.
6. After **Start Date**, select the start date for the data you want to import.
7. After **End Date**, select the end date for the data you want to import.
The Detected Inter-Tel Version will update based on the version you are running.
8. If you want to retain historic Inter-Tel data for reporting purposes, ensure the **Create historic media server** check box is selected.
This option is selected by default. The files will be imported into <installation drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\DataDirectory. You can optionally choose to import the files to an alternate location, and not create a historical media server, by selecting the Target for Import check box. See step 11.
9. If you have multiple, interconnected 5000 media servers that are configured through a CT Gateway, select the **Synchronized system uses CT Gateway** check box.
NOTE: if the Create historic media server check box is enabled, the Synchronized system uses CT Gateway option will be disabled.
10. If you want to summarize the data immediately after the conversion, select the **Summarize on completion** check box.
This option is selected by default.

11. Optionally, to generate data files without creating a media server in the database, beside the **Target for Import** field, click **Browse**, and select a location to which you want to import the data.
The Target for Import option is not available if you selected the Create historic media server check box.
12. Click **Import**.

Chapter 6

CONFIGURATION

YourSite database application areas

YourSite Explorer

Enterprise setup

Adding media servers

YourSite database configuration

Configuring employee scheduling preferences

Configuring scheduling options

Business hour schedules

Monitoring and alarming subsystem

Validating YourSite Explorer configuration

Security roles

Configuring Work Timer

CONFIGURATION

The following section focuses on configuration for voice contact centers. For detailed information on configuring Multimedia Contact Center devices, see the *Multimedia Contact Center Installation and Deployment Guide*.

You configure Contact Center Management in the following order.

1. In YourSite Explorer, under Enterprise, set up your Enterprise structure by specifying Enterprise settings, adding sites, and adding media servers to the sites.
See "Configuring enterprise settings" on page 80, "Adding sites" on page 82, and "Adding media servers" on page 84.
2. In YourSite Explorer, under Devices, configure the YourSite database to mirror the information on your telephone system. Add devices in the following order:
 - Add employees. Configure their general settings and licensing attributes and select the media types they will handle. When you select a media type, an agent of that media type is automatically created and associated to the employee.
 - Add agent groups and associate employees to those groups.
 - Add queues and associate agent groups to those queues.
If you intend to run reports on employee groups, queue groups, teams, extensions, extension groups, trunks, trunk groups, DNIS numbers, Account Codes, ANI, Make Busy and Do Not Disturb Reason Codes, or phone numbers, you must add these devices and device groups as well.
3. In YourSite Explorer=>Schedules, create schedules that specify the business hours of your operation that will be used for media servers, queues, alarms, WallBoarder sign plans, and Interactive Contact Center Queue control.
See "Creating and modifying schedules" on page 176.
4. In YourSite Explorer=>Alarms, specify alarm settings.
See "Monitoring and alarming subsystem" on page 178.
5. In YourSite Explorer=>Security, restrict user access to specific devices and Contact Center Solutions application areas.
See "Security roles" on page 189.

YOURSITE DATABASE APPLICATION AREAS

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

- **Enterprise**
Enterprise settings and sites and 3300 ICP and Multimedia Contact Center media servers are configured in YourSite Explorer.
See "Enterprise setup" on page 79.
- **Configuration**
You set up the YourSite database to mirror the information on your telephone systems.
See "YourSite database configuration" on page 98.

- **Schedules**

You create schedules and apply them to media servers, queues, alarms, and wall signs.

See "Business hour schedules" on page 175.

- **Security**

You allow or restrict user access to specific areas of the Contact Center Solutions software using security lists and security roles.

See "Security roles" on page 189.

YOURSITE EXPLORER

YourSite Explorer streamlines configuration by providing a single interface for all device configuration in your contact center. You can multi-select devices and change their attributes in one step, view group membership in the same window as the selected device, and view multiple device windows simultaneously and tab between them.

NOTE:

- Only one set of pending configuration changes can be saved at any time. If another user saves changes to the same element of YourSite Explorer that you are updating, you receive an error message when attempting to save your changes. In these instances you must refresh YourSite Explorer after the other user's changes have been saved. You may then re-enter and save your changes. We recommend you save your configuration changes frequently, in order to avoid losing work.
- YourSite Explorer enables you to have multiple device tabs open simultaneously. However, as a best practice, we recommend you only have the device tabs open that you are currently using.
- We recommend you avoid modifying large data sets from within YourSite Explorer as performance levels will be negatively affected. As a best practice, all large dataset modifications should be made on the telephone switch directly and synchronized back to Contact Center Management. If you prefer to perform modifications inside YourSite Explorer, we recommend you partition the changes into smaller chunks of data.

STARTING YOURSITE EXPLORER

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

To start YourSite Explorer

1. Open **YourSite Explorer**.
2. If prompted, type your **Username** and **Password** and verify the **Enterprise Server** IP address.
3. If you use Secure Socket Layer, select the **SSL** check box.
4. Optionally, select the **Remember my credentials** check box.
5. Click **Log in**.

YourSite Explorer Start Page

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

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

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

Configuring the YourSite Explorer Start Page

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

To prevent the Start Page from opening automatically

1. Start **YourSite Explorer**.
2. On the **Start Page**, clear the **Show page on startup** checkbox.

To configure whether the Start Page opens in the View tab

1. Click **YourSite=>View**.
2. To load the Start Page automatically on startup, select the **Show start page** check box.

Searching

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

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

YourSite Explorer can search several variables for devices. For example, for the following devices, the following variables can be searched

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

To search for a specific word or number

- Select a device, and, in the **Search** box, type the word or number.

Paging

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

To change the number of items viewed per page

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

Filtering

The filtering bar enables you to access records alphabetically and numerically.

To filter records alphabetically

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

To filter numerically

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

To reset filtering

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

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

Customizing the user interface

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

Minimizing aspects of the user interface

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

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

To hide the filter bar

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

To hide the page bar

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

To minimize the ribbon

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

Selecting the first record of each list

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

To select the first record of each list

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

Changing the order of the columns

You can reorder columns in either of two ways. You can drag a column heading to a different position on the table, or you can change column order using Column options. See "Changing column options" on page 77.

To drag column headings

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

Changing column options

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

To adjust column width

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

To hide a column

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

To change the order of columns

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

Duplicating devices in YourSite Explorer

Devices in YourSite Explorer can be copied and pasted to create duplicate devices for the configuration of a resilient contact center. A copied device has the same configuration as the original and any unique fields must be changed to new values before the copied device can be saved. Duplicated devices will duplicate the membership of the original, so that a duplicate queue, for example, would have the same agent group members as the original queue.

NOTE:

- Embedded RAD messages on 3300 media servers may not be copied as they need to be saved locally on that 3300 media server.
- YourSite Explorer does not support copying and pasting devices using CTRL+C and CTRL+V.

To duplicate a device in YourSite Explorer

1. Select a device or range of devices.
2. In the ribbon, click the **Home** tab.
3. Click **Copy**.
4. Click **Paste**.
5. For any copied device, put new values into fields that must be unique to a single device.
6. Click **Save**.

Alternatively, to duplicate a device in YourSite Explorer

1. Right-click on the device and select **Copy**.
2. Right-click and click **Paste**.
3. For any copied device, put new values into the fields that must be unique to a device.
4. Click **Save**.

Making multiple changes

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

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

You can make multiple changes to

- Employees
- Trunk groups
- DNIS

Changing the YourSite Explorer view

You can select from two window orientations: horizontal or vertical. The horizontal view displays information in a horizontal layout. The vertical view displays information in a vertical layout.

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

To select a particular view

1. On the ribbon, click **View**.
2. Click **YourSite**.
3. Select **Horizontal** or **Vertical**.

Submitting feedback

YourSite Explorer includes a feedback form for users to indicate areas of the application they like or dislike, highlight problems they experienced, or to provide suggestions for future YourSite Explorer development.

To submit YourSite Explorer Feedback

1. In the YourSite Explorer ribbon, click the **File** tab.
2. Click **Feedback**.
3. Select a category for your feedback.
4. Under **Comments**, enter your feedback.
5. If you want to provide your feedback a rating, click on the **star** buttons.
Clicking on the left side of a star gives a .5 of a star, while clicking on the right side of a star gives a full star.
6. If you want to clear the form, click **Reset**.
7. Click **Send**.

ENTERPRISE SETUP

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

To set up your enterprise structure

1. Specify enterprise settings.
2. Add a site.
3. Add media servers to the site.
See "Adding media servers" on page 84.

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

- **Enterprise**
The *enterprise* is all of the sites that comprise your company.
See Figure 10.
- **Site**
A *site* is an office location with one or more media servers. It can be the office where the Enterprise Server is installed or a branch office.
- **Media server**
The *media servers* are the means by which customers communicate with you. For example, if customers contact you by telephone only, and you have a 3300 ICP telephone system, then you would configure a 3300 ICP media server.

For example, you have a business called ABC Company. You have two offices. One office is in Salt Lake City and your head office is in Los Angeles. The Salt Lake City site has Contact Center Management software installed on the Enterprise Server. Both sites have the 3300 ICP telephone system and the Exchange Server installed. Your customers contact you at either site by telephone or email.

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

Enterprise

The *enterprise* is all of the contact center sites (office locations) that comprise your company. The enterprise consists of the site where the Contact Center Management server software is installed, and branch offices.

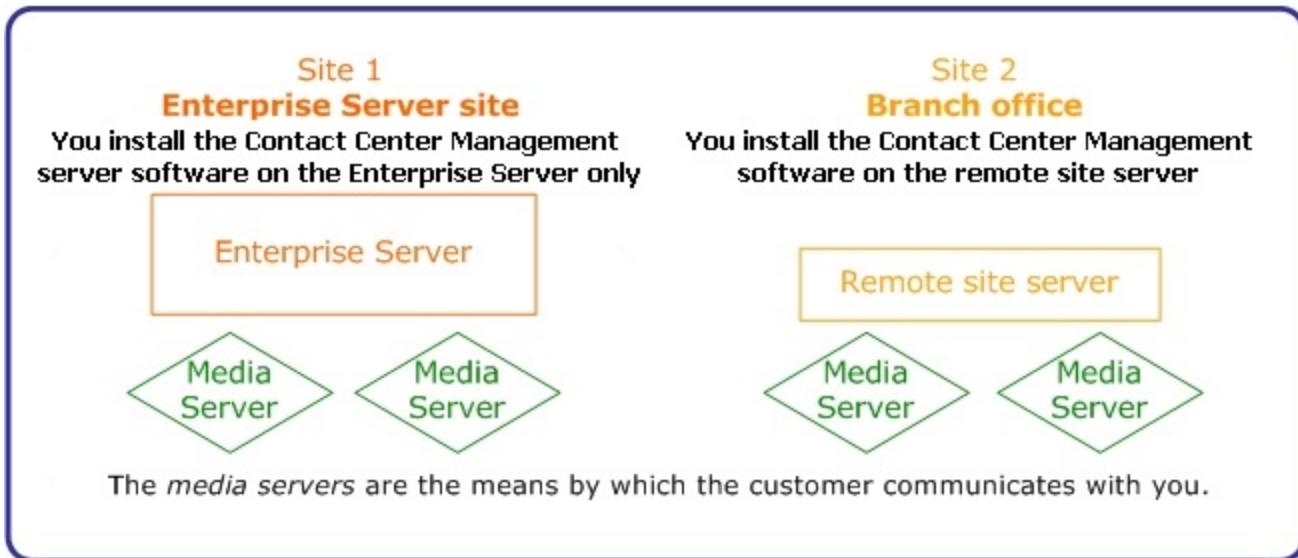


Figure 10: Enterprise structure

CONFIGURING ENTERPRISE SETTINGS

When programming the enterprise, you configure Enterprise Server general settings, global system language settings, some maintenance services, email settings for alarm notifications, as well as settings for Contact Center Screen Pop (see "Configuring Contact Center Screen Pop options" on page 459) and Multimedia Contact Center (see the relevant section in the *Multimedia Contact Center Installation and Deployment Guide*). The Enterprise Server is the computer on which Contact Center Management is installed.

Configuring the Enterprise Server settings

To configure the Enterprise Server settings

1. Click **YourSite=>Enterprise**.
2. In the Enterprise tab, type the **Name** of the Enterprise.
3. Verify the IP address/DNS name of the Enterprise Server. If the IP address is incorrect, after **IP address/DNS name**, type the IP address of the Enterprise Server.
NOTE: If you want to change the Enterprise IP address, use the Contact Center Client Update Server IP Wizard. See "Updating server IP addresses" on page 65.

4. After **Real-time port**, type the real-time port number.
The default real-time port is 5024.
The real-time port is used to communicate real-time events.
5. After **Auditor port**, type the Auditor port number.
The default Auditor port is 5025.
The Auditor port is used to run Auditor events.
6. After **MiTAI proxy server port**, type the MiTAI proxy server port number.
The default MiTAI proxy server port is 5026.
7. If you want Lifecycle reports, select the **Enable LifeCycle reports** check box.
8. If you use Secure Socket Layer, select the **This server uses Secure Socket Layer (SSL)** check box.
9. If you want to be notified when your warranty is about to expire, select the **Display warranty warning and expiration message** check box.
10. If you do not want client applications to be automatically updated, clear the **Auto update client applications** check box.
By default, client applications are updated automatically.
11. Click **Save**.

Changing the global system language

Administrators can control the default global language of their system using enterprise settings. During the installation of Contact Center Solutions, a default global system language is selected. This default language is applied to the alarming RSS feed and emails sent out by YourSite Explorer. Administrators can optionally change this default language post-installation, modifying the language of the alarming RSS feed and emails.

NOTE: Contact Center Solutions applications, such as YourSite Explorer and Contact Center Client, all leverage the language settings of the operating system in addition to the language preference set for Contact Center Solutions. Ensure that if you adjust the language settings of Contact Center Solutions, you also adjust the language settings of the operating system to match.

To change the global system language

1. Click **YourSite=>Enterprise**.
2. Click the **Enterprise** tab.
3. After **Language**, select the global system language from the drop-down menu.
4. Click **Save**.

Configuring enterprise maintenance functions

To configure enterprise maintenance functions

1. Click **YourSite=>Enterprise**.
2. Click the **Maintenance** tab.
3. After **Zip files older than**, select the number of days after which you want to zip data files.
4. After **Purge reports older than**, select the age after which reports will be discarded.
5. After **Delete maintenance logs older than**, select the age after which maintenance logs will be discarded.

6. After **Delete configuration backup files older than**, select the age after which configuration backup files will be discarded.
7. After **Time Maintenance Service runs**, select the time the maintenance service summarizes data.
The maintenance service is set to run at 2:00 A.M. by default. Select a time for the maintenance manager to run when your contact center is closed or is the least busy.
8. After **Purge Life cycle reports older than**, select the age after which Life cycle reports will be discarded.
9. Click **Save**.

Configuring email settings

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

To configure email settings

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

ADDING SITES

A site is an office location with one or more media servers. It can be the office where the Enterprise Server is installed or a branch office.

Your site structure determines how you view statistics and reports. When you set up your site structure, you specify site and media server information. When you add a site, you add the name of the site and the time zone. By making each site distinct, you can restrict user access to sites. For more information on restricting user access, see "Configuring security roles" on page 193. The site's language determines the default language setting for employees associated to it. Changing the site's language will change the language setting for employees associated to it.

Administrators can also restrict the site's use of Contact Center Client's Chat Integration, which enables employees to chat with each other in Contact Center Client. Prior to Version 7.0, there was an option to use Microsoft Lync as the default chat client instead of Contact Center Chat. In Version 7.0 and greater, YourSite Explorer automatically detects if you have Lync Server and enables it as the default chat client. If your contact center is a mixed environment where some users have Lync and others do not, you may want to use Contact Center Chat to ensure all employees can communicate. For information on using Contact Center Chat in an environment with Lync on some systems, see the following Mitel Knowledge Base article:
<http://micc.mitel.com/kb/KnowledgebaseArticle52084.aspx>

To add a site

1. Click **YourSite=>Site**.
2. Click **Add**.
3. After **Site Name**, type the name of the site.
4. After **Time Zone**, select the time zone and closest location from the drop-down list.
5. After **Site Language**, select the site language from the drop-down list.
6. To disable Contact Center Client Chat Integration, clear **Chat Enabled**.
7. Click **Save**.

ADDING MAIL SERVERS

To add a mail server

- Click **YourSite=>Mail servers=>Add**.

After adding the mail server, you must configure SMTP connections to Contact Center Solutions.

Configuring SMTP connections to Contact Center Solutions

The following configurations take place in **YourSite=>Mail servers=>Outgoing**.

Configuring an SMTP connection enables Contact Center Solutions to send outgoing mail through a contact center's email server. The following explains how to configure an SMTP connection between Contact Center Solutions and email servers. The outgoing settings you configure are applied to any email your system sends, such as server alarms and reports.

NOTE: The following procedures require information on your business' email server. Consult the appropriate server documentation to retrieve this information.

Configuring an SMTP connection requires you to

- Add the mail server to YourSite Explorer
If the mail server has not already been added, see "Adding mail servers" on page 83.
- Specify the server information for outgoing emails
- Specify the email account's 'From' name and address
- Optionally, request logon credentials to send outgoing mail
- Test the servers' SMTP socket connection to Contact Center Solutions
NOTE: To test the connection, you must have an email address configured for yourself in the Employees page. This email address receives notification of whether the test was successful.

To specify the server information for outgoing emails

1. After **SMTP Server**, type the server's IP address or name.
2. Select the **Use SSL** check box if the server uses Secure Sockets Layer.
3. After **SMTP Port**, type the server's SMTP port number.
NOTE: Google Apps for Business' port 465 is not supported.
4. After **Connection Timeout**, type how many seconds the system has to connect to the server before timing out.

To specify the email account's 'From' name and address

1. After **From Name**, type the name that appears on outgoing mail.
For example, 'XYZ Company Sales'.
2. After **From Email Address**, type the email address that appears on outgoing mail.
For example, 'xyzsales@email.com'.

To request logon credentials to send outgoing mail

1. Select the **SMTP Authentication Required** check box.
2. Enter the **Username**, **Password**, and **Domain** information for the server's email account.
3. Click **Save**.

To test the server's SMTP socket connection to Contact Center Solutions

- Click **Test Outgoing Mail**. If an error message is received, verify that the Outgoing Server, User, and Logon information is entered accurately. To troubleshoot, the default installation location for verbose logs is C:\Users\<current user>\Documents\CCMLogs\YourSiteExplorer.txt.

ADDING MEDIA SERVERS

NOTE: The SX-200, Axxess, and 5000 media servers are not supported with Version 7.1, except as historical media servers. When upgrading to Version 7.1, SX-200 media servers, along with their associated extensions, agents, agent groups, queues, trunks, and trunk groups, are set to historical. Axxess and 5000 media servers must be marked as historical before upgrading to Version 7.1 to retain historical data.

For information on adding email and chat media servers, see the *Multimedia Contact Center Installation and Deployment Guide*.

When you first install Contact Center Management, a 3300 ICP media server is added to YourSite Explorer by default. If you do not plan to use this server, we recommend you delete it to avoid receiving unnecessary alarms or error messages.

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

In CCMWeb, you can click Help=>About Your Mitel Applications to verify the types of media servers and the number of employees for which you are licensed. You can access the same information in the System Information tab in the YourSite Explorer Start Page.

Contact Center Management works with the following media server types:

3300 IP Communications Platform (ICP)

The 3300 ICP ACD system streams SMDR and ACD real-time data over TCP/IP.

See "Adding 3300 ICP media servers" on page 85.

Multimedia Contact Center Email

The Multimedia Contact Center Email routing engine dynamically allocates emails from customers to agents on their desktops. Email servers must support IMAP version 4 and maintain a reliable connection to the Enterprise Server. In addition, we recommend that the mail account from which Multimedia Contact Center retrieves emails supports aliases.

See the *Multimedia Contact Center Installation and Deployment Guide* for more information.

Multimedia Contact Center Chat

The Multimedia Contact Center Chat routing engine dynamically allocates live chat sessions over the Web from customers to agents on their desktops. The routing engine uses HTTP to communicate between customer and agent.

See the *Multimedia Contact Center Installation and Deployment Guide* for more information.

ADDING 3300 ICP MEDIA SERVERS

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

NOTE:

- As a best practice, we recommend you perform Full Synchronization after adding and configuring a media server in YourSite Explorer and before configuring telephone system settings for the media server. For more information on synchronization, see "Configuring the YourSite database using synchronization" on page 101. For information on performing synchronization, see "Performing synchronization" on page 105.
- If you are adding media servers as part of a new installation, we recommend you perform synchronization after all media servers have been added. For more information, see the *Contact Center Management Installation Guide*.

Prior to Version 7.0, media servers could be one of three types: Enterprise Node, which is a standard media server, Agent/extension gateways, which did not file queue data to SQL, and Queueing gateways, which did not file agent or extension data to SQL. As of Version 7.0 and greater, all media servers are Enterprise Node by default.

When upgrading to Version 7.1, agent and extension gateways and Queueing gateways are converted into Enterprise Nodes. Agent and Extension gateways will have queues created for them. Converted Queueing gateways will have employees, agents, and extensions created for them.

To add a 3300 ICP media server

1. In YourSite Explorer, click **YourSite=>Media servers**.
2. Click **Add=>3300 ICP**.
3. After **Name**, type the name of the media server.

NOTE:

- To distinguish between the various types of media for management and reporting purposes, you must name each media server distinctly when setting up your site.
- The Media server ID field will be populated with a unique number after the media server has been saved.

4. After **Site**, select the site where the media server resides.
5. After **Computer name**, select the computer where the server resides.
6. The field after **Telephone System Version** is read-only and is automatically populated after synchronizing with the telephone system. It describes the active software load version on the telephone system.
7. To be informed of media server alarms, select the **Enabled for alarms** check box.
NOTE: Selecting this check box will inform you of media server alarms via RSS and email. For more information, see "Monitoring and alarming subsystem" on page 178.
8. The **SDS Mode** check box is automatically selected, if applicable, after synchronizing with the telephone system.
NOTE: In a network or cluster of elements, the System Data Synchronization (SDS) feature keeps programming data, such as Interconnect Handling Restrictions, Feature Access Codes, and Class of Service Options, identical at each element.
9. If you have hot desking agents, select the **Uses hot desking agents** check box.
NOTE:
 - If this is selected, all created agents will be hot desking agents. You cannot mix hot desking and standard agents.
 - 'Uses hot desking agent' is enabled by default. It is recommended that Workgroup Edition only use hot desking agents.
10. Select **Licensed for Business Reporter** if you are applying for a Business Reporter license.
NOTE: This check box is selected by default when you add a 3300 ICP media server and have remaining Business Reporter media server licenses. If you are licensed for Contact Center Management and Business Reporter, you must select 'Licensed for Business Reporter' to have access to Business Reporter. If you are not licensed for a product, you will not be able to select the check box for that product.
11. If you want to designate the media server for historical reporting use only, click **Make historical**.
Making a media server historical terminates all active licenses for devices associated with that media server. Historical data is retained on the media server but no new data is collected.
12. After **IP address /DNS name**, specify the IP/DNS address of the media server.
13. After **Username**, type the username used to connect to the telephone system.
14. After **Password**, type the password used to connect to the telephone system.
15. After **Confirm password**, type the password used to connect to the telephone system.
16. Click the **Test Connection** button to test the connection between the media server and the Enterprise Server.
This connection is required to ensure Synchronization functionality.
17. Click **Save**.
18. Configure the location settings.
See "Configuring location settings for 3300 ICP media servers" on page 87.

Configuring location settings for 3300 ICP media servers

To configure location settings for a 3300 ICP media server

1. Click the **Location** tab.
2. After **Country**, click the **Browse** button and select the country where the media server is located.
3. After **Area**, click the **Browse** button and select the appropriate area code for the media server's location.
4. After **Minimum digits to dial locally**, specify the minimum number of digits required for a local external call.
NOTE: Digits less than the minimum are treated as internal calls.
5. After **Maximum digits to dial locally**, specify the maximum number of digits required for a local external call.
NOTE: Digits exceeding the maximum are treated as long distance external calls.
6. After **Outbound dialing prefix**, specify the number dialed to access an outside line.
7. Configure the data summary options for the 3300 ICP.
See "Configuring data summary options for 3300 ICP media servers" on page 87.

Configuring data summary options for 3300 ICP media servers

Contact centers operating over midnight should have 'This enterprise operates 24 hours a day' selected for the media server. This option provides more accurate reporting over midnight and determines when and how agent shifts are opened and closed after midnight.

If this option is selected, the system automatically closes and re-opens agent shifts at midnight. All agents remain logged into the system. Agent shift reporting is uninterrupted over this period.

If this option is not selected, the system closes agent shifts after the last agent event before midnight. The system re-opens agent shifts after the first agent events after midnight. All agents remain logged into the system. Agent shift reporting is not extended between the time agent shifts close and the time they re-open.

To configure data summary options for a 3300 ICP media server

1. Click the **Data summary options** tab.
2. If you want to use Trace reporting, select the **Inbound/Outbound/Make Busy Trace reporting** check box.
3. If your business operates over midnight, select **This enterprise operates 24 hours a day**.
NOTE: If you do not select this option, but have agents logged in to Contact Center Solutions applications overnight, you may experience difficulties with shift-related statistics, such as agent shift monitor and Make Busy Reason codes. For example, if agents are logged in to Contact Center Client overnight with a Make Busy Reason code, when you change the Make Busy Reason code the following day, Contact Center Client will display 'Unknown Make Busy code'. This can be remedied by logging out of the application and logging back in.
4. To track outbound calls that were not answered, select the **Credit unanswered outbound calls** check box.
5. If you want to display when calls ring at agents' extensions, select the **Monitor Agent Ringing state** check box.

6. After **Digits dialed prefix**, type the digits that must precede a telephone number to make an outbound call.
7. After **Digits dialed postfix**, type the digits that must follow a telephone number to make an outbound call.
8. After **Maximum MiTAI monitors**, specify the maximum number of MiTAI monitors.
9. Under **Agent state timeout audit**, after **Clear line if agent Hold Time exceeds**, specify the number of minutes or hours you are in a hold state before the telephone system clears the line.
10. After **Clear line if agent primary Talk Time exceeds**, select the number of minutes or hours an agent can be in a single state on the primary line (ACD line) before the system clears that line.
11. After **Clear line if agent secondary Talk Time exceeds**, specify the number of minutes or hours an agent can be in a single state on the secondary line (non-ACD) before the system clears that line.
12. After **Change the agent state from Ringing to Idle after**, specify the number of minutes or hours after which you want the agent state to change from Ringing to Idle.
13. If you do not want to report on the secondary line (non-ACD and outbound calls), select the **Ignore agent secondary line activity** check box.
14. Select the **Reset MKB/DND time in realtime after call ends** check box to enable the MKB/DND time to reset in real time when the call concludes.
15. Under **ACD Options**, to store ACD redundant events, select the **File all ACD stream redundant events** check box.
16. If you do not consider ACD real-time sequence errors as record errors, select the **Ignore ACD real-time sequence errors as record errors** check box.
17. Configure Data collection settings.
See "Configuring data collection settings for a 3300 ICP" on page 88.

Configuring data collection settings for a 3300 ICP

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

To configure data collection settings for a 3300 ICP media server

1. Click the **Data collection** tab.
2. If you do not use Enterprise Manager (OPS Manager), click **TCP**. Otherwise, skip to step 8.
3. After **SMDR**, type the SMDR port number of the media server.
4. If you will be entering ACD information, select the **ACD** check box and type the ACD port number of the media server.
5. If you use Traffic Analysis, select the **Traffic Analysis** check box and type the Traffic Analysis port number of the media server.

6. After **Data Alarm Timeout Minutes**, select the duration of the time lapse in minutes from when the data stops streaming to when you want the alarm to display.
NOTE: In a resilient environment, SMDR and ACD data timeout alarms may trigger unnecessarily. To prevent this, set Data Alarm Timeout Minutes to zero.
7. After **Notify me during these business hours**, click the Search button, select a schedule that reflects the hours of operation for the media server, and click **OK**.
8. If you use Enterprise Manager (OPS Manager), click **Enterprise Manager (OPS Manager)**.
9. After **IP address/DNS name**, type either the IP address or the DNIS name of the Enterprise Manager (OPS Manager) computer.
10. After **FTP port**, type the FTP port number.
11. After **FTP user name**, type the FTP user name to gain access to Enterprise Manager (OPS Manager).
12. After **FTP password**, type the FTP password to gain access to Enterprise Manager (OPS Manager).
13. After **Remote directory to data files**, type the directory path where the data from the telephone system is stored by Enterprise Manager (OPS Manager).
14. Configure the media server's MiTAI options.
See "Configuring MiTAI options for 3300 ICP media servers" on page 89.

Configuring MiTAI options for 3300 ICP media servers

To configure MiTAI options for a 3300 ICP media server

1. Click the **MiTAI Options** tab.
2. After **Maximum messages per second**, select the number of messages per second from the drop-down list.
The default number of messages is 10 per second. The higher the version of MiTAI, the greater the number of messages per second.
3. After **MiTAI auto-synchronization will occur at**, select the time from the list that you want Automatic Synchronization to run.
4. After **Specify the port used for the MiTAI data stream**, type the port number used for the MiTAI data stream.
5. To enable write-back functionality, see "Enabling write-back functionality" on page 89.

Enabling write-back functionality

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

To enable write-back functionality

1. In YourSite Explorer, click **YourSite=>Media servers**.
2. Select the media server for which you want to enable read/write functionality.
3. On the ribbon, click the **Telephone System** tab.
4. In the **Settings** section, select **Read/Write**.
5. Configure the telephone system settings for the media server.
See "Configuring telephone system settings for 3300 ICP media servers" on page 90.

Configuring telephone system settings for 3300 ICP media servers

To configure telephone system settings for a 3300 ICP media server

1. Click the **Telephone system settings** tab.
2. Click **System options**.
3. After **Feature access code for silent monitoring**, type the feature access code used for silent monitoring, as programmed on the 3300 ICP telephone system.
NOTE: The feature access code for silent monitoring must be unique and up to four digits in length. Do not use * and # alone to define feature access codes.
4. If applicable, after **Replacement Access Code**, enter the replacement access code programmed on the telephone system.
5. If applicable, after **Registration Access Code**, enter the registration access code programmed on the telephone system.
6. After **ACD Make Last Agent Unavailable on No Answer**, select Yes by default.
NOTE: In MCD 5.0, this telephone system setting is called 'ACD Auto Logout Last Agent on No Answer'. In MCD 6.0, this telephone system setting is called 'ACD Make Last Agent Unavailable on No Answer'.
7. After **ACD Real-Time Events Feature Level**, set the value to 1.
8. After **ACD Make Busy Walk Away Codes**, select Yes by default.
9. Click **SMDR options**.
10. If applicable, correct the SMDR Options settings.
For the SMDR Options settings list, see Table 2.
11. Click **Class of Service** and select a Class of Service number.
The properties for the selected Class of Service are shown in the right-hand pane.
12. After **Default type**, enter the Class of Service type.
13. After **Comment**, enter a description for the Class of Service.
14. Select **Yes** for the following Class of Service options:
 - **HCI/CTI/TAPI call control allowed**
Selecting Yes enables the softphone extensions and IVR Routing ports to be controlled by the host computer.
 - **HCI/CTI/TAPI monitor allowed**
Selecting Yes enables an HCI monitor to be initiated against softphone extensions and IVR Routing ports.
 - **SMDR external**
Selecting Yes enables trunking SMDR.
 - **SMDR internal**
Selecting Yes enables SMDR internal records to be generated.
15. After **Call forward delay**, enter the amount of time to wait before forwarding a call.
16. After **Call forward no answer timer**, enter the amount of time to wait for a forwarded call to be answered.

17. Select **Yes** or **No** for the following additional Class of Service options:

NOTE: You will receive a warning in YSE if you choose a Class of Service option that is not recommended.

- **Message waiting**
This option permits a phone to enable and disable message waiting notification on another phone.
- **Message waiting audible tone notification**
This option enables message waiting notifications to take the form of a tone every time the phone goes off-hook.
- **Do not Disturb**
This option enables users to change their Do not Disturb status and prevents the phone from ringing on incoming calls.
- **Do not Disturb permanent**
This option sets the phone permanently in Do not Disturb.
- **Public network access via DPNSS**
This option enables devices to originate calls to directory numbers on the PSTN. Selecting 'No' disables network access.
- **Suppress simulated CCM after ISDN progress**
This option prevents the PBX from sending an answer message to a party calling on an ISDN trunk, preventing systems using MiTAI or HCI to play ringback or call processing tones when the call is answered.
NOTE: Enable this option on end nodes only. Do not enable this option on transit nodes.
- **Recorded announcement device**
This option enables RAD ports to play recorded messages for one-way, outgoing audio.
- **Accept hot desk login**
This option enables a hot desk login on a device.
- **Voice mail port**
This option enables the voice mail system to uniquely identify the party that is receiving a message.
- **External hotdesk user – answer confirmation**
This option forces an external hotdesk user to press a DTMF key to answer incoming calls.

18. After **Answer Plus Message Length Timer**, specify an amount of time to apply to MCD RAD messages. The time specified should equal the time it takes for the RAD message to play.

19. After **Answer Plus Expected Off-hook Timer**, specify the amount of time the RAD can be off-hook and not playing messages before it requires servicing and is removed.

20. After **Work Timer**, specify the amount of time agents can be in a Class of Service Work Timer state. For information on Work Timer, see "Configuring Work Timer" on page 197.

NOTE:

- This timer applies to ACD extensions only
- Class of Service Work Timer durations are dependent upon your telephone system.
 - MCD 5.0 and greater – 4 hours maximum
 - MCD 4.x or earlier – 10 minutes maximum

21. Click **Class of Restriction**.
22. Select a Class of Restriction.
The properties for the selected Class of Restriction are shown in the right-hand pane.
23. After **Do you want this Class of Restriction to be the default setting?**, select **Yes** or **No**.
24. After **Classes of Restriction for the group**, enter the Class of Restriction numbers to include in the group.
You may specify a range of numbers. Separate numbers using dashes or commas. For example, 1 through 9 may be entered as 1-9, or a combination of individual numbers and ranges may be entered as 1,2,3,7-10,13.
NOTE: Class of Restriction numbers must be entered in ascending order within each group.
25. Click **Cluster Setting**.
26. If this media server is part of a Mitel cluster, under **Cluster setting**, select the **This media server is part of a Mitel cluster** check box.
27. If this media server is part of a Mitel cluster, after **Cluster ID**, type the cluster ID.
The cluster ID can be found on the telephone system.
28. If this media server is part of a Mitel cluster, after **Cluster name**, select the cluster name.
29. If this media server is part of a Mitel cluster, after **Cluster ID Digits**, type the digits used to identify the cluster.
NOTE: After synchronization, cluster settings will automatically align with the telephone system settings and these fields will auto-populate.
30. Click **Save**.
31. If you want to enable call recording, see "Call recording" on page 94.

Table 2: SMDR Option Settings

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

Call recording

Contact Center Solutions offers 24/7 call recording by integrating with OAISYS Tracer, dvsAnalytics Encore, or Red Box Quantify call recording software. For enhanced call security, Contact Center Solutions also integrates with the Mitel Secure Recording Connector service to facilitate the recording of Mitel encrypted voice streams by third party software. OAISYS Tracer can optionally be used in conjunction with the Mitel Secure Recording Connector service. dvsAnalytics Encore and Red Box Quantify must be used in conjunction with the Mitel Secure Recording Connector service. For information, see "Configuring the Mitel Secure Recording Connector service" on page 94.

For specific information regarding supported third-party versions, see the relevant support statements in the *Contact Center Solutions and Business Reporter System Engineering Guide*.

Configuring the Mitel Secure Recording Connector service

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

NOTE:

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

For soft phone balancing in a Secure Recording Connector service environment to function properly, you must alter a configuration file on the Mitel Border Gateway server. If you do not, you will have to restart Contact Center Client and the soft phone in the event of a failover. For instructions on how to make alterations, contact Mitel Technical Support at 1-800-722-1301 or miccsupport@mitel.com (North American customers). For customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific, contact your approved Mitel vendor.

To configure the Secure Recording Connector service

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a 3300 ICP media server from the list.
3. Click the **Call recording options** tab.
4. Under **Mitel Secure Recording**, after **IP address 1**, type the primary IP address of the Secure Recording Connector.

5. If you use multiple Secure Recording Connectors, type the IP address of the secondary Secure Recording Connectors after **IP address 2**.
If the soft phone fails to connect to the primary Secure Recording Connector, it will attempt to connect to the secondary. If that fails, then soft phone will use the IP address of the media server programmed in the data collection field. If it uses the IP address of the media server, call recording will not be possible.
6. Click **Save**.

Configuring call recording integration

Contact Center Solutions offers 24/7 call recording by integrating with OAISYS Tracer, dvsAnalytics Encore, or Red Box Quantify call recording software.

Using the OAISYS Tracer, Contact Center Solutions can optionally record calls based on pre-defined schedules. With OAISYS Tracer, call recording can be temporarily started or stopped in Contact Center Client to ensure customer confidentiality or to create a record of volatile or sensitive calls. See "Recording calls" on page 452.

Indirect recording is not supported with Contact Center Client Softphone.

When a call recording is complete, a hyperlink to the recording is appended to call-specific Lifecycle reports. For more information about Lifecycle reporting, see the reports guide appropriate to your edition of Contact Center Solutions

NOTE:

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

To configure OAISYS call recording integration

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a media server from the list.
3. Click the **Call recording options** tab.
4. Under **Call recording provider options**
 - After **Recorder type**, select **OAISYS** from the drop-down list.
 - After **OAISYS server address**, type the IP address of the call recorder.
 - After **OAISYS server port**, specify the port of the call recorder.

- After **Username**, type the username to log into the call recorder.
 - After **Password**, type the password to log into the call recorder.
5. Click **Save**.
Call recordings are enabled and can be accessed from hyperlinks in call-specific Lifecycle reports.

To configure dvsAnalytics Encore

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

To configure Red Box Quantify

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a media server from the list.
3. Click the **Call recording options** tab.
 - After **Recorder type**, select **Red Box Recorder**.
 - After **Recorder IP Address**, type the IP address of the call recorder.
 - After **Username**, type the username of the call recorder
 - After **Password**, type the password of the call recorder.
4. Click **Save**.
Call recordings are enabled and can be accessed from hyperlinks in call-specific Lifecycle reports.

MANAGING HISTORICAL MEDIA SERVERS

Media servers that are no longer in active use can be set as historical to retain data on the media servers associated devices. Historical data is retained on the media server but no new data is collected. When a media server is set to historical, it terminates all active licenses for devices associated with that media server. These historical devices are preserved for historical reporting.

NOTE: The SX-200, Axxess, and 5000 media servers are not supported with Version 7.1, except as historical media servers. When upgrading to Version 7.1, SX-200 media servers, along with their associated extensions, agents, agent groups, queues, trunks, and trunk groups, are set to historical. Axxess and 5000 media servers must be marked as historical before upgrading to Version 7.1 to retain historical data.

Associated devices affected by setting a media server to historical include

- Agents
- Agent groups
- Queues
- Extensions
- Hunt groups

A historical media server is enabled for

- Historical reporting for associated devices
- Forecasting
- ACD and SMDR Inspector functionality

Once made historical, a media server cannot be returned to active service. A historical media server cannot be edited and can only be deleted.

To set a media server as historical

1. Under **Enterprise**, click **Media Servers**.
2. Select a media server
3. In the **General** tab, click **Make Historical**.
4. Click **OK**.

To delete a historical media server

1. Under **Enterprise**, click **Media Servers**.
2. Select a historical media server.
3. Click **Delete**.

DELETING MEDIA SERVERS

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

To delete a media server

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

VERIFYING NAME CHANGES OF REMOTE SERVERS

If you change the name of a remote server, you must perform several configuration steps to verify that YourSite Explorer recognizes the name change and points to the renamed remote server as expected.

To verify the name change of a remote server

1. On the Remote Server, after changing the Remote Server's computer name, start **Regedit**.
2. Navigate to prairiefyre Software Inc\CCM\Common
On a 32-bit system, the path is \HKEY_LOCAL_MACHINE\SOFTWARE\prairieFyreSoftware Inc\CCM\Common\ComputerName
On a 64-bit system, the path is \HKEY_LOCAL_MACHINE\SOFTWARE\Wow6432Node\prairieFyreSoftware Inc\CCM\Common\ComputerName
3. Right-click **ComputerName** and select **Modify**.
4. Under **Value Data**, enter the new name of the Remote Server.
5. Click **OK**.
6. On the Remote Server, start the **Contact Center Management Configuration Wizard**.
The Remote Server Configuration Wizard opens.
7. Run the Remote Server Configuration Wizard.
8. On the Enterprise Server, open **YourSite Explorer**.
9. Click **Media servers**.
Verify that media servers are pointing to the new remote server name.
10. Click **Extensions**.
Verify that remote ports are pointing to the new remote server name.
11. Click **Servers**
The renamed server is listed as a new entry. The server with the old name is listed as a separate entry.
12. Select the old server entry.
13. Click **Delete**.
14. Click **OK**.

YOURSITE DATABASE CONFIGURATION

NOTE: YourSite Explorer enables you to have multiple device tabs open simultaneously. As a best practice, we recommend you only have the device tabs open that you are currently using.

In an ACD contact center using Contact Center Management there are two main databases: the telephone system database and the Mitel YourSite database. Your dealer is responsible for assessing your contact center requirements and configuring the telephone system database accordingly. You are responsible for configuring the YourSite database to mirror the trunk, extension, agent, agent group, queue, Account Code numbers, and routing and timing options in use on the telephone system. This can be achieved quickly using synchronization for the 3300 ICP. See "Performing synchronization" on page 105.

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

You must

1. Add employees.
2. Add agent groups.
3. Associate employees with agent groups.
4. Add queues.
5. Associate the agent groups with the queues for which they answer calls.

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

DETERMINING YOUR CONTACT CENTER CONFIGURATION NEEDS

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

There is one recommended configuration scenario for Contact Center Solutions, where employees only have a single voice agent and use agent group presence to control which queues they receive calls from. Prior to Version 7.1, there was also a scenario for employees having multiple voice agents, with each voice agent in a different agent group associated to a different queue. This configuration scenario is no longer recommended. For more information, see "Multiple voice agents for individual employees configuration scenario (not recommended)" on page 100.

Recommended configuration scenario

In the recommended configuration scenario, an employee has one agent login ID. The employee belongs to four agent groups that handle calls for four queues. The employee is simultaneously available to handle calls to all four queues without having to log out of one queue and into another queue. (See Figure 11.)

Scenario

The employee has only one agent ID and belongs to several agent groups

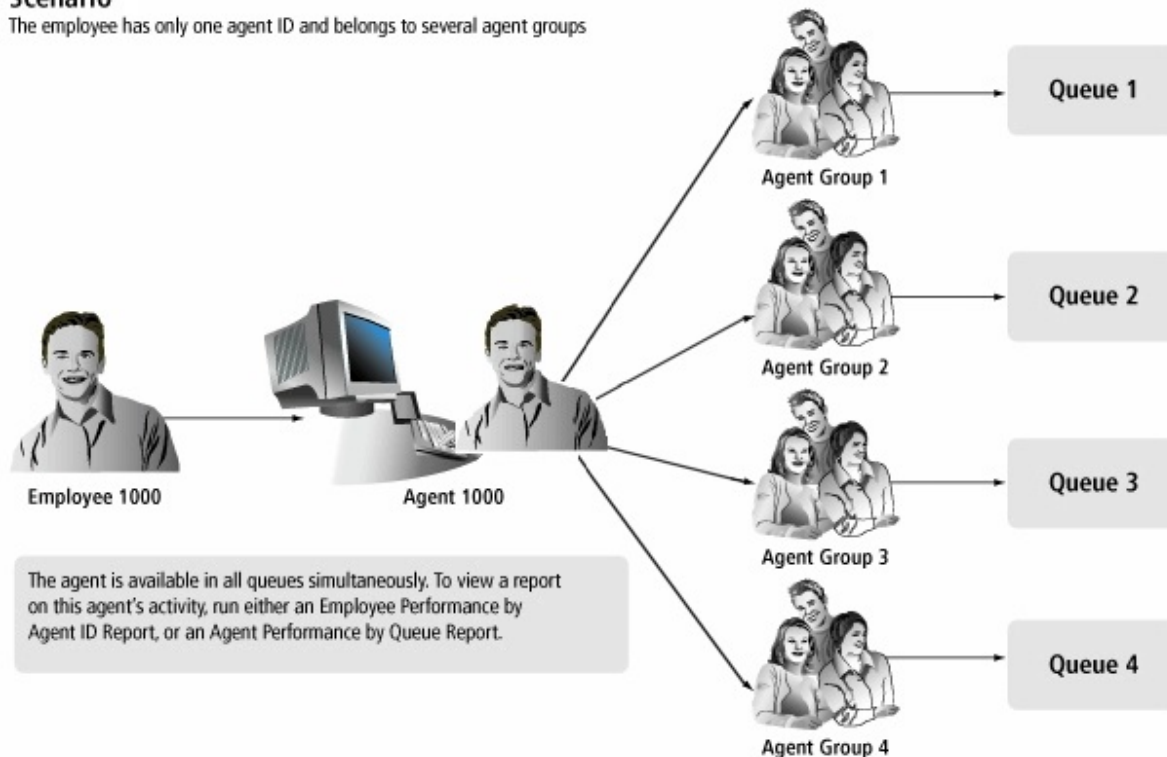


Figure 11: Recommended configuration scenario

In the recommended configuration scenario, you add your employees via synchronization, importation, or manual creation. For each employee, you enable them for voice media, which automatically creates an agent with the same name, reporting number, and other information as the employee, so that the employee with Employee ID 1000 has an agent with the reporting number of 1000. In the Agent groups device page, you add the employee to Agent Group 1-4. Employee 1000 would now be able to handle contacts for Agent groups 1, 2, 3, and 4.

Multiple voice agents for individual employees configuration scenario (not recommended)

It is possible to configure employees with one voice agent for each different agent group and queue that they handle. In this scenario, employees log their different agents in and out to control which queues they receive calls from. While Contact Center Solutions still supports the ability to configure employees in this manner, this configuration is no longer recommended as the ability to limit which queues an employee is handling with their agent is provided through Agent Group Presence.

CONFIGURING YOURSITE DATABASE DEVICES

You can configure the YourSite database in the following ways:

- **Synchronization**

If you have a 3300 ICP, you can synchronize the YourSite database with the queues, agents (including their skill level within each agent group), agent groups, agent skill groups, trunks, and extensions programmed on the telephone system using Synchronization. You can perform Synchronization on individual 3300 ICPs or all 3300 ICPs in your enterprise.

See "Configuring the YourSite database using synchronization" on page 101.

- **Active Directory synchronization**

If you specified the Windows Authentication model during the Contact Center Management / Business Reporter Configuration Wizard, you can synchronize your system with Active Directory at any time from within YourSite Explorer. When you run Active Directory synchronization, employees in YourSite Explorer are synchronized with users in Active Directory groups. If you use Windows Authentication and Active Directory synchronization, users will not be prompted to authenticate themselves with a username and password when they start Contact Center Solutions and Business Reporter applications.

- **Quick Setup**

If you want to add a range of devices (employee groups, employee divisions, extensions, extension groups, extension divisions, trunks, trunk groups, DNIS, DNIS groups, Account Codes, Account Code groups, Make Busy Reason Codes, and teams) you can use Quick Setup.

See "Configuring devices and device groups using Quick Setup" on page 113.

- **Comma-separated value (.csv) import**

You can also add a range of devices (employee, employee groups, employee divisions, agents, agent groups, queues, queue groups, extensions, extension groups, extension divisions, trunks, trunk groups, DNIS, DNIS groups, Account Codes, Account Code groups, Make Busy Reason Codes, Do Not Disturb Reason Codes, and teams) using .csv files.

See "Configuring devices using .csv files" on page 116.

- **Manual configuration**

If you want to configure devices manually, see "Configuring devices manually" on page 120.

CONFIGURING THE YOURSITE DATABASE USING SYNCHRONIZATION

Synchronization functionality differs depending on the telephone system in use.

Synchronization for the 3300 ICP

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

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

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

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

In Mitel 3300 release MCD 4.0 SP4, configuring your network using SDS Directory synchronization mode is optional. Customers can continue to operate in the Classic mode, with OPS Manager if operating in a clustered environment. In Mitel 3300 release MCD 5.0 or greater, configuring your network using SDS Directory synchronization mode is mandatory for all sites operating with 20 nodes or less.

Classic mode synchronization

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

SDS Directory synchronization mode

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

NOTE:

- You can only use synchronization to synchronize the YourSite database with resilient, Network ACD, and clustered telephone systems if you are using 3300 ICP Release MCD 4.0 SP4 or greater, with the SDS Directory synchronization option enabled on all of the telephone systems in your enterprise.
- If you edit the feature access code used for silent monitoring on the media server, you must also manually edit the feature access code on the telephone system. The feature access code entered in YourSite Explorer must be identical to that on the telephone system and be valid for use with silent monitoring. See "Editing System options" on page 109.

Preparing for synchronization

NOTE: Only Mitel telephones that are programmed on the IP Multiline set assignment form will synchronize with the YourSite database. For details on the phones that are supported, please refer to your Mitel 3300 ICP documentation.

Before you perform synchronization for the 3300 ICP

- Ensure the 3300 ICP is V8.x or greater. You can only use synchronization to synchronize the YourSite database with resilient, Network ACD, and clustered telephone systems if you are using 3300 ICP Release MCD 4.0 SP4 or greater, with the SDS Directory synchronization option enabled on all of the telephone systems in your enterprise.
- Ensure that you have completed programming the 3300 ICP and created a username and password for synchronization (on the 3300 ICP User Authorization Profile form). The 3300 ICP User Authorization Profile must include Application Access and System Admin Access. Desktop Admin and Group Admin options can be disabled. These steps must be completed for all 3300 ICPs in your Enterprise.
- Ensure your MiXML service is started by navigating to the Control Panel in Windows and selecting 'MiXML'. Verify that port 18000 is entered on the Settings tab and click Start.
- Ensure that your Windows or Corporate firewall is not blocking the following ports
 - SOAP: 18000 (HTTPS)
 - UDP: 53
 - TCP: 7011
 - TCP: 22
 - TCP: 443 (SSH)
- Configure the user name and password for each of the 3300 ICP media servers in YourSite Explorer.
See the *Contact Center Management Installation Guide*.
- If you have multiple NICs on your Enterprise Server, you must specify the NIC to use for synchronizing data to the telephone system. To do this, navigate to the Control Panel in Windows and select 'MiXML'. After NIC IP Address specify the primary NIC to be used to send back data to the telephone system.
- If you are running 3300 ICP Release 9.x or earlier, resilient Network ACD, and clustered telephone systems must be programmed using OPS Manager, RDNs, and cluster element IDs. 3300 ICPs programmed with Remote Agent Subgroups and ARS are not supported. Contact Center Management clusters and cluster element IDs must match what is programmed on the telephone system.

Specifying synchronization settings

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

- **Settings**
 - **Disabled**

This option will fully disable synchronization.
 - **Read**

This option will read devices programmed on your telephone systems and synchronize them with the YourSite database.
 - **Read/Write**

This option will read the devices programmed on your telephone systems and synchronize them with the YourSite database and enable devices programmed in YourSite Explorer to be written to the telephone systems.
- **Read Options**
 - **Create employees with new agent**

For every new agent added to the YourSite database, a new employee will be created and associated with the agent.
 - **Create employees with new extensions**

For every new extension added to the YourSite database, a new employee will be created and associated with the agent.
 - **Use telephone system device names**

Override device names programmed in YourSite Explorer with the device names configured on the telephone system.
 - **Default employee license**

Select the default employee license that you want to be applied when synchronizing new agents. Contact Center Enterprise Edition default employee licenses include None, Basic, Standard, Advanced, and Premium employees. Contact Center Business Edition default employee licenses include None, Reporting, and Desktop employees. Contact Center Workgroup Edition default employee licenses include None and Standard employees.
 - **Default queue business hour schedule**

Select the business hour schedule to be applied when synchronizing queues added on the telephone system.
- **Write Options**
 - **Update telephone directory names**

Override telephone directory names with agent, agent group, queue, and extension names configured in YourSite Explorer.

NOTE: If you use MCD 4.0 with Enterprise Manager (OPS Manager) configured, we recommend you disable the 'Update telephone directory names' option.

Performing synchronization

There are two ways to perform synchronization:

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

NOTE:

- You can only use synchronization to synchronize the YourSite database with resilient, Network ACD, and clustered telephone systems if you are using 3300 ICP Release 10.0 (MCD 4.0 SP4) or greater, with the SDS Directory synchronization option enabled on all of the telephone systems in your enterprise.
- As a best practice, we recommend all new installations run Full synchronization to ensure the telephone systems in your enterprise are synchronized with the YourSite database and that there are no critical telephone system programming errors.
- You must program your 3300 ICPs and perform synchronization before you can configure telephone system assignment form options in YourSite Explorer.
- We recommend you do not exchange the reporting number of one device with that of another device.
- Synchronization will not synchronize a device being added to the YourSite database with the telephone system if the device has the same reporting number as an existing device with a different dialable number.
- If you run synchronization for a 3300 ICP containing a queue added on the telephone system, that queue is assigned your default queue business hour schedule. If you have not specified a default queue business hour schedule, the default 24/7 schedule is assigned to the queue. For information on setting the default queue business hour schedule, see "Specifying synchronization settings" on page 104.
- If you are synchronizing a single telephone system, agents and queues must be programmed on the same telephone system. Single node synchronization can disassociate agents and queues if agents and queues reside on separate telephone systems.
- If you are running 3300 ICP Release 9.x or earlier and you synchronized your network ACD assignments and/or resilient agents using OPS Manager, you must synchronize all of the 3300 ICPs in your enterprise. Otherwise, agent group and queue group associations will be lost.

To perform full synchronization

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a 3300 ICP media server from the list.
3. Click the **Telephone system** tab.
4. In the ribbon, specify the settings to use with synchronization.
See "Specifying synchronization settings" on page 104.

5. In the ribbon, click **Run**.
The Synchronization window opens.
6. Select the media servers to synchronize.
7. Ensure **Full synchronization** is selected.
8. If this is the first time you have run synchronization, click **Synchronize** and continue to step 11. If you have already run full synchronization, click **Next**.
9. Optionally, select the telephone system media servers and devices to include with synchronization.
All media servers and devices are selected by default.
10. Specify how you would like to proceed with synchronization:
 - **Synchronize**—selecting this option will synchronize the devices programmed on the telephone system and enable you to review all entries and optionally exclude any devices before committing them to YourSite Explorer. If you select this option, continue to step 11.
 - **Save settings**—selecting this option will save the device settings you specified to be used for the next scheduled or on-demand synchronization. If you select this option, the synchronization window will close.
 - **Cancel**—selecting this option will cancel the synchronization. No changes will be made to the YourSite database or the telephone systems. If you select this option, the synchronization window will close.
 - **Auto commit**—selecting this option and clicking Synchronize will synchronize the devices programmed on the telephone systems and automatically commit them to YourSite Explorer. There will be no opportunity for you to review the entries and optionally exclude any devices before committing them to YourSite Explorer.
11. When the synchronization report displays, you have the following three options:
 - **Commit**—selecting this option will commit the specified changes and synchronize telephone system devices with YourSite Explorer.
 - **Cancel**—selecting this option will cancel the specified changes. No devices will be synchronized and the synchronization window will close.
 - **Edit**—selecting this option will rerun synchronization and enable you to modify the devices to be included in synchronization. If you select this option, return to step 9.

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

To perform telephone system synchronization

1. In YourSite Explorer, under **Enterprise**, click **Media servers**.
2. Select a 3300 ICP media server from the list.
3. Click the **Telephone system** tab.
4. In the ribbon, specify the settings to use with synchronization.
See "Specifying synchronization settings" on page 104.

5. In the ribbon, click **Run**.
The Synchronization window opens.
6. Select the media servers to synchronize.
7. Ensure **Telephone system settings** is selected.
8. Click **Synchronize**.
The Synchronization report window opens and displays the progress and status of the synchronization. Once synchronization is complete, any telephone system errors and warnings will display in the synchronization report. You can correct any errors or warnings found in this report by clicking Edit, clicking the Telephone system settings tab and changing the telephone systems settings to the recommended settings.

Ring Group synchronization

YourSite Explorer can synchronize ring groups with your telephone system, but there are several exclusions. Contact Center Solutions supports only Prime DN's as members of the ring group. When synchronizing with the telephone system, YourSite Explorer only synchronizes with Prime DN members of ring groups. If your synchronization settings are set to Read, synchronization skips unsupported members on the telephone system when synchronizing with YourSite Explorer. If your synchronization settings are set to Read/Write, then synchronization will delete unsupported members during writeback to the telephone system.

Ring groups and their attributes and members can be added, modified, and deleted in YourSite Explorer, but the following ring group attributes are not synchronized into YourSite Explorer:

- Local-only DN
- Ring Group Type
- Predictive Overflow
- Average Call Duration Minutes/Seconds
- Absent/Present for members

ACTIVE DIRECTORY SYNCHRONIZATION

You can synchronize your system with Active Directory at any time from within YourSite Explorer. Active Directory is a directory service created by Microsoft that is used for managing a domain. Active Directory Synchronization will align Active Directory security groups and users with Contact Center Solutions and Business Reporter employees and employee groups within selected organizational units.

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

When you run Active Directory synchronization, employees and employee groups in YourSite Explorer are synchronized with users in Active Directory groups. Existing employees can also be associated with specific Active Directory users.

To run Active Directory synchronization

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

To send recent configuration changes to client computers

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

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

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

To associate an existing employee with an Active Directory user.

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

EDITING TELEPHONE SYSTEM ASSIGNMENT FORMS

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

After running synchronization, if the 3300 ICP System options, SMDR options, Class of Service options, or Class of Restriction assignment forms are incorrectly configured, alerts will display describing modifications that need to be made to achieve accurate telephone system settings. Alerts are ranked according to severity to display in the following order of importance: errors, warnings, and then informational messages. Only one message can display at a time in the information bar.

In addition, you can automatically repair certain configuration errors by clicking the Fix it button in the information bar where errors, warnings, and information messages display. If the alert that is currently displayed in the information bar is not able to be resolved by the Fix it button, the button will not display. If the Fix it button displays, clicking it will automatically fix the warning or error that is displaying in the information bar as well as fixing any other current warning or error that is enabled to be automatically repaired.

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

Editing System options

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

To edit System Options

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

Editing SMDR options

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

To edit SMDR Options

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

Editing Class of Service options

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

NOTE:

- When first provisioning or changing Class of Service Work Timer values, you must synchronize with your telephone system. See "Performing synchronization" on page 105.
- If you are using ring groups, it is recommended that you configure a default Class of Service for ring groups.

To edit Class of Service options

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

Editing Class of Restriction options

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

To edit Class of Restriction options

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

ADDING RESILIENT AND/OR NETWORK ACD HOT DESKING AGENTS

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

When your telephone systems are set up correctly for resiliency and network ACD hot desking, you can configure your media servers in YourSite Explorer to use hot desking agents. See "Adding 3300 ICP media servers" on page 85.

Invalid ACD cluster programming

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

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

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

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

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

Scenario 1

In the scenario shown in Table 3, media servers with mixed agent types are programmed in YourSite Explorer.

Table 3: Invalid ACD agent programming scenario 1

CLUSTER NAME: PRIMARY

MEDIA SERVER	YOURSITE EXPLORER AGENT TYPE	3300 ICP AGENT TYPE	INVALID AGENT TYPE PROGRAMMING
Kanata 3300 5th floor	Hot desking	Hot desking	No
Kanata 3300 7th floor	Traditional	Traditional	No

Scenario 2

In the scenario shown in Table 4, media servers have the correct agent type settings programmed in YourSite Explorer, but have mixed agent types programmed against a single 3300 ICP.

Table 4: Invalid ACD agent programming scenario 2

CLUSTER NAME: MASTER

MEDIA SERVER	YOURSITE EXPLORER AGENT TYPE	3300 ICP AGENT TYPE	INVALID AGENT TYPE PROGRAMMING
Kanata 3300 5th floor	Traditional	Hot desking / Traditional	Yes
Kanata 3300 7th floor	Traditional	Traditional	No

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

CONFIGURING DEVICES AND DEVICE GROUPS USING QUICK SETUP

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

- Employee groups and employee divisions
- Extensions, extension groups, and extension divisions
- DNIS and DNIS groups
- Account Codes and Account Code groups
- Make Busy Reason Codes
- Teams

Extension Quick Setup

To add a series of extensions

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

Trunk Quick Setup

To add a series of trunks

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Trunks**.
3. Click **Quick Setup**.

4. In the **Active number from** and **Active number to** boxes, type a range of device numbers.
5. If you want to add a prefix or postfix to this range of device numbers, after **Name prefix** and/or **Name postfix** type the prefix and/or postfix.
6. On the **General** tab, click **Browse** and select a media server for the trunk.
7. Click **Run**.

Trunk group Quick Setup

To add a series of trunk groups

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

DNIS Quick Setup

To add a series of DNIS

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

Account Code Quick Setup

To add a series of Account Codes

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

6. To you want to create an employee for each Account Code, on the **Employee Associations** tab, select the **Create an employee ID for each Account Code** check box.
NOTE: Select this check box only if you have not already added employee IDs to the database.
7. After **Start the employee IDs at**, type the first employee ID number to associate to the Account Code range.
8. After **Increment the employee IDs by**, type the increment by which the employee ID numbers will increase.
9. Click **Run**.

Make Busy Reason Codes Quick Setup

To add a series of Make Busy Reason Codes

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

Team Quick Setup

To add a series of Teams

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

Device group Quick Setup

To add a series of Account Code groups, DNIS groups, employee groups and divisions, extension groups and divisions, and queue groups

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

CONFIGURING DEVICES USING .CSV FILES

You can import devices to YourSite Explorer using comma-separated value (.csv) files. The following device types are currently supported for use with the YourSite Explorer .csv import tool: employees, employee groups, employee divisions, agents, queue groups, extensions, extension groups, extension divisions, trunks, trunk groups, DNIS, DNIS groups, Account Codes, Make Busy Reason Codes, teams, Do Not Disturb Reason Codes, traffic, and ANI.

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

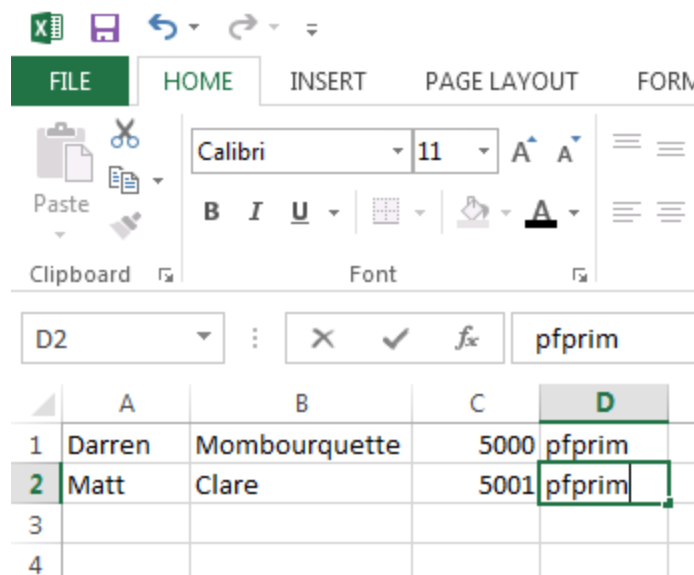
There are two ways to create .csv files: Notepad or Microsoft Excel. We recommend making .csv files in Excel, as adding and editing a large number of entries at once using auto-fill functions is much simpler and more convenient than using Notepad.

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

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

Figure 12 and Figure 13 provide two examples of how .csv files can be formatted. The following figures display Microsoft Excel .csv formatting and Notepad .csv formatting. Both .csv examples contain the following data: first name, last name, agent login ID, and media server.

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



	A	B	C	D
1	Darren	Mombourquette	5000	pfprim
2	Matt	Clare	5001	pfprim
3				
4				

Figure 12: Microsoft Excel .csv formatting example

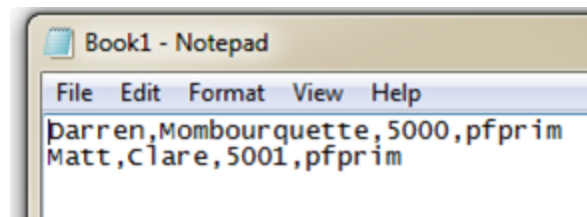


Figure 13: Notepad .csv formatting example

Fields required for successful .csv imports

Table 5 details the fields that are required in order to successfully import devices into YourSite Explorer using a .csv file.

NOTE: Data must be entered in .csv files using the exact order detailed in Table 5 below. Failure to import data in the order specified will result in import errors.

Table 5: Mandatory device fields for .csv imports

DEVICE	MANDATORY FIELDS	OPTIONAL FIELDS
Employees	Reporting number, Last name, First name	Username, Password, Email address, Middle name, Suffix, Scheduling license, Nickname, Full time, Site, Is a supervisor, Activated, Supervisor, Security role, Use employee email for report distribution, Fax number, Hire date, Preferred printer, Birth date, Print locally, Business phone number, Emergency contact phone number, Emergency contact relationship, Emergency contact name, Country, ZIP or postal code, Street address, City, State or province, Pager number, Phone number, Is active, Employee license, Supervisor license, Phone type license, Integrated client license, Licensed for Screen Pop
Employee groups	Name, Reporting number	N/A
Employee divisions	Name, Reporting number	N/A
Agents	Reporting number, Last name, First name, Media server, Real-time	Failover media server, Employee, MiTAI enabled, Is active, Class of Service, Class of Restriction
Queue groups	Name, Reporting number	Is Unified, Is Virtual
Extensions	Name, Reporting number, Media server	Extension type, Failover media server, Server Name, Workflow, Real-time, MiTAI enabled, Licensed, Notes, Is general business hot desking
Extension groups	Name, Reporting number	N/A
Extension divisions	Name, Reporting number	N/A
Trunks	Name, Reporting number, Media server	N/A
Trunk groups	Name, Reporting number	Media server, Do not cost calls, Carrier plan, Intra switch
DNIS	Name, Reporting number, Media server	Short Abandon, Service Level, Carrier plan, Call type, Call rate

Table 5: Mandatory device fields for .csv imports (continued)

DEVICE	MANDATORY FIELDS	OPTIONAL FIELDS
DNIS groups	Name, Reporting number	N/A
Account Codes	Name, Reporting number	Use as classification code
Make Busy Reason Codes	Name, Reporting number	N/A
Teams	Name, Reporting number	N/A
Do Not Disturb Reason Codes	Name, Reporting number	N/A
Traffic	Reporting number, Name	Pkey, Media server, TrafficType
ANI	Name, Ani	N/A

Importing a range of devices using a .csv file

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

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

To import a range of devices using a .csv file

1. In YourSite Explorer, under **Devices**, click the name of the device you will add using a .csv file.
2. Click **Import**.
3. After **Select file type**, specify whether the .csv file uses **Comma separated values** or **Tab separated values**.
4. After **Select file**, click **Browse** and specify the location of the .csv file.

5. Under **Options**, specify how the Import Wizard will handle duplicate items.
If duplicates are found:
 - **Overwrite entries if duplicates are found** will use the .csv file as the master and overwrite duplicate entries in the YourSite database with data in the .csv file.
 - **Skip duplicate entries during import** will retain data configured in YourSite Explorer as the master and import any new data entries from the .csv file into the YourSite database.
 - **Do not import if duplicates are found** will scan the .csv and YourSite database for duplicates. If duplicates are found in either the .csv or the YourSite database, the import is cancelled and no data is imported to the YourSite database.
6. Click **Next**.
7. On the **Field Mappings** window, map the fields in the **Available columns** list to the **Selected columns** list using the arrow buttons, so they display in the same order as they do in your .csv file.
8. Click **Next**.
9. When the import has completed, click **Finish**.
NOTE: If the import fails, the Import Wizard will notify you of whether the YourSite database or .csv file contained the duplicate(s) and which row(s) of the .csv file contained the error(s) that resulted in the failure. Fixing these errors will allow devices to be successfully imported.

CONFIGURING DEVICES MANUALLY

CAUTION:

- For reporting purposes, the trunk, extension, agent, agent group, queue, DNIS, dialable numbers, and Account Code numbers you configure in the YourSite database must be identical to those of the telephone system.
- Print a copy of your telephone system assignment forms to use as a guide for programming YourSite Explorer. The numbers you enter in YourSite for extensions, trunks, and Account Codes must be identical to those of the telephone system.

You add contact center devices in YourSite Explorer.

NOTE:

- When you configure numbers for groups in YourSite, use numerical characters only, such as 1 (for Extension group 1). Do not insert symbols, such as a star [*] or pound sign [#], in the number.
- If you attempt to add a device or device group to YourSite that is already in the database, the system notifies you that the device or device group is already present. When you add a series of devices or device groups to YourSite, such as Extensions 5001 to 5005, if the system detects you have already added Extension 5002, then it will not add Extension 5002 or any subsequent extensions in the series (that is, Extensions 5003 to 5005) to the database.

Adding employees

Every employee configured in YourSite Explorer represents a unique member of a contact center. Each employee is configured with agents. These agents are tied to the media servers supported by Contact Center Solutions.

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

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

Adding an employee requires you to:

- Add an employee
- Configure general employee information
- Configure employee licensing
- Modify employee Workload
NOTE: Modifying employee Workload is only required if the employee is licensed for Multimedia Contact Center.
- Manage the media types an employee can handle
- Configure user account information

Optionally, you can:

- Assign non-ACD extensions and Account Codes
- Configure employee personal information
- Configure employee scheduling preferences for Workforce Scheduling

To add an employee

1. In YourSite Explorer, in the left pane, click **YourSite=>Employees**.
2. Click **Add**.
Continue to "Configuring general employee information" on page 121.

Configuring general employee information

The following procedures explain how to:

- Configure general information for an employee
- Configure Lync attributes for an employee
NOTE: Lync attributes are only available if you have Lync Server installed.

The following procedures take place in YourSite=>Employees.

To configure general information for an employee

1. Select an employee and click the **General** tab.
2. After **First name**, type the employee's first name.
NOTE: Changes to the first name will carry over to any of the employee's associated agents and extensions.
3. Optionally, after **Middle name**, type the employee's middle name or initial.

4. After **Last name**, type the employee's last name.
NOTE: Changes to the last name will carry over to any of the employee's associated agents and extensions.
5. Optionally, after **Suffix**, type the employee name suffix.
6. Optionally, after **Nickname**, type the employee's nickname.
NOTE: In Multimedia Contact Center, nicknames may be used in chat sessions with customers.
7. Optionally, after **Activated**, enter the date the employee became an active part of the enterprise.
By default, the activated date is set to the current date.
NOTE: You must provide the date the employee became an active part of the enterprise if you want to generate administrative employee reports, or if you have Workforce Scheduling and will schedule employees based on seniority, or will manage time off entitlements and business rules based on time off allocation.
8. After **Employee ID**, enter a unique employee ID number for the employee.
9. After **Email**, enter the employee's email address.
NOTE: If the employee will use Contact Center Chat with Lync, you must enter the Lync SIP email address in the email field.
10. Click **Save**.
11. If this is a new employee and you are using Microsoft Lync Server, continue to the procedure below, otherwise continue to "Configuring Employee Licensing" on page 122.

To configure Lync attributes for an employee

1. Select an employee and click the **General** tab.
2. Type the employee's **SIP address**.
3. Type the employee's **Line URI**.
4. Click **Save**.
If this is a new employee, continue to "Configuring Employee Licensing" on page 122.

Configuring Employee Licensing

The following procedures explain how to:

- Configure employee licensing for Enterprise Edition
- Configure employee licensing for Business Edition
- Configure employee licensing for Workgroup Edition

The following configuration takes place in YourSite=>Employees.

To configure employee licensing for Enterprise Edition

1. Select an employee and click the **Licensing** tab.
2. For Contact Center Enterprise Edition users, depending on licensing, select from **None**, **Basic**, **Standard**, **Advanced**, or **Premium** employee.
 - **None:** This option enables you to run reports on the employee, if data exists for that employee, however, you cannot monitor the employee in real time and no new data will be collected for the employee. When you select this option, historical data for the employee continues to be stored and the employee's name is removed from all Contact

Center Client device selection lists. If this is a non-ACD user, when configured with an Integrated Client license, the user will have access to CCMWeb and Contact Center Client for Contact Center PhoneSet Manager. Associated extensions can be viewed in real time, either for general business purposes or Business Reporter (if associated extensions are configured to be call costed).

CAUTION: If data exists for an employee who was previously licensed but is currently unlicensed, that data can be accessed in reports. However, if a summarization is done after the employee is no longer licensed, there is a risk that the collected data could be lost.

- **Basic employee:** is reported on historically, viewed in real time, and has access to real-time monitors (except Callback and Port monitors, if licensed for IVR Routing). Users also have access to CCMWeb My Options page to configure user options, such as language preference.
- **Standard employee:** includes all Basic employee features and functionality and has access to Interactive Contact Center, Enterprise Presence and Chat, and Contact Center PhoneSet Manager.
- **Advanced employee:** includes all Standard employee features and functionality as well as Contact Center Management and Interactive Contact Center resiliency (requires a Network license), choice of CTI Toolkit Client, or Salesforce Client (requires a Salesforce.com Connector), and Contact Center Screen Pop.
- **Premium employee:** includes all Advanced employee features and functionality plus access to Ignite and multimedia routing for all media types.

NOTE: Only one employee license can be selected for each employee. You cannot license an employee if no licenses remain.

3. If the employee is a supervisor, depending on licensing, under Supervisor license select from None, Advanced, or System Administrator supervisor.
 - **None:** use this option for employees who are agents or general business extensions.
 - **Advanced supervisor:** has access to the following: CCMWeb (reporting, forecasting, and My Options), Flexible Reporting (if a Standard Starter Pack or greater is owned), Contact Center Client for real-time monitoring (including Callback and Port monitors, if licensed for IVR Routing), YourSite Explorer (read-access only to the Enterprise section of YourSite Explorer), and Ignite (review and search through the Ignite repository, excluding contacts in queue).

NOTE: Supervisors requiring the ability to handle contacts in Ignite or search contacts in queue require a Premium employee license.
 - **System Administrator:** a System Administrator has full access to all Contact Center Solutions, Business Reporter, IVR Routing software (if licensed) for the purposes of configuration and network and system administration, and access to Ignite for reviewing and searching the Ignite repository.

NOTE: Only one type of supervisor license can be selected for each employee.
4. Under Phone type license, depending on licensing, select a phone type license.
 - **Mitel desk phone:** select this option if the employee will use a Mitel desk phone. This is the default option.
 - **Softphone and/or Mitel desk phone:** select this option if the employee will use and is licensed for Contact Center Softphone.

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

5. If you want the employee to be licensed for Workforce Scheduling, under **Workforce Scheduling license**, select **Licensed for Workforce Scheduling**.
NOTE: Users must be configured as Basic, Standard, Advanced, or Premium to be scheduled in Workforce Scheduling.
6. If this employee is a non-ACD employee who needs access to Contact Center PhoneSet Manager, CTI Developer Toolkit Client, or Salesforce.com Client, under **Integrated client license**, select **Licensed for integrated clients**. Integrated client license is a prerequisite for Contact Center Softphone. Salesforce.com Connector is required to activate Salesforce.com Client.
7. If this employee is a non-ACD employee who needs access to screen pop, under **Screen Pop license**, select **Licensed for Screen Pop**. Integrated Client is a prerequisite for Screen Pop. Ignite screen pop does not require this license.
8. Click **Save**.
If this is a new employee with Premium licensing, continue to "Adding employee Workload" on page 127. Otherwise, continue to "Managing the media types an employee can handle" on page 129.

To configure employee options for Business Edition

1. Select an employee and click the **Licensing** tab.
2. Depending on licensing, select from **None**, **Reporting**, or **Desktop** employee.
 - **None:** This option enables you to run reports on the employee, if data exists for that employee, however, you cannot monitor the employee in real time and no new data will be collected for the employee. When you select this option historical data for the employee continues to be stored and the employee's name is removed from all Contact Center Client device selection lists.
CAUTION: If data exists for an employee who was previously licensed but is currently unlicensed, that data can be accessed in reports. However, if a summarization is done after the employee is no longer licensed, there is a risk that the collected data could be lost.
 - **Reporting employee:** is reported on historically, viewed in real time, and has access to Enterprise Presence and Chat.
 - **Desktop employee:** is reported on historically, viewed in real time, has access to Enterprise Presence and Chat, has the ability to view real-time monitors via Contact Center Client, and has access to Ignite and multimedia routing for all applicable media types.
NOTE: Only one employee license can be selected for each employee. You cannot license an employee if no licenses remain. A Reporting license is a prerequisite for a Desktop license. When you apply a Desktop license, you decrement both a Desktop license and a Reporting license.
3. Depending on licensing, select from **None** or **Desktop** supervisor licensing.
 - **None:** use this option for employees who are agents or general business extensions.

- **Desktop supervisor:** has access to CCMWeb (reporting, contacts, and forecasting), Contact Center Client for real-time monitoring, YourSite Explorer for enterprise and device configuration, and, if the contact center is licensed for Multimedia Contact Center, Ignite (review and search through the Ignite repository, excluding contacts in queue).

NOTE: Desktop supervisors requiring the ability to handle contacts in Ignite or search contacts in queue require a Multimedia Contact Center BE agent license.

4. Depending on licensing, select a phone type license.

- **Mitel desk phone:** select this option if the employee will use a Mitel desk phone. This is the default option.
- **Softphone and/or Mitel desk phone:** select this option if the employee will use and is licensed for Contact Center Softphone.

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

5. Select additional licensing options as required.

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

6. Click **Save**.

If this is a new employee who is licensed for Multimedia Contact Center, continue to "Adding employee Workload" on page 127. Otherwise, continue to "Managing the media types an employee can handle" on page 129.

To configure employee licensing for Workgroup Edition

1. Select an employee and click the **Licensing** tab.
2. For Contact Center Workgroup Edition users, select from **None** or **Standard**.
 - **None:** This option enables you to run reports on the employee, if data exists for that employee, however, you cannot monitor the employee in real time and no new data will be collected for the employee. When you select this option, historical data for the employee continues to be stored and the employee's name is removed from all Contact Center Client device selection lists. If this is a non-ACD user, when configured with an Integrated Client license, the user will have access to CCMWeb and Contact Center Client for Contact Center PhoneSet Manager. Associated extensions can be viewed in real time, either for general business purposes or Business Reporter (if associated extensions are configured to be call costed).
CAUTION: If data exists for an employee who was previously licensed but is currently unlicensed, that data can be accessed in reports. However, if a summarization is done after the employee is no longer licensed, there is a risk that the collected data could be lost.
 - **Standard employee:** is reported on historically, viewed in real time, and has access to real-time monitors. Users also have access to CCMWeb to configure user options, Interactive Contact Center, Enterprise Presence and Chat, and Contact Center PhoneSet Manager.
NOTE: Only one employee license can be selected for each employee. You cannot license an employee if no licenses remain.
3. Under **Supervisor license**, select the employee's supervisor license type
 - **None:** use this option for employees who are agents or general business extensions
 - **Advanced:** an Advanced Supervisor has access to the following: CCMWeb (reporting, forecasting, and My Options), Contact Center Client for real-time monitoring, and YourSite Explorer (read-access only to the Enterprise section of YourSite Explorer)
 - **System Administrator:** a System Administrator has full access to all Contact Center Solutions, Business Reporter, and IVR Routing software (if licensed) for the purposes of configuration and network and system administration.
NOTE: Only one type of supervisor license can be selected for each employee.
4. Under **Phone type license**, depending on licensing, select a phone type license.
 - **Mitel desk phone:** select this option if the employee will use a Mitel desk phone. This is the default option.
 - **Softphone and/or Mitel desk phone:** select this option if the employee will use and is licensed for Contact Center Softphone.
NOTE: If the employee requires the use of Contact Center Softphone in addition to or in combination with a Mitel desk phone, select the Softphone phone type.
5. If you want the employee to be licensed for Workforce Scheduling, under Workforce Scheduling license, select Licensed for Workforce Scheduling.
NOTE: Users must be configured as a Standard agent to be scheduled in Workforce Scheduling.
6. If this employee is a non-ACD employee who needs access to Contact Center PhoneSet Manager, under **Integrated client license**, select **Licensed for integrated clients**. Integrated client license is a prerequisite for Contact Center Softphone.

7. Click **Save**.

Adding employee Workload

Employees handling multimedia contacts must be associated with a Workload.

When employees become licensed for Multimedia Contact Center, administrators must manually assign them a Workload. Workloads define the maximum number of contacts that multimedia agents can handle and specify which media types employees can handle concurrently.

When an employee reaches their maximum Workload for a media type, their agent is put into Make Busy with the Overloaded reason code. When an employee is Overloaded, the employee will not be offered inbound contacts for that media type. This state is automatically removed when they are no longer at their maximum Workload. Employees in Ignite who have reached their maximum concurrent contacts in one type of media are still able to pick contacts from the corresponding media's queues and receive transfers from other agents.

A default Workload is provided with Multimedia Contact Center. The default Workload can be modified, but not deleted. Figure 14 shows the default Workload.

The screenshot shows a window titled "Select a Workload" with a sub-header "Default Workload (System Created)". Inside the window, there is a "Name" field containing "Default Workload (System Created)". Below this is a checkbox labeled "Apply rule to outgoing voice calls" which is currently unchecked. A section titled "Media type" contains a table with three rows: "Voice", "Chat", and "Email". Each row has a "Concurrent contacts" column with a spinner box set to "1", and an "Avoid routing to this media type when current media type is active" column with five icons: a headset, a speech bubble, an envelope, a printer, and a document with a checkmark. The "Voice" row has the headset icon highlighted. The "Chat" row has the speech bubble icon highlighted. The "Email" row has the envelope icon highlighted. At the bottom right of the window are "Save" and "Cancel" buttons.

Media type	Name	Concurrent contacts	Avoid routing to this media type when current media type is active
Voice		1	[Headset icon]
Chat		1	[Speech bubble icon]
Email		1	[Envelope icon]

Figure 14: Default Workload

There are two areas of configuration required for Workloads for each media type:

- **Concurrent contacts:** This column of drop-down menus allows an administrator to set how many contacts of each type of media an employee can handle concurrently.
- **Avoid routing to this media type when current media type is active:** This matrix enables administrators to prevent certain media types from being offered to employees when they are handling a higher priority of media. When an employee is handling a media that filters another kind of media, the employee's agents for the blocked media are set into Make Busy. The disallowing of media is reciprocal, so that if Chat is disabled when handling Voice, then Voice would be disabled when handling Chat.

NOTE:

- Agents can still receive transferred contacts of the disallowed media type.
- Media icons are present for SMS media, but are disabled as this media type is not supported in Version 7.1. The icons will be enabled when support for this media type is added in a later release.

The following configuration takes place in YourSite=>Employees.

The following procedures explain how to:

- Associate a Workload to an employee
- Associate a new Workload to an employee
- Edit an existing Workload
- Delete a Workload

NOTE: We recommend disassociating a Workload from all employees before deleting it.

To associate an employee with a Workload

1. Select an employee and click the **Workload** tab.
2. After **Workload Descriptor**, click the **Browse** button.
3. Select a **Workload**.
Alternatively, if you want to create a new Workload to associate to the employee, click **Add**.
4. Click **OK**.
5. Click **Save**.
If this is a new employee, continue to "Managing the media types an employee can handle" on page 129.

To add a new Workload to an employee

1. Select an employee and click the **Workload** tab.
2. After **Workload Descriptor**, click the **Browse** button.
3. Click **Add**.
4. Type a **Name** for the Workload.
5. To apply the Workload to outgoing voice calls, select **Apply rule to outgoing voice calls**.
6. For each media type, under **Concurrent contacts**, select the maximum number of connections of that media type that can be handled concurrently.
7. For each media type, click the icons of the media you do not want employees to concurrently handle when handling that type of media.
8. Click **Save**.

To edit an existing Workload

1. Select an employee and click the **Workload** tab.
2. Click the **Browse** button.
3. Select a Workload and click **Edit**.
4. When you are done modifying the Workload, click **Save**.

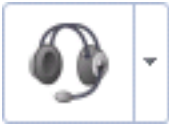


To delete a Workload

1. Select an employee and click the **Workload** tab.
2. Click the **Browse** button.
3. Click **Delete**.
4. Click **OK**.

Managing the media types an employee can handle

Employees handle media through their associated agents. The General tab of an employee contains icons representing each media type that has a configured media server. When an icon is selected, an agent of that media type is automatically created and associated to the employee. If an employee is a member of an agent group that has been enabled for multimedia using the Unified Queue Group Wizard, they will automatically be enabled to handle the new media types. Table 6 contains an explanation of which icons correspond to which media type.

Table 6: Media icons

MEDIA TYPE	MEDIA ICON
Voice	
Chat	
Email	

NOTE: Employees must be licensed to handle non-voice media. See "Configuring Employee Licensing" on page 122.

When you remove the employee's ability to handle non-voice media, the employee's agents are made historical, but become active again if the employee is re-enabled to handle that non-voice media. Multimedia agents can be deleted to be removed entirely from the system.

The following procedures explain how to:

- Enable an employee to handle voice media
- Enable an employee to handle voice media using an existing agent
- Edit an employee's voice agent
- Enable an employee to handle multimedia
- Remove a voice agent from an employee
- Remove an employee's ability to handle a type of media
- Delete a multimedia agent

The following configuration takes place in YourSite=>Employees.

To enable an employee to handle voice media

1. Select an employee and click the **General** tab.
2. Under **Enable ACD for this Media Type**, click the Voice icon.
3. Optionally, change the agent's **First name**.
4. Optionally, change the agent's **Last name**.
5. Optionally, after **Agent login ID**, enter the reporting number for the voice agent.
6. After **Media server**, click the **Browse** button.
7. Select a media server and click **OK**.
8. If you want to disable real-time monitoring and data collection for this agent, select **Disable real-time monitoring and data collection on this device**.
9. If a 3300 media server was selected, after **COS**, select a Class of Service from the list.
10. If a 3300 media server was selected, optionally, after **COR**, select a Class of Restriction from the list.
11. If a 3300 media server was selected, if you want to add a failover media server, after **Failover media server**, click the **Browse** button.
12. Select a media server and click **OK**.
13. Click **Save**.

To enable an employee to handle voice media using an existing agent

1. Select an employee and click the **General** tab.
2. Under **Enable ACD for this Media Type**, click the down arrow beside the Voice icon and click **Associate existing voice agent**.
3. Select an unassigned agent and click **OK**.
4. Click **Save**.

To edit an employee's voice agent

1. Select an employee and click the **General** tab.
2. Under **Enable ACD for this Media Type**, click the down arrow beside the Voice icon and click <agent ID>=>**Edit**.
3. When you are finished editing the voice agent, click **Save**.
4. Click **Save**.

To enable an employee to handle multimedia

1. Select an employee.
2. Under **Enable ACD for this Media Type**, click the media icons to select which media this employee can handle.
3. Click **Save**.

To remove a voice agent from an employee

1. Select an employee and click the **General** tab.
2. Click the down arrow beside the Voice icon and click <agent ID>=>**Delete**.
3. Select the delete option:
 - **Make the device historical**—sets the agent as historical, but leaves it associated to this employee
 - **Disassociate the device**—disassociates the agent so it can be used with another employee
 - **Remove the device from the system**—deletes the agent
4. Click **OK**.
5. Click **Save**.

To remove an employee's ability to handle a type of media

1. Select an employee.
2. Under **Enable ACD for this Media Type**, click the enabled media icon.
3. Click **Save**.

To delete a multimedia agent

1. Select an employee.
2. Click the down arrow beside the media icon and click **Delete**.
3. Click **Save**.

Configuring user account information

It is recommended that user accounts be configured after security roles are configured. See "Security roles" on page 189.

The following procedures explain how to:

- Configure user account information for an employee
- Configure an employee's report distribution

The following configuration takes place in YourSite=>Employees.

To configure user account information for an employee

1. Select an employee
2. Click the **User Account** tab.
3. Type the employee's **Username**.
4. Type the employee's **Password**.
5. After **The employee will reside at this site**, click the **Browse** button.

6. Select a site.

NOTE: The site determines the employee's default language. Employees can change their language settings in CCMWeb.

7. Click **OK**.

8. If you want to change the employee's language, select a language from the **Language** drop-down menu.

NOTE: Contact Center Solutions applications, such as YourSite Explorer and Contact Center Client, leverage the language settings of the operating system in addition to the language preference set for Contact Center Solutions. Ensure that if you change the language settings of Contact Center Solutions, you change the language settings of the operating system to match.

9. After **Security role**, click the **Browse** button.

10. Select a security role.

The default **Local Administrator** allows employees full access to all of the Contact Center Solutions applications and devices (to which the contact center is licensed) except for Write Back for synchronization.

The default **Enterprise Administrator** allows employees the same access as the Local Administrator, but includes Write Back for synchronization.

11. Click **OK**.

12. Click **Save**.

If this is a new employee

- To configure an employee's report distribution, continue to the procedure below.
- To configure non-ACD extensions and Account Codes, continue to "Assigning non-ACD extensions and Account Codes for employees" on page 133.
- To configure employee personal information, continue to "Configuring employee personal information" on page 134.

To configure an employee's report distribution

1. Type the file path of the **Network printer**.

You must configure the network printer as the default printer on the Enterprise Server. The printer path name is case sensitive.

2. If you want the employee's reports to print from their desktop printer, select **Send printed report to the employee's desktop printer**.

3. If you want to use the employee's email address for report distribution, select **Use the employee's email address for report distribution**.

4. Click **Save**.

If this is a new employee

- To configure non-ACD extensions and Account Codes, continue to "Assigning non-ACD extensions and Account Codes for employees" on page 133.
- To configure employee personal information, continue to "Configuring employee personal information" on page 134.

Assigning non-ACD extensions and Account Codes for employees

You can optionally assign non-ACD extensions and Account Codes to employees. If you are using Business Reporter, Account Codes assigned to employees enable reporting on that Account Code to see the outbound costs associated to that employee. Account Codes can only be associated to one employee.

The following procedures explain how to:

- Create a new extension and associate it with the employee
- Associate an existing extension
- Edit an existing associated extension
- Create an Account Code to associate to the employee
- Associate an existing Account Code
- Edit an existing associated Account Code

The following configuration takes place in YourSite=>Employees.

To create a new extension and associate it with the employee

1. Select an employee and click the **Devices** tab.
2. Click the **Extension** button.
Alternatively, click the down arrow beside Extension and click Add.
3. To configure the new extension, see "Adding extensions" on page 158.
4. Click **Save**.
If this is a new employee, when you are done assigning non-ACD extensions or Account Codes, continue to "Configuring employee personal information" on page 134.

To associate an existing extension

1. Select an employee and click the **Devices** tab.
2. Click the down arrow beside **Extension** and select **Associate existing**.
3. Select an extension and click **OK**.
The extension name is automatically populated with the employee's name.
By default, the extension type is voice softphone, which emulates a 5020 IP set.
By default, the extension reporting number/dialable is populated with the employee's business phone.
4. Click **Save**.
If this is a new employee, when you are done assigning non-ACD extensions or Account Codes, continue to "Configuring employee personal information" on page 134.

To edit an existing associated extension

1. Select an employee and click the **Devices** tab.
2. Click the down arrow beside the **Extension** button and click <extension>=>**Edit**.
3. When you are finished editing the extension, click **Save**.
4. Click **Save**.
If this is a new employee, when you are done assigning non-ACD extensions or Account Codes information, continue to "Configuring employee personal information" on page 134.

To create an Account Code to associate to an employee

1. Select an employee and click the **Devices** tab.
2. Click the **Account Code** button.
3. If you want to change the Account Code name, type a **Name**.
4. If you want to change the Account Code reporting number, type the **Reporting number**.
5. If you want to use this Account Code as a Classification Code, select **Use as a Classification Code**.
6. Click **Save**.

If this is a new employee, when you are done assigning non-ACD extensions or Account Codes, continue to "Configuring employee personal information" on page 134.

To associate an existing Account Code

1. Select an employee and click the **Devices** tab.
2. Click the down arrow beside **Account Code** and select **Associate existing**.
3. Select an Account Code and click **OK**.
4. Click **Save**.

If this is a new employee, when you are done assigning non-ACD extensions or Account Codes, continue to "Configuring employee personal information" on page 134.

To edit an existing associated Account Code

1. Select an employee and click the **Devices** tab.
2. Click the down arrow beside the **Account Code** button and click <Account Code>=>Edit.
3. When you are finished editing the Account Code, click **Save**.
4. Click **Save**.

If this is a new employee, when you are done assigning non-ACD extensions or Account Codes, continue to "Configuring employee personal information" on page 134.

Configuring employee personal information

To configure employee personal information

1. Select an employee and click the **Details** tab.
2. Enter the employee's personal information in the relevant fields.
3. Click **Save**.

Adding employee groups

After adding employees, you add employee groups and associate employees to these groups. Employee groups enable you to report on specific groups of employees.

The following procedures explain how to:

- Add an employee group
- Associate an employee with an employee group
- Remove an employee from an employee group

To add an employee group

1. Click **Multimedia=>Employee groups**.
2. Click **Add**.
3. Type the employee group's **Name**.
4. Type the **Employee group ID**.
5. Click **Save**.

To associate an employee with an employee group

1. Click **Multimedia=>Employee groups**.
2. Select an employee group from the list.
3. On the **Membership** tab, under **Available** members, select an employee and click > to move the employee to the **Selected members** list.
4. Click **Save**.

To remove an employee from an employee group

1. Click **Multimedia=>Employee groups**.
2. Select an employee group from the list.
3. On the **Membership** tab, under **Selected members**, select an employee and click < to move the employee to the **Available members** list.
4. Click **Save**.

Adding employee divisions

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

To add an employee division

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

To associate an employee group with an employee division

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

Adding agents

Agent IDs enable employees to handle different media and to be reported on and tracked in real time. When an administrator enables an employee to handle a type of media, the employee has an agent ID of that media type automatically created. A contact center employee can have multiple voice agent IDs, but requires a unique agent ID for each of the other media types (email and chat) that they handle.

Voice and multimedia agent IDs are added in the Employee section of YourSite Explorer. To add different media agent IDs to an employee, see "Managing the media types an employee can handle" on page 129. Voice agents can be created in the Agent section of YourSite Explorer, but it is recommended to create agents within the Employee section. The Agent section also enables administrators to delete agent IDs. Deleting an active agent removes an employee's capabilities to handle the corresponding media. Historical multimedia IDs can only be deleted in the Agent section.

NOTE:

- If agents are in a non-SDS clustered environment but not hot desking and not resilient, the agent names will not display on the telephone switch. You must enter these agent names outside of YourSite Explorer.
- Workgroup Edition supports both traditional and hot desking agents, but it is recommended that only hot desking agents are used with Workgroup Edition.
- Workgroup Edition does not support Failover media servers

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

In YourSite=>Agents, administrators

- Add voice agent IDs
- Delete agent IDs
- Associate unassociated voice agent IDs to employees
- Specify 3300 ICP Class of Service, Class of Restriction, and Failover media server options for voice agent IDs
- Enable a voice agent for external hot desking

To add a voice agent ID

1. Click **YourSite=>Agents**.
2. Click **Add**.
3. If you want to associate the new voice agent ID to an employee, click the **Browse** button after Employee.

4. Type the voice agent ID's **First name**.
5. Type the voice agent ID's **Last name**.
6. After **Agent login ID**, enter the reporting number for the voice agent ID.
7. After **Media Server**, click the **Browse** button.
8. Select a media server and click **OK**.
9. Click **Save**.
NOTE: The **Disable real-time monitoring and data collection on this device** check box is automatically selected if the employee that is associated to this agent has their licensing attribute set to 'None'. See "Configuring Employee Licensing" on page 122 for more information.

To delete an agent ID

1. Click **YourSite=>Agents**.
2. Select an agent.
3. Click **Delete**.
4. Click **OK**.

To associate an unassociated voice agent to an employee

1. Click **YourSite=>Agents**.
2. Select an unassociated voice agent ID.
3. After **Employee**, the **Browse** button.
4. Select an employee and click **OK**.
5. Click **Save**.

To configure 3300 ICP options for a voice agent ID

1. Click **YourSite=>Agents**.
2. Select an agent from the list.
3. Under **3300 ICP Options**, after **COS**, select a Class of Service from the list.
4. After **COR**, select a Class of Restriction from the list.
5. After **Failover media server**, click the **Browse** button.
6. Select a failover media server from the list and click **OK**.
7. Click **Save**.

To enable a voice agent for external hot desking

1. Click **YourSite=>Agents**.
2. Select an agent from the list.
3. Select **External hot desk user enabled**.
4. After **External dialing prefix**, type the dialing prefix for the device to which calls will be routed.
5. After **External dialing number**, type the dialing number for the device to which calls will be routed.
6. Click **Save**.

Adding agent groups

Administrators must add agent groups to the YourSite database and associate employees to these agent groups. An employee and their agents can be associated to more than one agent group.

When agent groups are created, an employee's agents are assigned a default group presence, either Present or Absent. Employees whose agents' default presence is Absent will have their state set to Logged In Not Present Agent when they join their agent group. To handle that media type, the employee must change their agent state manually in Contact Center Client. Employees whose agents' default presence is Present will be set in the Idle Agent state when they join their agent group. For details about Agent States, see "Employee and Agent states" on page 207.

NOTE:

- If you attempt to add a group to YourSite that is already in the database the system notifies you that the group is already present. When you add a series of groups to YourSite, such as Extension Groups 1 to 5, if the system detects you have already added Extension Group 3, then it will not add Extension Group 3 or any subsequent extensions in the series (that is, Extension Group 4 or 5) to the database.
- Deleting an agent group that is currently the last member of a voice or multimedia queue will invalidate that queue. Deleting an agent group that is associated to an activity in an Inqueue workflow will create a validation error. The queue will not be able to be saved until another agent group is associated to it. It is recommended that you disassociate agent groups from queues and their associated Inqueue workflows before deleting the agent group.
- Workgroup Edition does not support agent skills and Failover media servers. Workgroup Edition agent groups do not support a mix of local and remote agents as members.

To set up an agent group, administrators must:

- Add an agent group
- Manage agent group membership, presence, and skill level
- Specify agent group options for the 3300 ICP media server

The following procedures explain how to:




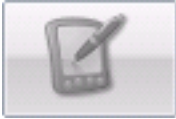
- Add an agent group
- Disable monitoring and device collection for an agent group
- Specify if the agent group uses skills

The following configuration takes place in YourSite=>Agent groups.

To add an agent group

1. In Agent groups, click **Add**.
2. Type a **Name** for the agent group.
3. Type a **Reporting number** for the agent group.
4. Select the media type(s) the agent group will handle.
See Table 7.

Table 7: Media icons

MEDIA TYPE	MEDIA ICON
Voice	
Chat	
Email	
SMS*	

* The SMS media type is not supported in Version 7.1. The SMS icon will be enabled when support is added in a later release.

5. If you select voice media, select the voice media server and click **OK**.

NOTE: If this agent group is not handling voice contacts, then this option will not be available.

6. Click **Save**.

To disable monitoring and device collection for an agent group

1. Select an agent group.
2. Select **Disable real-time monitoring and data collection on this device**.
3. Click **Save**.

To specify if the agent group uses skills

1. Select an agent group
2. Select **The group uses skills**.
3. Click **Save**.

Managing agent group membership, presence, and skill level

After configuring an agent group, administrators must associate employees to the agent groups and specify the default presence for each of the employee's agent IDs for the media types the agent is configured to handle. If the agent group uses skills, skill levels must be set for each employee. Skill levels range from 1, which is the most skilled, to 255, which is the least skilled. The skill level assigned to the employee is applied to each media the employee is capable of handling.

Some employees may have multiple voice agents associated to them. When these are added to an agent group, they are highlighted in yellow. Administrators can select which of an employee's voice agents are in the agent group. It is recommended that an employee only have one voice agent associated to an agent group.

The following procedures explain how to

- Add and remove agents from an agent group
 - Specify which of an employee's multiple voice agents are in an agent group
 - Specify a member's default presence in an agent group
 - Specify a member's skill level
- NOTE:** Workgroup Edition does not support agent skill levels. If an agent group is programmed to use skills on the telephone system, the agent group will be marked as historical in YourSite Explorer until the skill levels are removed.
- Edit a member employee

The following configuration takes place in YourSite=>Agent groups.

To add and remove agents from an agent group

1. Select an agent group and click the **Membership** tab.
2. To add employees to the agent group, under **Available members**, select an employee and click >.
3. To remove agents from an agent group, under **Selected members**, select an employee and click <.
4. Click **Save**.

To specify a member's default presence in the agent group

1. Select an agent group and click the **Membership** tab.
2. Under **Selected members**, after the agent in the **<media type> Presence** column, click the cell and select the default presence.
 - **Absent**—the employee's agent ID will be put into the Logged in Not Present agent state when they join the agent group.
 - **Present**—the employee's agent ID will be put into Idle when they join the agent group.
3. Repeat Step 2 for each media type the member can handle in the agent group.
4. Click **Save**.

To specify a member's skill level

1. Select an agent group and click the **Membership** tab.
2. Under **Selected members**, select a skill level from the drop-down list in the Skill level column for each member.
3. Click **Save**.

To edit a member employee

1. Select an agent group and click the **Membership** tab.
2. Under **Selected members**, select the employee you want to edit.
3. Click **Edit**.
For information on configuring employees, see "Adding employees" on page 121.
4. When you are done editing the employee, click **Save**.

Specifying 3300 ICP options for agent groups

The following configuration takes place in YourSite=>Agent groups.

To specify 3300 ICP options for an agent group

1. Select an agent group from the list.
2. On the **3300 ICP options** tab, if you want to change your Skill Group ID, after Skill Group ID, enter a new ID.
3. Click **Browse** and select a failover media server.
4. Specify if the agent group uses skills and if calls are to be queued to the agent group when no agents are logged in.
5. Click **Save**.

Adding teams

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

To add teams

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

Associating agent groups to teams

To associate agent groups to teams

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

Adding queues

Queues receive inbound calls and then route them to either agents or extensions, depending on the kind of queue. Queues can be voice queues, which are ACD paths that route calls to agent groups, or ring groups, which route calls to a pool of extensions.

Non-voice multimedia queues receive inbound contacts, such as email or chats, and route them to the agents in the associated agent groups to handle the contact. The associated agent groups handle the contacts from that queue and generate statistics for reports on the queue. Reports can be generated on queue activities and queue performance can be viewed in real time.

When you add a queue to the YourSite database, the configuration options available depend on the media server you select. Media servers fall under three general categories: voice (a telephone system with or without MiTAI enabled), email, and chat.

For instructions on adding multimedia queues, see the *Multimedia Contact Center Installation and Deployment Guide*.

Adding voice queues (ACD path)

The default voice queue for Contact Center Solutions is the ACD path, which distributes calls to groups of agents. When an administrator adds an ACD path voice queue, they:

- Configure general voice queue information
- Configure voice queue membership
- Configure business hours for the voice queue
- Configure Inqueue routing
NOTE: This requires licensing for IVR Routing.
- Configure queue spectrum settings for voice queues
- Optionally, set voice queue 3300 ICP options

If you are licensed for IVR Routing, for instructions on how to configure IVR Routing options for queues, consult "Configuring queues" on page 518.

- For information on configuring a queue for web callbacks, see "Enabling web callbacks" on page 539.
- For information on configuring a queue for abandon callbacks, see "Enabling abandon callbacks" on page 537.
- For information on associating a queue to an UPiQ workflow, see "Configuring Inqueue routing" on page 518.
- For information on setting up UPiQ workflows, see "Default Inqueue UPiQ workflow and subroutine" on page 629.
- For information on configuring a queue for RAD messages, see "Configuring RAD messages for queues" on page 520.

NOTE: Queues cannot be saved until membership has been specified. Ensure that agent groups have been configured before creating queues. See "Adding agent groups" on page 138.

To add a voice queue

1. Click **YourSite=>Queues**.
2. Click **Add** and select **Voice Queue**.
3. Continue to "Configuring general information for voice queues " on page 143.
NOTE: New voice queues cannot be saved until agent group membership has been configured for the queue.

Configuring general information for voice queues

When configuring general information for a queue, administrators specify common information, service level objectives, handling configuration, and Queue Work Timer options. Queue Work Timer options enable queues to change their Work Timer duration to be different than the Class of Service Work Timer or force agents to enter call classification codes before they handle other requests. If you select the Force entry of a classification code check box, agents will receive a pop up in Contact Center Client forcing them to enter a call classification code before they can answer more calls.

The following procedures outline how to:

- Configure common voice queue information
- Set the voice queue service level objectives
- Set the voice queue handling times
- Configure the voice queue's dialable number
- Configure the Queue Work Timer options

NOTE: If you are configuring a new queue, you cannot save until agent membership has been configured. See "Adding queue groups" on page 155.

The following procedures take place in YourSite=>Queues.

To configure common voice queue information

1. Select a queue and click the **General** tab.
2. Type a **Name** for the queue.
3. Type a **Reporting number** for the queue.
4. After **Media server**, click the **Browse** button.
NOTE: Once a queue has been saved, the media server cannot be changed.
5. Select the media server and click **OK**.
6. If you do not want the queue to be viewed in Contact Center Client and Ignite, select **Disable real-time monitoring and data collection on this device**.
7. If this is a new queue, continue to the procedure below. If this is a previously added queue, click **Save**.

To set the voice queue service level objectives

1. Select a queue and click the **General** tab.
2. Specify the **Service Level goal** and **Service Level time** for the queue.
3. If this is a new queue, continue to the procedure below. If this is a previously added queue, click **Save**.

To set the voice queue handling times

1. Select a queue and click the **General** tab.
2. After **Short Handle less than**, type the duration that will define a call as a short handle call. For example, type 3 to define a short handle call as one that lasts less than 3 seconds. Short talk calls are included in call statistics.
3. After **Short abandon less than**, type the duration that will define an abandoned call as 'Abandoned (Short)'. For example, type 5 to define a short abandon call as one that is abandoned in less than 5 seconds.
4. If this is a new queue, continue to the procedure below. If this is a previously added queue, click **Save**.

To configure the voice queue's dialable number

1. Select a queue and click the **General** tab.
2. After **Dialable number**, type the path directory number listed on the telephone system assignment forms.
3. If this is a new queue, continue to the procedure below.

To configure the Queue Work Timer options

1. Select a queue and click the **General** tab.
2. To enable the queue for Work Timer, select **Use queue work timer**.
3. Under **Use queue work timer**, set the Queue Work Timer's duration. The default duration is 00:05:00.

NOTE:

- Queue Work Timer maximum duration is dependent on your telephone system.
 - MCD 5.0 and greater – 4 hours maximum
 - MCD 4.x or earlier – 10 minutes maximum
 - A queue's work timer must not exceed the Class of Service associated with any agents in agent groups who are associated with this queue. See "Editing Class of Service options" on page 110.
4. To force agents to enter call classification Account Codes, select **Force entry of a classification code**.
This feature is hidden unless you are licensed for Integrated Client and use either Contact Center PhoneSet Manager or Contact Center Softphone.
 5. If you want Work Timer to end once the classification Account Code has been entered, select **Cancel queue work timer once code is entered**.
This feature is hidden unless you are licensed for Integrated Client and use either Contact Center PhoneSet Manager or Contact Center Softphone.
 6. If you want to add Contact Center Work Timer to handling time in reports, select **Include queue work timer as part of handling time**.
NOTE: When 'Include work timer as part of handling time' is enabled, the ACD handling time durations for reporting purposes span from ACD pick up to the end of the Work Timer time. When this option is disabled, the ACD handling time duration spans from ACD pick up to hang up.

7. If this is a new queue, continue to "Configuring voice queue membership" on page 145. If this is a previously added queue, click **Save**.

Configuring voice queue membership

Agent groups must be assigned to a queue to handle ACD calls. Calls are offered to agent groups in the order in which they are associated to the voice queue and are offered to the next agent group in the list when the set overflow timer for that group expires. When configuring overflow timers for associated agent groups, the Total Time to Agent Group column is automatically populated to indicate how long a call will be waiting before being offered to that agent group. A maximum of four agent groups can be assigned to a queue.

NOTE: Workgroup Edition only supports a single agent group per queue. Workgroup Edition does not support overflow, only interflow. If additional agent groups are associated to the queue on the telephone system, after synchronization, the queue will be marked as historical. Until the additional agent groups are removed, you will be unable to save your queue.

The following procedures explain how to:

- Associate an agent group to a queue
- Remove an agent group association from a queue
- Set the Overflow timer

The following procedures take place in YourSite=>Queues.

To associate an agent group with a queue

1. Select a queue from the list and click the **Membership** tab.
2. Under **Available members**, select an agent group and click > to move the agent group to the **Selected members** list.
The order agent groups are added determines the order in which agent groups are offered calls.
3. To adjust the order of selected members, select an agent group and click ^ or v.
4. Click **Save**.

To remove an agent group association from a queue

1. Select a queue from the list and click the **Membership** tab.
2. Under **Available members**, select an agent group and click < to move the agent group to the **Selected members** list.
3. Click **Save**.

To set the overflow timer

1. Select a queue from the list and click the **Membership** tab.
2. Under **Selected members**, set the **Overflow Timer** for each agent group associated to the voice queue.
3. Click **Save**.

Configuring business hours for voice queues

The following procedures explain how to:

- Configure the business hours for a queue
- Apply a queue's business hours to all queues on the same media server

The following procedures take place in YourSite=>Queues.

To configure the business hours for a queue

1. Select a queue and click the **Business Hours** tab.
2. After **Business-hour schedule**, click the **Browse** icon.
3. Select a schedule and click **OK**.
4. If you want to restrict the production of real-time statistics and reports to only during business hours, select **Generate real-time statistics and reports only within the business hours selected**.
5. Click **Save**.
If this is a new queue, continue to "Configuring queue spectrum settings for voice queues" on page 146.

To apply the business hours to all queues on the same media server

1. Select a queue and in the ribbon, click the **Queue Tools** tab.
2. Select **Apply business hours to all**.

Configuring queue spectrum settings for voice queues

Queue spectrum reports provide valuable information on how calls are dispersed in your contact center. You configure answer, abandon, interflow, handle, and ringing thresholds for queues in YourSite Explorer. The answer, abandon, interflow, and talk statistics will be distributed across the queue spectrum reports in the time intervals you specify.

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

The following procedures take place in YourSite=>Queues.

To configure queue spectrum settings for a queue

1. Select a queue and click the **Queue Spectrum** tab.
2. Select the spectrum value(s) you want to include in reports and specify thresholds for each.
All threshold values are in seconds.
3. Click **Save**.

To apply queue spectrum settings to all queues on the same media server

1. Select a queue and in the ribbon, click the **Queue Tools** tab.
2. Select **Apply queue spectrum to all**.

Configuring 3300 ICP options for voice queues

The Mitel 3300 ICP media server offers additional voice queue configuration options.

The following procedures explain how to:

- Set priority level for the queue
See "Understanding call priority" on page 416.
- Set queue unavailable answer point directory number
- Set interflow options

The following procedures take place in YourSite=>Queues.

To set the priority level for the queue

1. Select a queue and click the **3300 ICP options** tab.
2. After **Priority**, select the priority level for the queue.
The highest priority level is 1. The lowest priority level is 64.
3. Click **Save**.

To set the queue unavailable answer point directory number

1. Select a queue and click the **3300 ICP options** tab.
2. Type the **Queue unavailable answer point directory number**.
3. Click **Save**.

To set the queue's interflow options

1. Select a queue and click the **3300 ICP options** tab.
2. To enable interflow, after **Interflow enabled**, select **Yes**.
3. Select the **Interflow** timeout.
4. Type the **Interflow point directory number**.
5. To enable overflow to interflow before time out, select **Yes**.
6. If you want interflow to this queue to use this queue's priority, select **Yes**.
7. Click **Save**.

Adding ring groups

With Contact Center Solutions, you can configure ring groups, with the following limitations:

- Ring groups are supported for MCD 7.0+
- Clustered ring groups are not supported. Ring groups, their extensions, interflow points, and IVR ports which transfer to ring groups must all be on the same media server.
- Only Prime DNs and Hot Desk Users are supported as members of ring groups

It is recommended that ring groups have a default Class of Service configured on the 3300 media server. For more information, see "Editing Class of Service options" on page 110.

If you are licensed for IVR Routing, ring groups are not supported for callback or UPIQ workflows, subroutines, and related activities.

When an administrator adds a ring group, they

- Configure general ring group queue information
- Configure ring group business hours
- Configure ring group membership
- Configure queue spectrum settings for ring groups
- Configure ring group 3300 ICP options

To add a ring group queue

1. Click **YourSite=>Queues**.
2. Click **Add** and select **Ring group**.
3. Continue to "Configuring general information for ring group queues" on page 148.
NOTE: New ring group queues cannot be saved until the name, reporting number, and media server have been configured for the queue.

Configuring general information for ring group queues

The following procedures outline how to:

- Configure common ring group queue information
- Set the ring group service level objectives
- Set the ring group handling times

The following procedures take place in YourSite=>Queues.

To configure common ring group queue information

1. Select a queue and click the **General** tab.
2. Type a **Name** for the queue.
3. After **Reporting number**, type the ring group's dialable number.
NOTE: The reporting number cannot be changed after saving the ring group.
4. After **Media server**, click the **Browse** button.
5. Select the media server and click **OK**.
NOTE: The media server cannot be changed after saving the ring group.
6. After **Failover media server**, click the **Browse** button.
7. Select the Failover media server and click **OK**.
8. If you do not want the queue to be viewed in Contact Center Client and Ignite, select **Disable real-time monitoring and data collection on this device**.
9. Click **Save**.
If this is a new ring group, continue to the procedure below.

To set the ring group service level objectives

1. Select a ring group and click the **General** tab.
2. Specify the **Service Level goal** and **Service Level time** for the ring group.
3. Click **Save**.
If this is a new ring group, continue to the procedure below.

To set the ring group handling times

1. Select a ring group and click the **General** tab.
2. After **Short Handle less than**, type the duration that will define a call as a short handle call. For example, type 00:00:03 to define a short handle call as one that lasts less than 3 seconds. Short talk calls are included in call statistics.
3. After **Short abandon less than**, type the duration that will define an abandoned call as 'Abandoned (Short)'. For example, type 00:00:05 to define a short abandon call as one that is abandoned in less than 5 seconds.
4. Click **Save**.
If this is a new ring group, continue to "Configuring business hours for ring groups" on page 149.

Configuring business hours for ring groups

The following procedures explain how to:

- Configure the business hours for a ring group
 - Apply a ring group's business hours to all queues on the same media server
- NOTE:** The business hours are applied to all ring groups and ACD path voice queues on the same media server.

The following procedures take place in YourSite=>Queues.

To configure the business hours for a ring group

1. Select a ring group and click the **Business Hours** tab.
2. After **Business-hour schedule**, click the **Browse** icon.
3. Select a schedule and click **OK**.
4. If you want to restrict the production of real-time statistics and reports to only during business hours, select the **Generate real-time statistics and reports only within the business hours selected check box**.
5. Click **Save**.
If this is a new ring group, continue to "Configuring membership for ring groups" on page 149.

To apply a ring group's business hours to all queues on the same media server

1. Select a ring group and in the ribbon, click the **Queue Tools** tab.
2. Select **Apply business hours to all**.

Configuring membership for ring groups

Extensions or hot desking users must be assigned to a queue to handle ring group calls. Depending on how the ring group is configured to distribute calls, calls will be offered to extensions in their order in the member list.

NOTE: All voice softphone extensions created in YourSite Explorer have the MCD setting 'ACD Enabled' applied when written back to the telephone system. ACD enabled extensions can be added as members of ring groups, but they cannot be made present in the ring group. This is a restriction imposed by MCD. If a hot desking agent logs into an ACD extension, they will go out of service and not be updated in the real-time monitors. 'ACD Enabled' can be removed from extensions in MCD. For more information, consult your Mitel documentation.

Ring group extension members must be located on the same node as the ring groups. Ring groups do not support multi-node configurations.

The following procedures explain how to:

- Associate an extension to a ring group queue
- Remove an extension association from a ring group queue

The following procedures take place in YourSite=>Queues.

To associate an extension with a ring group

1. Select a ring group queue from the list and click the **Membership** tab.
2. Under **Available members**, select an extension and click > to move the extension to the **Selected members** list.
Depending on the algorithm selected, calls will be offered to a ring group's extensions using the order in the Selected members list.
NOTE: To ensure accurate reporting, hot desking users should be made members of the same ring groups as the extensions to which they log in.
3. To adjust the order of selected members, select an extension and click ^ or v.
4. Click **Save**.

To remove an extension association from a ring group

1. Select a ring group from the list and click the **Membership** tab.
2. Under **Available members**, select an extension and click < to move the extension to the **Selected members** list.
3. Click **Save**.

Configuring queue spectrum settings for ring groups

Queue spectrum reports provide valuable information on how calls are dispersed in your contact center. The answer, abandon, interflow, and talk statistics will be distributed across the queue spectrum reports in the time intervals you specify.

If you apply your queue spectrum settings on all queues on a media server, they are applied to both ring groups and ACD path voice queues.

The following procedures take place in YourSite=>Queues.

To configure queue spectrum settings for a ring group

1. Select a ring group and click the **Queue Spectrum** tab.
2. Select the spectrum value(s) you want to include in reports and specify thresholds for each. All threshold values are in seconds.

NOTE: Ringing spectrum does not apply to ring groups.

3. Click **Save**.

To apply a ring group's queue spectrum settings to all queues on the same media server

1. Select a ring group and in the ribbon, click the **Queue Tools** tab.
2. Select **Apply queue spectrum to all**.

Configuring ring group settings for ring group queues

Ring group specific queue settings are configured in the 3300 ICP Options tab.

The following procedures take place in YourSite=>Queues.

To configure the ring group settings for a ring group queue

1. Select a queue and click the **3300 ICP Options** tab.
2. After **Ring Algorithm**, select the ring groups call distribution algorithm from the following:
 - **Ring All:** Rings all available extensions in the ring group simultaneously.
 - **Terminal Cascade:** Starting from the first extension in the member list, rings the first available extension for the duration of the Cascade Ring Timer before calling the next available extension in the member list.
 - **Terminal:** Starting from the first extension in the member list, rings the first available extension.
 - **Circular:** Starting from the last member to handle a call, rings the next available extension in the members list.
 - **Circular Cascade:** Starting from the last member to handle a call, rings the next available extension in the member list for the duration of the Cascade Ring Time before calling the next available extension in the member list.
3. After **COS**, select a Class of Service for the ring group.
If you have configured a default Class of Service for ring groups, the default ring group Class of Service will be automatically applied.
4. If you selected a Cascade algorithm, after **Cascade Ring Timer**, set the time a call will ring an extension before ringing the next member extension in the ring group.
5. After **Call Queued Timer**, set the maximum time a call will remain in queue for a ring group before redirecting to the overflow point.
6. After **Call Ringing Timer**, set the maximum time a call will ring an extension before the call is redirected to the overflow point.
7. After **Call Coverage Service Number**, enter a configured Call Coverage Service Number.
8. If you want to redirect incoming calls to another directory number if the ring group extensions do not answer, after **Overflow Point**, type the dialable number for the overflow destination. The Overflow Point can be any Prime DN destination, such as an extension or queue.
NOTE: If a traditional agent logs into the overflow point, calls will never be offered
9. Click **Save**.

Setting a queue as historical

Voice and ring group queues can be set as historical, disabling real-time monitoring and data collection on the queue. Historical voice queues retain their data for reporting, but cannot handle contacts and are not available in Contact Center Client and Ignite. A historical queue can be restored to active service.

To set a queue as historical or to reactivate a historical queue

1. Select a queue and click the **General** tab.
2. If you are setting the queue as historical, select **Disable real-time monitoring and data collection on this device**.
3. If you are reactivating the queue, clear **Disable real-time monitoring and data collection on this device**.
4. Click **Save**.

Deleting a queue

When you delete a queue, it is removed from both YourSite Explorer and the media server. No more data is collected for the deleted queue, but any collected data for the queue is preserved and can be reported on.

NOTE: If you restore a backup from before the queue was deleted, it will re-associate itself to the collected data for the queue.

To delete a queue

1. Click **YourSite=>Queues**.
2. Select a queue and click **Delete**.
3. Click **OK**.

Automatically opening and closing queues

With Interactive Contact Center queue control, queues can be automatically opened and closed based on business hour schedules and queue control plans. When closed, queues associated to 3300 ICP servers are placed in Do Not Disturb and redirected to an alternate answer point.

For example, the default Monday to Friday, 9-5 business hour schedule is applied to a 3300 ICP queue using Interactive queue control. At 5:00 PM, the queue is placed into Do Not Disturb and cannot receive calls. During these times, calls are routed to their unavailable answer point. At 9:00 AM, the queue is removed from Do Not Disturb and calls can again be routed to the queue.

Interactive Contact Center queue control automates queue availability to respond to your businesses' hours of operation, ensuring that calls do not idle in queue after hours.

The following procedures explain how to

- Open and close queues with business hour schedules
- Close and re-open queues with queue control plans

Opening and closing queues with business hour schedules

You can open and close queues by assigning a business hour schedule to the queue. You can also remove the business hour schedule from the queue. For information on creating business hour schedules, see "Business hour schedules" on page 175.

To assign a business hour schedule to a queue

1. Click **YourSite=>Queues**.
2. Select the queue and click the **Interactive queue control** tab.
3. Select the **The queue uses Interactive Contact Center queue control** check box and click the **Browse** button.
4. Select a schedule to apply to the queue control plan and click **OK**.
5. Click **Save**.

To remove a business hour schedule from a queue

1. Click **YourSite=>Queues**.
2. After **Interactive Contact Center queue control plan**, click the **Clear** button.
3. Click **Save**.

Closing and re-opening queues with queue control plans

Queue control plans specify additional conditions under which a queue is automatically closed and re-opened.

For example, if customers in queue are experiencing exceptionally high wait times, an administrator might want that queue automatically closed. This prevents additional calls from reaching the queue and prevents new callers from experiencing long wait times.

Each queue control plan monitors one queue and, based on the conditions specified, can close and re-open the queue being monitored, a Directory Number, or an alternate queue. Only one queue control plan can be applied to a queue, but a single queue control plan can be applied to multiple queues.

Closing and re-opening queues with queue control plans requires you to

- Add a queue control plan to YourSite Explorer
- Specify conditions for closing queues
- Specify how long conditions must be present until the queue is re-opened
- Specify Monitor Settings
- Associate the control plan to a queue

Optionally, you can

- Remove a queue control plan from a queue
- Delete the queue control plan

To add a queue control plan to YourSite Explorer

1. Click **YourSite=>Enterprise**.
2. Select **Queue Control Plans**, click **Add**, and type a **Name** for the queue control plan.
3. Click **Save**.
Follow the steps under 'To specify conditions for placing the queue in DND', below.

To specify conditions for placing the queue in DND

1. Under **Queue Condition Builder**, click **Add**.
2. Under **Name**, select a criterion from the drop-down list.
For example, 'Longest Wait Time'.
3. Select an **Operator**.
For example, 'GreaterThan'.
4. Specify a **Value**, or select a value from the drop-down list.
For example, '0:30:00' (30 minutes).
5. To join conditions, select a **Join Type**, click **Add**, and repeat the steps above.
NOTE: 'And' means that all conditions must be met for the queue to go into DND. 'Or' means that only one of the conditions must be met for the queue to go into DND.
6. Click **Save**.
Follow the steps under 'To specify how long conditions are present until the queue is re-opened', below.

To specify how long conditions are present until the queue is re-opened

1. After **Place the device in DND when the following conditions are true (sec)**, type the number of seconds the queue conditions must be met before the queue enters DND.
For example, once the longest wait time has hit more than 30 minutes for 60 seconds, the queue closes.
2. After **Remove the device from DND when the following conditions are false (sec)**, type the number of seconds the queue conditions must be absent before the queue is re-opened.
For example, once the longest wait time drops below 30 minutes for at least 120 seconds, the queue re-opens.
3. Click **Save**.
Follow the steps under 'To specify Monitor Settings', below.

To specify Monitor Settings

NOTE: This configuration requires you to select the queue being monitored for the queue control plan conditions. You then specify the queue or Directory Number upon which action is taken once the monitored queue meets the specified conditions.

1. After **Monitor**, click the **Browse** button, select a queue to monitor and click **OK**.
2. Specify whether action will be taken on the **Current Queue**.
The 'Current Queue' is the queue to which the plan is assigned. See 'To associate a control plan to a queue', below.
3. Alternatively, specify whether action will be taken on a **Directory Number**.
4. Alternatively, for action to be taken on an **Alternate queue**, click the **Browse** button, select the queue, and click **OK**.
5. Click **Save**.

To associate a control plan to a queue

1. Click **YourSite=>Queues**.
2. Select the queue and click the **Interactive queue control** tab.
3. Select **This queue uses Interactive Contact Center queue control**.
4. After **Interactive Contact Center queue control plan**, click the **Browse** button.
5. Select a queue control plan and click **OK**.
6. Click **Save**.

To remove a queue control plan from a queue

1. Click **YourSite=>Queues**.
2. Select the queue and click the **Interactive queue control** tab.
3. After **Interactive Contact Center queue control plan**, click the **Clear** button.
4. Click **Save**.

To delete a queue control plan

1. Click **YourSite=>Enterprise=>Queue Control Plan**.
2. Select the queue control plan and click **Delete**.
3. When prompted, click **OK**.
4. Click **Save**.

Adding queue groups

Administrators can group queues for common purposes. There are three kinds of queue groups available:

- **Reporting**—groups queues together for reporting and viewing their activities in real-time
NOTE: Ring group queues can only be part of reporting queue groups. Ring groups can be grouped with non-ring group queues.
- **Mitel Virtual**—groups queues across telephone systems that load balance ACD calls between multiple queues
- **Unified Queue Group**—groups queues of different media types that handle contacts for the same service group in a contact center. For more information, see the *Multimedia Contact Center Installation and Deployment Guide*.

Adding Reporting queue groups

Reporting queue groups enable administrators to run reports on activities for the grouped queues and view queue group activities in real-time. Both voice queues and ring groups can be added to the same queue group, but ACD queue statistics that do not apply to ring groups will display as 0 in real-time monitors and reporting. For more information, see "Viewing queue statistics" on page 230.

The following procedures explain how to:

- Add a Reporting queue group
- Associate a queue to a Reporting queue group
- Remove a queue from a Reporting queue group

To add a Reporting queue group

1. Click **YourSite=>Queue groups**.
2. Click **Add=>Reporting**.
3. Type a **Name**.
4. Type a **Reporting number**.
5. Click **Save**.

To associate a queue to a Reporting queue group

1. Click **YourSite=>Queue groups**.
2. Select a Reporting queue group from the list.
3. On the **Membership** tab, under **Available members**, select a queue and click > to move the queue to the **Selected members** list.
4. Click **Save**.

To remove a queue from a Reporting queue group

1. Click **YourSite=>Queue groups**.
2. Select a Reporting queue group from the list.
3. On the **Membership** tab, under **Selected members**, select a queue and click < to move the queue to the **Available members** list.
4. Click **Save**.

Adding Virtual queue groups

Virtual queue groups are comprised of two or more queues across one or more telephone systems that all send ACD voice contacts to the same pool of agent groups, balancing loads across queues. Queues within a Virtual queue group must have the same reporting numbers, the same agent groups, and different dialable numbers. For example, in Figure 15 below, the virtual queue group is made from two queues on two different telephone systems:

- **PBX 1:** Queue 7000: reporting number P700, dialable 7000 on PBX1, queue 700, 701, 702 assigned
- **PBX 2:** Queue 7001: reporting number P700, dialable 7001 on PBX2, queue 700, 701, 702 assigned

Virtual Queue 7000/7001 Queue groups

Name:

Reporting number:

Virtual Queue ☒

Membership

Available members

Q7

Name	Reporting number	Media server
3053	P533	10.1.1...
3900-Queue	P390	10.1.1...
CH-QUEUE-3051	P301	10.1.1...
CH-TestQueue 3555	P355	10.1.1...
PC_Queue_3008	P308	10.1.1...
PC_Queue_3009	P309	10.1.1...
PC_Queue_3010	P310	10.1.1...
PC_Queue_3011	P311	10.1.1...
PC_Queue_3012	P312	10.1.1...
PC_Queue_3013	P313	10.1.1...
Q3001	P301	10.1.1...
Q3001 - 2.125	P301	10.1.2...
Q3002 - 2.125	P302	10.1.2...
Q3002 - HDA 1002	P302	10.1.1...
Q3003 - 2.125	P303	10.1.2...
Q3003 - HDA 1003	P303	10.1.1...

0 of 29 selected. Total : 29

Selected members

Search

Name	Reporting number	Media server
Q7000	P700	10.1.16.57 - 657
Q7001	P700	10.1.16.61 - 661

0 of 2 selected. Total : 1

Figure 15: Virtual queue group

Virtual queue groups provide the ability to merge multiple queues into a single visual representation in Interactive Visual Queue and provide callers with an accurate position in queue through the Updated Position in Queue service.

If you are licensed for IVR Routing, virtual queue groups can be used to provide resiliency paths for activities such as Transfer.

NOTE:

- Although Virtual queue groups are added and configured under Queue Groups in YourSite Explorer, a virtual queue group is treated as a singular entity.
- Ring groups are not supported for virtual queue groups.

The following procedures explain how to:

- Add a Virtual queue group
- Associate queues to a Virtual queue group
- Remove queues from a Virtual queue group
- Create a virtual queue group using the Virtual Queue Group button

To add a Virtual queue group

1. Click **YourSite=>Queue groups**.
2. Click **Add=>Mitel Virtual**.
3. Type a **Name**.
4. Type a **Reporting number**.
5. Click **Save**.

To associate queues to a Virtual queue group

1. Click **YourSite=>Queue groups**.
2. Select a Virtual queue group from the list.
3. On the **Membership** tab, under **Available members**, select a queue and click > to move the queue to the **Selected members** list.
Repeat as necessary.
4. Click **Save**.

To remove queues from a Virtual queue group

1. Click **YourSite=>Queue groups**.
2. Select a Virtual queue group from the list.
3. On the **Membership** tab, under **Selected members**, select a queue and click < to move the queue to the **Available members** list.
Repeat as necessary.
4. Click **Save**.

To create a virtual queue group using the Virtual queue group button

1. Click **YourSite=>Queues**.
2. Select the queues you want to be part of the Virtual queue group
NOTE: Queues must be identically configured, with the exception of media servers and dialable numbers.
3. In the ribbon, click **Queue Tools**.
4. Click **Create virtual queue group**.
5. After **Name**, enter the name for the virtual queue group
6. If you want to change the reporting number of the virtual queue group, after **Reporting number**, enter the reporting number
By default, the reporting number will be the same as the member queues.
7. Click **Save**.

Adding extensions

When you perform Synchronization, YourSite Explorer is configured to mirror the phone set extension numbers/base directory numbers (DNs) on the 3300 ICP. If you have traditional agents that can sit at multiple locations within your organization, hot desking agents, or general business hot desking extensions, we recommend you give these base extensions generic names based on the position of the physical DN (for example, Base DN: Floor 2, Desk 1). We recommend only general business hot desking extensions assigned to specific hot desking users be given user-based names (for example, Hot desking extension: John, Smith). If you have traditional ACD agents who sit at the same desk every day, or traditional extension phone sets that belong to single users, we recommend that the base DN be configured with the user's names.

NOTE: Agents are programmed in YourSite Explorer. If agents are in a clustered environment but not hot desking and not resilient, the agent names will not display on the telephone switch.

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

If your agents handle calls for multiple voice queues, you can add additional agent login IDs.

When read/write is enabled on a media server, changes made to extensions may be written back to the media server depending on the type of extension being changed. Changes made by adding or deleting the following extension types are written back to the media server:

- App server port
- Hot desk user
- Outbound port 5020 IP
- Messaging port 5020 IP
- RAD port 5020 IP
- UPiQ port 5020 IP
- Voice softphone

Changes made by adding or deleting the following extension types are not written back to the media server:

- Attendant console
- Auto-attendant
- Voice
- Voice mail

For extensions that already exist on the media server, edits to any extension type in YourSite Explorer will update the Name and Class of Service of that extension on the media server.

For information about enabling read/write on the media server, see "Enabling write-back functionality" on page 89.

NOTE:

- All voice softphone extensions created in YourSite Explorer have the MCD setting 'ACD Enabled' applied when written back to the telephone system. Extensions enabled for ACD can be made a member of a ring group, but are unable to make themselves present in ring groups. If an extension is to be used in a ring group, use MCD to clear the 'ACD Enabled' setting. For more information, consult your Mitel Communications Director documentation.
- For information on configuring extensions for IVR Routing, see "Configuring extensions" on page 512.
- Workgroup Edition does not support Failover media servers.

The following procedures explain how to:

- Add an extension
- Enable a Hot Desk User for external hot desking

To add an extension

1. Click **YourSite=>Extensions**.
2. Click **Add**.
3. After **Name**, enter a name for the extension.
4. After **Reporting/Dialable number**, enter the extension's dialable number.
5. After **Media server**, click the **Browse** button.
6. Select a media server and click **OK**.
7. After **Failover media server**, click the **Browse** button.

8. Click **OK**.
9. Select the **Class of Service** for the media server, from the drop-down list.
10. After **Notes**, enter any other information for administrators about the extension.
11. Select the **Disable real-time monitoring and data collection on this device** check box if you do not want to enable the extension to be set with a MiTAI monitor, viewed in Contact Center Client, and use Contact Center Softphone or Salesforce.com Connector.
By default, this check box is not selected.
12. To license this extension, select **License this Extension** check box.
Unlicensed extensions will not be updated in Contact Center Client real-time monitors.
Unlicensed extensions cannot be reported on and cannot be costed with Business Reporter.
13. Click **Save**.

To enable a Hot Desk User for external hot desking

1. Click **YourSite=>Extension**.
2. Select a Hot Desk User extension and select **External hot desk user enabled**.
Extensions that are enabled as external hot desk users can handle non-ACD calls while logged in externally.
3. After **External dialing prefix**, type the dialing prefix for the external device to which calls will be routed.
4. After **External dialing number**, type the dialing number for the external device to which calls will be routed.
5. Click **Save**.

Adding extension groups

After adding extensions, you add extension groups and associate extensions with these groups.

To add an extension group

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

Associating extensions with extension groups

To associate an extension with an extension group

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

Adding trunks

NOTE:

- If you want to report on SMDR information for SIP trunks you must ensure your SMDR tag is numbered. Please see the *Contact Center Management Installation Guide*.
- We recommend you name trunks and trunk groups in a way that helps you identify them as either SIP or TDM trunks, enabling the trunk type to be easily identified in reports.

To add a trunk

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Trunks**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the trunk.
5. Click the **Browse** button and select a **Media server** to associate with the trunk.
6. On the ribbon, click **Save**.

Adding trunk groups

You add trunk groups and then associate trunks with the trunk groups.

NOTE:

- If you have Traffic Analysis and/or Business Reporter and use the same trunk group numbers across multiple telephone systems, you must associate each trunk group with a media server.
- We recommend you name trunks and trunk groups in a way that helps you identify them as either SIP or TDM trunks, enabling the trunk type to be easily identified in reports.

If you have Traffic Analysis and/or Business Reporter and use the same trunk group numbers across multiple telephone systems, you must associate each trunk group with a media server.

To add a trunk group

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Trunk groups**.
3. Click **Add**.
4. Type a **Name** and a **Reporting number** for the trunk group.
5. Click ... and select a **Media server** to associate with the trunk group.
6. On the ribbon, click **Save**.

Associating trunks with trunk groups

To associate a trunk with a trunk group

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

Adding DNIS

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

To add a DNIS

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **DNIS**.
3. Click **Add**.
4. Specify DNIS identification information and click the **Browse** button to select the media server for the DNIS.
5. After **Short Abandon**, type the duration for the call abandon parameter. If the abandon time is less than the call abandon parameter, then the call is a short abandon call and is not included in the call statistics (for example, type 5 to define a short abandon call as a call that lasts less than 5 seconds).
6. After **Service Level**, type the Service Level time.
7. If you have Business Reporter, select a carrier plan, call type, and call rate.
8. On the ribbon, click **Save**.

Adding DNIS groups

After adding DNIS, you can create DNIS groups and then associate DNIS numbers for specific businesses or product lines to those groups.

To add a DNIS group

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

Associating DNIS to DNIS groups

To associate a DNIS with a DNIS group

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

Adding Account Codes

Account Codes can be verified, non-verified, or forced.

- **Verified and Non-Verified Account Codes**

Verified and Non-Verified Account Codes allow callers to complete a call without entering a code. These codes are used to categorize calls or portions of calls. You define Account Codes in the YourSite database to generate reports for specific departments, services, and companies. For example, an agent who receives calls for three catalog companies enters Account Code 01 for calls to company X, Account Code 02 for calls to company Y, and Account Code 03 for calls to company Z. When you configure the Account Codes, Contact Center Management generates reports on the number, origin, and handling of calls for each of the departments, services, or companies.

- **Forced Account Codes**

Both Verified and Non-Verified Account Codes can be forced. With Forced Verified Account Codes, you must enter the Account Code as soon as the phone is off-hook. With Forced Non-Verified Account Codes, you must enter the Account Code after you dial the phone number.

For example, you might have 03 programmed on the telephone system as the trunk access code for calling England. Before you make a call to England, you must preface the telephone number with the Account Code 03, otherwise the call will not go through. To report on these verified Account Codes, you define them in the YourSite database.

NOTE:

- If you will use Forced Account Codes and have a Make Busy button programmed on your Mitel phone set, you must remove the Make Busy button, or Forced Account Codes will not work with Interactive Contact Center and Contact Center PhoneSet Manager.
- If a Forced Verified Account Code is not entered in before Work Timer expires, then a -1 Non Compliant Code will be automatically assigned to the call.

You can add Account Codes for individual departments, projects, and services and generate reports on them. Agents can tag incoming calls or multimedia contacts with Account Codes for various services. Account Codes not associated to a specific employee can be used by all employees when handling contacts.

Agents who work for companies that use Business Reporter can use Account Codes to gain access to outside lines (see "Assigning non-ACD extensions and Account Codes for employees" on page 133).

If you are adding Account Codes to be used by voice agents, you print a copy of your telephone system assignment forms to use as a guide for programming. If you are adding Account Codes to be used by email and chat agents, you enter Account Code reporting numbers of your choice.

You can label Account Codes as call classification codes. This option associates the entire handling time to calls of this Account Code type. This option is available for contact centers that have the 3300 ICP only.

To add an Account Code

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Codes**.
3. Click **Add**.
4. Type a **Name** and **Reporting number** for the Account Code.
5. If the Account Code will be used as a call classification code, select the **Use as Classification Code** check box.

NOTE:

- When the 'Use as Classification Code' check box is selected, the Account Code duration spans from the time the call arrives until the call ends. When you deselect the 'Use as Classification Code' check box, the Account Code duration spans from the time the code was entered until the next code is entered or the call ends.
- As a best practice, we recommend you name all call classification codes for easy identification or group call classification codes in Account Code groups.

6. On the ribbon, click **Save**.

Adding Account Code groups

You can create Account Code groups to group similar Account Codes or to differentiate traditional Account Codes and call classification codes. Agents can readily identify and select appropriate Account Codes using the soft phone or Interactive Contact Center and supervisors can report on Account Code groups.

To add an Account Code group

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

Associating Account Codes with Account Code groups

To associate an Account Code with an Account Code group

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

Adding Account Code categories

In businesses that use a large number of Account Codes, Account Code categories can be used to provide a hierarchical and grouped listing of the Account Codes available to agents and employees from the soft phone toolbar within Contact Center Client. You configure Account Code categories from within YourSite Explorer. Once you have configured Account Codes, they can be nested under specific Account Code categories. An Account Code can only be in one category. Call Classification Codes, which are treated the same way as Account Codes, can optionally be nested in Account Code categories. Account Code category availability to agents and employees can optionally be controlled using Contact Center Management / Business Reporter security. When Account Code categories are enabled, Contact Center Management / Business Reporter reports will display the Account Code category path (for example, Sales=>Automotive=>Tires).

To enable Account Code categories

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Codes**.
3. In the ribbon, click the **Configuration** tab.
4. Enable the **Display Account Codes in categories** checkbox.

To add an Account Code category

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Account Codes**.
3. In the ribbon, click the **Configuration** tab.
4. Ensure the **Display Account Codes in categories** checkbox is enabled.
5. Click **Edit categories**.
The Account Code category designer displays.
6. Using the Account Code category designer, add and name Account Code categories in the left pane and then add the Account Codes you have configured, which display in the left pane) to the custom categories.
Account Code categories are sorted by category name and Account Code reporting number. Account Code categories will display in soft phone toolbars exactly as you have designed them in the Account Code category designer. If you have Account Code categories enabled, but do not assign Account Codes to categories, leaving them in the right pane of the designer, these Account Codes will not be available in the soft phone toolbar.

Defining ANI data

Defining ANI data enables Contact Center Solutions to gather information on area codes and geographic regions for incoming calls. ANI data can be given to agents in screen pops, used to route calls to appropriate endpoints, or used in reporting.

NOTE: ANI you want reported on for accounting purposes in Business Reporter should be added as phone numbers as well. For more information on phone numbers, see "Adding phone numbers" on page 167.

The following procedures explain how to

- Define ANI data
- Delete ANI data

To define ANI data

1. Click **YourSite** and, under **Devices**, click **ANI=>Add**.
2. After **Name**, type the geographical region to which the area code corresponds.
3. After **ANI**, type the area code for the geographical region.
4. To import ANI data from a .csv file, click Import and follow the steps under "Importing a range of devices using a .csv file" on page 119.
5. Click **Save**.

To delete ANI data

1. Click **YourSite=>Devices=>ANI**.
2. Select the ANI and click **Delete**.
3. When prompted, click **OK**.
4. Click **Save**.

Adding Make Busy Reason Codes

Voice agents can place themselves in Make Busy using their phone sets, provided the Make Busy with Reason option is enabled on the telephone system. Using Interactive Contact Center, agents can place themselves in Make Busy with reason in Contact Center Client, and supervisors can place agents in Make Busy with reason in Contact Center Client. Agents enter Make Busy Reason Codes to indicate why they are placing themselves in Make Busy and not answering contacts.

If you have Interactive Contact Center or Multimedia Contact Center, you assign Make Busy Reason Codes the reporting numbers of your choice. Otherwise, you type Make Busy Reason Code reporting numbers listed on the telephone system assignment forms.

Four Make Busy Reason Codes are configured by default with Contact Center Management and cannot be deleted from YourSite Explorer:

The -1 Make Busy Reason Code is allocated by the Enterprise server when calls or multimedia contacts are queued.

The -2 Make Busy Reason Code is allocated when hot desking agents are in a non-ACD call or are off hook. This Code applies to voice only.

The -3 Make Busy Reason Code is allocated when agents are in Work Timer. This Code is specifically allocated for configurations that use Queue Work Timer instead of the default Class of Service Work Timer.

NOTE: The -3 Make Busy Reason Code is no longer used in Version 7.1. However, the Code remains in the system in order to summarize Version 6.x data in reporting.

The -4 Make Busy Reason Code is allocated when agents reach their Workload maximum for a media type. For more information on Workload, see "Adding employee Workload" on page 127.

To add a Make Busy Reason Code

1. Click **YourSite** and, under **Devices**, click **Make Busy Reasons**.
2. Click **Add**.
3. Type a **Name** and **Reporting number** for the Make Busy Reason Code.
NOTE: You can program custom Make Busy Reason Codes using any digit between 1-9.
Make Busy Reason Code 0 is reserved for telephone system Make Busy.
4. Click **Save**.

Adding Do Not Disturb Reason Codes

Interactive Contact Center, an optional application, enables supervisors who have a 3300 ICP telephone system to control the availability of agents and ACD queues. Likewise, agents can control their own availability, including placing themselves in or removing themselves from Do Not Disturb. There are many reasons why agents place themselves in Do Not Disturb.

To add a Do Not Disturb Reason Code

1. Click **YourSite** and, under **Devices**, click **Make Busy Reasons**.
2. Click **Add**.
3. Type a **Name** and **Reporting number** for the Do Not Disturb Reason Code.
4. Click **Save**.

Adding phone numbers

Phone numbers are used for running reports in Business Reporter. The phone number device enables you to

- Add area codes/city codes, city exchange information, and contacts.
- Edit location information that displays in reports.

NOTE: Area codes you want to use in Contact Center Solutions to provide data to agents, route calls to appropriate end points, and use to report on contact center functions should be added as ANI. For more information on ANI, see "Adding phone numbers" on page 167.

When adding a phone number to the database, you select

- **Area/City code** when you are adding or updating the area code for a province/state/city
For the phone number 613-599-0045, 613 is the area code.
- **City exchange** when you are adding a new exchange
For the phone number 613-599-0045, 599 is the city exchange (Kanata).
- **Contact** when you are adding a phone number with contact information
For the phone number 613-599-0045, 5990045 is the contact.

To add a phone number area/city code

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Phone numbers**.
3. Click **Add=>Add an area/city code**.
4. Select a country and type an area/city name and area code.
An area can be a city, region, province, or state.
5. On the ribbon, click **Save**.

To add city exchange information

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Phone numbers**.
3. Click **Add=>Add a city exchange**.
4. After **Country**, select a country.
5. After **Area/City name**, select a city, region, province, or state (for example, Greater Toronto Area).
6. After **City name**, type the name of a city or suburb (for example, Thornhill).
7. After **City/Exchange**, type a city exchange number (for example, 231).
For the phone number 416-231-5555, 231 is the city exchange.
8. On the ribbon, click **Save**.

To add phone number contact information

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Phone numbers**.
3. Click **Add=>Add a contact**.
4. After **Country**, select a country.
5. After **Area/City name**, select a city, region, province, or state (for example, Washington).
6. After **City name**, select a city or suburb (for example, Des Moines).
7. Type a contact name and number.
This information displays in the Phone Number Accounting Trace and Phone Number Group Accounting Trace reports.
8. If you want to hide the contact name and number in reports select the **Hide the name and number in reports** check box.
9. On the ribbon, click **Save**.

Adding phone number groups

You can associate Phone numbers with Phone number groups. Phone number groups are added in YourSite Explorer and then Phone numbers are associated with them.

To add a Phone number group

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

To associate a Phone number with a Phone number group

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

CONFIGURING EMPLOYEE SCHEDULING PREFERENCES

Schedule Builder uses employee preferences/options as parameters when scheduling employees. You must configure employee scheduling preferences accurately in YourSite Explorer to create a meaningful schedule.

To configure employee information for scheduling

1. Select the employee or employees you want to configure.
2. Specify the employee role.
See "Configuring employee roles" on page 169.
3. Specify employee work hours.
See "Configuring employee work hours" on page 170.
4. Specify employment status.
See "Configuring employment status" on page 170.
5. Specify employee payroll information.
See "Configuring employee payroll information" on page 170.
6. Specify employee availability.
See "Configuring employee availability" on page 171.
7. Specify time off information.
See "Configuring employee time off" on page 171.
8. Specify employee skills .
See "Configuring employee skills" on page 172.

CONFIGURING EMPLOYEE ROLES

To configure an employee role

1. In YourSite Explorer, in the left pane, click **YourSite**.
2. Under **Devices**, click **Employees**.
3. Select the employee to which you will add an employee role.
4. On the **Workforce Scheduling** tab, click **General**.
5. If the employee is a supervisor who will schedule employees, select the **Is a supervisor of scheduled employees** check box.
6. After **Schedule supervisor name**, select the name of the scheduling supervisor from the list.
7. On the ribbon, click **Save**.

CONFIGURING EMPLOYEE WORK HOURS

To configure employee work hours

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Work hours**.
5. Enter the minimum and maximum number of hours the employee can work in a day, week, or year.
6. If you want to schedule the employee for an unlimited number of hours, click **Unlimited**.
7. After **Minimum time required between shifts**, enter the minimum number of hours required between the employee's shifts.
NOTE: Ensure you set a minimum time between shifts or Schedule Builder will schedule back-to-back shifts for employees.
8. If the employee is permitted to work overtime, under **Available**, select an overtime type from the list and click > to move the overtime type to the **Assigned** list.
9. On the ribbon, click **Save**.

CONFIGURING EMPLOYMENT STATUS

To configure employment status

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Payroll**.
5. If the selected employee is full-time, under **Employment status**, select **Full time**.
6. If the selected employee is part-time, under **Employment status**, select **Part time**.
7. On the ribbon, click **Save**.

CONFIGURING EMPLOYEE PAYROLL INFORMATION

NOTE: If you want to schedule employees by seniority, the employee must be assigned a hire date.

To configure employee payroll information

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Payroll**.
5. Under **Salary**, after **Pay period**, select the pay period for the employee.
6. If the employee is paid an hourly salary, next to **Hourly salary**, specify the employee's pay per hour.
7. If the employee is paid a yearly salary, next to **Yearly salary**, specify the employee's yearly salary and the typical number of hours the employee works in a week.
8. On the ribbon, click **Save**.

CONFIGURING EMPLOYEE AVAILABILITY

NOTE: If you do not specify availability, Schedule Builder assumes the employees are available 24 hours a day, seven days a week.

To configure employee availability

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Availability**.
5. Select the **Uses availability** check box.
6. Under **New Availability**, after **Work day**, select the day of the week the employee availability applies to from the list.
7. If the employee is available only during certain hours of the day, select **Part of the day** and specify the hours the employee is available.
8. If the employee is available all day, select **Full day**.
9. Click **Add availability**.
10. On the ribbon, click **Save**.

CONFIGURING EMPLOYEE TIME OFF

To configure employee time off

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Time off**.
5. If the employee's time off is carried over based on their start date, under **Carryover date**, select **Employee start date**.
6. If the employee's time off is carried over based on a fixed date, under **Carryover date**, select **Fixed date** and specify the carryover date.
7. If the employee is permitted time off, under **Available**, select the time off type from the list and click > to move the time off type to the **Assigned** list.
8. On the ribbon, click **Save**.

OVERRIDING EMPLOYEE TIME OFF

To override an employee time off type

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Time off**.

5. Under **Assigned time off**, select a time off type to override.
6. If you want to override the total number of time off hours allowed, select the **Override total hours allowed** check box and specify the number of hours.
7. If you want to override a percent of time off hours based on time worked, select the **Override % of hours worked** check box and specify the number of hours.
8. If you want to override the number of hours that can be carried over, select the **Override allowed carry over** and specify the number of hours.
9. If you want to override the time off hours available to the employee, after **Available as of**, specify the date after which the time off hours are available and number of hours that will be available.
10. On the ribbon, click **Save**.

CONFIGURING EMPLOYEE SKILLS

NOTE: If you have selected multiple employees to edit, skills that are not available to these employees are grayed out and cannot be assigned.

To configure employee skills

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Employees**.
3. Select an employee.
4. On the **Workforce Scheduling** tab, click **Skills**.
5. After **Name**, type the name of the subscriber.
6. Under **Available**, select the skill type from the list and click > to move the skill type to the **Assigned list**.
7. Repeat step 5 for all skills the employee will use.
8. On the ribbon, click **Save**.

CONFIGURING SCHEDULING OPTIONS

Before you can make schedules in Workforce Scheduling, you must configure the following scheduling options in YourSite Explorer

- Employees
See "Adding employees" on page 121.
- Holidays
See "Configuring holidays" on page 173.
- Overtime types
See "Configuring overtime types" on page 173.
- Time off types
See "Configuring time off types" on page 174.
- Skills
See "Configuring skills" on page 175.

CONFIGURING HOLIDAYS

You configure holiday options on the Holidays window. You can add holidays that affect your contact center, specify which holidays give employees the day off, and specify which holidays are paid.

To configure a holiday

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Holidays**.
3. Click **Add**.
4. After **Name**, type the name of the holiday.
5. If this holiday is a company holiday and you want to receive warnings when trying to schedule employees for this day, select the **This holiday is a company holiday** check box.
6. Specify the pattern of the holiday.
 - If the holiday always falls on the same day of the month, select **Every** and specify the month and date the holiday falls on.
 - If the holiday has a pattern of falling on a certain day, week, and month, select **The** and specify the pattern, day of week, and month.
 - If the holiday is a calculated holiday, such as Good Friday or Easter Monday, select **Calculated holiday** and specify the holiday.
7. On the ribbon, click **Save**.

CONFIGURING OVERTIME TYPES

You can configure the following overtime parameters:

- **Pay rate multiplier**—The number of times by which the basic pay is increased to calculate the overtime pay rate. For example, if the pay rate multiplier is 1.5 and applied to \$10 per hour, the overtime pay rate is \$15 per hour
- **Color**—The color in which the job displays in the time bar pane
- **Hours worked in a given day are greater than**—The number of hours in a day an employee must work before the employee is paid at the overtime pay rate
- **Hours worked in a given week are greater than**—The number of hours in a week an employee must work before the employee is paid at the overtime pay rate
- **Days of the week worked**—Any work done on these days will be considered overtime pay
- **Day of the year worked**—Any work done on this specific date will be considered overtime pay
- **Holiday worked**—Any work done on this specific holiday will be considered overtime pay

To configure an overtime type

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Overtime**.
3. Click **Add**.
4. After **Name**, type the name of the overtime type.
5. Under **Effects**, enter a pay rate modifier and select a color for the overtime type.

6. Under **Conditions**, select either **Hours worked**, **Days of the week worked**, **Days of the year worked**, or **Holiday worked**.
 - If you select **Hours worked**, you must select either **Hours worked on a given day are greater than** or **Hours worked on a given week are greater than** and specify the number of hours.
 - If you select **Days of the week worked**, select the days of the week to which this overtime type applies.
 - If you select **Days of the year worked**, select the days of the year to which this overtime type applies.
 - If you select **Holiday worked**, select the holiday to which this overtime type applies.
7. On the ribbon, click **Save**.

CONFIGURING TIME OFF TYPES

Employees might take time off work for a variety of reasons. Depending on the nature of time taken off, employees might be paid, employees might be required to take a full day as time off, and employees might accrue time off (for example, vacation).

Create time off types that reflect the time off that employees take at your contact center.

- Consider if the type of time off should accrue, such as vacation, time off for a medical procedure, or personal days.
- Consider when the time off is accrued. For example, an employee might accrue 1 day of paid sick leave per month.
- Consider if the type of time off must be taken as a full day.
- Consider if employees must qualify for the type of time off.
- Consider if employees can carry the time off over to the next year.

Workforce Scheduling can warn you when employees do not qualify for the time off or when the scheduled time off is not within the limits allowed.

To configure a time off type

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Time off**.
3. Click **Add**.
4. After **Name**, type the name of the time off type.
5. If employees will be paid for this time off type, under **Effects**, select the **Paid time off** check box and select a color for the time off type.
6. If employees can request this type of time off from Employee Portal, under **Effects**, select the **Can be requested** check box.
7. Under **Employment duration qualification**, select either the **Employed for at least** or **Employed no more than** check box and specify the number of months.
8. Under **Scheduling limitations**, select either the **You must schedule this type in increments of at least** or **You must not schedule this type for more than** check box and specify the number of hours per day/week.

9. If you want to limit the number of hours this time off type can be scheduled, select the **Limit the number of hours that can be scheduled** check box.
 - If you want to fix the annual amount of this time off type, select **Fixed annual amount of** and specify the number of hours.
 - If the annual hours of this time off type are accrued, select the **Annual hours are accrued** check box and select either **Weekly**, **Biweekly**, or **Monthly**.
 - If you want to base this time off type on a percent of the number of hours worked, select **Based on hours worked at a rate of** and specify a percent.
 - If you want to carry over a fixed amount of accumulated time off hours, select **Percent of accumulated hours, at a rate of** and specify a percent.
 - If you want to carry over a percent of accumulated time off hours, select **Percent of accumulated hours, at a rate of** and specify a percent.
10. On the ribbon, click **Save**.

CONFIGURING SKILLS

Employees offer a variety of different skills. For example, some employees might be bilingual or have certification in a specialty. Using Workforce Scheduling, you can incorporate these skills when you create your schedules.

Configuring the different types of skills allows you to create and manage schedules that incorporate the skills and skill levels of your employees. When you create schedules, Workforce Scheduling allows you to schedule employees with specific skill sets.

NOTE: Skill levels range from 1 to 10, level 10 being the highest skill level, or most skilled, and level 1 being the lowest skill level.

To configure a skill

1. In YourSite Explorer, in the left pane, click **Workforce Scheduling**.
2. Click **Skills**.
3. Click **Add**.
4. After **Name**, type a name for the skill.
5. On the ribbon, click **Save**.

BUSINESS HOUR SCHEDULES

Your contact center software performs certain tasks during business hours and other tasks after business hours. You create schedules so that Contact Center Management knows your business' hours of operation, and so you can apply these hours of operation to devices. You can create yearly or seasonal schedules.

For example, Multimedia Contact Center can send 'business hour' auto-response messages to customers contacting you during business hours, and 'after hours' auto-response messages to customers contacting you after hours. Applying a schedule to a Multimedia Contact Center workflow tells the system when to send each type of message.

Contact Center Management ships with two default schedules: The default 24/7 schedule for businesses that operate 24 hours a day, seven days a week, and the default Monday to Friday 9:00 AM to 5:00 PM schedule. You can modify these schedules according to your business needs. You can also create schedule exclusion lists, which enable you to omit days such as national holidays from schedules. See "Managing schedule exclusion lists" on page 177.

The following procedures tell you how to

- Create and modify schedules
- Manage schedule exclusion lists

CREATING AND MODIFYING SCHEDULES

The schedules you create do not expire. The weekly schedule configuration applies week after week until you change the schedule or apply a different schedule to the device. You can exclude specific dates from the schedule for national holidays.

To create a schedule

1. Select **YourSite=>Schedules**.
2. Click **Add**.
3. After **Name**, a descriptive name for the schedule.
4. To apply a schedule exclusion list, click the **Browse** button.
5. Select an exclusion list to apply and click **OK**.
NOTE: The Schedule exclusion list specifies days to be omitted from the schedule. To create a schedule exclusion list, or to edit an existing schedule exclusion list, see "Managing schedule exclusion lists" on page 177.
6. After **Start time**, type the business day start time for each day of the week.
7. After **End time**, type the business day end time for each day of the week.
8. After **Disable for day**, select the check box for each day your business is closed.
9. Click **Save**.

To modify a schedule

1. Select **YourSite=>Schedules**.
2. Select the schedule to modify.
3. After **Name**, type a new name for the schedule. For example, 'Monday to Friday 8:00 AM to 6:00 PM'.
4. After **Schedule exclusion list**, click the **Browse** button.
5. Select a schedule exclusion list to apply to the schedule and click **OK**.
NOTE: The Schedule exclusion list specifies days to be omitted from the schedule. To create a schedule exclusion list, or to edit an existing schedule exclusion list, see "Managing schedule exclusion lists" on page 177.
6. After **Start time**, type the new business day start time for each day of the week.
7. After **End time**, type the new business day end time for each day of the week.
8. After **Disable for day**, select the check box for day your business is closed.
9. Click **Save**.

Managing schedule exclusion lists

Schedule exclusion lists enable you to omit days from schedules you create. For example, you can use a schedule exclusion list to omit national holidays from a yearly schedule.

The following procedures show you how to

- Create and apply new exclusion lists to schedules
- Apply existing exclusion lists to schedules
- Remove exclusion lists from schedules
- Edit and remove dates from schedule exclusion lists
- Delete exclusion lists from YourSite Explorer

NOTE: To edit or delete a list you must first select a schedule with an exclusion list already applied to it. You can then access schedule exclusion lists, and the buttons for editing and deleting lists, by clicking 'Manage schedule exclusion list'.

To create and apply a new exclusion list to a schedule

1. Click **YourSite=>Schedules**.
2. Click **Add**.
3. Click **Manage schedule exclusion list**.
4. After **Name**, type the name of the exclusion list.
NOTE: To create a new list for a schedule with an exclusion list already applied to it, click 'Add' and follow steps 4 onward.
5. On the calendar, click the dates to exclude from the schedule.
6. Click **Save**.
7. To apply the exclusion list to the selected schedule, click **Apply**. Otherwise, close the schedule exclusion list designer window.
8. Click **Save**.

To apply an existing exclusion list to a schedule

1. Click **YourSite=>Schedules**.
2. Select the schedule to which you will apply a schedule exclusion list.
3. After **Schedule exclusion list**, click the **Browse** button.
4. Select a schedule exclusion list and click **OK**.
5. Click **Save**.
6. Repeat these steps for other schedules to which you will apply the exclusion list.

To remove an exclusion list from a schedule

1. Click **YourSite=>Schedules**.
2. Select the schedule from which you will remove a schedule exclusion list.
3. After **Schedule exclusion list**, click the **Clear** button.
4. Click **Save**.

To edit and remove dates from an exclusion list

1. Click **YourSite=>Schedules**.
2. Select a schedule with an exclusion list applied to it and click **Manage schedule exclusion list**.
3. Click **Edit**.
4. To add new dates, select the dates from the calendar.
5. To remove dates, select the dates from the list and click **Remove**.
6. To remove all dates, click **Clear**.
7. Click **Save**
8. To apply changes to the schedule, click **Apply**.

To delete an exclusion list from YourSite Explorer

1. Click **YourSite=>Schedules**.
2. Select a schedule with the exclusion list to delete.
NOTE: If you are deleting exclusion lists as part of clean-up, select any schedule with an exclusion list applied to it and follow the steps below.
3. Click **Manage schedule exclusion list**.
4. From the drop-down list, select the exclusion list you want to delete.
5. Click **Delete**.
6. Click **Save**.

Applying schedules

You can apply the schedules you create to

- Media servers— See "Adding media servers" on page 84.
- Queues— See "Adding queues" on page 142.
- Workflows, if you are licensed for IVR Routing.
See "Configuring the Schedule activity" on page 615.
- Alarms— See "Monitoring and alarming subsystem" on page 178.
- WallBoarder sign plan business hour and scheduled messages— See "Creating sign plans" on page 293.
- Interactive Contact Center Queue control— See "Opening and closing queues with business hour schedules" on page 153.

MONITORING AND ALARMING SUBSYSTEM

Contact Center Solutions uses a centralized alarming system configured in YourSite Explorer. The Maintenance Alarm Dispatcher service is located on the Enterprise Server and performs server maintenance activities as well as controlling all alarming in the network. Alarm notifications are sent for each device that is triggering an alarm and is distributed in the following ways:

- **Email:** Summary emails are sent to valid email subscribers and list all current, active alarm statuses as well as a list of alarms that triggered the alert.
- **RSS:** An RSS feed is published on the server and can be subscribed to by any RSS reader that has been given access to the server.
- **SNMP:** A count of alerting alarms for each category can be viewed in an SNMP manager.
- **Start Page:** A list of currently active Contact Center Management alarms with a Knowledge Base article list of descriptions, severities, impacts on contact centers, and troubleshooting information can be viewed on the Start Page of YourSite Explorer. (See "YourSite Explorer Start Page" on page 74.)

By default, alarms are configured to expire after 24 hours.

The Server Monitoring Agent is a standalone service that is deployed on each server in the enterprise. It monitors performance counter values based on alarm configuration, collects external alarm data from services, and notifies the prairieFyre Maintenance Alarm Dispatcher service when alarm states surpass configured thresholds.

Alarms may also be viewed with the Enterprise Status icon and RSS feed link, located in the lower-right corner of the YourSite Explorer and Contact Center Client windows and in the upper-right corner of CCMWeb. In order to view the Enterprise Status icon and RSS feed link in all of the applications in which they are present, we recommend you log in as an Administrator.

The Enterprise Status icon is a circular, colored status indicator. The color indicates the highest level of severity for all alarms currently alerting (Normal = Green, Minor = Yellow, Major = Orange, Critical = Red, Unknown = Gray). If you subscribe to the RSS feed and your RSS reader is open, you will be notified with changes to alarm states. If you don't subscribe to the RSS feed, you can click the RSS feed link and view active alarms in your default browser.

In addition to receiving notification of alarms, you can quickly view Enterprise status and active alarms using the YourSite Explorer Start Page's Alarms tab. The Alarms tab consists of two panes: the Feed Preview and the Mitel Knowledge Base pane. The Feed Preview contains an RSS feed of the active alarms. The Mitel Knowledge Base pane contains a table of contents linking to relevant Knowledge Base (KB) articles for each alarm. Each KB article contains a description of the reason for the alarm, the severity of the alarm, the impact on contact centers, and troubleshooting steps.

If you have multiple servers and you want to be able to determine which server is emailing an alarm, you can set up a unique 'From' address for the emails delivered from the Contact Center Management server in the 'From Name' field of the Outgoing tab in the mail server configuration window in YourSite Explorer.

Alarms are categorized based on the type of data they analyze. There are three types of alarms:

- **Performance counter and Registered services performance counter alarms:** based on performance counters
- **Media server alarms:** independently tracked for each media server
- **General alarms:** all other alarms

The following procedures explain how to

- Configure Performance counter and Registered services performance counter alarms
- Configure Media server alarms
- Configure General alarms
- Disable or enable alarms
- Temporarily disable ('Snooze') alarms

These configurations take place in **YourSite=>Alarms**.

To configure Performance counter and Registered services performance counter alarms

1. Select the **Performance counter** or **Registered services performance counter** alarm you want to configure and click the **General** tab.
2. To specify an SNMP category in which the alarm displays, after **Category**, select a category type from the drop-down list.
3. Set **Minor**, **Major**, and **Critical thresholds** and **threshold alert delays** for the alarm.
NOTE: Thresholds determine the severity of the alarm when the specified condition is met. The threshold alert delays determine the how long an alarm state is active before an alarm is triggered and notification is sent.
4. To disable a threshold, from the drop-down list next to the threshold select **Disabled**.
5. To be notified when the alarm value changes, select the **Realert on value change** check box.
6. Click the **Actions** tab.
7. To send subscribers emails of alarms when the alarm is triggered, under **Email action**, select the **Enabled** check box.
8. Click **Browse** and select a **Business hours**: schedule to apply to the alarm.
9. To receive notifications of critical alarms, outside of business hours, select the **Ignore business hours for critical alerts**: check box.
10. Click **Save**.

To configure Media server alarms

1. Select the **Media server** alarm you want to configure and click the **General** tab.
2. To specify an SNMP category in which the alarm displays, after **Category**, select a category type from the drop-down list.
3. After **Severity**, select the level of severity to apply to this alarm (Minor, Major, or Critical).
4. After **Alert delay**, select how long the alarm state is active before an alarm is triggered and notification is sent.
5. To disable the alarm for specific media servers, after **Disable media servers**:, click the ... button, select the media server from the **Select disabled media servers** window, and click **OK**.
6. To clear a disabled media server selection, click **Clear**.
7. Click the **Actions** tab.
8. To send subscribers emails of alarms when the alarm is triggered, under **Email action**, select the **Enabled** check box.

9. Click the **Browse** button and select a **Business hours**: schedule to apply to this alarm.
10. To receive notifications of critical alarms, outside of business hours, select the **Ignore business hours for critical alerts**: check box.
11. Click **Save**.

To configure General alarms

1. Select the **General** alarm you want to configure and click the **General** tab.
2. To specify an SNMP category in which the alarm displays, after **Category**, select a category type from the drop-down list.
3. After **Severity**, select the level of severity to apply to this alarm (Minor, Major, or Critical).
4. After **Alert delay**, select how long the alarm state is active before an alarm is triggered and notification is sent.
5. Click the **Actions** tab.
6. To send subscribers emails of alarms when the alarm is triggered, under **Email action**, select the **Enabled** check box.
7. Click the **Browse** button and select a **Business hours**: schedule to apply to this alarm.
8. To receive notifications of critical alarms, outside of business hours, select the **Ignore business hours for critical alerts** check box.
9. Click **Save**.

To disable or enable an alarm

1. To disable an alarm, select the alarm and click the **General** tab.
2. Click **Disable**.
3. Click **Save**.
4. To re-enable an alarm, select the alarm and click the **General** tab.
5. Click **Enable**.
6. Click **Save**.

To temporarily disable ('Snooze') an alarm

1. Select the alarm to disable and select the **General** tab.
2. Click **Snooze** and, from the drop-down list, select how long the alarm will be disabled.
3. To customize the snooze duration, from the **Snooze** drop-down list select **Custom...** and set the date and time at which the alarm reactivates.
4. Click **Save**.

VALIDATING ALARMS

Some alarms require the system to be validated before the alarms will clear. The Validate button must be clicked after the values have been corrected, otherwise the alarm will not be cleared until nightly synchronization. The alarm may not clear with nightly synchronization if the value is still wrong. See "Validating YourSite Explorer configuration" on page 189.

Consult the alarm's Knowledge Base article for validation information.

ENABLING SNMP AGENT FOR ALARMS

Contact Center Solutions/Business Reporter includes an SNMP agent that enables you to monitor Contact Center Solutions/Business Reporter alarms through an SNMP manager. Contact Center Solutions/Business Reporter SNMP agent integrates with the Windows SNMP service and requires that a Windows SNMP Service be added and configured on the Enterprise Server.

The Contact Center Solutions/Business Reporter SNMP agent is primarily configured for traps only, but also responds to Get-request messages for trap messages.

SNMP Agent provides information on nine categories of alarms:

- General Category Alarm
- Data Collection Alarms
- Server Resource Alarm
- Communication Alarm
- License Violation Alarm
- IVR Alarm
- Reporting Alarm
- Performance Alarm
- Configuration Alarm

The value reported for each alarm category is the highest severity of alarm currently triggered in that category.

Configuring Windows SNMP service for the SNMP agent

Contact Center Solutions and Business Reporter requires the use of the Windows SNMP service for the Contact Center Solutions SNMP agent.

The following procedures outlines how to:

- Install the Windows SNMP services (Windows Server 2008 R2 and Windows Server 2012 and 2012 R2)
- Configure Windows SNMP service for the SNMP agent

To install the Windows SNMP services (Windows Server 2008 R2)

1. Start the **Server Manager**.
2. Under **Features Summary**, click **Add Features**.
The Add Features Wizard opens.
3. Select the following services:
 - SNMP Services
 - SNMP Service
 - SNMP WMI Provider
4. Click **Next**.
5. Click **Install**.
6. Click **Close**.

To install the Windows SNMP services (Windows Server 2012 and 2012 R2)

1. Start the **Server Manager**.
2. Click **Manage=>Add Roles and Features**.
The Add Roles and Features Wizard opens.
3. Select **Role-based or feature-based installation** and click **Next**.
4. Select **Select a server from the server pool** and select the **Enterprise Server**.
5. Click **Next**.
6. Click **Next**.
7. Select the following services:
 - SNMP Service
 - SNMP WMI Provider
8. Click **Add Features**.
9. Click **Next**.
10. Click **Install**.
11. Click **Close**.

To configure Windows SNMP service for the SNMP agent

1. If you do not have SNMP Service installed on your server, install it using the **Add/Remove Program**, **Add Features**, or **Add roles and features** function of your Window server.
2. After the installation has completed, navigate to **Services**.
3. Right-click on **SNMP** and select **Properties**.
4. Select the **Traps** tab.
5. Under **Community name**, type a community name, such as **Public**, and click **Add to list**.
6. Under **Trap destinations**:, click **Add**.
7. Under **Host name, IP or UPX address**:, type the destination for Contact Center Solutions SNMP Agent traps.
8. Click **Add**.
9. Select the **Security** tab.
10. Click **Add**.
11. In the **Community rights** drop-down list, select **READ WRITE**.
12. Under **Community name**:, type **Public**.
13. Select the **Log On** tab.
14. Under **Log on as**:, select **Local System Account**.
15. Click **OK**.

NOTE: After setting up your SNMP Agent, it is recommended you test it using an appropriate tool to confirm that it has been configured correctly.

SNMP MIB summary

Table 8 and Table 9 summarize object information from the MIB. The MIB is located in <drive>] /CCM/Services/MaintenanceAlarmDispatcher/Snmp.

Table 8: prairieFyre sub-tree

OBJECT TYPE	OBJECT IDENTIFIER
enterpriseAlarms	prairieFyre 1
enterpriseAlarms	prairieFyre 2
enterpriseAlarms	prairieFyre 3

Table 9: MIB enterpriseAlarms sub-tree summary

OBJECT TYPE	SYNTAX INTEGER	MAX ACCESS	DESCRIPTION	OBJECT IDENTIFIER
manufacturer	manufacturer	read-only	Mitel Networks Contact Center Suite	enterpriseAlarms 1
overridingSystemAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	This is the cumulative total of all reporting active alarms and should be viewed as the overriding alarm state that the Mitel suite is now reporting.	enterpriseAlarms 2
generalCatagoryAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	When a software entity raises an alarm not covered in the following list then it is categorized as a general alarm.	enterpriseAlarms 3
dataCollectionAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One of the Media Controller Data Link Connections within the Mitel Enterprise is offline. This could be a connection to a PBX or an email server or some other controller of a media transaction that is configured to be connected to the Mitel suite.	enterpriseAlarms 4

Table 9: MIB enterpriseAlarms sub-tree summary (continued)

OBJECT TYPE	SYNTAX INTEGER	MAX ACCESS	DESCRIPTION	OBJECT IDENTIFIER
serverResourceAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more software services in the Mitel suite is reporting an unusual consumption of computer resources. This may a result of an exceptionally high CPU consumption or running low on physical memory, for example. This may require a service restart to resolve.	enterpriseAlarms 5
communicationsAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more service endpoints is reporting an error in its control channel with an associated endpoint. This may be a socket or WCF channel or may be an MSMQ error that is preventing normal process flow in the Mitel software suite.	enterpriseAlarms 6

Table 9: MIB enterpriseAlarms sub-tree summary (continued)

OBJECT TYPE	SYNTAX INTEGER	MAX ACCESS	DESCRIPTION	OBJECT IDENTIFIER
licenseViolationAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	The prairieFyre Enterprise Licensing Manager is reporting that the installation is violating or has attempted to exceed enforced license limits for their installation. This may be configuring the YSE services for features or capacity they have not purchased.	enterpriseAlarms 7
ivrAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	The Routing services for IVR Routing are reporting an alarm, which may be due to media ports being out of service or an inability to load a workflow.	enterpriseAlarms 8

Table 9: MIB enterpriseAlarms sub-tree summary (continued)

OBJECT TYPE	SYNTAX INTEGER	MAX ACCESS	DESCRIPTION	OBJECT IDENTIFIER
reportingAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	The reporting engine is reporting an error that implies it cannot generate a requested report due to a system inoperability error. This may be a corrupt report template or could be a transaction error on the retrieval of SQL data to fill the report.	enterpriseAlarms 9
performanceAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more of the service endpoints in the Mitel suite is reporting an overload condition	enterpriseAlarms 10
configurationAlarm	unknownAlarm(0) noAlarm(1) minorAlarm(2) majorAlarm(3) criticalAlarm(4)	read-only	One or more of the service endpoints in the Mitel suite is reporting an error when loading configuration data.	enterpriseAlarms 11

VALIDATING YOURSITE EXPLORER CONFIGURATION

The Validate button manually triggers a validation of your contact center system configuration by going through Class of Service system options, SMDR options, agent groups, voice queues, and media servers, firing or clearing alarms as appropriate. Validation automatically takes place with the synchronization that occurs during nightly maintenance, but manual validation is required to clear some alarms.

To validate YourSite Explorer configuration

1. In YourSite Explorer, click the **Tools** tab.
2. Click the **Validate** button.

SECURITY ROLES

You create security roles if you want to restrict employees from specific devices and Contact Center Solutions application areas that their licensing would otherwise enable them to access.

NOTE: In order for you to assign security roles, your account must be associated with a security role that has 'May manage security' enabled.

Contact Center Solutions has two default security settings:

- **Local administrator**—allows employees full access to all of the Contact Center Solutions applications (to which the contact center and employees are licensed) and devices, except Write Back for synchronization.
- **Enterprise administrator**—includes access to Write Back, for synchronization, and all local administrator duties.

Employee access to applications is limited by their security role and their licensing. An employee's security role defines the application areas an employee can access and licensing limits what applications an employee can access. For example, an employee with the Enterprise administrator security role but no supervisor license would not be able to access YourSite Explorer.

When you install Contact Center Solutions, a default user is created. This ensures there is at least one account with which you can access YourSite Explorer.

When you install Contact Center Management, a default user is created. This assures you there is at least one account with which you can access YourSite Explorer

The default user name and password are

- Username: `_admin`
- Password: `_password`
- Security Role: Enterprise Administrator

Security roles have two components:

Basic—Basic security controls user access to specific areas of Contact Center Management, Flexible Reporting, and to Workforce Scheduling and Schedule Adherence.

Advanced—Advanced security controls user access to customized lists of devices, real-time monitors, profiles, reports, sites, and users

CREATING AND APPLYING SECURITY ROLES

You can create security roles that have a number of combinations of basic and advanced authorizations applied to them. For example, you can create a security role with minimal security restrictions, granting users access to as many Contact Center Management reports and applications as you designate. You do this by leaving the security components listed under the Advanced tab set to 'Not restricted'. Alternatively, you can create a security role that has full access to some Contact Center Solutions application areas but is restricted from accessing other reports and devices (Figure 16.)

To create and apply a security role, you must

1. Ensure employees are configured in the YourSite database.
2. Create security lists (If you intend to use advanced security).
3. Configure basic security.
4. Optionally, configure advanced security.
5. Assign the security role to one or more employees.

NOTE:

You create a security role only if you want to restrict employees from certain components of Contact Center Solutions. Basic Security restricts employees from specific application areas. Advanced security restricts employees from viewing specific contact center sites, devices, and application components. You create combined basic-advanced security roles if you want to restrict employees from some application areas, and some sites, devices, and/or application components.

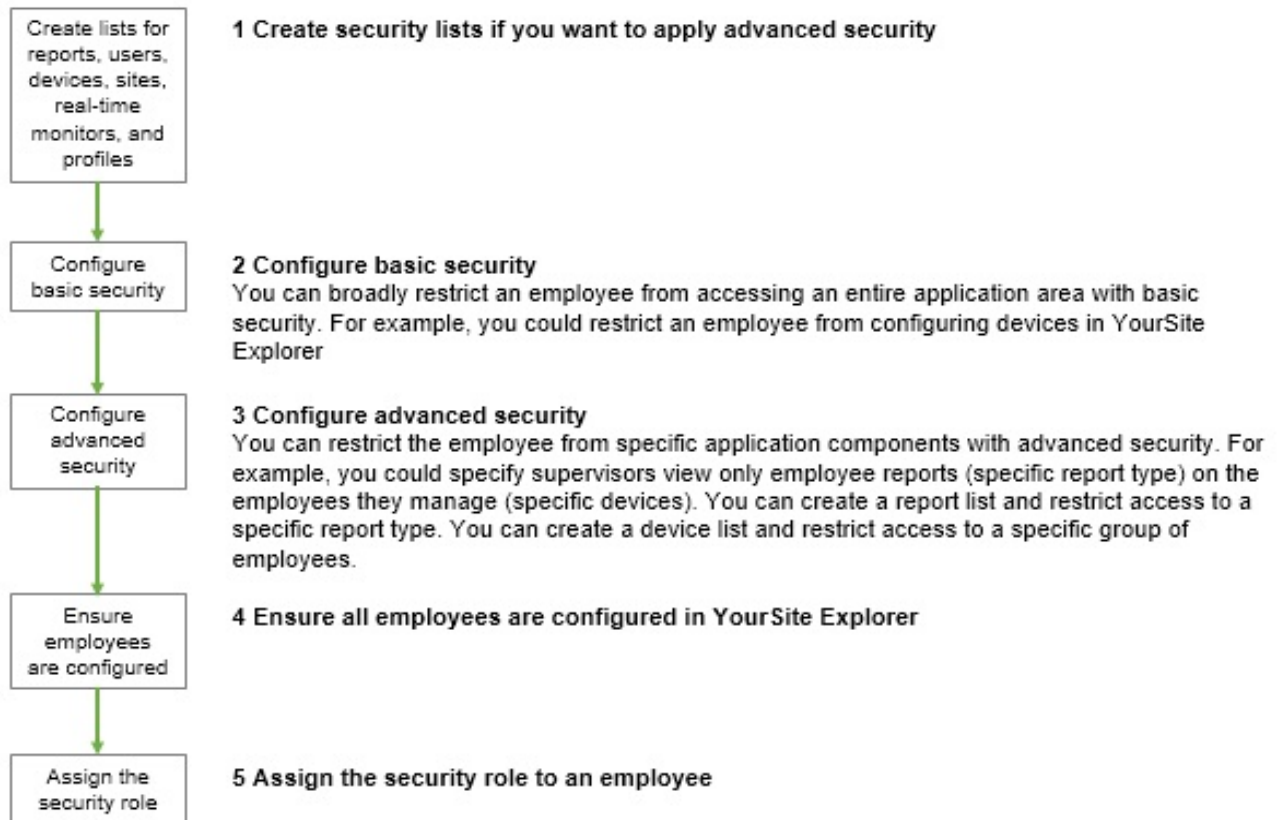


Figure 16: Security flow chart

CREATING SECURITY LISTS

You can use advanced security to restrict user access to sites, reporting, and real-time functions.

Before you can specify advanced security, you must create security lists (device lists, real-time monitor lists, report lists, site lists, and user lists). Each list must contain the devices, real-time monitors, reports, sites, and users to which employees are granted access. You can combine these lists when you assign a security role. For example, you can specify advanced security that permits users to create Employee Group Performance by Employee reports (specific report list) on Kanata employees (specific device list) only.

Use the following security lists to define advanced security:

- **Device list**—Device lists specify devices for which employees may view real-time information. You create device lists to restrict access to statistics on specific employees. For example, you might want a manager to view certain employees only (specific device - Kanata employees). The device list must contain the device (employee group - in this case, Kanata employees) to which the user may gain access. Devices include Account Code Group, Agent group, DNIS group, Employee Division, Employee group, Extension Division, Queue group, Team, Trunk Group, Voice extension group, and Voice mail extension group.
NOTE: If you add an agent to a device list, you must also add the associated employee.
- **Report list**—You create report lists to restrict users from viewing specific report types. For example, you might want managers to view employee reports only (specific report category). The report list must contain the reports the user may run. If you do not assign a report list to the employee, then the employee will see every YourSite group and team when running reports and monitoring real-time activities (unless a basic security role is assigned to that employee that does not permit the employee to gain access to any reports).
- **Profile list**—You create a profile list to restrict users from managing specific real-time monitor profiles.
- **Site list**—You create a site list to restrict users to accessing only certain sites.
- **Real-time monitor list**—The real-time monitor list specifies real-time monitors to which you are granted access. You create a real-time monitor list to restrict access to particular real-time monitors. The real-time monitor list must contain the monitors that the user will access.
- **User list**—You create a user list to restrict a user from chatting online with certain employees. The user list must contain the employees with which the user may chat. For example, you might want managers to chat online with only the employees they supervise. If Jane manages Bill, Sue, and George, then you assign Jane an advanced security role that permits Jane to chat with Bill, Sue, and George (the user list would contain Bill, Sue, and George).
- **Card design list**—You create a card design list to restrict users from managing card designs (card designs specify the information displayed on agent, employee, and extension real-time monitors).

The security list configuration page is rendered from CCMWeb within YourSite Explorer. To ensure proper configuration functionality, ensure that CCMWeb has been added as a Trusted Site. Failure to add CCMWeb as a Trusted Site may result in the security list configuration page being disabled.

If you are using Windows Authentication, you must also enable the following browser settings:

- Under Internet Options=>Security, enable 'Automatic logon with current user name and password'
- Under Internet Options=>Advanced, enable 'Enable Integrated Windows Authentication'

To create a security list

1. Under the **Enterprise** pane, click **Security list**.
2. Select the security list you want to create and click **Add**.
3. Type the list **Name**.
4. Type the list **Description**.
5. Click the **Members** tab.

6. If you are creating a device or reports list, after **Filter by**, select a category to narrow the items that display in the list (for example, Agent group).
7. Select the check boxes of the members you want to include in the list.
8. Click **Save**.

To delete a security list

1. Under the **Enterprise** pane, click **Security list**.
2. Select the security list you want to create and click **Delete**.

CONFIGURING SECURITY ROLES

You can configure basic security to restrict user access to specific areas of CCMWeb and the Contact Center Client, YourSite Explorer, Workforce Scheduling, Employee Portal, and Ignite applications. Figure 17 shows the options available in the Basic security tab. For example, if you want to restrict users from viewing Contact Center Client and Enterprise Configuration, then you must create a security role with those characteristics.

Basic **Advanced**

Website:

- ☒ May manage the Contact Center Management website
 - ☒ May manage reporting
 - ☒ May manage YourSite Configuration
 - ☒ May manage logins
 - ☒ May manage SMDR Inspector
 - ☒ May manage ACD Inspector
 - ☒ May manage WallBoarder
- ☒ May manage contacts
- ☒ May manage Enterprise Configuration
- ☒ May manage security
- ☒ May manage Forecasting
- ☒ May access Lifecycle reports

Contact Center Client

- ☒ May access Contact Center Client/ignite
 - ☒ May manage Auditor
 - ☒ May access Management Console
- ☒ May access soft phone

Your Site Explorer

Enterprise Configuration

- ☐ No Access
- ☐ Allow Read Access
- ☐ Allow Read/Write Access
- ☐ Allow Full Control

Device Configuration

- ☐ No Access
- ☐ Allow Read Access
- ☐ Allow Read/Write Access
- ☐ Allow Full Control

IVR Routing Device Configuration

- ☐ No Access
- ☐ Allow Read Access
- ☐ Allow Read/Write Access

IVR Routing Workflow Configuration

- ☐ No Access
- ☐ Allow Read Access
- ☐ Allow Read/Write Access

IVR Routing Prompt Configuration

- ☐ No Access
- ☐ Allow Read Access
- ☐ Allow Read/Write Access

Workforce Scheduling

- ☒ May manage Workforce Scheduling

Employee Portal:

- ☒ May access Employee Portal
 - ☒ May trade shifts
 - ☒ May request time off
- ☒ May request changes to availability
- ☒ May view employees of the schedule

Ignite Client

- ☒ May Pick/Pick & Reply Contacts
- ☒ May Transfer Contacts
- ☒ May Junk Contacts

Figure 17: Basic security tab

Table 10 describes the specific setting options for YourSite Explorer synchronization for basic security.

Table 10: YourSite Explorer synchronization - security setting options

OPTION	DESCRIPTION
No access	If <i>No Access</i> is enabled you cannot configure Enterprise settings or devices in YourSite Explorer.
Allow Read Access	<i>Allow Read Access</i> enables you to read Enterprise and device configuration settings in YourSite Explorer.
Allow Read/Write Access	<i>Allow Read/Write Access</i> enables you to read Enterprise and device configuration settings in YourSite Explorer and write them to the YourSite database.
Allow Full Control	<i>Allow Full Control</i> enables you to read Enterprise and device configuration settings in YourSite Explorer, write them to the YourSite database, and write back devices programmed in YourSite Explorer to the telephone system.

You can configure advanced security to restrict access to reports, real time and Interactive Contact Center statistics, Chat, sites, and real-time monitors. Advanced security options often require that appropriate security lists be made. (See Figure 18).

Basic

Advanced

NOTE: You must create security lists before you create advanced security roles

Select security lists for specific contact center elements to create an advanced security role that restricts user access to reports, sites, and/or real-time functions

Reporting

May access the reports contained in this list only Not restricted

May run reports on the devices contained in this list only Not restricted

Sites

May access the sites contained in this list only Not restricted

NOTE: This setting restricts the user to the devices of the selected site

Real time

☒ May access the real-time monitors

May access the real-time monitors contained in this list only Not restricted

☒ May manage the appearance of real-time monitors for personal use (Personal profile)

☒ May manage the appearance of real-time monitors for all users (shared profile)

☒ May manage the appearance of card designs for personal use (personal cards)

☒ May manage shared card designs

May access the shared card designs contained in this list only Not restricted

☒ May access real-time online chat

Only users in this list may initiate an online chat Not restricted

☒ May change the real-time states of agents and queues in Interactive Contact Center

May control the devices contained in this list only Not restricted

☒ May control my real-time status in Interactive Contact Center

May view real-time information on the devices contained in this list only Not restricted

☐ May control my real-time presence status in Interactive Contact Center

☐ May change the real-time presence states of agents in Interactive Contact Center

May control real-time presence of devices contained in this list only Not restricted

May access the real-time shared profiles contained in this list only Not restricted

Figure 18: Advanced security tab

Many advanced security role options require the creation of a security list before the role can be configured. Using these lists, you define a security role. See "Creating security lists" on page 191.

Security roles are assigned to employees in their User account tab. See "Configuring user account information" on page 131.

The security roles configuration page is rendered from CCMWeb within YourSite Explorer. To ensure proper configuration functionality, ensure that CCMWeb has been added as a Trusted Site. Failure to add CCMWeb as a Trusted Site may result in the security roles configuration page being disabled.

If you are using Windows Authentication, you must also enable the following browser settings:

- Under Internet Options=>Security, enable 'Automatic logon with current user name and password'
- Under Internet Options=>Advanced, enable 'Enable Integrated Windows Authentication'

To add a security role

1. In the **Enterprise** pane, click **Security** role.
2. Click **Add a role**.
3. Type a **Role name**.
4. Type a **Role description**.
5. On the **Basic** tab, clear the check boxes of the items the user is not permitted to use.
If required, click the **Advanced** tab and specify advanced security.
6. Click **Save**.

To verify the properties of a security role

1. In the **Enterprise** pane, click **Security role**.
2. Click **View** adjacent to the security role for which you want to view properties.
You can assign the security roles to new users and to existing users.

To edit a security role

1. In the **Enterprise** pane, click **Security** role.
2. Click **Edit** beside the name of the security role you want to edit.
3. Make the desired changes to the security role.
4. Click **Save**.
NOTE: Users who are currently logged on will not be affected by changes made to their associated role until the next time they log on.

VIEWING YOUR SECURITY ROLE PROPERTIES

Users with access to YourSite Explorer can view their own security role properties and determine the application areas to which they have access. Only employees with access to YourSite=>Configuration can change the security role properties of employees.

To view the security role properties for your login credentials in YourSite Explorer

- Under **Enterprise**, click **My Role Allowed**.

To view the security role properties for your login credentials in CCMWeb

- Click **My Options=>My Security Role**.

ASSIGNING SECURITY ROLES TO EMPLOYEES

NOTE: Users who are currently logged on will not be affected by changes made to their associated role until the next time they log on.

To assign a security role to an employee

1. Select an employee
2. Click the **User Account** tab.
3. After **Security role**, click the **Browse** button.
4. Select a security role.

The default **Local Administrator** allows employees full access to all of the Contact Center Solutions applications and devices (to which the contact center is licensed) except for Write Back for synchronization.

The default **Enterprise Administrator** allows employees the same access as the Local Administrator, but includes Write Back for synchronization.
5. Click **OK**.
6. Click **Save**.

CONFIGURING WORK TIMER

Work Timer provides agents handling calls with a period of time after they finish a call to set classification codes, handle paperwork, or deal with other administrative tasks before returning to handling calls. The primary Work Timer, Class of Service Work Timer, is configured in the Class of Service options for agents, but a secondary Work Timer, the Queue Work Timer, may also be configured for individual queues that require agents handling calls from that queue to have less time for post-call work.

When configured, after call completion, Class of Service Work Timer places the agent into the Work Timer real-time state and ACD calls no longer route to them. As the agent enters into the Work Timer agent state, their timer in PhoneSet Manager or Softphone begins counting down the configured Class of Service Work Timer duration. (In real-time monitors in Contact Center Client, Work Timer will count up.) When the countdown reaches 00:00:00 or if the employee manually ends Work Timer, they are returned to the Idle real-time state where they can handle calls again.

Work Timer can be cancelled manually by an agent by pressing the Cancel Work Timer button on their hard set or soft phone applications. If the 'Force entry of a classification code' is enabled, agents must enter a classification code first. If they do not, Work Timer cannot be ended manually and a non-compliance classification code will be assigned to the call when Work Timer ends. Work Timer also automatically ends if the agent enters a classification code (if the 'Cancel Work Timer once code' is entered is enabled).

Class of Service and Queue Work Timer's maximum duration is dependent upon a contact center's telephone system:

- MCD 5.0 and greater – 4 hours
- MCD 4.x or earlier – 10 minutes

Queue Work Timer overrides Class of Service Work timer, sending a Remove Work timer MiTAI command to the telephone system that removes the Class of Service Work timer when the Queue

Work Timer reaches its duration. For MCD 5.0 and greater, Queue Work Timer must be set to a lower time than Class of Service Work Timer. For MCD 4.x or earlier, Queue Work Timer's duration must be greater than the Class of Service Work Timer. If no Queue Work Timer is set on the queue, the default value configured on the Class of Service Work Timer will be used for that queue's associated agents. Multimedia Queue Work Timer is not dependent on MCD Class of Service Work Timer and can be set to any duration of time.

NOTE:

- When leveraging the Queue Work Timer feature, the Class of Service Work Timer value must be accurately synchronized to the Media Server for Queue Work Timer to function.
- When an agent receives a transferred call and enters into Work Timer, regardless of the queue the agent is in, their Work Timer duration is taken from the Queue Work Timer duration set on the queue the call originally came in on.

For information on configuring Work Timer as a Class of Service for Media Servers, see "Editing Class of Service options" on page 110.

For information on configuring Work Timer for queues, see "Adding queues" on page 142.

PREPARING MEDIA SERVER AGENT TIMEOUT OPTIONS FOR MCD 5.0 OR GREATER

By default, YourSite Explorer is configured to clear lines if an agent using that line remains in a single state for more than two hours. This can impact Work Timer's functionality if Work Timer has been configured to be greater than two hours. To make proper use of the four hour Work Timer feature available to MCD 5.0+, you must configure the agent state timeout audit options for your media servers to ensure that they do not interfere with Work Timer.

To configure the media server agent state timeout audit option

1. In YourSite Explorer, click **Media Servers**.
2. Select your media server from the list of media servers.
3. Click the **Data summary options** tab.
4. After **Clear line if agent primary Talk Time exceeds**, select 24 hours from the drop-down list.
5. If you are using multiple media servers, repeat steps 2-4 for all your contact center media servers.
6. Click **Save**.

Chapter 7

REAL-TIME MONITORS

Contact Center Client

Wallboarder

Troubleshooting real-time issues

REAL-TIME MONITORS

The Enterprise Server continuously updates the real-time applications with telephone system data, and simultaneously updates connected clients through Transmission Control Protocol-Internet Protocol (TCP/IP). Contact Center Client real-time monitors are automatically updated to reflect device and device group changes made in YourSite Explorer. Supervisors and agents are provided with point-and-click access to real-time performance statistics for their contact center, enabling them to identify issues in contact center performance and see who is available to answer or assist with calls.

The real-time applications include Contact Center Client and WallBoarder. Supervisors and agents can view real-time voice statistics in Contact Center Client and the phone availability of contact center and general business employees. In contact centers that have the Multimedia Contact Center optional application, supervisors and agents can view real-time voice, email, and chat statistics. WallBoarder displays text messages and contact center statistics on one or more Spectrum Light Emitting Diode (LED) reader boards (wall signs). See "WallBoarder" on page 278.

Contact Center Management integrates with OAISYS Tracer, dvsAnalytics Encore, Red Box Quantify call recording software to enable 24/7 call recording. Call recordings are appended to specific Lifecycle reports. See "Call recording" on page 94.

In addition to real-time monitors, Contact Center Client includes the following application areas:

- **Auditor**
Using Auditor, supervisors can view the historical real-time events that occurred on a particular date, in the sequence they occurred, at your own pace.
See "Auditor" on page 379.
- **Management Console**
Using Management Console, network administrators can restart services, administer the database, and perform maintenance functions.
See "Management Console" on page 64.
- **Contact Center Chat**
Contact Center Client provides instant messaging capabilities for both supervisors and agents and is typically used by contact center employees. Contact Center Chat provides the online chat presence of contact center employees, including Available, Offline, and Away. Agents can view the availability and presence of other contact center employees before they transfer calls or send online chat messages. With Lync Server 2010 or 2013, Contact Center Chat integrates with Lync to provide enhanced presence.
See "Using Contact Center Chat" on page 272.

The following optional applications and features reside in Contact Center Client:

- **Interactive Contact Center**

Interactive Contact Center is an optional application that enables supervisors to control the availability of agents and ACD queues. Agents can log themselves on or off, and place themselves in or remove themselves from Make Busy or Do Not Disturb.

See "Using Interactive Contact Center" on page 388.

- **Interactive Visual Queue**

Interactive Visual Queue is an optional application that enables agents to monitor calls within queues, move calls from busy queues to less active queues, and call back abandoned callers.

See "Using Interactive Visual Queue" on page 406.

- **Contact Center PhoneSet Manager and Contact Center Softphone**

Contact Center PhoneSet Manager and Contact Center Softphone are optional applications that enable agents to use their desktop computers as IP-based phones.

See "Contact Center PhoneSet Manager and Contact Center Softphone" on page 420.

- **Contact Center Screen Pop**

Contact Center Screen Pop is an optional application that launches applications or webpages. In addition, it enables agents to automatically receive caller and account information via pop-ups on their computer monitors every time they receive calls.

See "Using Contact Center Screen Pop" on page 458.

- **Contact Center Chat with Lync**

With the addition of Lync Server 2010 or 2013, agents and supervisors use Microsoft Lync as their default instant messaging client. The presence of all company employees is natively delivered in Contact Center Client. Contact center employees can view the presence of both internal and external contacts to determine if they are available to communicate. In addition to Available, Offline, and Away, employees see In a Meeting, Busy, In a call, Do Not Disturb, Be Right Back, and other presence indicators.

Lync Server 2010 and Lync Server 2013 extend the capabilities of Contact Center Chat enabling agents to communicate with people who are

- In the same company, but are not using Contact Center Client
- In the same company, but are not on the same intranet
- External to the company, where the companies in which they work have a Lync Server environment and use Lync
- External to the company, communicate over the public Internet, and use popular instant message services (MSN, AIM, Yahoo!)

In a Microsoft Lync environment, you can take advantage of other forms of communication: computer voice calls, video conferencing, white boarding, and desktop sharing capabilities. Communication with MSN, AIM and Yahoo! is typically limited to instant messaging only.

CONTACT CENTER CLIENT

NOTE:

- By default, all supervisors and agents view all real-time monitors and devices in Contact Center Client. You can specify which monitors and devices users view in YourSite=>Security=>Security lists. In addition, you can configure security in YourSite=>Security=>Security roles that dictate whether users can manage personal and/or global profiles.
- An employee must be a member of an employee group in order for you to view the employee on the employee group monitors in Contact Center Client. A queue must be a member of a queue group in order for you to view the queue on the queue group monitors in Contact Center Client.
- The number of employees logged on at any time must be consistent with your software license.

Contact Center Client uses ribbons for device and monitor control. (See Figure 19.)

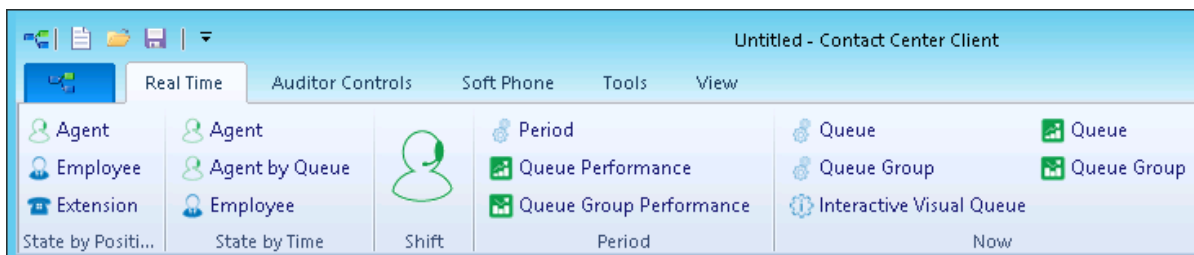


Figure 19: Contact Center Client ribbon

Some tabs that display in the ribbon are dependent upon which monitor is active. These are referred to as context sensitive tabs. When you enable context sensitivity for monitors, the associated context sensitive tab for the active monitor automatically becomes the active tab. See Table 11 for a list of the associated context sensitive tabs for each monitor. See Figure 20 for an example of context sensitivity enabled for the Agent State by Position monitor. Note that the Agent and Monitor Control tabs display in the ribbon.

NOTE: The options that display in the Contact Center Client ribbon are dependent upon your individual security settings. Options which you are not given access to will not display.

Table 11: Context sensitivity options display per monitor**MONITOR ASSOCIATED CONTEXT SENSITIVE TABS**

Agent State by Position	Agent and Monitor Control tabs
Employee State by Position	Employee and Monitor Control tabs
Extension State by Position	Extension and Monitor Control tabs NOTE: When an agent is logged into an extension, the context sensitivity tab displays 'Agent Control'. When no agent is logged into the extension, the context sensitivity tab displays 'Extension Control'.
Extension Now	Monitor Options tab
Agent State by Time	Agent and Monitor Control tabs
Agent State by Time for Queue	Agent and Monitor Control tabs
Employee State by Time	Employee and Monitor Control tabs
Agent Shift	Agent and Monitor Control tabs
Queue by Period	Monitor Options tab
Queue Now	Monitor Options tab
Queue Group Now	Monitor Options tab
Queue Performance	Chart Options tab
Queue Group Performance	Chart Options tab
Queue	Chart Options tab

Table 11: Context sensitivity options display per monitor
(continued)

MONITOR	ASSOCIATED CONTEXT SENSITIVE TABS
Queue Group	Chart Options tab
Interactive	n/a
Visual Queue	NOTE: Context sensitivity is not supported for the Interactive Visual Queue monitor

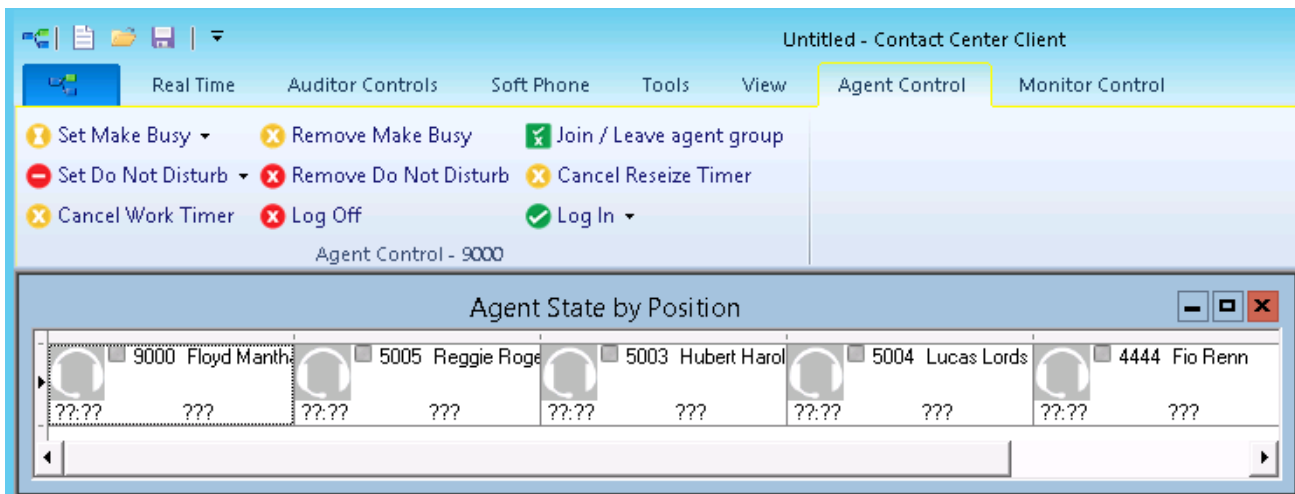


Figure 20: Context sensitivity example - Agent Control tab

STARTING CONTACT CENTER CLIENT

You start Contact Center Client to access real-time functionality. Supervisors and agents can view real-time voice statistics. In contact centers that have the optional Multimedia Contact Center application, supervisors and agents can view real-time voice, email, and chat statistics. After starting Contact Center Client, you can choose to minimize it to either the system tray or the taskbar, depending on your operating system.

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

To start Contact Center Client

1. Open **Contact Center Client**.
2. If prompted, type your user name and password and verify the Enterprise Server IP address.
3. If you use Secure Socket Layer, select the **SSL** check box.
4. Optionally, select the **Remember my credentials** check box.
5. Click **Log in**.

To display Contact Center Client in the taskbar

1. In Contact Center Client, click the **Contact Center Client** tab.
2. Click **Options**.
3. Clear the **Hide when minimized** check box and click **OK**.
Contact Center Client, when minimized, will display in the taskbar.
4. To save the profile, click the Contact Center Client icon button and click **Save as**.
5. Type a **Name** for the profile and click **OK**.
The profile is saved and will automatically be applied each time you open Contact Center Client.

When device associations to device groups are changed in YourSite Explorer (add, delete, rename), these changes will be automatically made in Contact Center Client real-time monitors saved with user profiles

CONFIGURING CONTACT CENTER CLIENT OPTIONS

You can customize the Contact Center Client user interface and real-time monitor device control and display options by accessing the Options menu.

NOTE: The Contact Center Client tab is the leftmost tab with the Contact Center Client icon. The following options are available from the Contact Center Client tab: New, Open, Open from file, Save, Save as, Save as file, Feedback, Options, About, Logout, and Exit.

To configure Contact Center Client options

1. In the ribbon, click the **Contact Center Client** tab.
The Options window displays.
See Figure 21.
2. Under **User interface display**, select a **Toolbar style**, **Real-time icon type**, **Background color**, **Page size**, and whether you want to hide Contact Center Client when the window is minimized.
3. Select **Context Sensitivity** for **Monitors** if you want the context sensitive tab to automatically become the active tab when you select a monitor.
NOTE: Monitor context sensitivity is enabled by default.
4. Select **Context Sensitivity** for **Soft phone** if you want the soft phone tab to automatically become the active tab when a call is received.
If the Soft phone toolbar is floating, context sensitivity does not apply. Soft phone context sensitivity is disabled by default.
5. Select the **Display monitor device control option** check box if you want to be able to see the option for monitor control when you right-click cells in a real-time monitor.
NOTE: Monitor control enables you to simultaneously control all of the agents on a monitor and is only available if you have appropriate permissions, are licensed for Interactive Contact Center, and have extensions configured for your employees.
6. Configure **Time format** options.
The options you select will display in the real-time monitor cells.
7. Under **Full name format**, select how you want agent and employee first and last names to display in real-time monitors.
8. Click **OK**.

Options

User interface display

Toolbar styles

Office 2003

Real-time icons

☒ New (default)

☐ Classic

Background

WhiteSmoke

...

Page size

500

Context Sensitivity

☒ Monitors

☐ Soft Phone

Hide when minimized

☒

Device control

☒ Display monitor device control option

Time format

Time format

☒ No leading zeros

☐ Leading zeros

(e.g. 12 minutes 38 seconds)

12:38

00:12:38

Date format

☐ Display hours

☐ Display days

(e.g. 2 days 1 hour 13 minutes)

25:13:00

2.01:13:00

Hour format

☒ System default

☐ 12 hours

☐ 24 hours

Full name format

Full name appearance for Employee and Agent

☒ First Last

☐ Last, First

OK

Cancel

Apply

Figure 21: Contact Center Client options

ADJUSTING THE CONTACT CENTER CLIENT VIEW

You can adjust the way you view Contact Center Client features on your desktop.

To adjust the view

1. Click **View** in the Contact Center Client ribbon.
The View options ribbon opens.
See Figure 22.

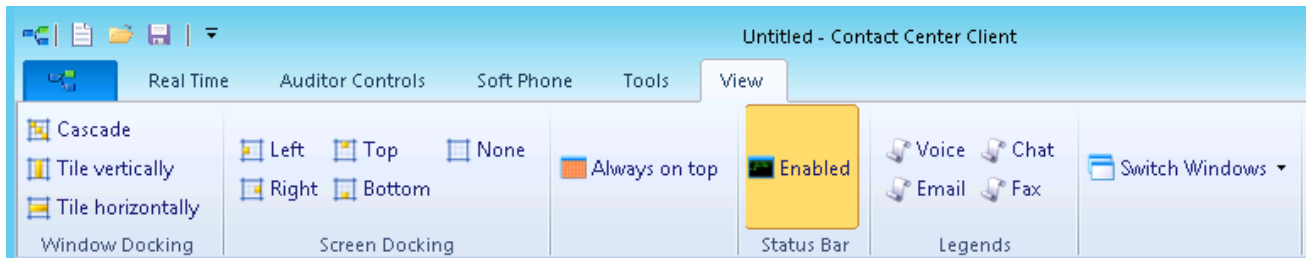


Figure 22: View options ribbon

2. To change the way monitors display inside Contact Center Client, select from the options in the **Window Docking** column.
3. To adjust the position of the Contact Center Client window on your desktop, select from the options in the **Screen Docking** column.
4. If you want Contact Center Client to always display on top of other applications on your desktop, click **Always on top**.
5. Enable the **Status Bar** if you want the status bar to be visible at the bottom of the Contact Center Client window.
See Figure 23.

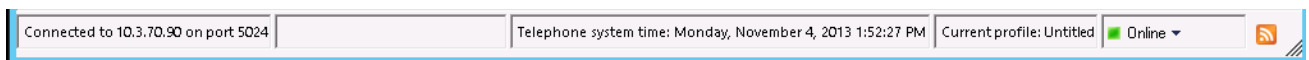


Figure 23: Status bar

6. To open Voice, Email, or Chat legends, select from the options in the **Legends** column.

EMPLOYEE AND AGENT STATES

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

Table 12 lists the employee extensions states and their corresponding icons.

Table 13 lists the agent states and their corresponding icons.

Table 12: Employee states











TERM	ICON	MEANING
Ringing		An ACD voice contact ringing on the employee's phone waiting to be handled A contact in an employee's Multimedia Contact Center Inbox waiting to be handled
ACD		An employee handling an ACD voice, email, or chat contact
ACD Hold		An employee who had placed an ACD voice, email, or chat contact on hold
Idle		An employee logged on and waiting to receive a voice, email, or chat contact
Non ACD		An employee who has placed a non-ACD voice contact on hold
Non ACD Hold		An employee who has placed a non-ACD voice contact on hold
Outbound		An employee on an outgoing voice contact
Outbound Hold		An employee who has placed an outgoing voice contact on hold
Do Not Disturb		An employee who has activated Do Not Disturb and is not available to receive any ACD or non-ACD voice contacts
Make Busy		An employee who is not available to receive ACD voice, email, or chat contacts but can receive voice contacts dialed directly to the employee's extension This icon also displays when an employee's external hot desk agent is in the Reseize Timer state

Table 12: Employee states (continued)






TERM	ICON	MEANING
System Make Busy		If an employee has multimedia agent IDs and is logged on to two or more media servers simultaneously, the system sends the agent only one incoming communication at a time. For example, when the agent answers a voice contact, the system places the agent ID(s) for the other media server types in System Make Busy
Work Timer		An employee who is completing post-contact work, such as paperwork, and is unavailable to receive voice contacts
Logged Off		An employee not currently logged in to any queue
System Idle		An employee put into Idle by a supervisor
Unavailable		An employee who has not generated any activity since Contact Center Solutions was started

Table 13: Agent states













TERM	VOICE	EMAIL	CHAT	MEANING
Ringing				An ACD voice contact ringing on an agent's phone waiting to be handled A contact in an agent's Multimedia Contact Center Inbox waiting to be handled
ACD				An agent handling an ACD voice/email/chat contact
ACD Hold				An agent who has placed an ACD voice/email/chat contact on hold
Idle				An agent logged on and waiting to receive a voice, email, or chat contact

Table 13: Agent states (continued)


























TERM	VOICE	EMAIL	CHAT	MEANING
Non ACD		-	-	An agent involved in an incoming non-ACD contact or agent-originated voice contact
Non ACD Hold		-	-	An agent who has placed a non-ACD voice contact on hold
Outbound		-	-	An agent on an outgoing voice contact
Outbound Hold		-	-	An agent who has placed an outgoing voice contact on hold
Do Not Disturb				An agent who has activated Do Not Disturb and is not available to receive any ACD or non-ACD voice contacts
Make Busy				An agent who is not available to receive ACD voice, email, or chat contacts but can receive voice contacts dialed directly to the agent's extension This icon also displays when an external hot desk agent is in the Resize Timer state
System Make Busy				If an agent is a multimedia agent and is logged on to two or more media servers simultaneously, the system sends the agent only one incoming communication at a time. For example, when the agent answers a voice contact, the system places the agent ID(s) for the other media server types in System Make Busy.
Work Timer				An agent who is completing paperwork and is unavailable to receive voice contacts
Unknown				An agent who has not generated any activity since Contact Center Solutions was started

Table 13: Agent states (continued)

TERM	VOICE	EMAIL	CHAT	MEANING
Logged Off				An agent not currently logged in to any queue
System Idle				An agent put into Idle by a supervisor

EXTENSION STATES

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

Table 14 lists the extension states and their corresponding icons.

Table 14: Extension states














TERM	ICON	MEANING
Ringing		Call is ringing on the extension and waiting to be handled
Idle		Extension is waiting to receive a call
Non ACD		Extension is involved in an incoming call or an internal extension-originated call
Non ACD Hold		Extension has placed an incoming call or an internal extension-originated call on hold
Outbound Call		Extension is on an outgoing call
Outbound Hold		Extension has placed an outgoing call on hold
Forwarded to		Extension has set all incoming calls to be forwarded to an alternate answer point

Table 14: Extension states (continued)

TERM	ICON	MEANING
Camp on		Extension is on a call and an incoming call is camped on (waiting to be answered)
Off Hook		Extension's phone is off the hook, so cannot receive calls
Do Not Disturb		Extension has activated Do Not Disturb and is not available to receive calls
Logged Off		Extension is not currently logged on and is unavailable to take calls
System Idle		An extension put into Idle by a supervisor
Unknown		Extension has not generated any activity since Contact Center Solutions was started

UNDERSTANDING CONTACT CENTER CLIENT FEATURES

Contact Center Client has agent, queue, queue chart, and call note monitors. For information on adding and viewing call notes, see "Adding call notes to a call" on page 440.

You can perform the following tasks on the monitors by either right-clicking within the monitor or selecting options via the Contact Center Client ribbon:

- Call recording
- Open monitors
- Dock monitors
- Add and remove device IDs
- Sort monitor devices
- Rearrange cells
- Set monitor dimensions
- Freeze and unfreeze columns
- Hide and show columns
- Filter device variables
- Set alarms
- Clear alarms
- Define monitor styles

- Group data
- Print monitors
- Arrange windows
- Modify the view
- Build marquee monitors to broadcast statistics and messages
- Chat online with agents and supervisors

Contact Center Client options

The following options apply to real-time monitors.

Call recording

On the Agent State by Time, Agent State by Position, Agent State by Queue by Time, and Extension by Position monitors, the Call recording option enables you to start, stop, and restart call recording at any time during a call. See "Recording calls" on page 452.

Clear alarms

The Clear alarms command clears any current performance variable threshold alarms.

Set alarms

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

Add/Remove devices

The Add/Remove devices command adds or removes devices or device groups from the monitor. If you add agents, they are added to the bottom of the monitor.

Set table dimensions

On the Agent State by Position, Employee State by Position, and Extension State by Position monitors, the Set table dimensions command adds or deletes columns or rows. If you delete devices, they are deleted them from the lower-right side of the monitor.

Size table to frame

On all monitors, the Size table to frame command adjusts the table to fit within the frame

Sort monitor

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

Note that you cannot drag and drop devices between monitors.

Filter device variables

On the Agent Shift, Queue by Period, Queue Now, and Extension Now monitors, the Filter device variables command filters the data based on conditions you specify and displays a subset of data on the monitor.

General

On all monitors, under Properties, the General option specifies the monitor name and enables the horizontal and vertical scroll bars.

On the queue monitors, you can also enable grouping.

On the agent, employee, and extension monitors you can also display tool tips, display a pattern upon failover, and display instant messaging online presence indicators.

On the Agent and Employee State by Time monitors, you can also sort logged off agents by the longest logged off first.

Print monitor

The Print monitor command prints the current monitor.

Enable grouping

Under Properties, the Enable grouping option displays a grouping panel to which users can drag columns. The grouping order determines the order in which the rows display. The Enable grouping option affects all monitors that contain columns.

Row settings

Under Properties=>Layout, the Row settings option specifies the background color and font color of rows, and the font type and text alignment.

Row alternate settings

Under Properties=>Layout, the Row alternate settings option specifies the background color and font color of alternate rows, and the font type and text alignment.

Column settings

Under Properties=>Layout, the Column settings option specifies the background color and font color of columns, and the font type and text alignment.

Column dimensions

Under Properties=>Layout, the Column dimensions option specifies the column height and width.

Column order

Under Properties=>Layout, the Column order option hides or displays individual columns, and specifies the order of columns across the monitor.

Monitor style

Under Properties=>Layout, the Monitor style option specifies styles and skins (sets of styles) for the monitor, and the Card design option specifies how information is displayed in the cells of agent, employee, and extension monitors.

Cascade

When you right-click a monitor tab, under Windows, the Cascade command distributes active monitors down and across the Contact Center Client window.

Tile vertically

When you right-click a monitor tab, under Windows, the Tile vertically command distributes active monitors across the Contact Center Client window.

Tile horizontally

When you right-click a monitor tab, under Windows, the Tile horizontally command distributes active monitors down the Contact Center Client window.

Dock Contact Center Client

When you right-click a monitor tab, under Windows, the Dock Contact Center Client command docks Contact Center Client at the top, bottom, left, or right of your desktop.

Always on top

When you right-click a monitor tab, under Windows, and select the Always on top command, Contact Center Client always displays on your desktop on top of all other open applications.

View

The View command hides or displays the main menu, status bar, real-time monitors, and email, chat, and voice legends.

DIAGNOSTICS MONITOR

The log and error monitors are accessed via Contact Center Client.

To access log and error monitors

1. Click **Tools** in the Contact Center Client ribbon.
2. Click either **Log Monitor** or **Error Monitor**, depending on what kind of log information you want to review.
See Figure 24.

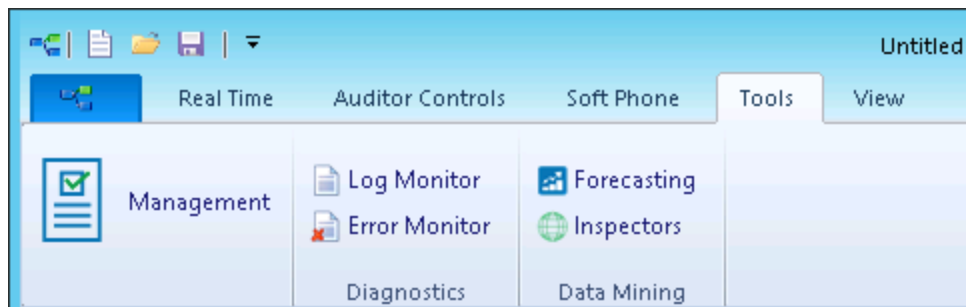


Figure 24: Diagnostics monitors

VIEWING AGENT AVAILABILITY

Contact Center Client provides instant messaging capabilities for both supervisors and agents and is typically used by contact center employees. Contact Center Chat provides the online chat presence of contact center employees, including Online, Offline, and Away. On the agent, employee, and extension monitors, agents can view the availability and presence of other contact center employees before they transfer calls or send online chat messages. (See Figure 25.) If an

agent cell in a monitor is grayed out, the phone is not connected to the network and considered out of service. The out of service state applies to phones that are not connected to the network, remote agents and employees that have lost their Internet connection, phones that are physically disconnected or malfunctioning, or employees that are not logged into their soft phone.

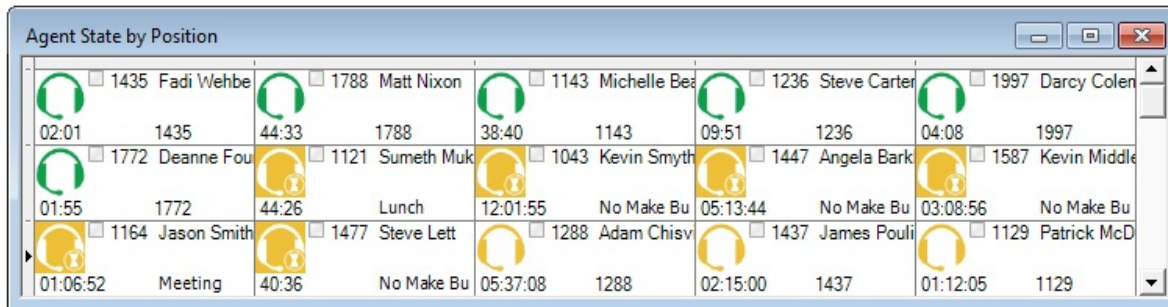


Figure 25: Agent State by Position - viewing agent availability and online presence

With the addition of Lync Server 2010 or 2013, agents and supervisors use Lync Client as their default instant messaging client. The presence of all company employees is natively delivered in Contact Center Client. Contact center employees can view the presence of both internal and external contacts to determine if they are available to communicate. In addition to Available, Offline, and Away, employees see In a Meeting, Busy, In a call, Do Not Disturb, Be Right Back, and other presence indicators. (See Figure 26.)

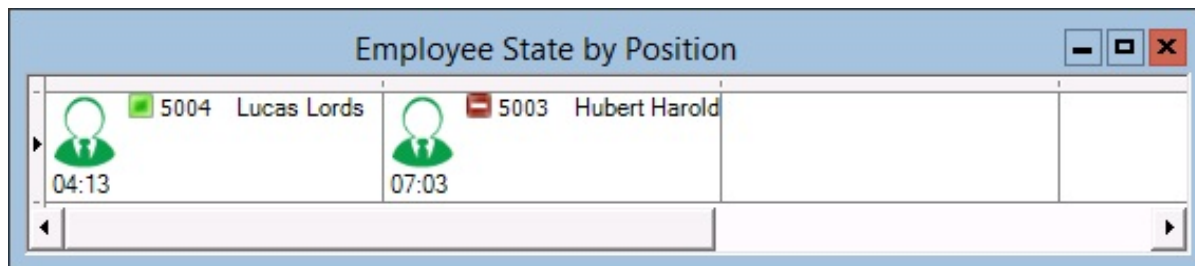


Figure 26: Agent State by Position - viewing agent availability and enhanced presence

The following monitors display agent activities:

- Agent State by Position
- Employee State by Position
- Extension State by Position
- Agent State by Time
- Employee State by Time
- Agent Shift

Agent, Employee, and Extension State by Position

The Agent, Employee, and Extension State by Position monitors provide real-time information in cells that you can arrange to mirror your floor plan: you can view agents, employees, or phone extensions by their physical position in your contact center. In addition, these monitors enable you to view the current status of general business extensions. Card designs enable you to customize the

information displayed in the cells. See "Customizing the information displayed on position and time monitors" on page 266.

When you first open an agent, employee, or extension monitor, you can select a card design:

- The Classic card displays the agent state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold).
- The Caller ID card displays the caller name and number (ANI), the number the caller/employee dials for incoming/outgoing calls, the state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold).
- Custom cards you create and share display customized agent/employee/extension and/or caller information.

Caller ID information is displayed when

- Agents, employees, and extensions are in the following real-time states: ACD, ACD Hold, Ringing, Non ACD, Non ACD Hold, Out, and Out Hold Time
- Extensions are in the following real-time states: Inbound and Outbound

You can set alarms for all real-time statistics and for caller ID information, such as the caller name and number.

NOTE: Before you can select the Caller ID card on the Add devices window of agent, employee, and extension monitors, you must make the card available. To do so, right-click an open monitor, select the Caller ID card under Properties, Layout=>Card design and click Apply.

In a fault tolerant setup, if a network outage occurs the cells in the agent, employee, and extension monitors display a crisscrossed pattern to identify agents who have homed to their secondary controllers.

If an agent cell in a monitor is grayed out, the phone is not connected to the network and considered out of service. The out of service state applies to phones that are not connected to the network, remote agents and employees that have lost their Internet connection, phones that are physically disconnected or malfunctioning, or employees that are not logged into their soft phone.

Viewing the activities of agents who can log on to multiple voice queues

In Figure 27, the Agent State by Position monitor shows three cells for Andre Bourque, each with a different agent ID. The first two cells show Andre logged off of the telephone system. The third cell shows Andre's current state. Andre is logged on to Queue 151 using Agent ID 2013. He has been on an ACD call for 12 minutes and 50 seconds.



Figure 27: Agent State by Position - viewing multiple agent IDs

Agents can log on to the telephone system using only one agent ID at a time. If your agents have multiple voice IDs (and therefore multiple cells) the Agent State by Position monitor becomes cluttered.

If you have agents who are cross trained to answer calls for different departments (and log in and out of various voice queues) the telephone system requires you assign the agents multiple IDs. You can use the Agent State by Position monitor to view the activities of each department. You create an Agent State by Position monitor for each department. When you arrange the cells for the agents in the same order for each department, you can easily compare the activities of one department with another.

Viewing the current logged on states of agents who log on to multiple queues

If you have voice agents who are cross trained to answer calls for different departments (and log in and out of several queues) the telephone system requires you assign the agents multiple IDs. If a voice agent has multiple agent IDs and you want to view the agent's current logged on state only, you use the Employee State by Position monitor. For example, agent Andre Bourque answers calls for English, French, and Spanish queues. In the YourSite database you assign him three agent IDs (one for each queue for which he answers calls) and an employee ID.

To view the monitor, you open the Employee State by Position monitor and select employees to add to the monitor. The monitor shows one cell for Andrew, listing his current state and agent ID. (See Figure 28.)

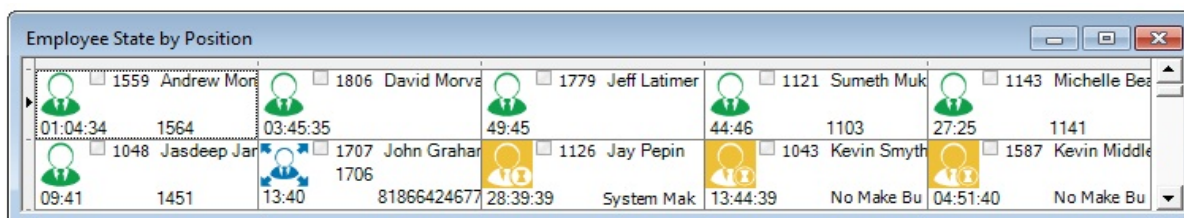


Figure 28: Employee State by Position - viewing the ID to which the agent is logged on

Andrew is currently logged on to Extension 1564 using Agent ID 1559. Sometime later you notice Andrew is logged on to Extension 1059 using Agent ID 1788. (See Figure 29.)

1788 Andrew Mon	1779 Jeff Latimer	1121 Sumeth Muk	1293 Scott Dixon	1236 Steve Carter
06:27 1059	01:03:37	58:40 1103	11:07 86132717608	06:12 Restroom
1143 Michelle Bea	1437 James Pouli	1806 David Morva	1559 Andrew Mon	1164 Jason Smith
03:49 Lunch	34:28 Lunch	10:14 No Make Bu	09:32 Lunch	03:03:32 Meeting

Figure 29: Employee State by Position

Agent State and Employee State by Time

The Agent State by Time and Employee State by Time monitors provide real-time agent information under ACD, Idle, Non ACD, Unavailable, and Logged Off column headings. They display the same real-time information as that of the Agent State by Position, Employee State by Position, and Extension State by Position monitors. See "Agent, Employee, and Extension State by Position" on page 216.

If an agent is in an email or chat agent state, the monitors display the queue number to which the agent is logged on. Each column lists agents in order of time in state. You can specify which columns of agent statistics are displayed, and the order in which they are displayed. You can sort logged off agents by the longest logged off first. (See Figure 30.)

If you have agents who are cross trained to answer calls for different departments (and log in and out of various voice queues) the telephone system requires you assign the agents multiple IDs. You use the Employee State by Time monitor to view the activities of voice agents with multiple agent IDs. See "Viewing the current logged on states of agents who log on to multiple queues" on page 218.

ACD [3]	Idle [3]	Non ACD [5]	Unavail [7]	Logged in not present [7]	Log Off [46]
1772 Deanne Fou P280 17:46 5143364144	1121 Sumeth Muk 1121 01:34:23	1293 Scott Dixon 1293 46:50 86132717608	1043 Kevin Smyth 14:34:16 No Make Bu	1707 John Grah 46:38 1707	1288 Adam Chisv 2:32 PM Nov 5, 13
1155 Scott Baker P280 09:56 3104826996	1788 Matt Nixon 1788 07:43	1236 Steve Carter 1236 23:17 81508668320	1477 Steve Lett 03:12:57 No Make Bu	1559 Montpetit An 16:10 1559	1587 Kevin Middle 2:25 PM Nov 5, 13
1523 Christina D P280 CUSTOMER 05:55 6135922122	1779 Jeff Latimer 1779 00:22	1164 Jason Smith 1164 M.Clare 04:56 52272494	1437 James Pouli 01:10:11 Lunch		1048 Jasdeep Jar 1:56 PM Nov 5, 13
		1040 Ryan Came 1040 Jim Hammo 00:28 1472	1806 David Morva 45:57 No Make Bu		1447 Angela Bark 1:00 PM Nov 5, 13
		1472 Jim Hammo 1472 Ryan Clark 00:28 1040	1143 Michelle Bea 39:32 Lunch		1129 Patrick McD 12:26 PM Nov 5, 13
			1997 Darcy Colen 01:42 1997		1355 Liam Gibsor 9:47 AM Nov 5, 13
			1435 Fadi Wehbe 00:14 Customer Is		1347 MattY Lalond 4:58 PM Nov 4, 13

Figure 30: Agent State by Time

Table 15 lists the Agent State by Time and Employee State by Time column headings and their associated agent states.

Table 15: Agent State by Time and Employee State by Time column headings

CATEGORY	ASSOCIATED AGENT STATES
ACD	includes agents in ACD and agents in ACD Hold
Idle	includes agents in the Idle state
Non ACD	includes agents in Non ACD, in Non ACD Hold, Outbound agents, and Outbound Hold agents
Unavailable	includes agents in Do Not Disturb, Make Busy, Work Timer, Reseize Timer, and Unknown
Logged Off	includes agents in the Logged Off state

Agent State by Time for Queue

The Agent State by Time for Queue monitor is a Contact Center Client real-time monitor designed specifically for contact centers using Agent Group Presence functionality. However, the Agent State by Time for Queue monitor is available for all media server types.

The Agent State by Time for Queue monitor is accessed from the Real Time tab in Contact Center Client and displays all agents configured in a specific Queue and agents who are on ACD calls, idle, on non-ACD calls, unavailable, logged on to the system (but not present in the queue being monitored), and logged off. (See Figure 31).

NOTE:

- Virtual queue groups are shown under the Virtual queue groups section of the Agent State by Time for Queue monitor. Any Agent State by Time for Queue monitors that are monitoring virtual queues are marked in the title as (virtual).
- The Agent State by Time for Queue monitor does not support viewing Ring Groups.

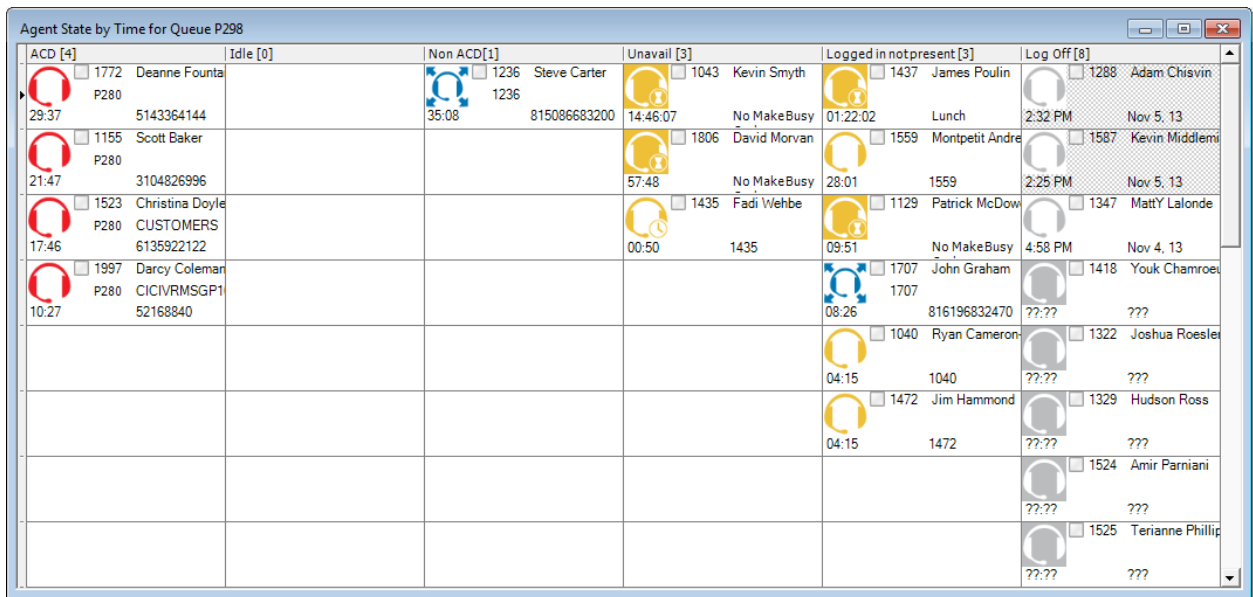


Figure 31: Agent State by Time for Queue

Table 16 lists the Agent State by Time and Employee State by Time column headings and their associated agent states.

Table 16: Agent State by Time for Queue column headings

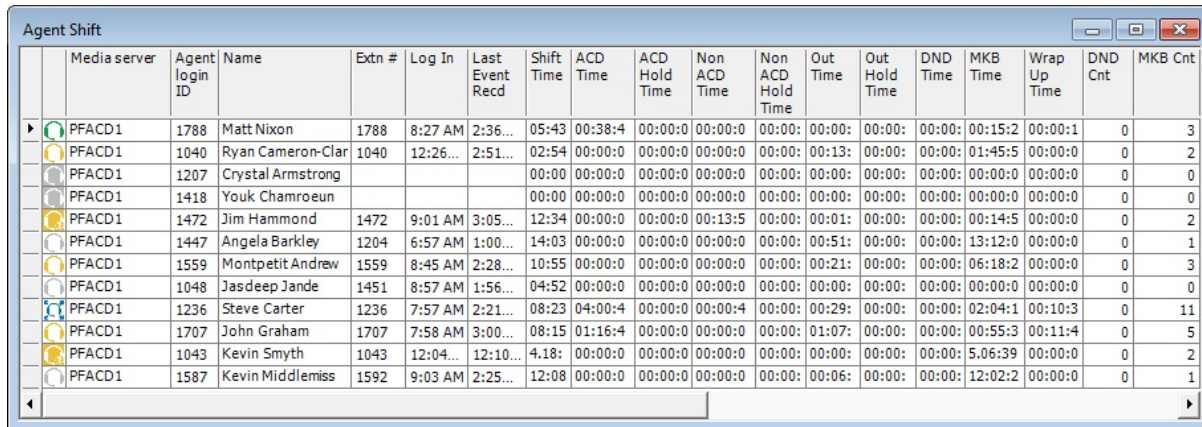
CATEGORY	ASSOCIATED AGENT STATES
ACD	includes agents in ACD and agents in ACD Hold
Idle	includes agents in the Idle state
Non ACD	includes agents in Non ACD, in Non ACD Hold, Outbound agents, and Outbound Hold agents
Unavailable	includes agents in Do Not Disturb, Make Busy, Work Timer, and Reseize Timer
Logged on to system	includes agents who are logged on to the telephone system but not in the queue being monitored
Logged Off	includes agents in the Logged Off and Unknown states

To view the Agent State by Time for Queue monitor

1. In the Contact Center Client ribbon, click the **Real Time** tab.
2. In the **State by Time** column on the ribbon, click **Agent by Queue**.
3. Select the queues to monitor. You can optionally sort members in either ascending or descending order.
4. Click **OK**.

Agent Shift

The Agent Shift monitor provides running totals of statistics on individual agents for the day. You can specify which columns of statistics are displayed, rearrange columns, and sort individual columns in ascending or descending order. (See Figure 32.)



	Media server	Agent login ID	Name	Extn #	Log In	Last Event Recd	Shift Time	ACD Time	ACD Hold Time	Non ACD Time	Non ACD Hold Time	Out Time	Out Hold Time	DND Time	MKB Time	Wrap Up Time	DND Cnt	MKB Cnt
	PFACD1	1788	Matt Nixon	1788	8:27 AM	2:36...	05:43	00:38:4	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:15:2	00:00:1	0	3
	PFACD1	1040	Ryan Cameron-Clar	1040	12:26...	2:51...	02:54	00:00:0	00:00:0	00:00:0	00:00:0	00:13:	00:00:0	00:00:0	01:45:5	00:00:0	0	2
	PFACD1	1207	Crystal Armstrong				00:00	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	0	0
	PFACD1	1418	Youk Chamroen				00:00	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	0	0
	PFACD1	1472	Jim Hammond	1472	9:01 AM	3:05...	12:34	00:00:0	00:00:0	00:13:5	00:00:0	00:01:	00:00:0	00:00:0	00:14:5	00:00:0	0	2
	PFACD1	1447	Angela Barkley	1204	6:57 AM	1:00...	14:03	00:00:0	00:00:0	00:00:0	00:00:0	00:51:	00:00:0	00:00:0	13:12:0	00:00:0	0	1
	PFACD1	1559	Montpetit Andrew	1559	8:45 AM	2:28...	10:55	00:00:0	00:00:0	00:00:0	00:00:0	00:21:	00:00:0	00:00:0	06:18:2	00:00:0	0	3
	PFACD1	1048	Jasdeep Jande	1451	8:57 AM	1:56...	04:52	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	0	0
	PFACD1	1236	Steve Carter	1236	7:57 AM	2:21...	08:23	04:00:4	00:00:0	00:00:4	00:00:0	00:29:	00:00:0	00:00:0	02:04:1	00:10:3	0	11
	PFACD1	1707	John Graham	1707	7:58 AM	3:00...	08:15	01:16:4	00:00:0	00:00:0	00:00:0	01:07:	00:00:0	00:00:0	00:55:3	00:11:4	0	5
	PFACD1	1043	Kevin Smyth	1043	12:04...	12:10...	4:18	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	00:00:0	5:06:39	00:00:0	0	2
	PFACD1	1587	Kevin Middlemiss	1592	9:03 AM	2:25...	12:08	00:00:0	00:00:0	00:00:0	00:00:0	00:06:	00:00:0	00:00:0	12:02:2	00:00:0	0	1

Figure 32: Agent Shift

Agent Shift column heading definitions

Table 17 describes the Agent Shift column headings.

Table 17: Agent Shift column headings

TERM	ABBREVIATED NAME	MEANING
Agent State		The agent's media type and current state
Media Server	Media Server	The media server to which the agent is associated
Agent Shift Name	Name	The name of the agent being monitored
Agent login ID	Agent login ID	The login ID of the agent being monitored
Extension Number	Extn #	The extension where the agent logged in (voice only)
Logged On	Log In	The most recent time the agent logged in
Last Event Received	Last Event Recd	The most recent time an agent event occurred
Shift Time	Shift Time	The total elapsed time logged for the agent, calculated based on the difference between log in and last event received

Table 17: Agent Shift column headings (continued)

TERM	ABBREVIATED NAME	MEANING
ACD Time	ACD Time	The duration of ACD contacts handled, from agent pickup to completion (not including hold time)
ACD Hold Time	ACD Hold Time	The duration of time ACD contacts spent on hold
Non ACD Time	Non ACD Time	The duration of non-ACD contacts handled, from agent pickup to completion (not including hold time) (voice only)
Non ACD Hold Time	Non ACD Hold Time	The duration of time non-ACD contacts spent on hold
Outbound Time	Out Time	The duration of time agents spent handling outbound calls (voice only)
Outbound Hold Time	Out Hold Time	The duration of time outbound calls spent on hold, for agents (voice only)
Do Not Disturb Time	DND Time	The duration of time the agent entered the Do Not Disturb State
Make Busy Time	MKB Time	The number of times the agent entered the Make Busy state
Wrap Up Time	Wrap Up Time	The duration of time where Wrap Up Time was the overriding state for the agent. Wrap up time does not include any time spent making or taking contacts during the wrap up timer.
Do Not Disturb Count	DND Cnt	The number of times the agent entered the Do Not Disturb state
Make Busy Count	MKB Cnt	The number of times the agent entered the Make Busy state
ACD Count	ACD Cnt	The number of ACD contacts handled by the agent
Short ACD Count	Shrt ACD Cnt	The number of ACD contacts handled by the agent where the handle time was less than the Short Handle parameter
Non ACD Count	Non ACD Cnt	The number of non-ACD contacts handled by the agent (voice only)
Hold ACD Count	Hold ACD Cnt	The number of times ACD contacts were placed on hold (voice only)

Table 17: Agent Shift column headings (continued)

TERM	ABBREVIATED NAME	MEANING
Non ACD Hold Count	Non ACD Hold Cnt	The number of times non-ACD contacts were placed on hold
Outbound Count	Out Cnt	The number of outbound calls made by the agent (voice only)
Outbound Hold Count	Out Hold Cnt	The number of times outbound calls were placed on hold (voice only)
Contacts Per Hour	Contacts Per Hour	The total ACD contact count minus the ACD short handle count, divided by the shift time for the agent
On Failover	On failover	Indicates whether the primary media server is offline and has failed over to the secondary media server (voice only)
Logged In Not Present Time	Logged In Not Present Time	The duration of time the agent was logged into but not present in an agent group
Average Handle	Avg Hndl	The average amount of time the agent spent handling ACD contacts (ACD Time divided by ACD Count, excluding ACD Hold Time)
Occupancy	Occp	The duration of time the agent spent processing contacts, including ringing time

Viewing Agent and Extension Availability and Resiliency

Contact Center Client's Agent, Employee, and Extension real-time monitors provide a visual indication if agents fail over to a resilient media server. In an Agent monitor (Agent State by Position, Agent State by Time, and Agent State by Queue by Time), if an agent fails over to the secondary voice media server, a cross-hatch pattern displays in the agent's cell in the monitor. (See Figure 33.)

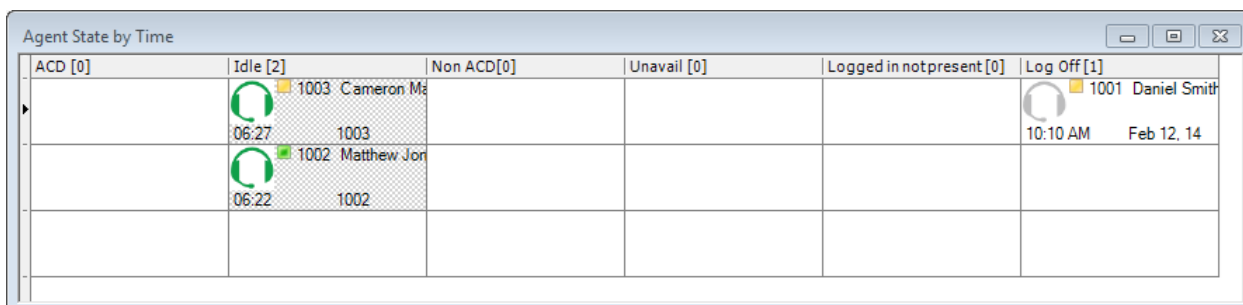


Figure 33: Agent monitor with failed over agents

In an Employee monitor (Employee State by Position and Employee State by Time), if an employee's agent fails over to the secondary voice media server, a cross-hatch pattern displays in the employee's cell in the monitor. (See Figure 34.)

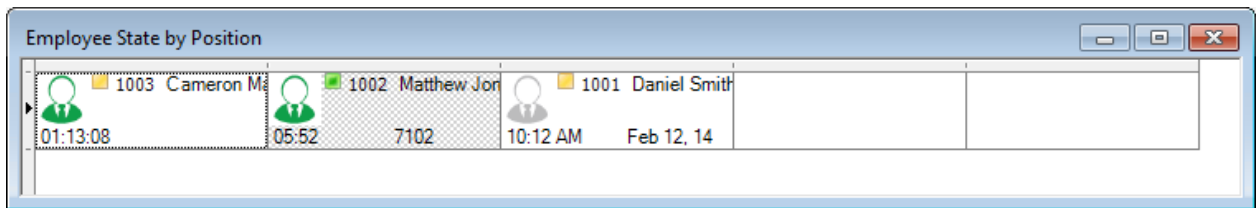


Figure 34: Employee monitor with failed over agents

In an Extension monitor, if a logged in agent who is associated to an extension fails over to the secondary voice media server, then a cross-hatch pattern is applied to the agent's associated extension in the extension monitor. (See Figure 35.)

NOTE: Extensions that fail over to the secondary voice media server do not have a cross-hatch pattern applied to their cell.

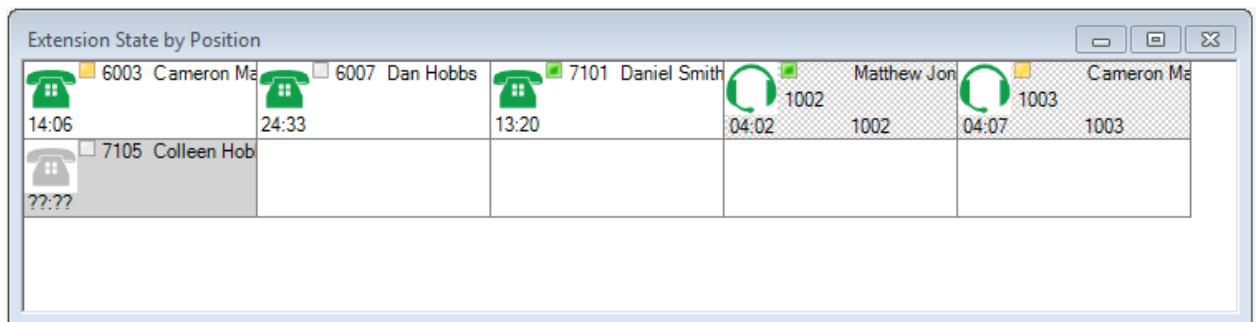


Figure 35: Extension monitor with failed over agents

Modifying visual indicator settings for agents failing over

By default, monitors are configured to display a pattern if agents fail over to a secondary media server. This setting is optional, however, and can be disabled on a monitor-by-monitor basis.

The following procedures explain how to

- Disable visual indicators for agents failing over
- Enable visual indicators for agents failing over

To disable visual indicators for agents failing over

1. Right-click in an open monitor and select **Properties**.
2. In the **General** tab, clear **Display pattern when on failover**.
3. Click **OK**.

To enable visual indicators for agents failing over

1. Right-click in an open monitor and select **Properties**.
2. In the **General** tab, select **Display pattern when on failover**.
3. Click **OK**.

VIEWING EXTENSIONS

NOTE: Users who will use the Extension by Position monitor must have the Class of Service HCI settings enabled.

In your business, you may be monitoring

- Traditional or hot desking ACD agents who sit at different desks each day and who log on using their agent ID
- General business, traditional extensions (non-contact center employees) who sit at the same desks each day, are assigned their own desk phone extensions, and do not log on to their phones (their phones are programmed with their personal settings and are always active)
- General business, hot desking extensions (non-contact center employees) who log on to any phone in the enterprise with a virtual extension configured with their personal settings. When the employee logs on the extension becomes active. When the employee logs off of the extension it goes out of service.

The following monitors are available for viewing extensions:

- Extension State by Position
- Extension Now

You can set up your real-time monitor profile to include two or more Extension by Position monitors: one with cells that are arranged to show the whereabouts of agents in your contact center, and another that shows the status of general business extensions: active/inactive, inbound/outbound.

Extension Inbound

Extension Inbound refers to a general business extension on an inbound call.

Extension Outbound

Extension Outbound refers to a general business extension on an outbound call

General business active extension

General business active extension refers to a Mitel desk phone/Contact Center PhoneSet Manager/Contact Center Softphone that is live with no ACD agents logged on (active extension), or an extension to which a general business hot desking user is logged on. The user is an active extension not logged on to any ACD queue.

General business inactive extension

General business inactive extension refers to a Mitel desk phone that has been unplugged or is damaged, or a soft phone that is not running because the computer is turned off or Contact Center Client is not running, or a hot desking extension to which nobody is logged on.

Traditional or hot desking ACD agents who sit at different desks each day

If you have traditional or hot desking ACD agents who sit at different desks each day, you use the Extension State by Position monitor to view where they are sitting in the contact center. After you add Registration Directory Numbers (RDNs)/desk phone extensions to the monitor, you can arrange the cells to match the layout of your contact center.

When nobody is logged on to a particular extension, the monitor cell displays the General business active icon and the phone set RDN ID. When an agent logs on to the desk phone, the monitor cell displays the ACD agent status, (which can include information such as the time in state, queue reporting number, and Make Busy status), the agent ID, the agent name, and the RDN (at the bottom of the cell). Depending on the agent's current state you may see additional information, such as the time in state, queue reporting number, or Make Busy status. If the Caller ID card design is selected, you will also see the caller name and phone number. (See Figure 36.)

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

If an agent cell in a monitor is grayed out, the phone is not connected to the network and considered out of service. The out of service state applies to phones that are not connected to the network, remote agents or employees that have lost their Internet connection, phones that are physically disconnected or malfunctioning, or employees that are not logged into their soft phone.

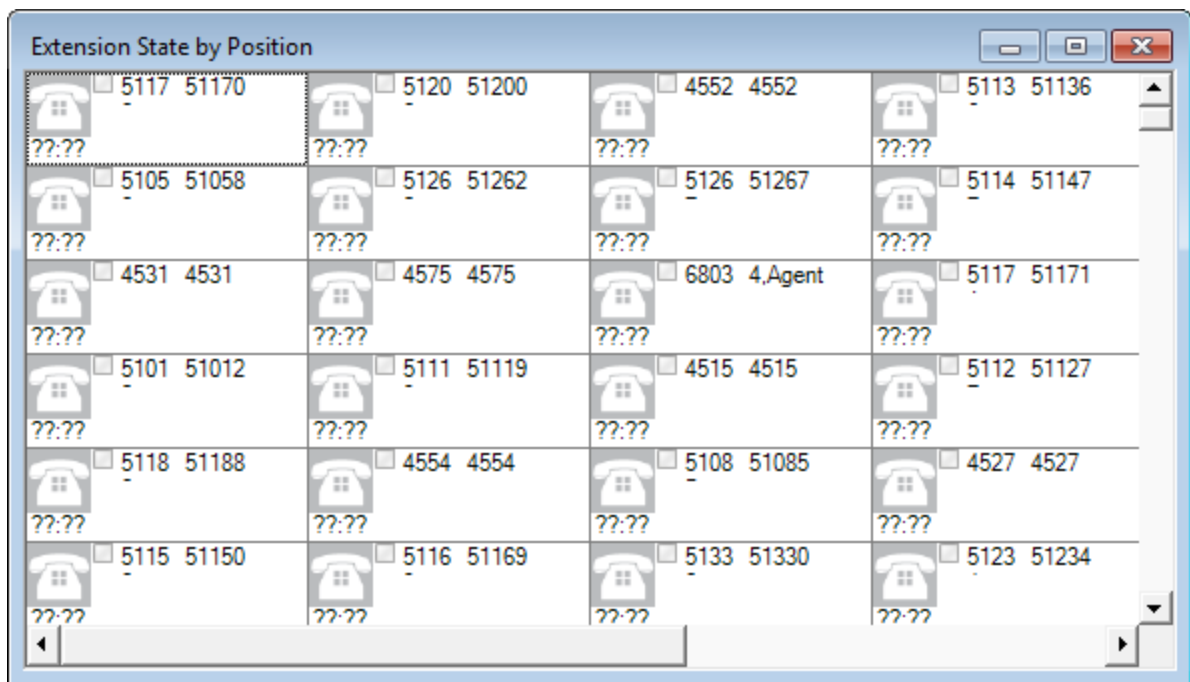


Figure 36: Extension State by Position

General business, traditional extensions who sit at the same desks each day

If you have general business, traditional extensions who sit at the same desks each day, you use the Extension State by Position monitor to view where they are sitting in the contact center. After you add their extensions to the monitor, you can arrange the cells to match the layout of your business, or arrange them alphabetically or by department.

When a general business employee is in Idle, the cell for the employee's phone extension in the Extension State by Position monitor displays the employee's name and extension number, and the General business active icon. When the employee is on an incoming/outgoing call, the cell displays the Extension Inbound/Extension Outbound icon, the employee's name and extension number, and the time in state. If the Caller ID card design is selected, you will also see the caller name and phone

number. Either card enables you to readily determine the online and phone availability of general business subject matter experts.

General business hot desking employees who sit at different desks each day

General business, hot desking extensions can log on to any phone in the enterprise and access their personal settings. When adding extensions to the Extension State by Position monitor, you can arrange them alphabetically or by department.

When an employee is logged on, the monitor cell displays the General business active icon, the employee's name and extension. When the employee is on an incoming/outgoing call, the cell displays the Extension Inbound/Extension Outbound icon and the time in state. If the Caller ID card design is selected, you will also see the caller name and phone number. When the employee logs off, the monitor cell is grayed out (inactive). (See Figure 37.)

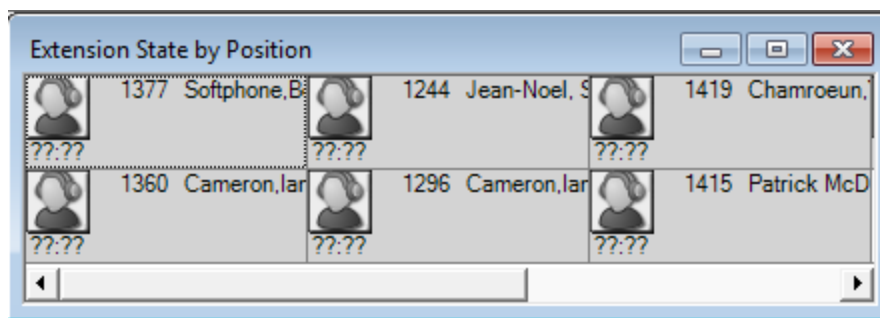


Figure 37: Extension State by Position

Extension Now

The Extension Now monitor enables supervisors to view extension statistics in real time. The Extension Now monitor provides visibility to extensions. If an agent logs into an extension displayed in this monitor, the extension will go out of service and will not be updated in real time. In the Extension Now monitor, you can specify which columns of statistics are displayed, rearrange columns, and sort individual columns in ascending or descending order. (See Figure 38.)

NOTE: Extensions must be licensed to display statistics.

Extension Now												
Ext St at	Media Server	Name	Reporting	Last Event Recd	ACD Time	ACD Hold Time	Non ACD Time	Non ACD Hold Time	Out Time	Out Hold Time	DND Time	DND Count
▶	3300 ICP	2005	2005	5:11 PM	00:01:43	00:01:08	00:03:05	00:00:00	00:00:08	00:00:00	00:02:29	2
▶	3300 ICP	2001	2001	5:11 PM	00:02:37	00:01:02	00:02:36	00:00:00	00:01:08	00:00:00	00:08:32	2
▶	3300 ICP	2002	2002		00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	00:00:00	0

Figure 38: Extension Now monitor

Extension Now column heading definitions

Table 18 describes the real-time and over-the-business-day Extension Now extension statistics.

Table 18: Extension Now extension statistic column headings

TERM	MEANING
Ext Stat	The current status of the extension
Media Server	The extension's media server
Name	The extension name
Reporting	The extension's reporting number NOTE: The extension reporting number is also its dialable number.
Last Event Recd	The most recent time an extension event occurred
ACD Time	The duration of ACD (ring group) contacts handled, from extension pickup to completion (not including hold time)
ACD Hold Time	The duration of time ACD (ring group) contacts spent on hold
Non ACD Time	The duration of non-ACD contacts handled, from extension pickup to completion (not including hold time)
Non ACD Hold Time	The total time for non-ACD calls put on hold
Out Time	The number of outbound calls made by the extension
Out Hold Time	The duration of time outbound calls spent on hold for extensions
DND Time	The duration of time where Do Not Disturb was the overriding state for the extension
DND Count	The number of times the extension entered the Do Not Disturb state
ACD Cnt	The total number of ACD (ring group) calls answered by the extension
Shrt ACD Cnt	The total number of ACD (ring group) calls answered by the extension that lasted less than the Short Handle parameter
Hold ACD Cnt	The number of times the extension put ACD (ring group) calls on hold
Non ACD Cnt	The total number of non-ACD calls answered by the extension
Non ACD Hold Cnt	The number of times non-ACD calls were put on hold
Out Cnt	The total number of outgoing calls the extension made
Out Hold Cnt	The total number of times the extension put outgoing calls on hold
Calls Per Hour	The average number of incoming ACD calls answered by the extension per hour since the extension was logged in

Table 18: Extension Now extension statistic column headings (continued)

TERM	MEANING
On Failover	Indicates whether or not the extension has failed over to the secondary media server
Not Present Time	The duration of time the extension was in service but not present in a ring group
Avg Handl	The average amount of time the extension spent handling ACD contacts (ACD Time divided by ACD Count, excluding ACD Hold Time)
Occp	The total time the extension spent in an occupied state (occupied state excludes idle time)

VIEWING QUEUE STATISTICS

NOTE:

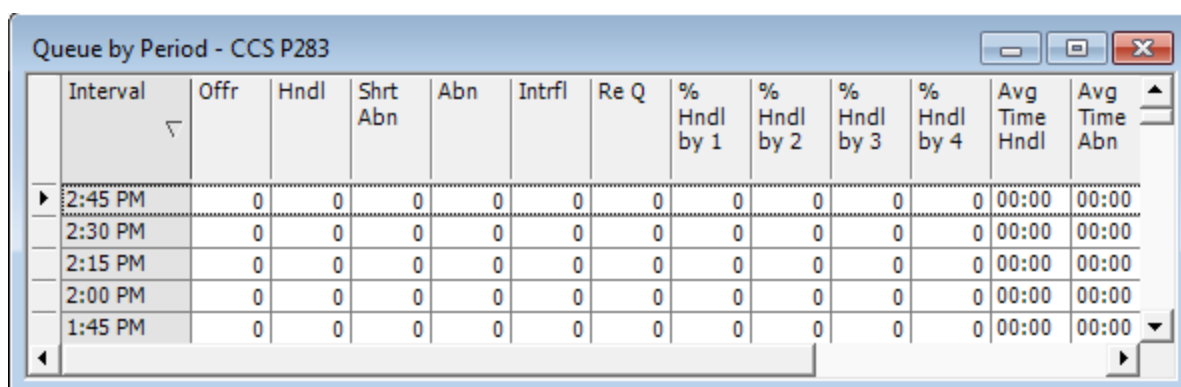
- You can see queue statistics during business hours as long as the business schedule you configure in YourSite Explorer is consistent with your company's hours of operation. You assign business-hours schedules to queues W in YourSite Explorer=>Queues=>Business Hours.
- If an agent fails to answer an ACD call after X seconds or X rings, the telephone system either logs out the agent or removes their presence from all agent groups (depending on telephone system configuration). The telephone system then re-queues the call, in the same queue, and offers it to the next available agent.

The following monitors display queue statistics:

- Queue by Period
- Queue Now
- Queue Group Now

Queue by Period

The Queue by Period monitor collates queue statistics by 15-minute intervals over a 24-hour period. The monitor refreshes each time there is a change in a statistic and each 15-minute interval. The Queue by Period monitor always displays the current 15 minute interval at the top of the monitor. You can specify which columns of statistics are displayed, rearrange columns, and sort individual columns in ascending or descending order. (See Figure 39.)



Queue by Period - CCS P283

Interval	Offr	Hndl	Shrt Abn	Abn	Intrfl	Re Q	% Hndl by 1	% Hndl by 2	% Hndl by 3	% Hndl by 4	Avg Time Hndl	Avg Time Abn
2:45 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
2:30 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
2:15 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
2:00 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00
1:45 PM	0	0	0	0	0	0	0	0	0	0	00:00	00:00

Figure 39: Queue by Period

Queue by Period column heading definitions

Table 19 describes the Queue by Period column headings.

NOTE:

- If the overflow point for a ring group is an extension with a hot desking agent/user logged into it, a call will not be pegged as interflowed.
- External calls to ring groups that overflow to an ACD path voice queue and are then answered by an agent are not counted as Unavailable in real-time monitors.
- External calls to ring groups that overflow to an ACD path voice queue and are then answered by an agent are not counted as interflowed in real-time monitors.
- Internal calls to ring groups that overflow due to ring or queue timer are pegged as abandons in real-time monitors, but are pegged as interflows in reports.
- Internal calls to ring groups that overflow to an ACD path voice queue and are answered by an agent are pegged as abandoned in real-time monitors. If you run Summarize, they will be counted as interflowed.
- Internal calls that are blind transferred to a ring group and then answered by a ring group are not counted as an ACD call.

Table 19: Queue by Period column headings

TERM	ABBREVIATED NAME	MEANING
Interval time	Interval	The 15 minute interval of time
Offered	Offr	The total number of calls offered to the queue during the 15-minute interval
Handled	Hndl	The total number of calls answered by members during the 15-minute interval
Short Abandoned	Shrt Abn	During the 15-minute interval, the total number of calls abandoned before the short abandon time configured against the queue in YourSite Explorer
Abandoned	Abn	The total number of calls abandoned during the 15-minute interval before being answered by members
Interflowed	Intrfl	The total number of calls interflowed during the 15-minute interval
Requeued	Re Q	The total number of calls re-queued during the 15- minute interval NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
% Handled by 1-4	% Hndl by 1-4	A count of all of the calls answered by the first, second, third, and fourth answer points during the 15-minute interval NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
#Handled by 1-4	# Hndl by 1-4	The number of calls answered by the first, second, third, and fourth answer points during the 15-minute interval NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Total Conversation Time	Ttl Conv Time	The total time members spent talking to callers during the 15-minute interval
Average Conversation Time	Avg Conv time	The average time members spent talking to callers during the 15-minute interval

Table 19: Queue by Period column headings (continued)

TERM	ABBREVIATED NAME	MEANING
Average Time to Handle	Avg Time Hndl	The average amount of time callers waited in queue before members answered their calls during the 15-minute interval
Average Time to Abandon	Avg Time Abn	The average amount of time callers waited in queue during the 15-minute interval before they abandoned their calls
Average Time to Interflow	Avg Time Intrfl	The average amount of time callers waiting in queue during the 15-minute interval before being interflowed
Service Level % Today	Scv Lvl % Tday	During the 15-minute interval, the percentage of calls answered within the Service Level Time specified for the queue
% Handled	% Hndl	During the 15-minute interval, the percentage of calls answered compared to the total number of calls offered to the ACD queue for the day
Wrap Up	Wrap Up	The total time the agent spent in the Work Timer state during the 15-minute interval NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Make Busy	Make Busy	The total time the agent spent in the Make Busy state during the 15-minute interval NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Occupancy	Occp	The total time the queue members spent in an occupied state during the 15-minute interval (occupied state excludes idle time)

Queue Now and Queue Group Now

The Queue Now monitor enables supervisors to view queue statistics in real time, as well as expand individual queues in the monitor to view statistics on each queue's associated member agents or extensions. When you expand the Queue Now monitor to display the Name column, the monitor also displays member presence in the queue. Presence is indicated by a colored star in the Present column. A green star indicates the member is present in the queue. A gray star indicates the member is not present in the queue. A grey row indicates that the member is not logged in (for agents and hot desk users) or out of service (for extensions).

The Queue Group Now monitor enables supervisors to view aggregated statistics for Reporting, Virtual, and Unified queue groups in real-time, as well as expand individual queue groups in the monitor to view statistics for the queue group's associated queues.

On the Queue Now monitor, you can specify which columns of statistics are displayed, rearrange columns, and sort individual columns in ascending or descending order. You can expand a queue and view statistics on the members associated with the queue. (See Figure 40.)

NOTE: Prior to Version 7.1, Queue Now monitors displayed the agent groups belonging to the queues with agent group statistics. As of Version 7.1, this functionality has been removed. Instead, queue members are grouped by agent group.

The screenshot shows the 'Queue Now' window with a tree view on the left and a main data table. The tree view has 'Queue' and 'Members' (selected) with 'Agt Grp' sub-items. The main table displays queue statistics. One queue is expanded to show a detailed view of the 'Agt Grp : Documentation Team - 6 item(s)'.

Queue Status	Media server	Queue #	Name	Contact ts	Wtg	Long Wtg	Avail	ACD	Idle	Non ACD
ACD	3300 ICP	P999	Training...	0	00:00	0	0	0	0	0

State	Name	Agt Grp	Present	Media Server	Reporting	Extn #	Log In
Agt Grp : Documentation Team - 6 item(s)							
	Ella Manthurvedi	Docum	★	3300 I	9001		
	Floyd Mantha	Docum	★	3300 I	9000		
	Fio Renn	Docum	★	3300 I	4444		
	Ella Manthurvedi	Docum	★	3300 I	9001		
	Floyd Mantha	Docum	★	3300 I	9000		
	Fio Renn	Docum	★	3300 I	4444		

ACD	3300 ICP	P300	Sales	0	00:00	0	0	0	0
ACD	3300 ICP	P301	Support	0	00:00	0	0	0	0

Figure 40: Queue Now

NOTE:

- Virtual queue groups are shown under the Queue groups column in the Queue Now monitor so that their individual queues can be selected in a single operation.
- Contact Center Client updates Longest Waiting statistics every fifteen seconds, or more frequently as records are received from the telephone system.
- Contact Center Client obtains the Contacts Waiting, Longest Waiting, and Agents Available statistics from the ACD data stream. If the telephone system has not updated Contact Center Management with ACD real-time statistics within the last 90 seconds, question marks display in place of these statistics.
- Agents logged in and idle whose extensions are ringing are included in the Agent Available statistic. Agents whose extensions are ringing are not included in the Unavailable statistic.
- The Average Handling Time is the Average Conversation Time plus the Average Hold Time. If an agent calls a supervisor in search of more information (while the caller is on hold) and/or transfers or conferences the call, these times are added to the Average Handling Time value.
- If an agent fails to answer an ACD call after X seconds or X rings, the telephone system either logs out the agent or removes their presence from all agent groups (depending on telephone system configuration). The telephone system then re-queues the call, in the same queue, and offers it to the next available agent.
- The abandoned media column in the Interactive Visual Queue monitor displays all abandoned calls, whereas, the abandoned column in the Queue Now monitor does not peg short abandons as abandoned calls. Because of this difference, you may notice discrepancies between the abandoned call information in these two monitors.
- Queue Now and Queue Group Now statistics that do not support Ring Groups will show '0' instead.

Queue Now and Queue Group Now column heading definitions

Table 20 describes the real-time and over-the-business-day Queue Now and Queue Group Now queue and queue group statistics.

NOTE:

- If the overflow point for a ring group is an extension with a hotdesking agent/user logged into it, a call will not be pegged as interflowed
- External calls to ring groups that overflow to an ACD path voice queue and are then answered by an agent are not counted as Unavailable in real-time monitors
- External calls to ring groups that overflow to an ACD path voice queue and are then answered by an agent are not counted as interflowed in real-time monitors
- Internal calls to ring groups that overflow due to ring or queue timer are pegged as abandons in real-time monitors, but are pegged as interflows in reports.
- Internal calls to ring groups that overflow to an ACD path voice queue and are answered by an agent are pegged as abandoned in real-time monitors. If you run Summarize, they will be counted as interflow.
- Internal calls that are blind transferred to a ring group and then answered by a ring group are not counted as an ACD call.

Table 20: Queue Now and Queue Group Now queue statistic column headings

TERM	ABBREVIATED NAME	MEANING
		The current status of the queue—either ACD or Do Not Disturb
Queue Status	Queue Status	If licensed for IVR Routing, an additional queue status, Offline, is available. Offline indicates that IVR Routing failed to receive a real-time status from the queue after a set period of time.
Queue Number	Queue #	The queue's reporting number
Queue Group Number	Queue Group #	The queue group reporting number (Queue Group Now only)
Media Server	Media Server	The queue's media server
Queue Name	Name	The queue or queue group name
Contacts Waiting	Contacts Wtg	The current number of contacts in queue waiting for a member to become available, including those listening to silence, music, or recorded announcements
Longest Waiting	Long Wtg	The current duration, in minutes and seconds, of the contact waiting the longest in queue or queue group
Available (Queue Now) Agents Available (Queue Group Now)	Avail Agts Avail	The total number of members logged in and not in Do Not Disturb, Make Busy, Work Timer, Reseize Timer, or Unknown
ACD	ACD	The current number of members handling ACD contacts
Idle	Idle	The current number of members logged on and ready to receive contacts
Non ACD	Non ACD	The current number of members handling non-ACD calls (voice only)
Outbound	Out	The current number of members on outgoing calls (voice only)
Unavailable	Unavail	The current number of members in Do Not Disturb, Make Busy, Work Timer, Ringing, or Unknown
Offered	Off	The total number of contacts offered to the queue / queue group

Table 20: Queue Now and Queue Group Now queue statistic column headings (continued)

TERM	ABBREVIATED NAME	MEANING
Handled	Hndl	The total number of ACD contacts handled by members
Abandoned	Abn	<p>The total number of contacts abandoned before being answered by members</p> <p>NOTE: Abandoned does not peg short abandons as abandoned contacts while the Abandoned column in the Interactive Visual Queue monitor displays all abandoned contacts. Because of this difference, you may notice discrepancies between the abandoned call information in these two monitors.</p>
Interflowed	Intrfl	<p>The total number of ACD contacts interflowed. Interflow is a mechanism that directs a contact waiting in queue to another answer point.</p> <p>NOTE: If a contact waiting in queue is redirected before the queue's short abandon time has elapsed, the queue is pegged with a Queue Unavailable count rather than an Interflowed count. In order for the Interflowed peg to occur, the redirection must occur after the short abandon time has elapsed.</p>
Requeued	Re Q	<p>The total number of ACD contacts requeued</p> <p>NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.</p>
Average Time to Handle	Avg Time Hndl	The average time it takes for the contact to be taken out of queue (answered or picked) by a member
Average Time to Abandon	Avg Time Abn	The current average amount of time customers wait in queue before abandoning contacts
Average Conversation Time	Avg Conv Time	The current average time members spent communicating (talking, chatting, or replying) with contacts
Service Level %	Svc Lvl %	<p>For a queue, this is the percentage of contacts handled within the queue's Service Level Time value over the day</p> <p>For a queue group, this is the lowest percentage of contacts handled within the queue's Service Level Time value over the day across all queues</p>

Table 20: Queue Now and Queue Group Now queue statistic column headings (continued)

TERM	ABBREVIATED NAME	MEANING
% Handled	% Hndl	For a queue, this is the percentage of contacts handled compared to the total number of contacts offered to the queue for the day
		For a queue group, this is the lowest percentage of contacts handled compared to the total number of contacts offered to the queue for the day across all queues
% Handled by 1-4	% Hndl by 1-4	For a queue, this is the percentage of all of the contacts answered by the first, second, third, and fourth agent groups
		For a queue group, this is the highest percentage of all of the contacts answered by the first, second, third, and fourth agent groups NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Total Conversation Time	Ttl Conv Time	The current total time members spend talking to callers
Total Queue Unavailable	Ttl Q Unavail	The total number of times during the day that contacts are rerouted because the queue is in Do Not Disturb or has no members logged in
Current Queue Unavailable	Curr Q Unavail	The current number of contacts are rerouted because no members are logged in or the queue is in Do Not Disturb. Once the queue becomes available, this value resets to 0
Offered Last Hour	Offr Last Hour	The total number of contacts offered to the queue during the last hour of business
Time to Handle Last Hour	Time Hndl Last Hour	The time contacts waited in queue during the last hour of business before being handled by a member
% Handled Last Hour	% Hndl Last Hour	For a queue, this is the percentage of contacts handled in the last hour of business, compared to the total number of contacts offered to the ACD queue for the day
		For a queue group, this is the lowest percentage of contacts handled in the last hour of business, compared to the total number of contacts offered to the ACD queue for the day

Table 20: Queue Now and Queue Group Now queue statistic column headings (continued)

TERM	ABBREVIATED NAME	MEANING
Service Level % Last Hour	Svc Lvl % Last Hour	For a queue, this is the percentage of contacts answered or picked within your Service Level Time value in the last hour For a queue group, this is the lowest percentage of contacts answered or picked within your Service Level Time value in the last hour
Handled Last Hour	Hndl Last Hour	The total number of contacts handled by members during the last hour of business
Abandoned Last Hour	Abn Last Hour	The total number of contacts abandoned during the last hour of business
Interflowed Last Hour	Intrfl Last Hour	The total number of contacts interflowed during the last hour of business. Interflow is a mechanism that directs a contact waiting in queue to another answer point
Unavailable Last Hour	Unavail Last Hour	The total number of times, in the last hour of business, contacts were rerouted because the queue they tried to access was in Do Not Disturb or had no members logged in See Current Queue Unavailable
Average Handling Time Last Hour	Avg Hndl Last Hour	The average duration of contacts from member pick up to client hang up (including hold time) during the last hour of business
Offered Last 15 Minutes	Offr Last 15 Min	The total number of contacts offered to the queue in the last 15 minutes of business
Time to Handle Last 15 Minutes	Time Hndl Last 15 Min	The time contacts waited in queue during the last 15 minutes of business before being handled by a member
% Handled Last 15 Minutes	% Hndl Last 15 Min	For a queue, the percentage of contacts answered in the last 15 minutes of business, compared to the total number of contacts offered to the ACD queue for the day For a queue group, the lowest percentage of contacts answered in the last 15 minutes of business, compared to the total number of contents offered to the ACD queue for the day

Table 20: Queue Now and Queue Group Now queue statistic column headings (continued)

TERM	ABBREVIATED NAME	MEANING
Service Level % Last 15 Minutes	Svc Last % Last 15 Min	For a queue, this is the percentage of contacts answered or picked within your Service Level Time value in the last 15 minutes of business For a queue group, this is the lowest percentage of contacts answered or picked within your Service Level Time value in the last 15 minutes of business
Handled Last 15 Minutes	Hndl Last 15 Min	The total number of contacts handled by members during the last 15 minutes of business
Abandoned Last 15 Minutes	Abn Last 15 Min	The total number of contacts abandoned during the last 15 minutes of business
Interflowed Last 15 Minutes	Intrfl Last 15 Min	The total number of contacts interflowed during the last 15 minutes of business. Interflow is a mechanism that directs a contact waiting in queue to another answer point.
Unavailable Last 15 Minutes	Unavail Last 15 Min	The total number of times, in the last 15 minutes of business, contacts were rerouted because the queue they tried to access was in Do Not Disturb or had no agents logged in See Current Queue Unavailable
Average Handling Time Last 15 Minutes	Avg Hndl Last 15 Min	The average handling duration of contacts from contact pickup to contact completion, including hold time, during the last 15 minutes of business
% Abandoned	% Abn	For a queue, this is the percentage of contacts that were abandoned ($\% \text{ Abandoned} = \text{Contacts Abandoned} \div \text{Contacts Offered}$) For a queue group, this is the highest percentage of contacts that were abandoned ($\% \text{ Abandoned} = \text{Contacts Abandoned} \div \text{Contacts Offered}$)
% Abandoned Last Hour	% Abn Last Hour	For a queue, this is the percentage of contacts that were abandoned in the last hour of business For a queue group, this is the highest percentage of contacts that were abandoned in the last hour of business

Table 20: Queue Now and Queue Group Now queue statistic column headings (continued)

TERM	ABBREVIATED NAME	MEANING
% Abandoned Last 15 Minutes	% Abn Last 15 Min	For a queue, this is the percentage of contacts that were abandoned in the last 15 minutes of business For a queue group, this is the highest percentage of contacts that were abandoned in the last 15 minutes of business
Wrap Up	Wrap U	The total time that agents spent in the Work Timer state NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Make Busy	Make Busy	The total time that agents spent in the Make Busy state NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Occupancy	Occp	The total time that members spent in an occupied state (occupied state excludes idle time)
# Handled by 1-4	# Hndl by 1-4	The number of contacts answered by the first, second, third, and fourth agent groups NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Logged Out	Logged out	The number of members associated with the queue but not logged in to the system NOTE: For Ring Groups, this statistic displays either the number of extensions out of service or hot desk users logged out.
Members Not Present	Not Present	The number of members that are logged into the telephone system, but not present in the queue being monitored

Table 21 describes the real-time and over-the-business-day Queue Now and Queue Group Now member statistics.

Table 21: Queue Now and Queue Group Now member statistic column headings

TERM	MEANING
Name	The name of the member being monitored. The icon beside the name indicates the media type the member handles
Present	Indicates whether the member is present in the queue Presence is indicated by a colored star. A green star indicates the agent or extension is present in the queue. A gray star indicates the agent is not present in the queue
Media Server	The media server to which the member is associated
Reporting	The reporting number of the member being monitored. For agents and hot desk users, this is the login ID. For extensions, this is the extension dialable.
Extn#	The base extension where the member logged in (voice agent or hot desk user only)
Log In	The first login of the member's shift. NOTE: This statistic displays information for ACD path members only and is not calculated for Ring Group members.
Last Event Received	The most recent time an member event occurred
Shift Time	The total elapsed time logged for the member, calculated based on the difference between log in and last event received NOTE: This statistic displays information for ACD path members only and is not calculated for Ring Group members.
DND Time	The duration of time where Do Not Disturb was the overriding state for the member
MKB Time	The duration of time where Make Busy was the overriding state for the member NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Wrap Up Time	The duration of time where Wrap Up Time was the overriding state for the member. Wrap up time does not include any time spent making or taking contacts during the wrap up timer. NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
ACD Time	The duration of ACD contacts handled, from member pickup to completion (not including hold time)
Hold ACD Time	The duration of time ACD contacts spent on hold

**Table 21: Queue Now and Queue Group Now member statistic column headings
(continued)**

TERM	MEANING
Non ACD Time	The duration of non-ACD contacts handled, from member pickup to completion (not including hold time) (voice only)
Hold Non ACD Time	The duration of time non-ACD contacts spent on hold
Out Time	The duration of time members spent handling outbound calls (voice only)
Out Hold Time	The duration of time outbound calls spent on hold, for members (voice only)
DND Cnt	The number of times the member entered the Do Not Disturb state
MKB Cnt	The number of times the member entered the Make Busy state NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
ACD Cnt	The number of ACD contacts handled by the member
Shrt ACD Cnt	The number of ACD contacts handled by the member where the handle time was less than the Short Handle parameter
Hold ACD Cnt	The number of times ACD contacts were placed on hold (voice only)
Non ACD Cnt	The number of non-ACD contacts handled by the member (voice only)
Hold Non ACD Cnt	The number of times non-ACD contacts were placed on hold
Out Cnt	The number of outbound calls made by the member (voice only)
Out Hold Cnt	The number of times outbound calls were placed on hold (voice only)
Avg Handl	The average amount of time queue members spent handling ACD contacts (ACD Time divided by ACD Count, excluding ACD Hold Time)
Agt Grp	The agent group to which the agent belongs NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
Occupancy	The duration of time the member spent processing contacts
Contacts per Hour	The total ACD contact count minus the ACD short handle count, divided by the shift time for the member
On failover	Indicates whether the primary media server is offline and has failed over to the secondary media server (voice only)

Table 21: Queue Now and Queue Group Now member statistic column headings (continued)

TERM	MEANING
Unavail%	The percentage of time for the shift that the member was in Do Not Disturb, Make Busy, and Work Timer states
Not Present Time	The duration of time the member was logged into but not present in an agent group or ring group
External Handle Duration	The duration of time the member spent handling external calls (voice only)
External Inbound Count	The number of incoming external calls (voice only) NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.
External Outbound Count	The number of outgoing external calls (voice only) NOTE: This statistic displays information for ACD paths only. Statistics for Ring Groups will display as '0'.

VIEWING QUEUE CHART STATISTICS

NOTE:

- You can see queue charts during business hours as long as the business schedule you configure in YourSite=>Schedule or YourSite Explorer=>Schedules is consistent with your company's hours of operation. You assign business-hours schedules to queues in YourSite=>Configuration=>Queue=>Queue or in YourSite Explorer=>Queues=>Business Hours.

The following charts display queue statistics:

- Queue Now
- Queue Group Now
- Queue Performance by Period
- Queue Group Performance by Period

Queue Now and Queue Group Now

The Queue Now and Queue Group Now charts offer visual representation of Queue Now and Queue Group Now real-time statistics, grouped by the type of statistics displayed. Three different series of statistics are available to view in charts:

- Integer**—displays numerically-based real-time statistics
- Percentage**—displays percentage-based statistics
- Time**—displays time-based statistics

Users can specify which statistics display in their charts. Figure 41 shows an example of a Queue Now chart displaying the Integer series with the default statistics selected.

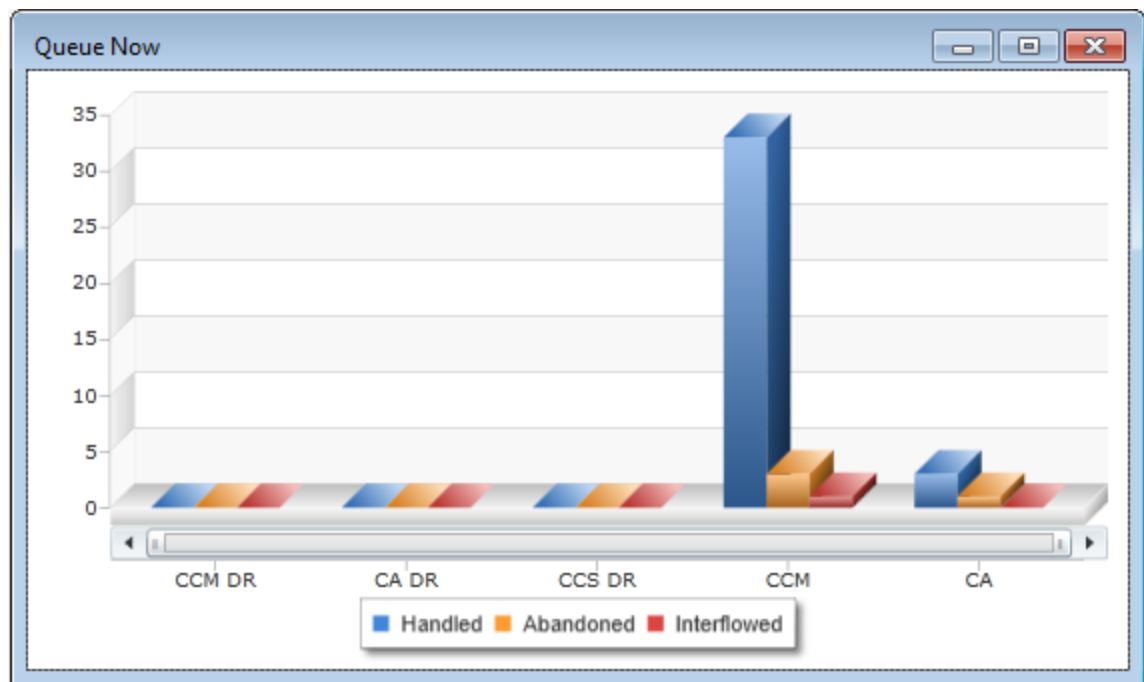


Figure 41: Queue Now (Integer) chart

The Integer chart shows:

- Handled (Default)
- Abandoned (Default)
- Interflowed (Default)
- Calls Waiting
- Agents Available
- ACD
- Idle
- Non ACD
- Outbound
- Unavailable
- Offered
- Requeue
- Total Hour
- Interflowed Last Hour
- Unavailable Last Hour
- Offered Last 15 Minutes
- Handled Last 15 Minutes
- Abandoned Last 15 Minutes
- Interflowed Last 15 Minutes
- Unavailable Last 15 Minutes

- Logged out
- Logged in not present
- # Handled by 1-4

The Percentage chart shows, by default:

- Service Level %
- Handled %
- % Handled by 1-4
- % Handled Last Hour
- Service Level % last Hour
- % Handled Last 15 Minutes
- Service Level % Last 15 Minutes
- %Abandoned
- %Abandoned Last Hour
- %Abandoned Last 15 Minutes.

Time charts show, by default:

- Longest Waiting
- Average Time to Handle
- Average Time to Abandon Minutes
- Average Talk Time
- Ttl Talk Time
- Time to Handle Last Hour
- Average Time to Handle Last Hour
- Hdnl Last 15 Min
- Average Handling Time Last 15 Minutes
- Total work timer minutes
- Total make busy minutes
- Total occupancy minutes

For descriptions of the statistics, see "Queue Now and Queue Group Now column heading definitions" on page 235.

NOTE: The following statistics are for ACD path voice queues only and will not display information for ring groups:

- Requeue
- # Handled by 1, 2, 3, 4
- % Handled by 1, 2, 3, 4
- Total work timer minutes
- Total make busy minutes

Queue Performance by Period and Queue Group Performance by Period

The Queue Performance by Period and Queue Group Performance by Period charts offer visual representations of Queue and Queue Group Performance by Period statistics, grouped by the type of statistic displayed. Three different series of statistics are available to view in charts:

- **Integer**—displays numerically-based real-time statistics
- **Percentage**—displays percentage-based statistics
- **Time**—displays time-based statistics

Figure 42 displays a Queue Performance by Period chat displaying the default statistics of the Integer series.

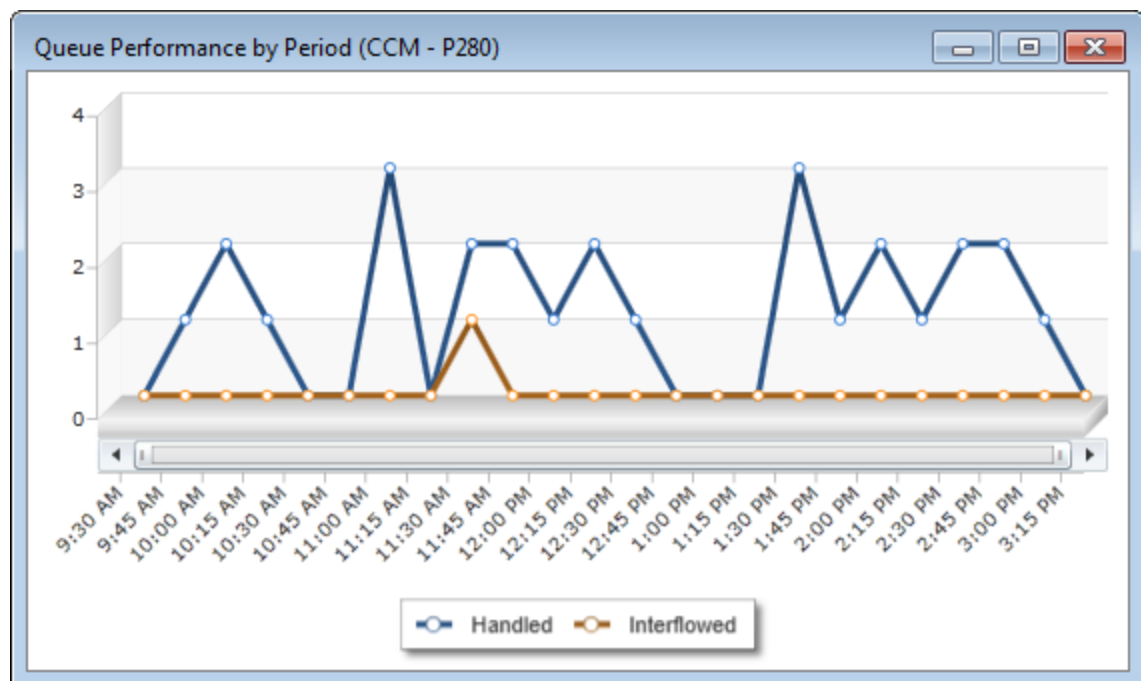


Figure 42: Queue Performance by Period chart

The Integer series shows the following statistics across 15 minute intervals for queues or queue groups:

- Handled (Default)
- Interflowed (Default)
- Offered
- Short Abandoned
- Abandoned
- Requeue
- # Handled by 1-4

The Percentage series shows the following statistics across 15 minute intervals for queues or queue groups, by default:

- % Handled by 1-4
- Service Level % Today
- % Handled

The Time series show the following statistics across 15 minute intervals for queues or queue groups, by default:

- Average Time to Handle
- Average Time to Abandon
- Average Time to Interflow
- Ttl Talk Time
- Average Talk Time
- Total work timer minutes
- Total make busy minutes
- Total occupancy minutes

For more information for the definitions of these statistics, see "Queue by Period column heading definitions" on page 231.

NOTE: The following statistics are for ACD path voice queues only and will not display information for ring groups:

- Requeue
- # Handled by 1, 2, 3, 4
- % Handled by 1, 2, 3, 4
- Total work timer minutes
- Total make busy minutes

Navigating charts

You can zoom in and out of charts to change how the data is displayed in the chart, expanding or compressing the displayed data. If the range of data displayed exceeds the boundary of the chart window in Contact Center Client, you can use the horizontal scroll bar to move back and forth across the displayed data.

To zoom in on a chart

1. Hold your mouse over the edge of the horizontal scroll bar until the cursor turns into a double-arrow (<->) icon.
2. Click and drag the edge of the horizontal scroll bar towards the opposite side of the scroll bar. The chart zooms in and the horizontal scroll bar shrinks in size.

NOTE: To undo the zoom function, click **Zoom Out**.

To zoom out of a chart

1. Hold your mouse over the edge of the horizontal scroll bar until the cursor turns into a double-arrow (<->) icon.
2. Click and drag the edge of the horizontal scroll bar and drag to zoom out.

To show the entire chart in the window

- If you are zoomed in, in the chart window click **Show All**.

To scroll across the chart

- Click and drag the horizontal scroll bar in the direction you wish to scroll the chart.

VIEWING CALLBACK LISTS WITH THE GLOBAL CALLBACK MONITOR

If you are licensed with the IVR Routing Advanced Starter Pack or greater, the Global callback monitor enables system administrators to monitor callback states in real time and displays the callbacks currently available. Using the Global callback monitor, you can requeue and delete callbacks. (See Figure 43.)

Monitor Callback List											
	Caller #	Caller Name	Status	Priority	Reason	Type	# of Attempted...	Last Time Agent...	PrioritySequence	Request Time	
▶	1234	Y.Test	Completed	High	Rejected by agent.	Voice	1	7/28/2011 11:41:54 AM		7/28/2011 12:12:11 P	
	6001	Y.Test	Completed	High	Rejected by agent.	Voice	1	7/28/2011 11:41:41 AM		7/28/2011 12:11:43 P	
	2365478	Y.Test	Completed	High	Rejected by agent.	Voice	0				
	1234	Y.Test	Completed	High	Rejected by agent.	Voice	0				

Figure 43: Global callback monitor

To access the global callback monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. Click the **Callbacks** icon.
The Monitor Callback List displays.

Table 22 describes the Global callback monitor column headings.

Table 22: Global callback column headings

COLUMN HEADING	DEFINITION
Caller number	the phone number provided by the caller
Caller name	the name of the caller
Status	the state of the callback — new request, in progress, requeued, completed, unknown
Priority	the importance level of the callback. Callback priority levels are: <ul style="list-style-type: none"> • Voice — Normal • Web — Normal • Caller abandoned — Low
Type	the type of callback — voice, web, or caller abandoned
Reason	lists why the callback is in a particular status

Table 22: Global callback column headings (continued)

COLUMN HEADING	DEFINITION
Attempted Calls to Agent	the number of times the callback was offered to an agent in queue
Last Time Agent Attempted	the last time the agent attempted the callback
Request Time	the specific time the callback will be executed
Time Received	the specific time the caller submitted the callback request
Web IP Address	the IP address of the caller who submitted the callback request
Last Attempted Call to Client	the specific time the last callback attempt to the caller was made
Attempted Calls to Client	the number of times the callback was attempted
Client Available From	the earliest time the caller is available to receive the callback
Client Available To	the latest time the caller is available to receive the callback
ANI	the phone number of the caller
DNIS	the phone number the caller dialed
Dialable	the dialable number of the device that will handle the callback
Device Name	the name of the device that will handle the callback
Device Type	the type of device that will handle the callback — agent, queue, or extension
Recorded Message	contains a hyperlink to the voice callback .wav file left by the caller
Area	the province/state or other area the call originated from
Country	the country the call originated from
Port	the number of the port attempting to perform the callback
Region	the region the call originated from

Managing callbacks in the Global Callback monitor

The Global callback monitor enables users to requeue, reject, and delete callbacks within the monitor. Requeued callbacks are re-entered into their queue. Rejected callback are removed from the queue and will not be offered to employees. Deleted callbacks are removed from the monitor, but are not removed from the system.

Users can also adjust a callback's priority. Callback priority determines the order of which callbacks will be offered to agents. Callbacks are offered to agents in order of their priority and then by the longest waiting callback of that priority. For example, High priority callbacks are offered before Normal priority callbacks, even if the Normal priority callbacks have been in queue longer.

The following procedures explain how to:

- Requeue a callback
- Reject a callback
- Delete a callback
- Change a callback's priority

To requeue a callback

1. Right-click a callback and select **Requeue**.
2. Select **Yes**.

To reject a callback

1. Right-click a callback and select **Reject**.
2. Select **Yes**.

To delete a callback

1. Right-click a callback and select **Delete**.
2. Select **Yes**.

To change a callback's priority

- Right-click a callback and select **Change priority=>[priority level]**.

VIEWING PORTS

NOTE:

- You can monitor port states in real time and view currently executing workflows.
- You can select the ports you want to monitor individually or by hunt group.
- You can remove ports from Do Not Disturb.

The Port Status monitor displays port information.

Port status monitor

The Port Status monitor enables system administrators to monitor port states in real time and displays the workflows that are currently executing on ports. Using the Port Status monitor, you can take ports out of Do Not Disturb and playback historical port events in Auditor mode. (See Figure 44.)

To access the port status monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. Click the **Ports** icon.
The Port status monitor displays.

Port								
Name	Dialable	Extension Type	Media Server	Hunt Group Name	Hunt Group...	Phone state	Callflow name	Phone Display
PC7050	7050	RAD port 5020 IP	VWM Primary Test			Unknown		WAITING FOR
RH7556	7556	Messaging port 502	VWM Primary Test			Unknown		
7573	7573	Messaging port 502	VWM Primary Test			Unknown		
7575	7575	Messaging port 502	VWM Primary Test			Unknown		
Redundant Port	7600	RAD port 5020 IP	VWM Secondary Te			Unknown		
Test Radi	7800	RAD port 5020 IP	VWM Primary Test			Idle		2:01 26-JUL-...

Figure 44: Port status monitor

Table 23 describes the Port Status monitor column headings.

Table 23: Port Status column headings

COLUMN HEADING	DEFINITION
Name	the name of the port
Dialable	the port's dialable number
Extension Type	the type the extension — RAD, messaging, callback, or UPIQ
Media Server	the media server to which the port is associated
Hunt Group Name	the name of the hunt group the port is associated with. A port can be associated with more than one hunt group
Hunt Group Dialable	the dialable number of the hunt group
Phone state	the state of the phone — idle, dialing, talking, ringing, or unknown
Workflow name	the name of the executing workflow
Phone Display	displays the MiAUDIO state (that is displayed on the phone)
ANI	the phone number of the caller
DNIS	the phone number dialed by the caller
Redirect	the number of the device the call was directed from

VIEWING WEBPAGES

While using Contact Center Client, you can view webpages using the Web browser monitor.

To view a webpage within Contact Center Client

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. Click the **Web** icon.
The Web Browser Properties window opens.
3. After **Monitor title**, type a name for the monitor.
4. After **Start URL**, type the address of the website to view.
NOTE: The website address must begin with http:// or you will not be able to view the monitor.
5. Optionally, select a value for the Web Browser **Refresh Rate**.
6. Click **OK**.

VIEWING AND CUSTOMIZING REAL-TIME MONITORS

NOTE:

- Contact Center Client has a tabbed interface for managing and arranging windows. You can dock the monitors, displaying them on overlapping tabbed panels to maximize real estate. This enables you to readily navigate between monitors.
- You can save threshold settings and display characteristics you define for monitors. When you click File=>Save, Contact Center Client saves all open monitors under one profile name. You can click File=>Open to open another profile, or File=>New to create a new profile.

Opening monitors

To open a monitor in Contact Center Client

1. In the Contact Center Client ribbon, click **Real time** to view the Contact Center Client monitor icons.
2. In the **State by Position** column on the ribbon, click **Agent**.
This selects the Agent State by Position monitor and the Add/Remove device IDs window opens.
See Figure 45.
3. Under **Agent groups**, select agent groups to monitor and/or under **Agents**, select agents to monitor.
4. Under **Card designs**, select a card design.
Card designs specify the information displayed on agent, employee, and extension monitors.
5. Click **OK**.

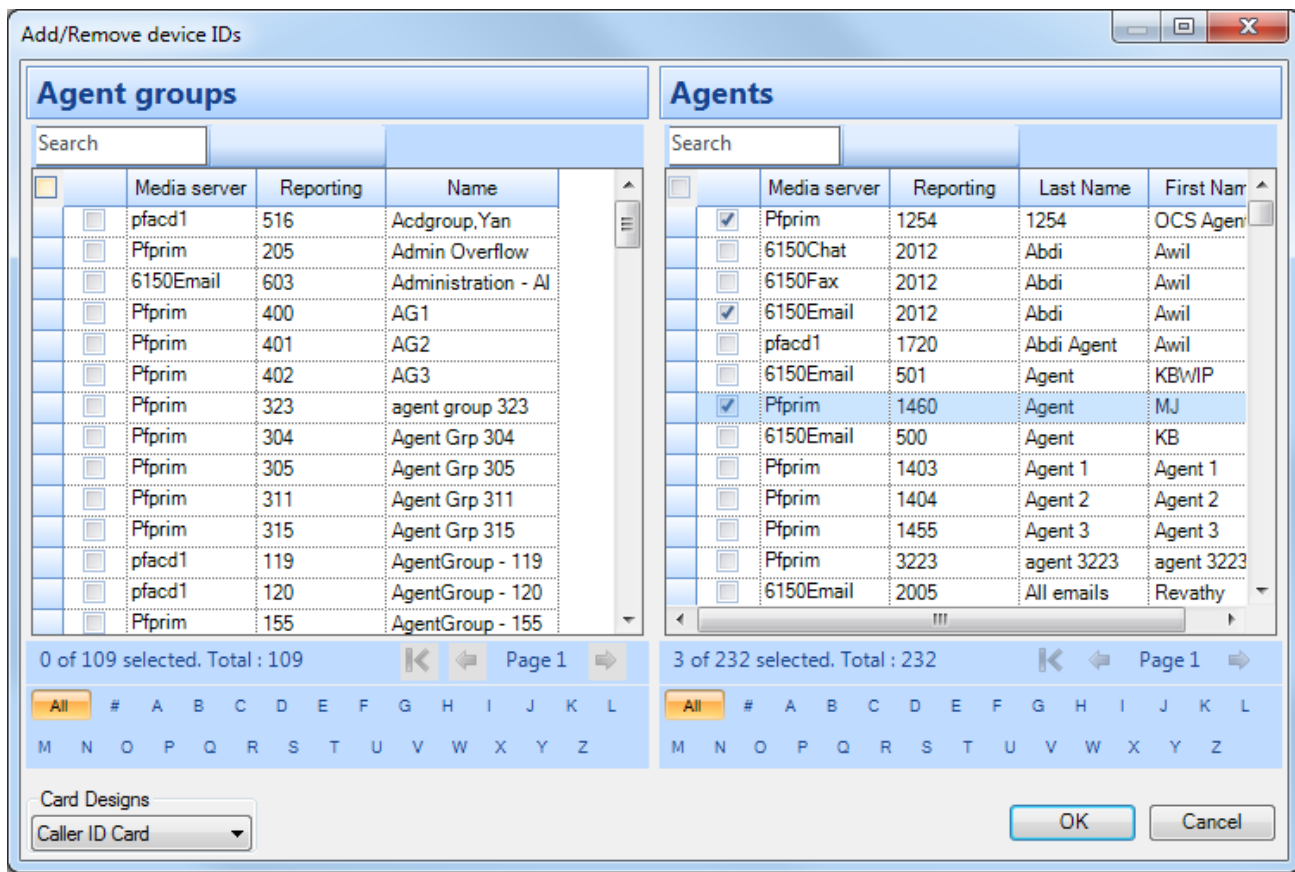


Figure 45: Add/Remove devices

Docking monitors

You can dock monitors and readily navigate between them. You can dock a monitor to the top, bottom, left, or right of another monitor. Alternatively, you can dock a monitor on the top, bottom, left, or right side of the Contact Center Client window. You can dock monitors on top of one another, displaying them on overlapping tabbed panels to maximize real estate.

To dock a monitor on top of another monitor

1. Right-click the title bar of an open monitor and select **Dock**.
2. Repeat step 1 for all open monitors.
3. Click the title bar of a monitor and drag the monitor on top of a second monitor placing your cursor in the center of the four-headed arrow that displays. See Figure 46.

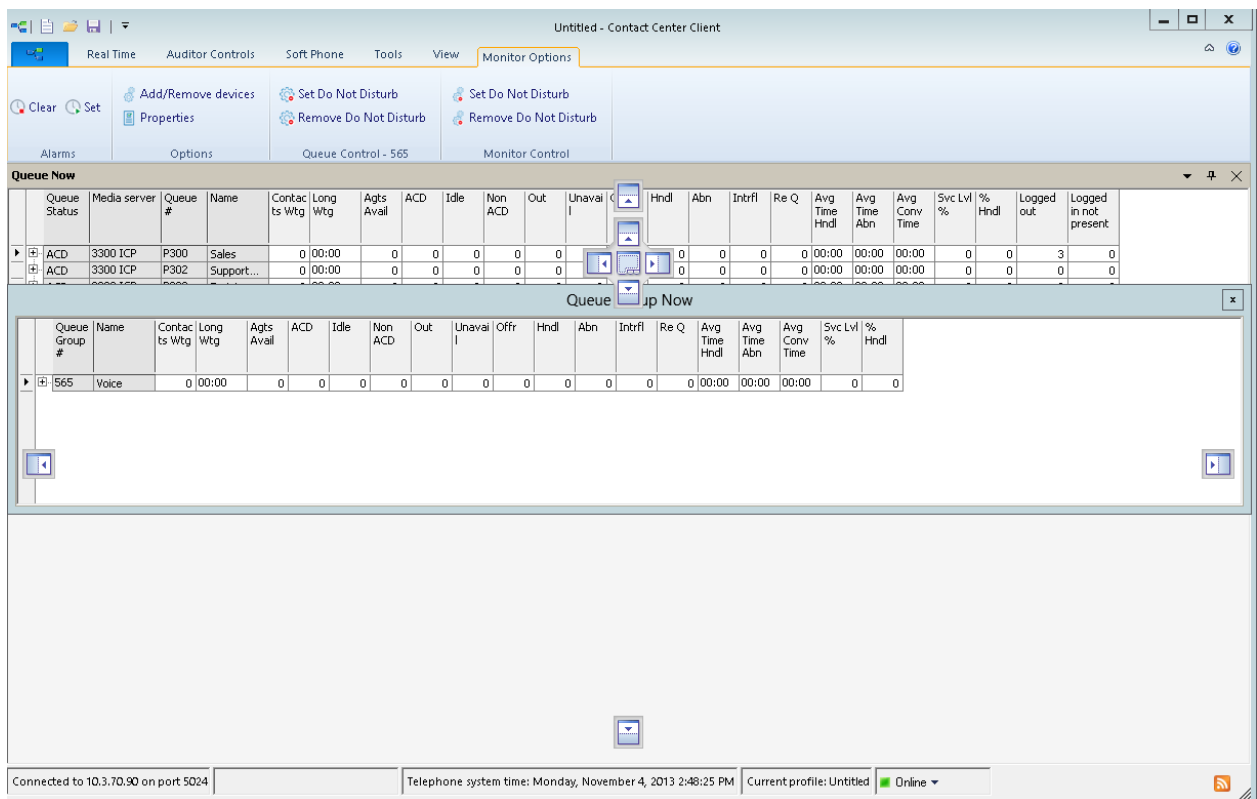


Figure 46: Docking monitors

- Release the mouse button.
Your monitors are displayed on overlapping tabbed panels.
See Figure 47.

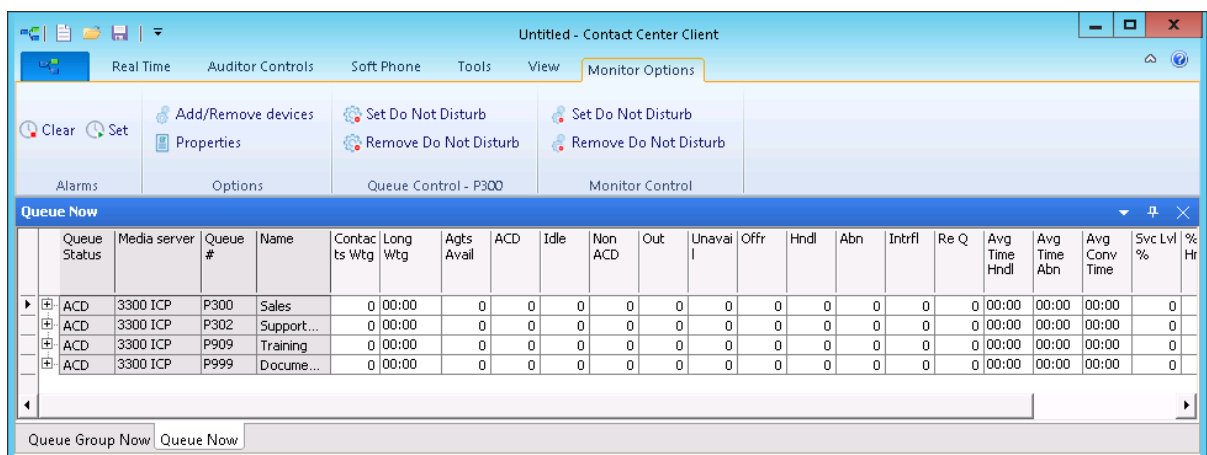


Figure 47: Docked monitor

Adding and removing devices

You can add and remove devices from all of the Contact Center Client monitors except for the chart monitors.

To add devices to the bottom of a monitor

1. Right-click an open monitor and click **Add/Remove devices**.
2. Under **Agent/Employee/Queue groups**, select additional agent, employee, or queue groups to add to the monitor, or under **Agents/Employees/Queues**, select additional agents, employees, or queues to add to the monitor.
3. Click **OK**.
On the Agent State by Position, Employee State by Position, and Extension State by Position monitors a blank row of cells separates the original agents from those you just added. To remove the blank row you must sort the monitor.
See "Sorting monitor devices" on page 256.

To remove devices from a monitor

1. Right-click an open monitor and click **Add/Remove devices**.
2. Under **Agents/Employees/Queues**, clear the check boxes of the agents, employees, or queues to be removed.
3. Click **OK**.

NOTE: You can alternatively add and remove devices via the Monitor Options tab in the Contact Center Client ribbon for the Queue by Period, Queue Now, and Queue Group Now monitors.

Sorting monitor devices

When you select devices to display on a monitor, you can specify the devices be sorted by media server (on agent monitors only), ID, or name (alphabetically) in ascending or descending order. When the monitor opens, the devices display in the order you selected.

To sort the devices displayed on a monitor

- In the left pane of the **Add/Remove devices** window, click **Media server** to sort the members by media server, click **Name** to sort the members alphabetically, or click **Reporting** to sort the members by ID, in either ascending or descending order.

You can sort information by state, name, agent ID, or extension on the Agent State by Position, Employee State by Position, and Extension by Position monitors.

To sort agents or employees by state

- Right-click a monitor and click **Sort monitor=>By state**.

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

- Ringing
- ACD
- ACD Hold
- Idle
- Non ACD

- Non ACD Hold
- Outbound
- Outbound Hold
- Do Not Disturb
- Make Busy
- System Make Busy
- Work Timer
- Unknown
- Logged Off

To sort agents or employees by name

- Right-click a monitor and click **Sort monitor=>By name**.

To sort agents or employees by agent ID

- Right-click a monitor and click **Sort monitor=>By agent ID**.

To sort agents or employees by extension

- Right-click a monitor and click **Sort monitor=>By extension**.

Rearranging cells

You can rearrange cells on the Agent State by Position, Employee State by Position, and Extension State by Position monitors.

To rearrange cells

- On an open monitor, drag a cell to a different position on the monitor.

You can rearrange columns on the Agent Shift, Queue by Period, Queue Now, and Queue Group Now monitors.

To rearrange columns

1. Right-click an open monitor and click **Properties**.
2. Click the **Layout** folder.
3. Click **Column order**.
4. Click a column header and click the up or down arrow key to change the position of the column relative to other columns on the monitor.

NOTE: You can alternatively rearrange cells via the Monitor Options tab in the Contact Center Client ribbon for the Queue by Period, Queue Now, and Queue Group Now monitors.

Setting monitor dimensions

You can specify the numbers of rows and columns of cells to display on the Agent State by Position, Employee State by Position, and Extension by Position monitors. You can then adjust the table to fit within the monitor frame.

To set table dimensions

1. Right-click a monitor and click **Set table dimensions**.
2. After **Columns**, type a number.
3. After **Rows**, type a number.
4. Click **OK**.
Columns or rows are added or deleted from the monitor. You can redistribute the cells using a drag-and-drop operation.

To size the table to fit the frame

- Right-click in any real-time monitor and select **Size table to frame**.

Hiding monitor columns

On the Agent Shift, Queue by Period, Queue Now, and Queue Group Now monitors, you can hide specific columns of statistics.

To hide columns

1. Right-click an open monitor and click **Properties**.
2. Click the **Layout** folder.
3. Click **Column order**.
4. In the **Visible** column, clear the check boxes of the columns you want to hide from view.

NOTE: You can alternatively hide monitor columns via the Monitor Options tab in the Contact Center Client ribbon for the Queue by Period, Queue Now, and Queue Group Now monitors.

Configuring chart characteristics

Individual charts have a range of configurable characteristics and options that enable users to customize their chart display.

You can right-click charts to access the following options or select them via the Chart Options tab:

- Change the chart types
- Configure the legend
- Configure the color scheme
- Enable points labels
- Modify Properties

Changing chart type

Contact Center Client enables you to configure the type of chart, either column or line, used for your Queue and Queue Group Performance by Period charts.

Queue and Queue Group Now charts display as bar charts.

1. Right-click on an open By Period chart and click **Chart Type**.
2. Select the type of chart you want your chart to display.

NOTE: Alternatively, you can change the chart type by selecting an open By Period chart, and choosing **Column** or **Line** from the drop-down list beside **Type** in the Chart Options tab.

Configuring the legend

You can choose if your chart has a legend, as well as configure where the legend displays.

To configure the legend

1. Right-click on an open queue chart and click **Legend box**.
2. Select or deselect **Enabled** to either display or remove the legend.
3. Right-click on an open queue chart and click **Legend box**.
4. Click **Left**, **Top**, **Right**, or **Bottom** to determine where you want the legend box to display.

NOTE: Alternatively, you can configure the legend by selecting an open queue monitor and accessing options from the **Legend** section of the **Chart Options** ribbon.

Configuring the color scheme

You can select the color scheme for the chart.

To configure the color scheme for a chart

1. Right-click on an open queue chart and click **Color**.
2. Select the color scheme you want to apply to the chart from the list.

NOTE: Alternatively, you can configure the color scheme by selecting an open queue chart and selecting color options from the drop-down list beside **Color** in the **Chart Options** ribbon.

Defining queue chart properties

Under Chart properties, you can select general chart characteristics, such as colors and stacked effects. You can define series characteristics, such as the type of chart, the fill properties, and the shape of the bars. In addition, you can define y axis characteristics.

To define queue chart properties

1. Right-click an open queue monitor and click **Chart properties**.
2. On the **General** tab, specify general chart characteristics (colors, effects, and 3D).
3. Click the **Series** tab.
4. Specify series characteristics (chart style, fill style, bar type, and border style).
5. Click the **Y Axis** tab.
6. Specify axis scale characteristics, label characteristics, and the width and color of the axis line.
7. Click **OK**.

NOTE: Alternatively, you can configure queue chart properties by selecting an open queue monitor and clicking **Properties** located in the **Chart Options** ribbon.

Enabling point labels

You can enable labels for each point in your chart.

To enable point labels

- Right-click on an open queue chart and click **Points labels**.

NOTE: Alternatively, you can enable point labels by selecting an open queue chart and clicking **Enabled** in the **Points Label** section of the **Chart Options** ribbon.

Modifying Properties

Properties controls the way chart data displays. Under Properties, you can

- Specify the queue chart title
- Highlight statistics
- Configure 2D and 3D statistics
- Animate charts
- Select call statistics to display
- Create and modify constant lines

NOTE: You can either right-click an open queue chart to modify properties or select an open queue chart and choose options via the Properties section of the Chart Options tab.

Specifying the queue chart title

Under Properties, you can specify the title of the queue chart.

To specify the queue chart title

1. Right-click on an open queue chart and click **Properties**.
2. After **Monitor title**, select and delete the old chart title and type a new name for the queue chart.
3. Click **OK**.

Highlighting statistics

Under Properties, you can enable the highlight feature. When the highlight feature is enabled, and when you move your cursor over a bar representing a specific call statistic, that bar is highlighted and the other bars, representing other call statistics, are dimmed.

To highlight statistics

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

Configuring 2D or 3D chart displays

Under Properties, you can configure whether your chart displays bars in 2D or 3D. By default, your charts display in 3D.

1. Right-click on an open queue chart and click **Properties**.
2. Expand the **Chart properties** tree and click **General**.
3. Select the **3D** check box to enable or disable 3D charts.
4. Click **OK**.

Animating charts

Under Properties, you can enable the animated feature. When the animated feature is enabled, changes to chart values actively display. The animated feature is disabled by default.

CAUTION: Enabling the animated feature will result in additional CPU load on the affected workstation.

To animate charts

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

Selecting call statistics to display

Under Properties, you can select call statistics to display. For example, you can add Calls Waiting, Agents Available, Idle, and Requeued statistics to the Queue Group Now (Integer) chart.

To select call statistics to display

1. Right-click on an open queue chart and click **Properties**.
2. Expand the **Chart properties** tree and click **Series data**.
3. Select the **Series data type** radio button to define the types of data visible in the chart.
 - Integer
 - Percentage
 - Time
4. If you are selecting call statistics for a Queue or Queue Group Performance by Period chart, click **Time Interval**. Select the radio button for the interval you want to use and set the time.
5. Under **Visible**, select the check box of the data you want to add to the chart.
6. Alternatively, under **Visible**, clear the check box of the data you want to remove from the chart.
7. Click **OK**.

Creating and modifying Constant lines

Under Properties, you can configure Constant lines. Constant lines are horizontal lines you configure to display across your chart at set values on the Y-axis, enabling you to clearly see how the data being displayed in the chart meets with desired values.

To create Constant lines

1. Right-click on an open queue chart and click **Properties**.
2. Click **Chart properties**.
3. Click **Constant lines**.
4. Click **Add**.
5. Click in the **Color** box to choose a color.
NOTE: The default constant line color is red.
6. After **Text**, type the name you want to display beside the constant line in the chart.
7. After **Value**, type the value you want the constant line to mark.
8. After **Width**, select the thickness of the line.
9. Click **OK**.
The Constant line will be added to the list of active Constant lines.

To modify a Constant line

1. Select the Constant line you want to modify and click **Edit**.
2. After **Text**, type the name you want to display beside the Constant line in the chart.
3. After **Value**, type the value you want the Constant line to mark.
4. After **Width**, select the thickness of the line.
5. Click **OK**.

To delete a Constant line

- Select the Constant line you want to delete and click **Delete**.

Filtering device variables

On the Queue Now, Agent Shift, Queue by Period, and Queue Group Now monitors, you can filter specific device variables. For example, on the Queue by Period monitor, you could filter the Calls Offered variable and display statistics for the intervals during which the queue was offered five or more calls.

To filter variables

1. Right-click a monitor and click **Filter device variables**.
2. Click **Filter data to show**, select a variable, select an operand, and type a number.
3. Click **OK**.
A subset of the data is displayed based on the conditions defined in the filter.

SETTING ALARMS

You can define alarms to alert you to significant changes in contact center activity. Using the alarms, you specify performance thresholds for contact center elements, such as queues and agents, and customize the visual, auditory, or email delivery of alarms. If any availability or performance issues arise, your alarms deliver a notification enabling you to instantly change agent and queue availability to adjust to unplanned call volumes.

Client alarms are specific to each computer. To notify you that performance thresholds are not being met, you can configure alarms so that

- Monitor cells and statistics change color.
- A pop-up notification opens on your desktop.
- A sound prompt, such as a beep or .wav file, plays.
- You are notified by email.
- Contact Center Client opens on top of all open applications.

To configure alarms for real-time monitors

1. Add performance thresholds.
2. Specify threshold colors.
3. Specify threshold notification.

Adding performance thresholds

To add performance thresholds so you can monitor alarms

1. Right-click a monitor and click **Set alarms**.
Alternatively, select an open monitor and click Set alarms in the Alarms column, found in the Monitor or Chart Options tab in the Contact Center Client ribbon.
The Set alarms window open.
NOTE: You can select the **Apply the alarm thresholds to all devices displayed on the monitor** check box to apply the threshold settings for performance variables across all queues or agents. Alternatively, you can select **Apply the alarm thresholds to a specific list of devices** to apply the threshold settings for a performance variable to a list of queues or agents.
2. Under **Devices**, select one or more queues or agents or select the **Select all** check box to select all queues or agents.
3. In the **Performance variables** list, select a variable.
4. Under **Alarm Thresholds**, click **Add threshold** and type a value for the upper boundary of the threshold.
The lower boundary cannot be modified. The lower boundary of the next threshold is always slightly greater than the upper boundary of the previous threshold.
5. Click **OK**.

Specifying performance threshold colors

To configure performance threshold colors

1. For the alarm threshold for which you want to specify colors, under **Background**, click the arrow.
A color palate opens.
2. Select a color.
3. Under **Font color**, click the arrow.
A color palate opens.
4. Select the font color for the alarm threshold.
5. Click **OK**.

Specifying threshold notification

To configure performance threshold sound notification

1. For the alarm threshold for which you want to be notified by a sound, under **Sound**, select the check box.
The Sound window opens.
2. Specify the alarm triggering properties.
3. Specify the sound you want played when the alarm is triggered.
4. Click **Save**.

To configure performance threshold pop-up window notification

1. For the alarm threshold for which you want to be notified by a pop-up window, under **Pop-up**, select the check box.
The Pop-up window opens.
2. After **Duration**, type the number of seconds you want the pop-up alarm to be displayed when threshold conditions are satisfied.
3. If you want to display the pop-up alarm on top of all of the other applications, select the **Keep this message visible on mouse over** check box.
4. Optionally, click the **Format font** button to specify font attributes for the pop-up alarm message.
5. In the text box, type the message for the performance threshold and click the **Add variable** button to insert performance variables. (for example, type CW P001 = <calls waiting variable>).
6. Click **Save**.

To specify that Contact Center Client opens on top of all other applications when a performance threshold is satisfied

- For the alarm threshold for which you want to be notified, under **Bring to front**, select the check box.

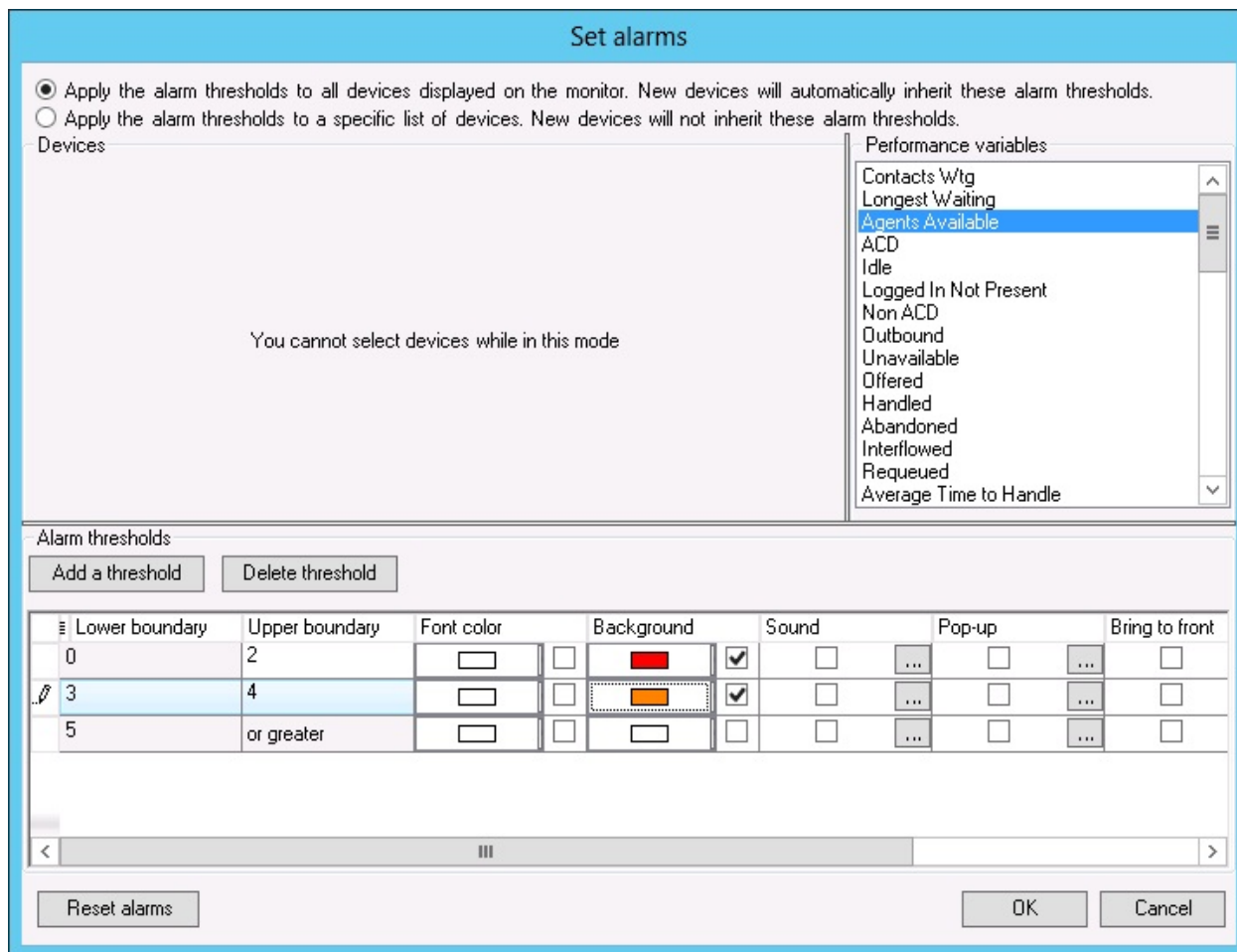
To configure performance threshold email notification

1. For the alarm threshold for which you want to be notified, or notify others by email, under **Email**, select the check box.
The Email window opens.
2. After **Distribution**, specify which contacts are to be notified by email when threshold conditions are satisfied.
See "Emailing reports" on page 314.
3. After **Subject**, type the subject of the email to be sent (for example, type Calls Wtg in Sales Queue 1 >10!).
4. In the message box, type the body of the email.
5. Click **Save**.

Consider the threshold programming in Figure 48. When the number of agents available in the technical support queue is between 0 and 2, the cell housing the Agents Available statistic is red. When the number of agents available is between 3 and 4, the cell turns orange. When the number of agents available is 5 or greater, the cell turns white. In addition, audible alarms and pop-up alarms display.

To clear any current client alarms in Contact Center Client

- Right-click the monitor and click Clear alarms.



Set alarms

☒ Apply the alarm thresholds to all devices displayed on the monitor. New devices will automatically inherit these alarm thresholds.
☐ Apply the alarm thresholds to a specific list of devices. New devices will not inherit these alarm thresholds.

Devices

You cannot select devices while in this mode

Performance variables

- Contacts Wtg
- Longest Waiting
- Agents Available
- ACD
- Idle
- Logged In Not Present
- Non ACD
- Outbound
- Unavailable
- Offered
- Handled
- Abandoned
- Interflowed
- Requeued
- Average Time to Handle

Alarm thresholds

	Lower boundary	Upper boundary	Font color	Background	Sound	Pop-up	Bring to front
	0	2	<input type="text"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	3	4	<input type="text"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	5	or greater	<input type="text"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Figure 48: Set alarms window

CUSTOMIZING THE INFORMATION DISPLAYED ON POSITION AND TIME MONITORS

On the agent, employee, and extension by position and by time monitors, real-time information is displayed in cells (cards). You can select from available card designs, or customize cards to display specific information.

When you first open an agent, employee, or extension monitor, you can select a card design on the Add/Remove device IDs window:

- The Classic card displays the agent state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold).
- The Caller ID card displays the caller name and number (ANI), the number the caller/employee dials for incoming/outgoing calls, the state, time in the state, presence, agent/employee name, agent login ID/employee ID, and extension number (or queue name for voice agents on ACD or on ACD Hold).
- Custom cards you create and share

The Caller ID card is the default card design. You can use this card design, or select the Classic card or a customized card. You can create new card designs or copy existing card designs and modify them. For example, you can add or remove text and variables from cards and rearrange the information displayed. You can share card designs with other employees. When you select a card design for an agent, employee, or extension monitor, it is applied to all monitors of that type.

Selecting and customizing card designs

To select a card design

1. Right-click an open position or time monitor and click **Properties**.
2. Click **Layout=>Card design**.
3. Under **Design name**, select a card design.
4. Click **OK**.

To customize cards for position and time monitors

1. Under **Card design**,
 - If you want to create a card design, click **New**.
 - If you want to edit an existing card design, select a card design and click **Edit**.
 - If you want to create a card design based on the Caller ID card or the Classic card, select either card and click **Copy**.
2. On the **New card design** window, type the name of the new card design.
3. If you want to share the design with other agents, select **Share design**.
4. Click **OK**.
5. Select the card and click **Edit**.
See Figure 49.
6. After **State**, select a state for the card design.
You can use the same card design for all states or you can customize cards for specific states, such as ACD, Idle, Make Busy, and Unknown.
7. Under **Fields**, select a field type and drag and drop it to the card design.
8. If you want to resize the field, click the field and use your pointer to move or resize the field.
9. If you want to change the properties for a field, click the field and change the properties in the right pane of Card Designer.
10. If you want to change the size of the card design preview, after **Zoom**, select a different magnification value from the list.
11. Add additional fields to the card.
12. Select **Copy to** if you want to copy the current design to the card of a different state.
13. Click **OK**.
The new card design displays on the Card design list.
14. Click **OK**.

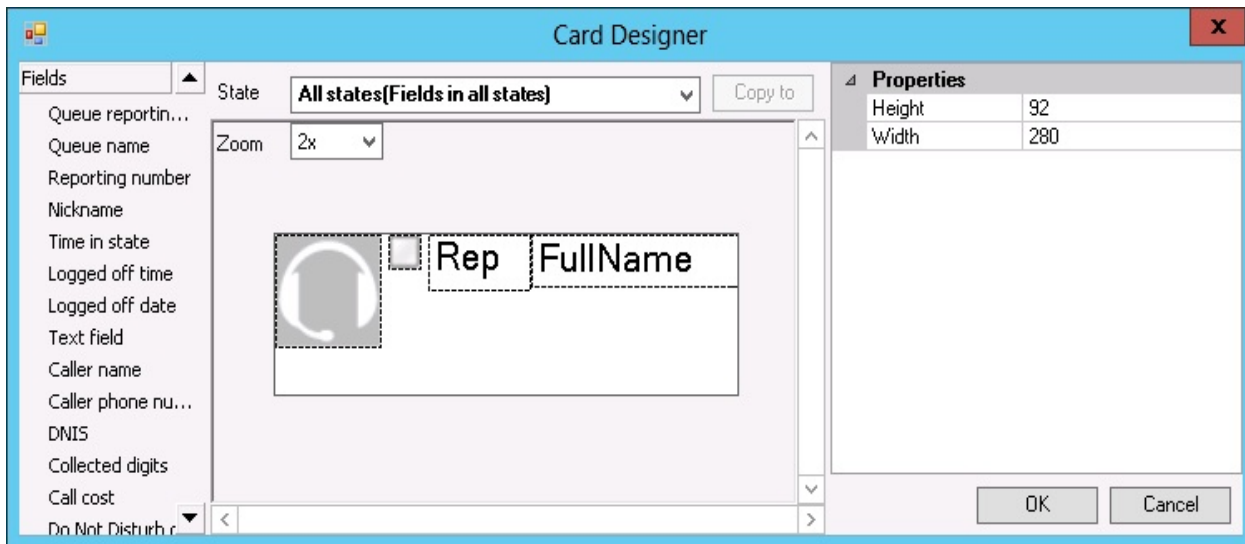


Figure 49: Card Designer window

Defining monitor styles

You can customize the appearance of individual monitor elements. For example, you can configure the font size and color of column headings or apply a skin of predefined colors and font attributes to the entire monitor.

To customize the appearance of monitor elements

1. Right-click an open monitor and click **Properties**.
2. Click **General=>General settings**.
3. If you want to change the title of the monitor, after **Title**, type a name.
4. If you want to scroll horizontally on the monitor, select the **Enable horizontal scroll bars** check box.
5. If you want to scroll vertically on the monitor, select the **Enable vertical scroll bars** check box.
6. If you want to group monitor headings, select the **Enable grouping** check box.
7. If you want to apply a skin to the monitor, click **Layout=>Monitor style**.
8. Click **Load style** and select a skin.
9. Otherwise, under **Properties**, manually configure the column settings, column font, row settings, and row-alternate settings.
10. Click **OK**.

Adding text to card designs

You can use a text box to add custom text to a card.

To edit text that you have added to a card

1. Select the text box.
Properties displays on the right.
2. Under **Properties**, in the box to the right of **Text**, type the text to be added to the card.
3. Click **OK**.
4. Click **OK**.

Grouping data

You can group rows of data in the Queue Now monitor, and other monitors that contain columns. For example, you can group the data by the ACD count statistic and readily see which agents handled the most calls, and which agents handled the least calls, as illustrated in Figure 50.

	Media server	Agent login ID	Name	Extn #	Log In	Last Event Recd	Shift Time	ACD Time	ACD Hold Time	Non ACD Time	Non ACD Hold Time
- ACD Cnt : 10 - 1 item(s)											
▶	PFACD1	1707	John Graham	1707	7:58 AM	3:00...	09:04	01:16:4	00:00:0	00:00:0	00:00:
- ACD Cnt : 5 - 1 item(s)											
▶	PFACD1	1236	Steve Carter	1236	7:57 AM	2:21...	09:51	04:00:4	00:00:0	00:00:4	00:00:
- ACD Cnt : 3 - 1 item(s)											
▶	PFACD1	1788	Matt Nixon	1788	8:27 AM	3:29...	06:57	00:38:4	00:00:0	00:00:0	00:00:
- ACD Cnt : 0 - 19 item(s)											
▶	PFACD1	1587	Kevin Middlemiss	1592	9:03 AM	2:25...	12:08	00:00:0	00:00:0	00:00:0	00:00:
▶	PFACD1	1043	Kevin Smyth	1043	12:04...	12:10...	5:10:	00:00:0	00:00:0	00:00:0	00:00:
▶	PFPRIM	4445	Jason Smith	4445			00:00	00:00:0	00:00:0	00:00:0	00:00:
▶	PFPRIM	3223	Yan He Yan He				00:00	00:00:0	00:00:0	00:00:0	00:00:
▶	PFACD1	1236	Dula EUPA1				00:00	00:00:0	00:00:0	00:00:0	00:00:

Figure 50: Enable grouping

The Enable grouping option displays a grouping panel to which users drag columns. The grouping order determines the order in which the rows display.

To enable grouping

1. Right-click an open monitor and click **Properties**.
2. Select the **Enable grouping** check box.
3. Click **OK**.
The monitor displays a grouping panel.
4. Drag a column heading to the panel to group by the column heading.

BUILDING MARQUEE MONITORS

You can build marquee monitors to broadcast real-time statistics and messages and alarm on real-time contact center performance statistics. With marquee monitors and wall-mounted marquee displays, such as LCD monitors or LED reader boards, you can offer your supervisors and agents access to important contact center performance metrics.

You can build a marquee monitor to broadcast statistics and messages. To do so, you must

- Specify styles for the marquee monitor.
- Configure marquee text and variables.

Configuring marquee monitor styles

To specify attributes for the marquee background

1. Click the **Marquee** icon.
The Configure marquee window opens.
2. Click **Add a message**.
The Add a message window opens.
3. Type a name for the message.
4. Under **Position**, select **Top**, **Right**, **Left**, **Center**, or **Bottom** to specify how the message is to be displayed on the marquee.
5. Click **Format marquee**.
The Format marquee window opens.
6. After **Background color**, select a color for the background.
7. After **Cell color**, select a color for the marquee cells.
8. After **Cell size**, specify a value for the size of the marquee cells.
9. After **Cell spacing**, select a value for the space between marquee cells.
10. To specify the marquee text font type and color, click **Format font**.
The Font window opens.
11. Select font attributes.
12. Click **OK**.
13. If you want the message and the background of the message to be displayed using pixels, select the Matrix style check box.
14. Click **OK**.
15. Click **OK**.
The marquee displays.

NOTE: You must configure marquee text and variables. See "Configuring marquee text and variables" on page 271.

Configuring marquee text and variables

To configure text and variables for the marquee

1. Right-click the marquee and click **Configure marquee**.
The Configure marquee window opens.
2. In the **Message editor** text box, type a message to display on the marquee (for example, type Calls Wtg =).
3. Under **Message editor**, click the **Add variable** button.
The Add/Edit variable window displays.
4. Click **Add**.
The Configure variable window opens.
5. Under **Variable types**, click the monitor type to which the variable applies.
6. Under **Variables**, click a variable.
NOTE: The following queue variables will not supply information for ring groups:
 - % Handled by 1, 2, 3, 4
 - Dial Out of queue
 - Requeued
7. Under **Devices**, select the check box of a device.
8. Under **Thresholds**, click **Add threshold** and specify a value for the upper boundary of the first threshold.
9. Click **OK**.
10. For the threshold, under **Variable**, select a color to be displayed in the marquee message string.
11. For the threshold, under **Message**, select a color for the text that will precede the variable in the marquee text string.
12. After **Type a name for the variable**, type a name.
13. Click **OK**.
14. On the **Configure marquee** window, in the **Message editor** text box, position your pointer where you want to add the variable.
15. You can add variables at the beginning, middle, or end of message strings.
16. On the **Add/Edit variable** window, double-click the variable to add it to the message string. Click the **Add** variable button.
The Add/Edit variable window opens.
17. Click the **Configure transition effects** button and select the check boxes for the transition effects to be included.
18. Click **OK**.
The marquee displays, showing the text you typed and a real-time value for the performance variable. You can define additional thresholds for the performance variable, and add additional variables to the marquee.

USING CONTACT CENTER CHAT

Contact Center Client provides instant messaging capabilities for both supervisors and agents and is typically used by contact center employees only. Contact Center Chat provides the online chat presence of contact center employees, including Online, Offline, and Away. Agents can view the availability and presence of other contact center employees before they transfer calls or send online chat messages.

Using Contact Center Chat, you can communicate essential information to one or more agents, agent groups, or supervisors quickly and securely. You can coach agents and send timely messages, such as asking an agent to delay going on break when it is busy.

NOTE:

- You must have a security role that does not restrict you from gaining access to Contact Center Chat.
- You must log on to Contact Center Client in order to send and receive online messages.
- When you receive a message it is displayed immediately on top of all open windows.
- Contact Center Chat requires server to client hostname resolution to properly function.

Contact Center Chat is enabled by default. If you want to disable Contact Center Chat in YourSite Explorer, you do so in YourSite=>Site=>Chat Settings. For more information, see "Adding sites" on page 82.

NOTE:

- In order to use Enterprise / Presence Chat integration, you must enable Contact Center Chat and have Lync open and running.
- To integrate Lync with Presence, 'Synchronize my Lync presence with my ACD state' must be enabled in Soft phone configuration. For more information on configuring Soft Phone, see "Opening the soft phone" on page 424.
- If Contact Center Chat is disabled for a particular site all employees associated to that site will be unable to communicate with each other using Contact Center Client.

Sending a Contact Center Chat message

On an agent, employee, or extension monitor, you can right-click an agent's cell and click Send instant message to send an online message to the agent.

To send a chat message

1. Double-click your presence indicator in Contact Center Client's Status Bar.
Contact Center Chat opens. (See Figure 51.)

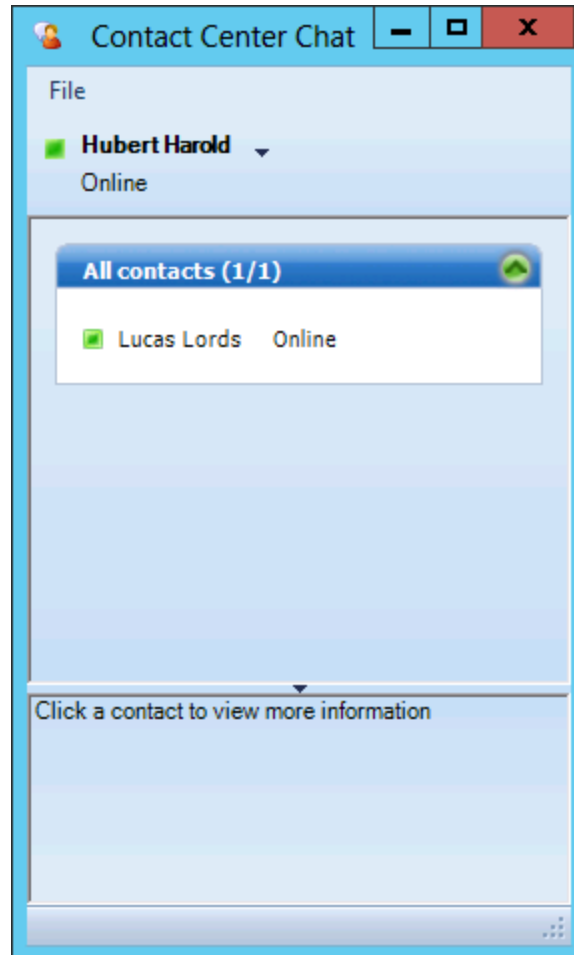


Figure 51: Contact Center Chat

2. Right-click a contact and select **Send an instant message**.
Alternatively, double-click the contact.
The Conversation window opens.
3. Type a message.
4. Click **Send**.

To send a chat message while viewing agents on an agent, employee, or extension monitor

1. Right-click a cell in an open monitor and click **Send instant message**. Alternatively, double-click the presence indicator in the agent, employee, or extension's cell in the monitor.
The Conversation window displays.
2. Type a message.
3. Click **Send**.

Adding someone to a conversation

To add someone to a conversation

1. On the Conversation window, click the **Add Participants** button to join this conversation icon.
2. Double-click a contact to add the contact to the conversation.
3. Click **Send**.

Responding to a Contact Center Chat message

Agents and supervisors can receive Contact Center Chat messages only if they are logged on to Contact Center Client. When someone sends a Contact Center Chat message to you, the Conversation window opens and a desktop notification appears in the bottom-right of your monitor. The desktop notification shows the name and presence of the employee contacting you and their message. Figure 52 illustrates a chat notification.

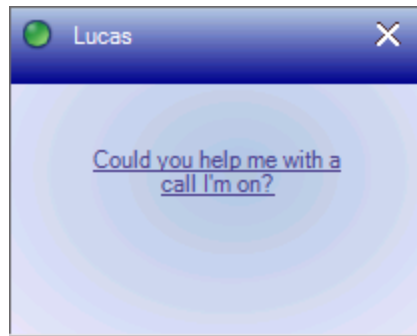


Figure 52: Desktop Chat notification

To respond to a chat message

1. Type a message.
2. Click **Send**.
Contact Center Chat sends your response to all chat session participants.

USING CONTACT CENTER CHAT WITH LYNC

NOTE: In order to use Contact Center Chat with Lync, an employee's email address, as configured in YourSite Explorer under Employee, must be the same as the SIP address configured in Lync Server 2010 or Lync Server 2013.

With the addition of Lync Server 2010 or Lync Server 2013, agents and supervisors use Lync Client as their default instant messaging client. The presence of all company employees is natively delivered in Contact Center Client. Contact center employees can view the presence of both internal and external contacts to determine if they are available to communicate. In addition to Available, Offline, and Away, employees see In a Meeting, Busy, In a call, Do Not Disturb, Be Right Back, and other Lync presence indicators.

NOTE:

- In order to use Contact Center Chat with Lync, an employee's email address, as configured in YourSite Explorer under Employee, must match their Lync client sign-in address.
- In order to use Contact Center Chat with Lync, you must enable Contact Center Chat and have Lync open and running.
- To integrate Lync presence with ACD states "Synchronize my Lync presence with my ACD state" must be enabled in Soft phone configuration. When this option is selected an agent's state changes in sync with Lync presence. For example, setting your presence in Lync to Do Not Disturb will set the agent into a Do Not Disturb state in Contact Center Client. Setting the Lync presence to Away will set the ACD agent state to Make Busy. For more information on configuring Soft Phone, see "Opening the soft phone" on page 424.

If an agent views an employee on a real-time monitor and notes the employee is online, the agent can right-click the employee and send an instant message.

Table 24 provides details on the presence indicators that are available when Contact Center Client is used in conjunction with Lync Client and Mitel Enterprise Presence / Chat Integration.

Table 24: Lync presence indicator icons













2013 PRESENCE ICON (LARGE)	2013 PRESENCE ICON (SMALL)	STATUS TEXT	DESCRIPTION
		Available	The contact is online and can participate in conversations. Users can manually set this status, but the next automatic state change will override this setting.
		Busy	<p>The contact is available, but is engaged by another activity. Busy contacts will not be routed ACD calls, but may receive non-ACD calls. Possible activities include the following:</p> <p>In a Call—the contact is in a phone, voice, or video conversation.</p> <p>In a Meeting—the Outlook calendar shows that the contact has a scheduled meeting.</p> <p>Users can manually set this status.</p>
		Do Not Disturb	The contact is engaged by another activity and is unavailable. Contacts in Do Not Disturb will neither receive ACD or non-ACD calls. Users can manually set this status.

Table 24: Lync presence indicator icons (continued)

2013 PRESENCE ICON (LARGE)	2013 PRESENCE ICON (SMALL)	STATUS TEXT	DESCRIPTION
		Away / Inactive Be Right Back Off Work	<p>The contact is likely unavailable. Possible reasons include the following:</p> <p>The contact's computer has been idle for more than the away time period setting (5 minutes by default).</p> <p>NOTE: By default, the transition from Available to Inactive occurs after 5 minutes. Then, after five more minutes, the status changes to Away if there is still no activity on the computer.</p> <p>The contact's Outlook calendar or Out of Office Assistant indicates that they are out of the office.</p> <p>The contact is temporarily unavailable</p> <p>NOTE: As soon as activity is detected on the contact's computer, Lync automatically resets the presence status to the appropriate state.</p> <p>The contact has locked their computer.</p> <p>The contact has manually set their presence to Away or Be Right Back.</p> <p>Users can manually set this status.</p> <p>NOTE: When a user manually sets themselves as Away, they are still available to receive calls, such as from a transfer.</p>
		Offline	<p>The contact is not available. Possible reasons for this include the following:</p> <p>The contact has manually set their presence status to Appear Offline.</p> <p>The contact has not signed into Lync.</p> <p>The contact has blocked you from seeing their presence status.</p> <p>Lync is not running on the contact's computer.</p>
		Presence unknown	<p>Lync cannot determine the status of the contact. This status is typically displayed because the contact's presence status is unavailable to Lync, such as for a contact who is part of an organization that is not a federated partner.</p>

Sending an instant message

On an agent or employee monitor, you can right-click an agent or employee's cell and click Send instant message to send an online message to the agent or employee. You can also send instant messages using Microsoft Lync. Using Lync, you can send instant messages to individuals or multiple contacts. After initiating a conversation, you can invite additional contacts to the conversation. For instruction in using Lync, consult your Lync documentation.

NOTE: Supervisors send instant messages to contacts or groups of contacts using Contact Center Client.

To send an instant message while viewing agents on an agent, employee, or extension monitor

- Right-click a cell in an open monitor and click Send instant message.
A Lync Conversation window opens.

HOT DESKING

When an agent is configured as a Mitel hot desking agent, the agent can sit at any extension on the network and log on to the extension. After the agent is logged on, the agent takes control of the extension. The agent's Contact Center Client and soft phone real-time profile settings are available. Any previous associations with the extension are taken out of service. When an agent logs off, the agent disconnects from the extension and the default settings for the extension are restored automatically.

EXTERNAL HOT DESK AGENTS

External hot desk agents can work remotely using, for example, a standard PSTN analog telephone or a cellular telephone. External hot desk agents are similar to regular hot desk agents with additional configuration available to specify external number information. To access external hot desk agent functionality you must configure the following options in the User and Device Configuration form for the 3300 ICP:

- **External Hot Desking Enabled:** Select 'Yes' to enable external hot desk agent functionality.
- **External Hot Desking Dialing Prefix:** Type the prefix digit(s) required to dial out to the external hot desk device.
- **External Hot Desking Number:** Type the telephone number of the external hot desk device. This number will be used by the telephone system to route ACD calls to the external hot desk agent.
NOTE: The combined length of the external dialing prefix and external number cannot exceed 26 digits.

An agent ID can be associated to only one external dialing number. If an external hot desk agent will use more than one external device for handling calls they must be associated to one agent ID for each external dialing number.

An external hot desk agent can either log in externally or internally. When they log in internally (locally) the telephone system recognizes them as a standard hot desk agent. When they log in externally the telephone system recognizes them as an external hot desk agent.

WARNING: If an external hot desk agent is using a personal phone to handle calls, incoming calls that are not answered could reach their personal voicemail.

NOTE:

- 3300 ICP release MCD 5.0+ is required to access external hot desk agent capabilities.
- External hot desk agent functionality is only supported for use with hot desk agents, not traditional ACD agents.

The following options are available for external hot desk agent login:

- Log in locally from a MiNET phone: agent displays as a regular hot desk agent
- Log in locally from an analog, cellular, or MiNET phone and connect through a loopback trunk: agent displays as an external hot desk agent
- Log in externally from an analog or cellular phone: the agent ID is registered as an external pivot device number and the external number dialing that has been configured in the telephone system is overlaid on this external pivot device number. The external number is then used by the telephone system to deliver ACD calls to the external hot desk agent. The agent displays as an external hot desk agent.

NOTE: An external hot desk agent can also log in externally by directly contacting a specific trunk configured for this purpose. In this case, the agent would not need to log in via Contact Center Client. For more information, log into Mitel Edocs, open the Mitel Communications Director System Administration Help Tool, and browse to 'External Hot Desking - Operation'.

WALLBOARDER

The WallBoarder application displays real-time performance statistics and text messages on one or more Spectrum Light Emitting Diode (LED) reader boards (wall signs).

WALLBOARDER PARAMETERS

WallBoarder consists of site(s), sign groups, signs, sign variables, sign messages, and sign plans.

Site

At the Site level, you

- Add sign groups to your site by clicking Add=>Sign group.
- Specify the name of the computer on which the WallBoarder Service is installed on the Edit WallBoarder Service for tab.
- Enable priority messages on the Priority message tab.
- View communications between the Enterprise Server Service and the WallBoarder Service on the Database load log tab.
- Verify the serial addresses of your wall signs on the Query signs tab.
- Add sign variables to your site by clicking Add=>Sign variable.
- Add sign messages to your site by clicking Add=>Sign message.
- Add sign plans to your site by clicking Add=>Sign plan.

Edit WallBoarder Service for tab

The Edit WallBoarder Service for tab provides the following function:

- *The WallBoarder Service is installed on the following computer* specifies the computer on which the WallBoarder Service is installed.

Priority message tab

NOTE:

- You create priority messages on the Add sign message tab.
- Priority messages override all of the other messages.

The Priority message tab provides the following function:

- *Enable this priority message for this sign group immediately* sends a message to all of the wall signs in the sign group immediately, overriding any business hour, or scheduled messages.

Database load log tab

Under Diagnostics, the Database load log tab records communications between the Enterprise Server Collector Service and the WallBoarder Service, and indicates if the WallBoarder Service has loaded the sign plan configured by the Contact Center Management user.

Query signs tab

Under Diagnostics, the Query signs tab lists the wall signs the WallBoarder Service can locate, and information relating to these signs. It displays the serial addresses of the wall signs. This can come in handy.

For example, you have connected a wall sign to Com port 3, have configured the sign and specified the com port value in WallBoarder, and have reset the wall sign, but it does not display the messages in the sign plan. Most likely, the serial address of the sign is not the same as that configured in WallBoarder. The Query signs tab displays the true serial address of the wall sign. You can easily verify the address and amend the address on the Edit sign tab for the sign.

Sign groups

NOTE: You must create at least one sign group in order to register wall sign addresses. You can include all of the wall signs under one sign group, or create additional sign groups. Sign groups dictate which messages are displayed by particular wall signs.

At the Sign group level, you can

- Edit sign groups on the Edit sign group tab.
- Define the wall sign refresh interval and reset wall signs on the Advanced tab.
- Add signs to your sign groups by clicking Add=>Sign.

Sign addresses distinguish wall signs for messaging purposes. Each wall sign has a unique sign address. You add one or more signs to a sign group. For example, you could add Wall sign 1 to Sign group 1, and Wall signs 2 to 4 to Sign group 2. You associate each sign group with a sign plan. Using sign groups and sign plans you can display the same message on one or more wall signs, or display unique messages on all wall signs.

Edit sign group tab

The Edit sign group tab provides the following functions:

- *Name* lists the name of the sign group.
- *Site* is the contact center site where WallBoarder is installed.

Advanced tab

The Advanced tab provides the following functions:

Reinitialize all of the wall signs every x seconds

The Reinitialize all of the wall signs every x seconds field restarts all of the wall signs in the sign group (clearing all of the sign memory) at the time interval you specify.

Refresh all of the sign messages every x seconds

The Refresh all of the sign messages every x seconds field resends all of the messages to all of the wall signs in the sign group at the time interval you specify. If you see question marks [???] instead of statistics on a wall sign, this means the Enterprise Service does not have a value for the variable. There are two reasons why the Enterprise Service does not have a value for the variable: it is in the process of loading the variable or the telephone system has not sent any real-time information yet.

Refresh all of the ACD sign variables every x seconds

The Refresh all of the ACD sign variables every x seconds field updates all of the variables on all of the wall signs in the sign group at the time interval you specify.

Update wall signs in serial for sign messages

The Update wall signs in serial for sign messages check box updates the wall signs in a sign group individually for sign messages, at the refresh time interval you specify.

Update wall signs in serial for sign variables

The Update wall signs in serial for sign variables check box updates the wall signs in the sign group individually for sign variables, at the refresh time interval you specify.

Minimum pause time between wall sign updates is x seconds

After WallBoarder sends a message or variable update to a wall sign, the Minimum pause time between wall sign updates is x seconds field suspends the transmission of subsequent information to the wall sign for x seconds. Typically you select a value greater than zero only if you have a small Spectrum reader board, such as the 251C reader board.

Minimum display time for a message is x seconds

After WallBoarder sends a message to a wall sign, the Minimum display time for a message is x seconds field displays the message for a minimum of x seconds. This ensures you can view the message for a sufficient amount of time before a subsequent message displays.

Minimum pause time after beep is sent is x seconds

If you select the Beep check box on the Add sign plan tab, the wall sign produces an audible beep prior to displaying each message. It takes a few seconds for the beep to occur. Therefore, the wall sign is delayed in receiving messages by a few seconds.

The Minimum pause time after beep is sent is x seconds field suspends the transmission of messages to the wall sign for x seconds, to accommodate the beep.

Reinitialize all of the wall signs in this sign group

The Reinitialize all of the wall signs in this sign group command restarts all of the wall signs in the sign group instantly, clearing all of the sign memory.

Apply to all of the sign groups at this site

The Apply to all of the sign groups at this site command applies the configuration values on the Advanced tab to all of the sign groups at the site.

Signs

At the Sign level, you

- Configure sign information on the Add sign tab.
- Configure sign connectivity information on the Connectivity tab.
- Reset the wall sign and send a test message to the wall sign on the Tools tab.
- Add signs to your sign groups by clicking Add=>Sign.

Diagnostics

Under Diagnostics, the following tabs list information pertaining to wall sign function and are used for trouble shooting purposes:

- General
- Properties
- Tool tab
- Error reporting
- Current message tabs

Tools tab

Under Diagnostics, the Tools tab displays wall sign settings and provides the following functions:

- *Reset sign* restarts the wall sign and empties the sign memory.
- *Get status* displays the latest sign diagnostics.
- *Send test message* sends a message to the wall sign to test the connectivity.

Sign messages

At the Sign message level, you

- Compose, test, and save message strings displayed on wall signs on the Add sign message tab
Message strings indicate to the wall sign how messages are displayed. They are constructed of
 - Text
 - Queue and queue group performance variables (Variables)
 - Display characteristics (Position, Color, Effects, Special, and Miscellaneous)
- Add sign messages to your site by clicking Add.

Add sign tab

The Add sign tab provides the following functions:

Name

The Name field specifies the name of the sign.

Sign address

The Sign address field specifies the address of the wall sign. Each wall sign has a unique address. You use a keypad provided with the master sign to set the internal addresses of your signs. The addresses distinguish wall signs for messaging purposes. If you have one wall sign only, its address is 00. If you have more than one wall sign, then the address of the master sign is 01.

NOTE: When you assign serial addresses to your Spectrum wall signs using remote or software spectrum tools, you must specify sign addresses greater than 9 as hexadecimal variants. For example, the following decimals are converted to hexadecimal: 10 = a, 11 = b, 12 = c, 13 = d, 14 = e, 15 = f.

Sign group

The Sign group field specifies the sign group to which the sign belongs.

Connectivity tab

NOTE: The default data bits, parity bit, and stop bits Com port settings for newer Spectrum IP/Serial wall signs are 8, None, 1. In the past, the default Com port settings were: 7, Even, 2. If you select one set of Com port values and the wall sign does not display information, try selecting the other set of Com port values, or refer to the Spectrum documentation to verify the correct default Com port settings.

The Connectivity tab provides the following functions:

- *Com port or TCP/IP* specifies the sign connectivity. The default value for Com port is 1.
- The default value for Baud rate is 9600.
- The default value for Data bits is 8.
- The default value for Parity bit is None.
- The default value for Stop bits is 1.
- *TCP* specifies the TCP/IP address of the wall sign.
- *DNS* specifies the name you assigned the wall sign on the network.
- *Port* specifies the port number used by the wall sign.
- *Sign memory* specifies the memory capacity of the sign (typically 32k).
- *Reset this wall sign when it does not respond and at midnight* resets the wall sign. When the WallBoarder Service restarts, it queries the wall sign for the information listed on the sign Diagnostics tabs. If it does not get an answer, it resets the wall sign.

Add sign message tab

The Add message tab provides the following functions:

- *Name* specifies the name of the message.
- *Site* is the contact center site where WallBoarder is installed.
- *Test message* sends the message to the wall sign so you can verify it works.

Variables

You associate a queue, queue group, or agent group, and a performance variable with the sign variable on the Variable tab. You specify display characteristics and color-coded alarm thresholds. When you incorporate a sign variable, such as Sign Variable 6, in a message string, the real-time value of the associated performance variable is displayed.

Position

The Position tab specifies the vertical position of the message string on the wall sign. If you do not specify the text position, the wall sign defaults to the fill mode. The message enters the wall sign from the upper left corner and scrolls to fill up to three rows of text. If you specify the text position, do so before you set other display features.

Color

The Color tab specifies the color of the text you type in the message string, and the color of any pre-defined text and graphics you select on the Special tab. You can specify different colors for each word in the text string. If you specify text coloring, do so after specifying text positioning, but prior to specifying other display features. Some Spectrum signs offer more color choices than other Spectrum signs. Please refer to the Spectrum product brochure for more information.

Effect

The Effects tab specifies how messages move across wall signs. If you do not specify effects, the wall sign defaults to the Automode option. Automode produces random message display formats, such as message strings that flash or roll to the left.

Special

The Special tab provides display features and illustrations you can add to message strings.

Misc

The Misc (Miscellaneous) tab specifies the speed at which WallBoarder displays message strings, the size of message string text, the display time and date, and other features.

Sign variables

At the Sign variable level, you

- Associate a queue or queue group, and a performance variable with the sign variable on the Add sign variable tab.
- Define and save display characteristics for sign variables on the Advanced tab.
- Add sign variables to your site by clicking Add.

Add sign variable tab

The Add sign variable tab provides the following functions:

- *Name* specifies the name of the sign variable.
- *Site* is the contact center site where WallBoarder is installed.
- *Select a device type group* specifies the device type (queue or queue group) you will associate with the sign variable.
- *Select a device* specifies the device you will associate with the sign variable (for example, Queue Group 1).
- *Select a variable type* specifies the performance variable you will associate with the sign variable (for example, Agents on ACD).

Advanced tab

The Advanced tab provides the following functions:

- *Select display options for this variable* specifies the number of characters reserved for a performance variable in the message string. It centers, left-justifies, or right-justifies the performance variable within the variable string position.
- *Enable variable color based on these thresholds* defines color-coded alarms for performance thresholds for the variable.

Sign plans

The WallBoarder Service displays messages in the following order:

1. Priority messages
2. Business-hour messages
3. Scheduled messages
4. Sign plan messages
5. Default sign plan message

At the Sign plan level, you

- Create a sign plan.
- Associate the sign plan with a sign group.
- Specify up to five statements (conditions) for the sign plan on the Add sign plan tab.
- Specify the hours of operation for your business on the Business hours tab.
- Schedule messages to be displayed on the Scheduled messages tab.

When you configure a sign plan, you can configure up to five messages for a sign group. The conditions, or values, of variables dictate which message strings WallBoarder displays, and the priority in which WallBoarder displays them. If none of the conditions are satisfied, WallBoarder displays the default message on all of the wall signs. The default message can be a message congratulating agents, or informing them of an upcoming meeting or other need-to-know information.

Add sign plan tab

The Add sign plan tab provides the following functions:

- *Name* specifies the name of the sign plan.
- *Sign group* specifies the sign group to which the sign plan applies.
- *If* check boxes activate conditional messages. You can specify up to five statements (conditions). Conditions dictate which message strings WallBoarder displays, and the priority in which WallBoarder displays them.
- *Sign variable* specifies the sign variable to display for the current (active) condition.
- *Evaluates to* specifies the value, above or below which, WallBoarder displays the message string associated with the sign variable for the current condition.
- *Play message* specifies the sign message to display for the current (active) condition.
- *Beep* programs the wall sign to produce an audible beep prior to displaying a message for a satisfied condition.
- *Default message to play if no variables have triggered a message to play* specifies a default message to display on the wall sign. WallBoarder displays the message during periods when the defined conditions ('If' statements) are not satisfied for the sign group. That is, when call center performance objectives are being met.

Business hours tab

The Business hours tab provides the following functions:

- *Outside business hours display this message* specifies which message is displayed on the wall signs after business hours.
- *Business-hours schedule for this sign plan* specifies the hours of the day for the sign plan
- *Manage schedule* creates and edits business hour schedules.
- *Apply this business-hours schedule to all of the sign plans at this site* applies the schedule to all of the sign plans at your contact center site.

The Scheduled messages tab provides the following function:

- *Play this message during these hours* specifies the message to be displayed and the schedule for displaying the message.

NOTE: You create schedules under YourSite=>Schedule.

CONNECTING SPECTRUM WALL SIGNS

If you have multiple wall signs, you can daisy chain the wall signs together. Figure 53 illustrates the connectivity between the Enterprise Server and the master sign (Wall sign 1). The Enterprise Server connects to the master sign over an RS-232 25-pin cable, an RS-485 converter, and RS-485 RJ-11 cabling. The master sign connects to slave signs over RS-485 cabling. In this setup, one Enterprise Server com port is dedicated to your wall signs.

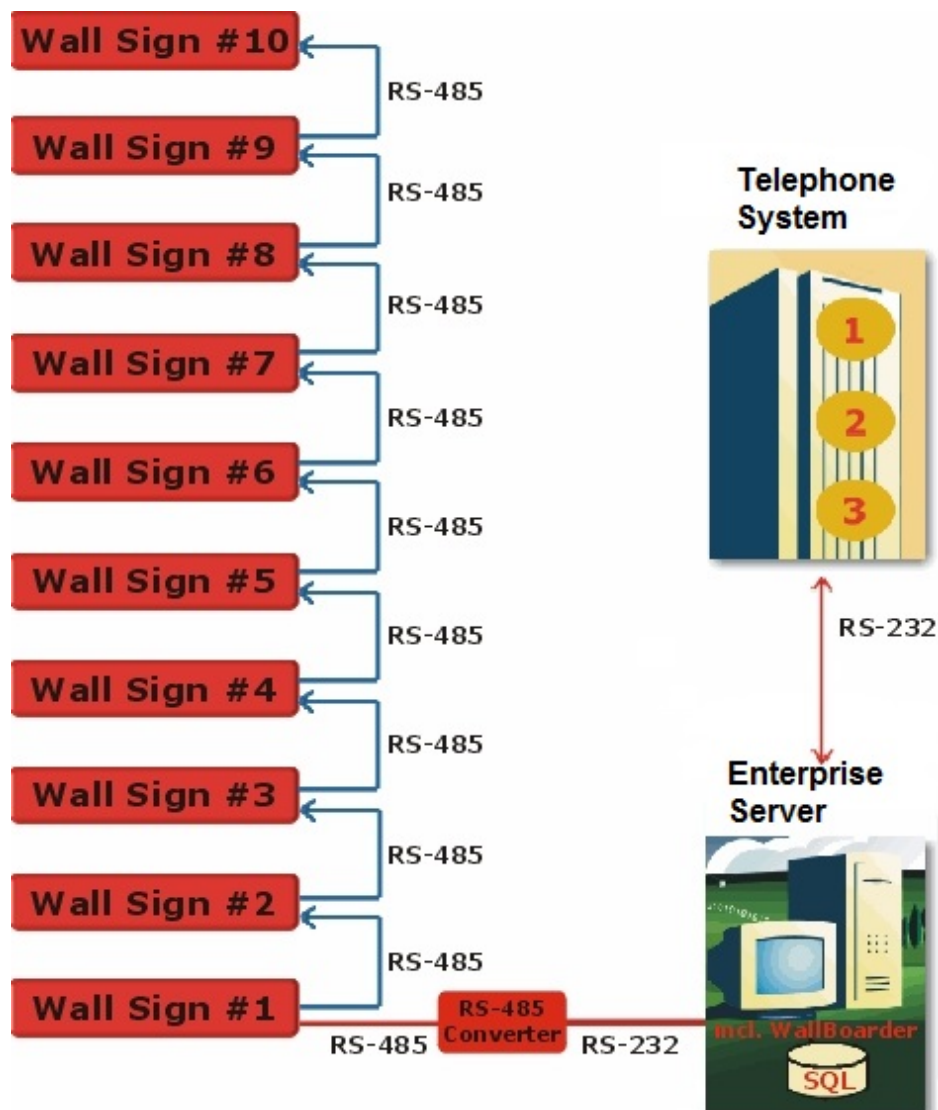


Figure 53: Setting up Spectrum wall signs

If you do not want to dedicate an Enterprise Server com port to your wall signs (or you simply need another computer to connect to a wall sign), you can hook up your wall sign(s) to a client computer. You click Help=>Software downloads/Installations=>Remote Server installation and install a remote media server (data collection point) on a client computer. The computer connects to the master wall sign over an RS-232 25-pin cable, an RS-485 converter, and RS-485 RJ-11 cabling, as in the proceeding setup. In this setup, one client computer com port is dedicated to your wall sign(s).

The new Spectrum IP wall signs plug into a network jack on the wall, just like your network printer.

Each wall sign has a unique sign address. You add one or more signs to a sign group. For example, you could add Wall sign 1 to Sign group 1, and Wall signs 2 to 4 to Sign group 2. Keep in mind that all of the signs in the same sign group, display the same messages. You associate each sign group with a sign plan. Using sign groups and sign plans, you can display the same message on one or more wall signs, or display unique messages on all of the wall signs.

CONFIGURING WALL SIGNS AND WALL SIGN MESSAGES

To configure wall signs and wall signs messages

1. For each site, select the computer on which the WallBoarder Service is installed.
See "Selecting the computer on which the WallBoarder Service is installed" on page 287.
2. Add sign group(s). (In the tree under Site, click Add=>Sign group.)
See "Creating sign groups" on page 288.
3. Add sign(s) to sign group(s) and send a test message to test the sign connectivity. (In the tree under Sign group, click Add=>Sign.)
See "Adding signs to sign groups" on page 290.
4. Configure sign variables to use in sign plans. (In the tree under Site, click Add=>Sign variable.)
See "Configuring sign variables" on page 291.
5. Configure sign messages to use in sign plans and test the messages. (In the tree under Site, click Add=>Sign message.)
See "Configuring sign messages" on page 292.
6. Add and configure a sign plan for each sign group. (In the tree under Site, click Add=>Sign plan.)
See "Creating sign plans" on page 293.

Optionally, users can

- Activate priority messages
See "Activating priority messages" on page 296.
- Schedule messages
See "Scheduling messages" on page 297.

Selecting the computer on which the WallBoarder Service is installed

To select the computer on which the WallBoarder Service is installed

1. Under Enterprise, click WallBoarder.
2. Expand the Enterprise tree and click the name of your site.
3. The Edit WallBoarder Service for tab opens.
See Figure 54.
4. Under **Select the count down number**, select the how often the WallBoarder service queries the Wallboard for information.
5. After **The WallBoarder Service is installed on this computer**, select the computer on which the WallBoarder Service is installed.
6. Click **Save**.

Edit WallBoarder Service for Default Site

Priority message Diagnostics

Select the count down number

300 ▼

Select the computer on which the WallBoarder Service is installed

ATLANTIC15 ▼

Click Synchronize to set the wall sign time to that of the Enterprise Server

Synchronize

Figure 54: Edit WallBoarder Service for Default Site Demo tab

Creating sign groups

NOTE: You must create at least one sign group in order to register wall sign addresses. You can include all of the wall signs under one sign group or create additional sign groups. Keep in mind that all of the signs in the same sign group display the same messages.

Sign addresses distinguish wall signs for messaging purposes. Each wall sign has a unique address. You set the internal sign addresses using the keypad provided with the master sign and register the sign addresses in WallBoarder on the Edit sign tab.

Each sign group has one or more signs. For example, you can specify that Sign group 1 provide real-time displays for Wall sign 1, Sign group 2 provide real-time displays for Wall signs 2 to 4, and so on. You associate each sign group with a sign plan. Using sign groups and sign plans, you can display the same message on one or more wall signs or display unique messages on all of the wall signs.

Sign groups dictate which messages are displayed by particular wall signs.

Sign groups dictate which messages are displayed by particular wall signs.

To add a sign group and specify sign group information

1. Under **Enterprise**, click **Wallboarder**.
2. Click the name of your site.
The Edit WallBoarder Service for tab opens.
3. Click **Add=>Sign group**. The Add sign group tab opens.
See Figure 55.
4. After **Name**, type the sign group name.
5. After **Site**, select the contact center site where WallBoarder resides.
6. Click the **Advanced** tab.
7. After **Reinitialize all wall signs every**, select a time interval for restarting all of the wall signs in the sign group.

8. After **Refresh all sign messages every**, select a time interval for resending all of the messages to all of the wall signs in the sign group.
If you see question marks [??] instead of statistics on a wall sign, this means the Enterprise Service does not have a value for the variable. The Enterprise Server does not have a value for the variable because it is in the process of loading the variable, or the telephone system has not sent any real-time information yet.
9. If you are using an older sign and want to send messages to signs in text format rather than binary, select **Send sign messages in uncompressed format**.
10. After **Refresh all ACD sign variables every**, select a time interval for updating all of the variables on all of the wall signs in the sign group.
11. If you are using an older sign and want to send ACD sign variables to signs in text format rather than binary, select **Send sign messages in uncompressed format**.
12. After **Minimum pause time between wall sign updates is**, select a time interval for pausing between wall sign updates.
13. After **Minimum display time for a message is**, select a time interval for displaying a wall sign message.
14. After **Minimum pause time after beep is sent in**, select a time interval for pausing after a beep is sent.
15. If you want to reinitialize all of the wall signs, click **Reinitialize all wall signs in this sign group**.
16. Click **Save**.

To apply a sign group's settings to all sign groups at a single site

1. Under Enterprise, click Wallboarder.
2. Click the name of the site.
3. Click the sign group.
4. Click the **Advanced** tab.
5. Click **Apply to all sign groups at this site**.

The screenshot shows a web interface for adding a sign group. At the top, there are two tabs: 'Add a sign group' and 'Advanced'. The 'Advanced' tab is active. Below the tabs, there are two fields: a text input field labeled 'Name' and a dropdown menu labeled 'Site' with 'Default Site' selected.

Figure 55: Add sign group tab

Adding signs to sign groups

NOTE: You can add one or more signs to a sign group. Keep in mind that all of the signs in the same sign group, display the same messages.

To add signs and specify sign information

1. Under **Enterprise**, click **Wallboarder**.
2. Click a site.
3. Click a sign group.
4. Click **Add=>Sign**.
The Add sign tab opens.
5. After **Name**, type the sign name.
6. After **Sign address**, select the address for the sign (for example, type 1).
You set the internal sign addresses using the keypad provided with the master sign, and register the sign addresses in WallBoarder in the Sign address field.
7. After **Sign group**, select the sign group to which the sign belongs.
8. Click the **Connectivity** tab.
NOTE: The default data bits, parity bit and stop bits Com port settings for newer Spectrum IP/Serial wall signs are 8, None, 1. In the past, the default Com port settings were: 7, Even, 2. If you select one set of Com port values and the wall sign does display information, try selecting the other set of Com port values, or refer to the Spectrum documentation to verify the correct default Com port settings.
9. If you click **Com port**, accept the default settings for Com port, baud rate, data bits, parity bit, and stop bits.
10. If you click **TCP/IP**, click **TCP** and specify the TCP/IP address of the wall sign, or click **DNS** and specify the name you assigned the wall sign on the network.
11. If you selected TCP/IP, after **Port**, specify the port number used by the wall sign.
12. After **Sign memory**, select the memory for the sign based on manufacturing specifications.
13. Optionally, select the **Reset this wall sign when it does not respond and at midnight** check box.
14. Click the **Diagnostics** tab.
15. Click the **Tools** tab.
See Figure 56.
16. To restart the wall sign and empty the sign memory, click **Reset sign**.
17. To display the latest sign diagnostics, click **Get status**.
18. To verify the wall sign setup, type a message and click **Send test message**.
19. Click **Add=>Sign** and repeat steps 4 to 12 to add additional signs to the sign group.
20. Click **Save**.

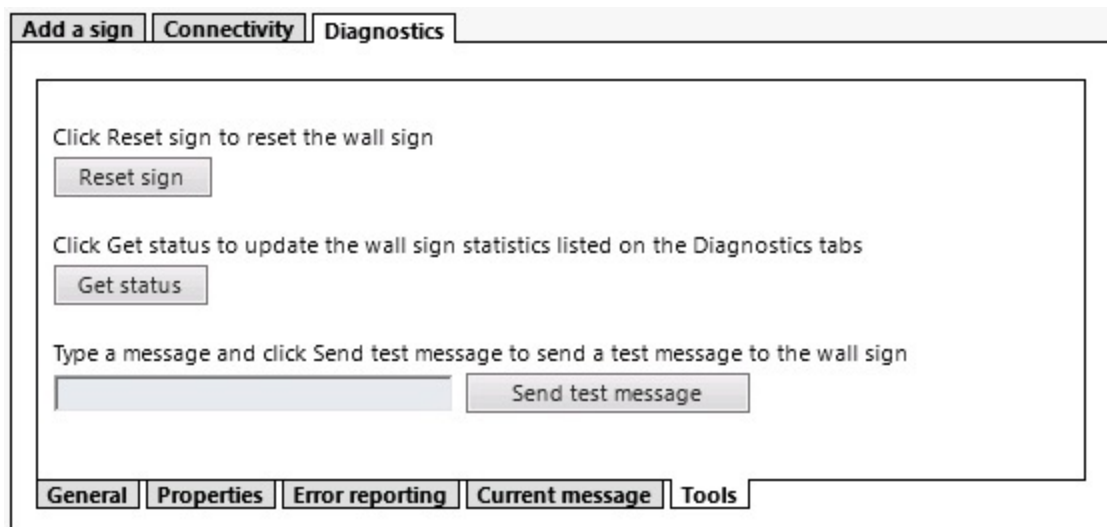


Figure 56: Diagnostics tab

Configuring sign variables

You define and save display characteristics for sign variables (performance variables associated with a particular queue or queue group) on the Add sign variable tab.

To configure sign variables

1. Under Enterprise, click **Wallboarder**.
2. Click **+**, located beside **local site**.
3. Click **Sign variables**.
The Add sign variable tab opens.
See Figure 57.
4. After **Name**, type a meaningful name for the sign variable (for example, type Calls waiting - P800).
The name will display in a list of sign variables on the Message tab.
5. After **Site**, select the contact center site where WallBoarder resides.
6. After **Select a device type**, click a device type.
7. After **Select a device**, select a device.
8. After **Select a variable type**, select a performance variable (for example, select Abandoned).
9. Click the **Advanced** tab.
NOTE: Some performance variables require a display width of eight characters. For example, WallBoarder displays the Average Speed of Answer Today in hh:mm:ss. If you select a value less than 8 for the width, the at symbol @ will display on the wall sign in place of the Average Speed of Answer Today statistic.
10. After **Select display options for this variable**, click **Left**, **Center**, or **Right** to left-justify, center, or right-justify the performance variable within the variable string position, and accept the default value for the width of displayed characters.
11. After **Width**, select the width of displayed character.
12. To enable different colors to be displayed for different performance thresholds, select **Active**.

13. After **If the value is less than**, specify the threshold and select a color from the drop-down list.
14. If a second threshold is wanted, after the second **If the value is less than**, specify the threshold and select a color from the drop-down list.
15. After **Otherwise use this color**, select a color from the drop-down list for the variable when it is not within the thresholds.
16. Click **Save**.

Add a sign variable
Advanced

Name

Site

Specify parameters for this sign variable

1. Select a device type

☒ Queue
☐ Queue group

2. Select a device

3. Select a variable type

4. Click Save

Figure 57: Add sign variable tab

Configuring sign messages

You compose, test, and save message strings displayed on wall signs on the Add sign message tab. Message strings indicate to the wall sign how messages are displayed. They are constructed of performance variables, text, display features, and optionally graphics.

Consider the message strings defined in Figure 58. WallBoarder displays the first message string on the top line [PS02-Top Line] of the wall sign. It displays the Long Call Wtg = component of the message string in red [C001-Red]. The message string flashes [MO03-Flash] across the sign at display speed 2 [MI06-Display Speed 2]. It is comprised of text you type (Long Call Wtg =) and Sign variable 1 [VA01-Calls], that displays the real-time value for the longest waiting caller performance variable. The color of the sign variable statistic changes with the wait time of the longest waiting caller, as per the threshold settings defined on the Variable tab.

To create sign messages

1. Under **Enterprise**, click **Wallboarder**.
2. Select a site.
3. Click **Sign messages**.
See Figure 58.
4. After **Name**, type the message name.
The name will display in a list of sign messages on the Plan tab.

5. After **Site**, select the contact center site where WallBoarder resides.
NOTE: If you do not select display attributes, WallBoarder will post the message using default display attributes.
6. Click the **Position**, **Color**, **Effect**, **Special**, and/or **Misc** tabs and double-click display attributes to select them.
7. Type a message.
8. Click the **Variables** tab and double-click a variable to select it.
9. Click **Send test message**.
 Confirm the message displays on the wall sign correctly.
10. Click **Save**.

Add a sign message

Name:

Site: Default Site ▼ Send test message

Example message string: [PS02-Top Line][CO01-Red][MO03-Flash]Long Call Wtg = [VA01-Calls]

Figure 58: Add Sign Message tab

Creating sign plans

You associate each sign group with a sign plan. Using sign groups and sign plans, you can display the same message on one or more wall signs, or display unique messages on all of the wall signs. All of the signs in a sign group display the same messages.

If you have two wall signs (that are not daisy chained together) and you want to display the same messages on both signs, you create one sign group, add both signs to it, and associate the sign group with a sign plan. The serial addresses do not need to be unique in this case, as you are communicating with each sign on a dedicated connection (for example, one sign may be connected to a comport, and the other sign to the network using IP).

You dictate the messages displayed by particular wall signs on the Add sign plan tab. You can specify up to five statements (conditions) using sign groups. Conditions dictate which message strings WallBoarder displays and the priority in which WallBoarder displays them. If none of the conditions are satisfied, WallBoarder displays the default message on all of the wall signs in the sign group. The default message can be a message congratulating agents, or a message informing them of an upcoming meeting or other need-to-know information.

Consider the conditions defined in Figure 59:

- The first condition specifies 'If Sign variable 1 (the calls waiting in P800) exceeds 10, play Sign message 01'.
- The second condition specifies 'If Sign variable 2 (the agents logged on to P008) exceeds 45 seconds, play Sign message 02'.
- The third condition specifies 'If Sign variable 3 (the longest waiting caller in P008) drops below 6, play Sign message 03.'

Figure 59: Add sign plan tab

Creating sign plans for daisy-chained signs

If your wall signs are daisy chained together and you want to display the same messages on all of the wall signs, you create one sign group, add your signs to it, and associate the sign group with a sign plan. The wall signs share the same com port, but have unique serial addresses.

If your wall signs are daisy chained together and you want to display unique messages on all of the wall signs, you must create one sign group for each sign in the chain, and associate each sign group with a unique sign plan. The wall signs share the same com port, but have unique serial addresses.

To create a sign plan

1. Under **Enterprise**, click **Wallboarder**.
2. Select a site.
3. Click **Sign plan**. The Add sign plan tab opens.
See Figure 60.
4. After **Name**, type the plan name.

5. After **Sign group**, select the sign group to which you will apply the sign plan.
6. Select the **If** check box to define the first conditional message for the sign plan.
7. Under **Sign variable**, select a sign variable.
8. Under **Evaluates to**, specify the threshold, above or below which, a sign message is displayed.
9. Under **Play message**, select a sign message.
10. If you want an audible alarm to accompany the message, select **Beep**.
11. If you want additional conditional messages for the sign plan, repeat steps 6-10.
12. Click the **Business hours** tab.
13. After **Outside business hours display this message**, select a message to be displayed on the wall signs after business hours.
NOTE: Business-hour messages override scheduled messages.
14. After **Business hours schedule for this sign plan**, select a schedule that defines the hours of operation for your business.
15. If you want to apply the schedule to all of the sign plans at your contact center site, select **Apply this business-hour schedule to all of the sign plans at this site**.
16. Click **Save**.

Add a sign plan
Business hours
Scheduled messages

Name

Sign group
Sign Group 1

If	the sign variable	evaluates to	display this message	Beep
<input type="checkbox"/>	<input type="text"/>	< 0	Default message	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text"/>	< 0	Default message	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text"/>	< 0	Default message	<input type="checkbox"/>
<input type="checkbox"/>	<input type="text"/>	< 0	Default message	<input type="checkbox"/>

Display this default message if no sign variables have triggered a message to be displayed
Default message

Figure 60: Add sign plan tab

Activating priority messages

NOTE:

- You create priority messages on the Add sign message tab.
- Priority messages override all of the other messages.

To activate a priority message

1. Under **Enterprise**, click **Wallboarder**.

2. Select a site.

3. Click the **Priority message** tab.

See Figure 61.

NOTE: When you enable a priority message, WallBoarder displays the message on all of the wall signs until you manually clear the *Enable this priority message* check box.

4. To send a priority message, select **Enable this priority message** and select a priority message from the drop-down list to display on all of the wall signs at the site.

5. If you want an audible alarm to accompany the priority message, select **Beep when this priority message is played**.

6. Click **Save**.

The screenshot shows a web interface for managing WallBoarder services. At the top, there are three tabs: 'Edit WallBoarder Service for Default Site', 'Priority message', and 'Diagnostics'. The 'Priority message' tab is currently selected. Below the tabs, there is a text label: 'Select a message to override business-hour, scheduled, and sign plan messages'. Underneath this label, there are two checkboxes. The first checkbox is labeled 'Enable this priority message' and is followed by a dropdown menu showing '--Select a message--' with a downward arrow. To the right of the dropdown menu is the text 'for all wall signs at this site immediately'. The second checkbox is labeled 'Beep when this priority message is displayed'.

Figure 61: Priority message tab

Scheduling messages

NOTE:

- You can create schedules under YourSite=>Schedule.
- Business-hour messages override scheduled messages.

You can schedule specific messages to play according to schedules.

To schedule a message

1. Under **Enterprise**, click **Wallboarder**.
2. Select a site.
3. Select a sign plan.
4. Click the **Scheduled messages** tab.
See Figure 62.
5. Select a check box to activate a schedule.
6. Select **Play this message** to activate the message.
NOTE: When you enable a scheduled message, WallBoarder displays the message on all of the wall signs in the sign group (associated with the sign plan) until you manually clear the Play this message check box.
7. After **Play this message**, select a message from the drop-down list.
8. After **according to this schedule**, select a schedule.
9. Click **Save**.

Scheduled messages override sign plan messages during the times indicated in the schedules			
<input type="checkbox"/>	Play this message	-Select a message--	according to this schedule
<input type="checkbox"/>	Play this message	-Select a message--	according to this schedule
<input checked="" type="checkbox"/>	Play this message	-Select a message--	according to this schedule

Figure 62: Scheduled messages tab

TROUBLESHOOTING REAL-TIME ISSUES

The following information pertains to Contact Center Client, Interactive Contact Center, and Contact Center Chat with Lync.

INTERACTIVE CONTACT CENTER AND RESILIENCY

When the collector is started while the telephone system is in resilient fail-over mode, Interactive Contact Center device control will not function. If this happens, the Do Not Disturb status of the queue in the Queue Now monitor will not update.

ENABLING CONTACT CENTER CHAT WITH LYNC

If you want to use Lync as your default instant messaging client and view enhanced presence on real-time monitors, you must enable Contact Center Chat with Lync.

To enable Contact Center Chat with Lync

1. In YourSite Explorer, click **YourSite=>Site**.
2. After **Chat settings**, select the **Chat Enabled** check box.

Chapter 8

REPORTS

Understanding reports

Reporter

Scheduled Reports

Report Inbox

REPORTS

The Reporter application provides detailed performance statistics on your enterprise. You can use Reporter to produce on-demand reports and automated, scheduled reports. You can generate reports for a variety of intervals, for example by day of the week or by 15, 30, or 60 minute intervals, and for over-midnight shifts. You can create presentation-quality tables and charts in Microsoft Excel or Adobe Acrobat .pdf format.

The raw media server data is analyzed with respect to the YourSite Explorer configuration. The statistical data is then written to Structured Query Language (SQL). This statistical data populates the reports.

UNDERSTANDING REPORTS

To create meaningful reports you must understand reporting concepts.

Service Level is the standard measurement of customer service because it provides the most accurate representation of the customers' experience. An appropriate Service Level objective is one that

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

Understanding the following terms will help you define your corporate Service Level objective.

Offered

Offered contacts are contacts received by the ACD queue, regardless of how they are handled or routed. Offered contacts include handled contacts, abandoned (long) contacts, and interflowed (long) contacts. However, ACD requeued contacts, queue unavailable contacts, and abandoned (short) contacts are not considered to be offered contacts.

Handled

Handled contacts are contacts that have been opened or, in the case of calls, answered. Calls that listen to in-queue RAD messages are not considered to be handled until a queue member connects. If a queue member answers a call and then forwards it to another queue member or supervisor before the Short Handle time threshold, the call is classified as an ACD Short Handle Call. You can define the Short Handle time threshold for queues.

Abandoned

Abandoned contacts are contacts terminated before being answered. An abandoned chat is one that does not reach an agent because the client ended the chat session before the agent opened it. Abandoned (short) contacts are contacts abandoned before the Short Abandon time for the queue expires. Abandoned (long) contacts are contacts abandoned after the Short Abandon time for the queue expires. Abandoned statistics are not applicable to email.

Interflowed

Interflow is a mechanism that directs a contact in queue to another answering point. For example, a call sent from one queue to another queue or to voicemail is interflowed. Interflowed contacts includes those transferred manually from the queue. Contacts routed from queues to other answering points before the Short Abandon time are not included in Interflow statistics.

Service Level Time

Service Level Time is the time used in calculating the Queue Service Objective. For example, your Queue Service Objective may require queue members to handle 80% of contacts within 120 seconds. 120 seconds is the Service Level Time. Queue Service Objectives, which includes Service Level Time, are specified for individual queues.

Service Level Count

Service Level Count is the number of contacts sent to the queue that were either handled, abandoned, or interflowed within the specified Service Level Time.

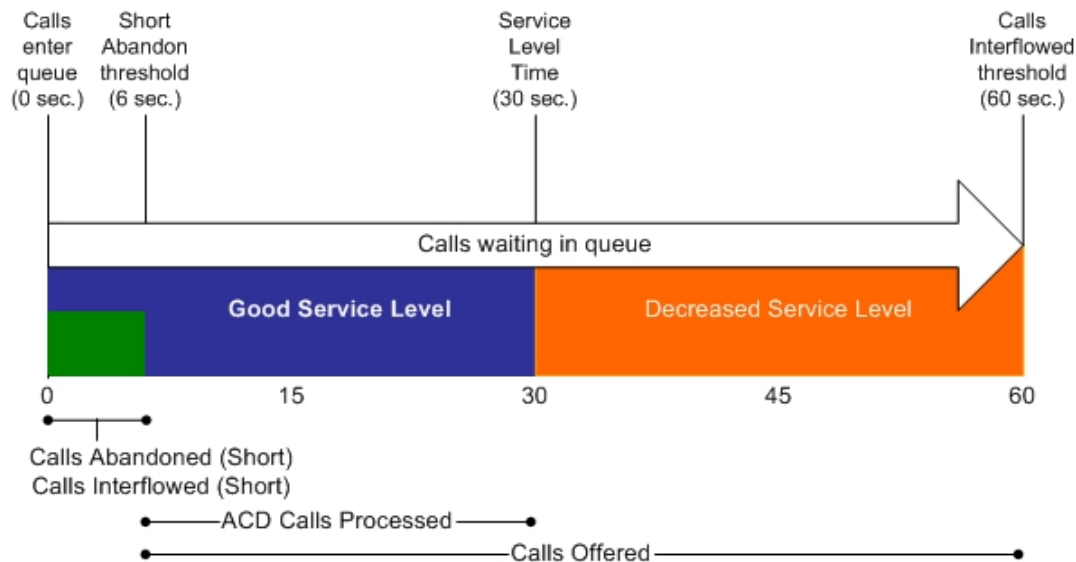
Service Level Percent

Service Level Percent is the Service Level Count ÷ ACD contacts offered

For calls and chats, the Service Level Percent is the number of contacts which are handled, abandoned, and interflowed before the Service Level Time, compared to the total number of contacts handled, abandoned, and interflowed. The Service Level Percent = (Handled + Abandoned (Long) + Interflowed (Long)) within the Service Level time ÷ Total (Handled + Abandoned (Long) + Interflowed (Long)).

For emails, the Service Level percent is the number of contacts handled and interflowed before the Service Level Time, compared to the total number of contacts handled and interflowed. The Service Level Percent = (Handled + Interflowed (Long)) within the Service Level Time ÷ Total (Handled + Interflowed (Long)).

In Figure 63, the Service Level objective is to handle 80 percent of calls in less than 30 seconds. Calls that wait in queue for 60 seconds are routed to voicemail.



- **No service level statistic:** calls abandoned or interflowed before the Short Abandon threshold are not included in the Service Level percent calculation.
- **Good service:** ACD Calls Handled (in 0 to 30 sec.) + Calls Abandoned (Long) (in 6 to 30 sec.) + Calls Interflowed (Long) (in 6 to 30 sec.), are included in the Service Level percent calculation as ACD Calls Processed.
- **Decreased service:** ACD Calls Handled + Calls Abandoned (Long) + Calls Interflowed (Long), occurring beyond the service level time, are included in the Service Level percent calculation as part of the Calls Offered.

Figure 63: Service Level Percent

SETTING THE SERVICE LEVEL OBJECTIVE

An appropriate Service Level objective is one that

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

Voice queue Service Level objective

You set the queue Service Level objective in YourSite Explorer=>YourSite=>Queues.

The voice statistics defaults are

- Service Level goal = 80%
- Service Level time = 20 seconds
- Short abandon threshold = 6 seconds
- Short Handle threshold = 20 seconds

- Overflow is set at the telephone system switch and there is no default
- Interflow is set at the telephone system switch and there is no default
- Work Timer is set at either the telephone system switch (Class of Service Work Timer) or on the queue. The default on the queue is 5 minutes.

Multimedia queue Service Level objective

You set the queue Service Level objective in YourSite Explorer=>YourSite=>Queues.

The multimedia statistics defaults are

- Service Level goal = 80%
- Service Level time = 2 minutes
- Short abandon threshold (not applicable to email) = 6 seconds
- Short Handle threshold = 20 seconds
- Overflow is set in multimedia workflows, via the Offer to Agent Group activity. See the *Multimedia Contact Center Installation and Deployment Guide* for more information.
- Interflow is set in multimedia workflows, via the Interflow activity. See the *Multimedia Contact Center Installation and Deployment Guide* for more information.
- Work Timer = 5 minutes.

REPORT TYPES

For a complete description of report types and fields, see the reports guide appropriate to your edition of Contact Center Solutions.

The Contact Center Management report types include Administrative, Voice, Lifecycle, Email, Chat, Multimedia, Workforce Scheduling, IVR Routing, Traffic Analysis, and Workflow reports. Some report availability depends on licensing.

Administrative reports

Administrative reports consists of the Employee Profile report. It provides configuration data and contact information on each employee.

Voice reports

Voice reports provide detailed information about call performance. You can run the following voice reports: Account Code, Agent/Agent Group, Queue/Queue Group, Extension, Trunk, Employee/Employee Group, Team, DNIS, and Forecast.

Lifecycle reports

Lifecycle reports provide detailed information on all of the events related to the life of a specific call, from the moment the call enters the telephone system to call termination. You can generate Lifecycle reports on selected items and devices, and can filter Lifecycle reports by a number of criteria. If you have clustered your enterprise into a single site, you can run a Lifecycle report on site to report on your entire enterprise. Lifecycle reports also include call notes and links to call recordings. For detailed information on configuring Lifecycle reports, see the *Contact Center Management Installation Guide*.

NOTE:

- Lifecycle reports containing data for internal transferred ACD calls will not link data properly unless the Call ID feature on the telephone system is enabled.
- If you have a Network ACD environment with telephone systems in the same time zone, you must synchronize telephone system clocks to ensure Lifecycle report accuracy.

Email reports

Email reports provide detailed information about email performance. Email reports can be generated on the following devices: Agent, Agent Group, Queue, and Queue Group. Email reports are available if you are licensed for Multimedia Contact Center.

Chat reports

Chat reports provide detailed information about chat performance. Chat reports can be generated on the following devices: Agent, Agent Group, Queue, and Queue Group. Chat reports are available if you are licensed for Multimedia Contact Center.

Multimedia reports

Multimedia reports provide detailed information across media types: voice, email, and chat. Multimedia reports can be generated on the following devices: Agent Group, Employee Group, and Queue Group. Multimedia reports are available if you are licensed for Multimedia Contact Center.

IVR Routing reports

IVR Routing reports provide historical data on devices key to IVR Routing. You can generate IVR Routing Callback, Port, DNIS, and Hunt Group reports. Multimedia reports are available if you are licensed for IVR Routing.

Traffic Analysis Reports

Traffic Analysis Reports provide detailed information about trunk traffic. You can generate Traffic Attendant reports, Traffic DTMF Receiver Group reports, Traffic Route reports, and Traffic Trunk reports.

Workflow reports

Workflow reports summarize data on IVR Routing and Multimedia Contact Center workflows. Workflow reports can be generated for Workflow Conditions, if you are licensed for IVR Routing or Multimedia Contact Center.

Workforce Scheduling reports

Workforce Scheduling reports provide detailed information about schedules, enabling supervisors to schedule employees efficiently and cost-effectively. Schedules, Employee Portal, and Schedule Adherence reports are available if you are licensed for Workforce Scheduling.

Business Reporter reports

Contact Center Management with Business Reporter reports provide detailed information about call costing, extension, trunk, and queue statistics. Detailed information on the reports available is contained in the *Business Reporter Reports Guide*.

Custom Reports

Custom Reports are a collection of reports based on specific customer requests. Custom reports are available if you are licensed for them.

TOP FIVE RECOMMENDED REPORTS

We recommend that every contact center use the following top-five reports:

Queue Performance by Period

The Queue Performance by Period report shows traffic level highs and lows and the Service Level you provide at these times. Generate this report each day and watch for trends in the traffic level, abandon rate, and Service Level %.

Queue Group Performance by Queue

The Queue Group Performance by Queue report compares the workload distribution across the queues in a queue group for a specified period.

Queue Group (Answer, Handle, Abandon) Spectrum by Queue

The spectrum reports provide valuable information on how contacts are dispersed in your contact center. You can configure answer, handle, and abandon thresholds, and describe the percent breakdown by time for

- Contacts Answered - Which contact waited in queue the longest before it was answered or opened? How quickly are most contacts answered or opened?
- Contacts Handled - How many contacts were handled for the queue? What was the greatest duration for which a queue member interacted with a customer?
- Contacts Abandoned - What was the number of contacts abandoned? How long did a customer wait before abandoning the contact?

Agent Group Performance by Period

The Agent Group Performance by Period report enables you to identify trends in agent group performance.

Agent Group Event by Period (hh:mm:ss)

The Agent Group Event by Period (hh:mm:ss) report enables you to compare the performance of agents who perform similar jobs. This report provides the shift time by agent, and a variety of contact counts and agent event counts, such as instances where agents were unavailable.

USING REPORTS TO IDENTIFY PROBLEMS

The recommended top-five reports help you identify problems that affect your Service Level objectives. Table 25 and Table 26 address frequently asked questions.

Table 25: Solving problems using queue reports

WHAT DO I WATCH FOR IN THE QUEUE REPORTS?	HOW DO I FIND THE SOURCE OF THE PROBLEM AND RESOLVE IT?
A drop in Service Level	When does the Service Level drop during the day? <ol style="list-style-type: none">1. Check the Agent Group Performance by Period report to see the distribution. How many agents were logged on throughout the day?2. Examine agent talk times. Do you have a chatterbox agent?3. Use Auditor to re-run events during a time interval to see exactly what each agent was doing.4. Generate a Forecast report with your Service Level goals to determine the number of agents required by period for the day. Compare the forecast statistics to the Average Manned Agent statistic in the Agent Group Performance by Period report. Have you scheduled enough agents to meet your Service Level objective?
	Why are some queues not meeting their Service Level goals while others are? <ul style="list-style-type: none">• Check the Agent Group Performance by Queue report. Are some agent groups overworked?
High abandon statistics	Why did the customers abandon their calls or sessions? <ol style="list-style-type: none">1. Check Average Delay to Abandon statistics. Did the customers abandon because they were impatient? Did customers wait a long time in queue? Were agent talk times excessive during this time? If so, why?2. Use Auditor to re-run the interval to see exactly what each agent was doing.3. Generate the Queue Unavailable Trace report and then call back the customers to determine why they abandoned their contacts.
A high requeue count (because it decreases the Average Speed of Answer time and the Service Level)	Are agents forgetting to set themselves as Unavailable on their telephone sets before they leave their desks? <ul style="list-style-type: none">• Check the Agent Group Performance by Period report to see which agents are experiencing requeues. Remind agents to use the Unavailable option.

Table 26: Solving problems using agent reports

WHAT DO I WATCH FOR IN THE AGENT REPORTS?	HOW DO I FIND THE SOURCE OF THE PROBLEM AND RESOLVE IT?
Extremely high or low performance statistics	<p>Do some agents perform 20-30% worse than other agents?</p> <ol style="list-style-type: none"> 1. For voice, silently monitor agents periodically to ensure they are properly trained to handle callers' needs, and are not chatting unnecessarily. 2. For voice, check Outbound or non-ACD statistics for peg counts and times. Generate an Agent Inbound or Outbound Trace report to see a list of all calls. Are agents spending too much time on personal calls?
	<p>Do some agents perform 20-30% better than other agents?</p> <ol style="list-style-type: none"> 1. High ACD/non-ACD/Outbound contact counts is not a problem if agents are maintaining high Service Levels. For voice, silently monitor agents periodically to ensure they are providing a high quality of service, but not rushing callers. 2. For voice, check the ACD short handle call count (hh:mm:ss) statistic in the Agent Event by Period (hh:mm:ss) report. Not many voice transactions can occur in less than 20 seconds. This could indicate that agents are 'padding' their ACD handle statistics by prematurely terminating calls.
High Unavailable statistics	<p>Are agents accumulating Unavailable time and Make Busy peg counts?</p> <ol style="list-style-type: none"> 1. Check the Agent Event by Period (hh:mm:ss) report to evaluate individual statistics. Determine how much Make Busy and Do Not Disturb (DND) time agents are logging. Be sure agents are adhering to your contact center policies regarding when to use Make Busy and Do Not Disturb. Check if your agents are using Unavailable instead of logging out. 2. For agents who have high Make Busy peg counts, run Auditor with an Agent by Time monitor for the agent group. Be sure agents are not using Make Busy to avoid being the longest idle agent or to avoid being sent the next ACD contact. 3. Implement Make Busy with Reason functionality. Assign reasons with which agents go into Make Busy. Track Make Busy use by generating agent reports displaying Make Busy statistics by Code.

Table 26: Solving problems using agent reports (continued)

WHAT DO I WATCH FOR IN THE AGENT REPORTS?	HOW DO I FIND THE SOURCE OF THE PROBLEM AND RESOLVE IT?
Long or short shift time	<p data-bbox="483 443 930 470">Are agents adhering to their schedules?</p> <ol data-bbox="565 489 1320 833" style="list-style-type: none"> <li data-bbox="565 489 1320 617">1. Examine the Agent Event by Period (hh:mm:ss) report to determine when agents are logging in and out. Check if they are logging in late, leaving early, or forgetting to log out at the end of the day. <li data-bbox="565 632 1320 726">2. Examine all of the login and logout times for the shift, and determine if agents are adhering to your contact center policies concerning when to log out and when to use Unavailable. <li data-bbox="565 741 1320 833">3. Use Workforce Scheduling to create agent schedules. Use Schedule Adherence to ensure agents are performing their scheduled duties.

REPORTER

Using the Reporter application, you can generate on-demand and scheduled reports.

NOTE: You can restrict access to any or all of the reports for which you are licensed using security roles and lists. See "Creating and applying security roles" on page 190.

REPORTER OPTIONS

The complete list of Reporter options follows.

- **Report type**—specifies the report name.
- **Start date and End date**—specify the range of dates used in the report. You can pick any calendar date as the start date and any date later in the calendar year as the end date.
- **Create one report for each day in the selected date range**—creates an individual report for each day in the selected range of days.
- **Start hour and End hour**—specify the hours of the day included in the report.
- **Interval**—specifies the report period: by 15-, 30-, or 60-minute intervals, by day of the week, by day of the month, or by month.
- **Days to include**—specifies the days of the week to include in the report.
- **Report mode**—gives you the option of a default report that spans one day, or an over-midnight report that spans two days. (For example, an over-midnight report can cover from 10:00 P.M. on day one to 10:00 A.M. on day two. It cannot exceed a time span of 24 hours.)
- **Report output language**—specify the output language of the report.
- **Render Type**—specify whether the report generates as an Excel file or a PDF.
- **Email the report to** —emails the report spreadsheet and associated graph to the email address selected in the email o list. You add contacts and contact groups to the email to list under the My options menu.
- **Print the report**—prints the report spreadsheet.

SETTING UP CONTACTS AND CONTACT GROUPS

You can create a list of email contacts and email contact groups to whom you email reports. Contact groups can contain both user-configured contacts from CCMWeb as well as all existing employees from YourSite Explorer.

NOTE: You must configure SMTP settings in YourSite Explorer before you can configure email contacts. See "Adding mail servers" on page 83.

Before you generate a report, if you want to email that report, you must set up

- My email contacts, which includes personal email addresses
- My email contact groups, which includes mailing lists comprised of employees and My email contacts

Setting up email contacts for emailing reports

To add an email contact

1. In the **My options** tab menu, click **My contacts=>My email contacts**.
Alternatively, click **My options**. In the **My contact tab**, click **My email contacts**.
2. Click **Add**.
3. After **First name**, type the first name of your contact.
4. After **Last name**, type the last name of your contact.
5. After **Email address**, type the email address of your contact.
6. To save this contact, click **Save**.
7. To save this contact and add another contact, click **Save & Add**.

Setting up email contact groups for emailing reports

If you intend to email the report to more than one recipient you must add the recipients to a mailing list and then associate the recipients with a group.

To set up groups for emailing reports

1. In the **My options** tab menu, click **My contact=>My email contact groups**.
Alternatively, click **My options**. In the **My contact tab**, click **My email contact groups**.
2. Click **Add**.
3. After **Name**, type the name of the contact group.
4. After **Description**, type the description of the contact group.
5. To share this contact group with other CCMWeb users, select **Shared Contact Group**.
A shared contact group can be viewed, used, and edited by other users.
6. To save this contact group, click **Save**.
7. To save this contact group and add another contact group, click **Save & Add**.

To add an email contact to a contact group

1. In the **My options** tab menu, click **My contacts=>My email contact groups**.
Alternatively, click **My options**. In the **My contact** tab, click **My email contact groups**.
2. Click **Members** for the contact group with which you want to associate agents.
3. If you want to add members from your contacts configured in Contact Center Management, click **Contacts**.
4. If you want to add members from the employees configured in YourSite Explorer, click **Employees**.
5. Under **Available contacts**, select the check boxes of the members you want to add to the group and click **Add >>**.

GENERATING ON-DEMAND REPORTS

NOTE:

- You can only report on extensions that are licensed for Business Reporter. The number of extensions you license in YourSite Explorer must be consistent with your software license. .
- Workforce Scheduling reports are generated differently from Contact Center Management reports. See "Generating Workforce Scheduling reports" on page 312.

GENERATING REPORTS

You generate reports in the following manner. These steps explain how to run a Voice Queue Group Performance by Member report.

NOTE:

- Some reports are stored in SQL data tables as devices instead of intervals. Reports stored as devices cannot be run for a specific time range and can only be run 24-hour periods. If the Start Hour and End Hour options in CCMWeb are disabled, the report can be generated for 24-hour periods only.
- If you run a report that results with *Data Limit Exceeded* in the inbox, you must re-run the report using a shorter time span.

To generate a report

1. Click **Reporter=>Voice=>Queue reports**.
The Basic tab opens.
See Figure 64.
2. After **Report type**, select the **Queue Group Performance by Period** report.
3. After **Queue group**, click one or more queue group.
Hold down the <Shift> key or <Ctrl> key to select more than one queue group.
4. After **Start date** and **End date**, specify the start and end dates for the report.
NOTE: If you want one report that spans two days (for example, from December 3 at 9 P.M. to December 4 at 5 A.M.), then make the Start date and the End date the date the shift begins (December 3). If you make the Start date the date the shift begins (December 3) and the End date the date the shift ends (December 4), you will generate a report that spans three days (December 3 from 9 P.M. to December 5, 5 A.M.). The time span for each shift cannot exceed 24 hours.

5. If you want to create a separate report for each day in the date range you selected, select the **Create one report for each day in the selected date range** check box.
6. After **Start hour** and **End hour**, specify the start and end hours for the report.
NOTE: If you are running reports with the Over midnight Report mode option, the time span between the Start hour and the End hour cannot exceed 24 hours.
7. After **Interval**, specify the time interval in which the statistics will display in the report.
8. After **Days to include**, select the days of the week to include in the report.
9. If your contact center does not operate 24 hour a day, after Report mode, click **Default**.
10. If you want to run a report over midnight, after **Report Mode**, click **Over midnight**.
The Over midnight report mode is most appropriate for 24-hour contact centers.
11. After **Report output language**, select the language used in the report output.
12. After **Render type**, specify how you will view reports, either in Excel or .pdf format.
13. Click the **Filter** tab.
NOTE: The Filter tab is available with select reports only.
14. Specify the filtering options to include in the report. Separate multiple values with commas.
For example: Queue = P100,P200,P300.
15. Click the **Distribution** tab.
16. If you want to email the report, select the **Email the report to** check box and specify to whom you will email the report:
 - A contact group, select the **this contact group** check box, and select a group
 - One contact only, select the **this contact** check box, and select a contact
 - One employee only, select the **this employee** check box and select an employee
 - A contact that is not listed, select the **this email address** check box, and type the email addressYou add contacts and contact groups to the Email to list under My options=>My contacts.
17. If you want to print the report, select the **Print the report** check box.
18. Click **Submit**.
The Report submitted screen opens.
19. Click **View Report Inbox**.
The Report Inbox window opens, listing all created reports.
20. Click **View** to open a report.
The report opens in the format you specified.

Basic

Filter

Distribution

Report type

Queue Group Performance by Member

Start date

6/24/2014

End date

6/24/2014

Queue group

☐ Select all

008 - Chat Queues

079 - Voice Queues

088 - Test Ring Group

223 - Test Virtual Queue Group

300 - Sales

30000 - sales reporting

301 - Support

3322 - Support requests

401 - Training

801 - Queue - 8001

9090 - Documentation

9091 - Marketing

Start hour

00:00

End hour

24:00

Interval

☒ 15 mins
☐ 30 mins
☐ 60 mins

☐ Day of week
☐ Month
☐ Day of month

Days to include

☒ Sun
☒ Mon
☒ Tue
☒ Wed
☒ Thu
☒ Fri
☒ Sat

Report mode

☒ Default
☐ Over midnight

Report output language

English - North America

Render type

☒ Excel
☐ PDF

Figure 64: Reporter: Basic Tab

Generating Workforce Scheduling reports

The following steps detail how to generate a Schedule by Employee by Time Off by Day of Week report. All other Workforce Scheduling reports are generated by following a similar procedure.

NOTE: Some report features may be available or unavailable depending on the report type you want to generate. For example, the Interval feature is unavailable (and will appear grayed out) for the Schedule by Employee by Time Off by Day of Week report.

To generate a Workforce Scheduling report

1. Click **Reporter=>Workforce Scheduling=>Schedules**.
See Figure 65.

Basic **Filter** **Distribution**

Report type
Schedule by Employee by Time Off by Day of Week

Start date
3/13/2014

End date
3/13/2014

Device type:
Employee

Start hour
00:00

End hour
00:15

<input type="checkbox"/>	Reporting number	Full name
<input type="checkbox"/>	_admin	admin admin
<input type="checkbox"/>	3766	Johan Bach
<input type="checkbox"/>	4444	Fio Renn
<input type="checkbox"/>	5001	Jameson Jackson
<input type="checkbox"/>	5002	Rufus Riel
<input type="checkbox"/>	5003	Harold Hubert
<input type="checkbox"/>	5004	Lucas Lords
<input type="checkbox"/>	5005	Reggie Rogers

Interval
☒ 15 mins ☐ 30 mins
☐ 60 mins ☐ Day of week
☐ Month ☐ Day of month

Report output language
English - North America

Render type
☒ Excel ☐ PDF

Figure 65: Workforce Scheduling Basic tab

2. After **Report type**, select the **Schedule by Employee by Time Off by Day of Week** report.
3. After **Device type**, select one of the following:
 - Employee — only the employees selected will appear in the report
 - Supervisor — only the employees associated with the selected supervisor will appear in the report
 - Employee group — only the employees who are members of the selected employee group will appear in the report
 - Schedule — only the employees associated with the selected schedule will appear in the report
4. Select one or more devices from the table.
5. After **Start date** and **End date**, specify the start and end dates for the report.
NOTE: If you want one report that spans two days (for example, from December 3 at 9 P.M. to December 4 at 5 A.M.), then make the Start date and the End date the date the shift begins (December 3). If you make the Start date the date the shift begins (December 3) and the End date the date the shift ends (December 4), you will generate a report that spans three days (December 3 from 9 P.M. to December 5, 5 A.M.). The time span for each shift cannot exceed 24 hours.
6. After **Report output language**, select the language used in the report output.
7. After **Render type**, specify how you will view reports, either in Excel or PDF format.
8. Click the **Filter** tab (if available for the report type selected).
9. Specify the filtering options to include in the report.

10. Click the **Distribution** tab.
11. If you want to email the report, select the **Email the report to** check box and specify to whom you will email the report:
 - A contact group — select the **this contact group** check box, and select a group
 - One contact only — select the **this contact** check box, and select a contact
 - One employee only — select the **this employee** check box, and select an employee
 - A contact that is not listed — select the **this email address** check box, and type the email addressYou add contacts and contact groups to the Email to list under My options=>My contacts.
12. If you want to print the report spreadsheet, select the **Print the report** check box.
13. Click **Submit**.
The Report submitted screen opens.
14. Click **View Report Inbox**.
The Report Inbox window opens, listing all created reports.
15. Click **View** to open a report.
The report opens in the format you specified in step 10.

Emailing reports

To email a report

1. In an active report, click the **Distribution** tab.
2. Select the **Email the report to** check box and specify to whom you will email the report:
 - A contact group, select the **this contact group** check box, and select a group
 - One contact only, select the **this contact** check box, and select a contact
 - One employee only, select the **this employee** check box, and select an employee
 - A contact that is not listed, select the **this email address** check box, and type the email addressYou add contacts and contact groups to the Email to list under My options=>My contacts.
3. Click **Submit**.
The Report submitted screen opens.
4. Click **View Report Inbox**.
5. When the email icon beside the report changes to **Complete**, the report has been emailed.

Printing reports

To print a report

1. In an active report, click the **Distribution** tab.
2. Select the **Print the report** check box.
3. Click **Submit**.
The Report submitted screen opens.
4. Click **View Report Inbox**.
5. When the print icon beside the report changes to **Complete**, the report has been emailed.

SCHEDULED REPORTS

You use Scheduled Reports to automate the generation of reports. You can restrict user access to any or all of the reports with advanced security roles. See "Creating and applying security roles" on page 190.

SCHEDULED REPORTS OPTIONS

To create a scheduled report you must complete the following options on the properties and distribution tabs.

- *Schedule name* is a user defined name to describe the contents of the schedule.
- *Schedule will run* specifies how often the schedule will be generated.
- *At* defines when the scheduled report will be generated.
- *Reports time span* defines the dates of report activity to appear in the report.
- *Email the report to* defines the email contact group to which the report is sent.
- *Print the report* indicates the scheduled report will be printed every time it is generated.

GENERATING SCHEDULED REPORTS

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

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

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

Creating report schedules

NOTE: If you select printing and mailing options, Reporting Service prints and emails *all* of the reports included in the schedule on the date the system generates the reports.

You can create schedules for Contact Center Management Reports, Contact Center Management User reports, and Workforce Scheduling Employee schedule mailer.

Using Contact Center Management Reports Schedules, you can

- Generate reports on all contact center devices.
- Distribute reports to yourself and to a contact, a contact group, or a specific email address.

Using Contact Center Management User reports schedules, you can

- Generate reports on agents and employees.
- Distribute reports automatically to yourself and to the individuals within the agent groups, employee groups, and/or teams you select.

Using Workforce Scheduling Employee schedule mailer, you can

- Generate reports on employee schedules.
- Distribute agent/employee report schedules to yourself and to individual employees associated with the schedules you select.

Creating Contact Center Management Report schedules

To create a schedule for Contact Center Management reports

1. Click **Reporter=>Scheduled Reports**.
2. In the **Report Schedules** tab, click **Next>>**.
See Figure 66.

The screenshot shows the 'Scheduled Reports' interface with the 'Manage schedule' sub-tab active. The 'Active schedule (Creating new schedule)' status is displayed in the top right. The 'Properties' tab is selected, showing fields for 'Schedule name', 'Schedule will run' (set to 'Every day'), 'at' (set to '00:00'), 'Reports time span' (set to 'Current day'), and 'Schedule will run next on (Creating new schedule)'. The bottom navigation bar includes 'Scheduled Reports menu', 'Manage schedule', 'Add a report', and buttons for 'Save', 'Execute now', and 'Delete'.

Figure 66: Scheduled Reports: Properties tab

3. After **Schedule name**, type a schedule name.
4. After **Schedule will run**, select the schedule frequency, for example, every day, every Wednesday, or the start of month.
When you select the day, all of the reports associated with the schedule will be generated that day, every week.
5. After **at**, click the time of day the schedule will be activated.
For example, if you select Wednesday at 14:30, all of the reports associated with the schedule will be generated every Wednesday at 2:30 P.M.
NOTE: Reports are based on the data in the SQL database. We recommend you schedule your reports for *after* the nightly maintenance routine runs, that is, after 2:00 A.M., to ensure the reports are based on the entire day's raw telephone system data.
6. After **Reports time span**, select a time span.
If you select *Year to date*, the report output includes all of the days from January 1 to the present date. If you select *From given start date to current date* you will produce reports for your fiscal year.
7. Click the **Distribution** tab.
See Figure 67.

Scheduled Reports » Manage schedule Active schedule (Creating new schedule)

Properties

Distribution

Reports

Email the report to

☐ this contact group

☐ this contact

☐ this employee

☐ this email address

Print the report

☐ Print the report

[Scheduled Reports menu](#) | [Manage schedule](#) | [Add a report](#)
Save Execute now Delete

Figure 67: Scheduled Reports: Distribution tab

8. To email the report, select the corresponding **Email the report to** check box, and select the email recipients.
NOTE: You add contacts and contact groups to the email to list under **My options=>My contacts**.
9. If you want to print the report, select the **Print the report** check box.
10. Click **Save**.
The date of when the schedule will next run will appear after **Schedule will run next on**.
11. Add the reports you want to generate using the schedule you just created.
See "Adding Contact Center Management reports to schedules" on page 319.

Creating user report schedules

To create a schedule to automatically email agents/employees/teams their reports

1. Click **Reporter=>Scheduled Reports**.
 2. Click the **User report schedules** tab.
 3. Click **Next>>**.
The Properties tab opens.
 4. After **Schedule name**, type a schedule name.
 5. After **Schedule will run**, select the schedule frequency, for example, every day, every Wednesday, or the start of month.
When you select the day, all of the reports associated with the schedule will be generated that day, every week.
 6. After **at**, click the time of day the schedule will be activated.
For example, if you select Wednesday at 14:30, all of the reports associated with the schedule will be generated every Wednesday at 2:30 P.M.
- NOTE:** Reports are based on the data in the SQL database. We recommend you schedule your reports for *after* the nightly maintenance routine runs, that is, after 2:00 A.M., to ensure the reports are based on the entire day's raw telephone system data.

7. After **Reports time span**, select a time span.
If you select *Year to date*, the report output includes all of the days from January 1 to the present date. If you select *From given start date to current date* you will produce reports for your fiscal year.
8. Click the **Distribution** tab.
You can email reports to members of agent groups, employee groups, and teams.
9. Click the type of group(s) to which you want to email agent and employee reports.
10. Within each type of group, select the check boxes of the groups to which you will email reports.
11. Click **Save**.
12. Add reports you want to automatically distribute to the agent group(s), employee group(s) and teams you selected.
See "Adding agent and employee reports to User report schedules" on page 319.

Creating Employee schedule mailer schedules

To create a schedule to automatically email agents/employees/teams their report schedules

1. Click **Reporter=>Scheduled Reports**.
2. Click the **Employee schedule mailer** tab.
3. Click **Next>>**.
The Properties tab opens.
4. After **Schedule name**, type a schedule name.
5. After **Schedule will run**, select the schedule frequency, for example, every day, every Wednesday, or the start of month.
When you select the day, all of the reports associated with this schedule will be generated that day, every week.
6. After **at**, click the time of day the schedule will be activated.
For example, if you select Wednesday at 14:30, all of the reports associated with this schedule will be generated every Wednesday at 2:30 P.M.
NOTE: Reports are based on the data in the SQL database. We recommend you schedule your reports for *after* the nightly maintenance routine runs, that is, after 2:00 A.M., to ensure the reports are based on the entire day's raw telephone system data.
7. After **Reports time span**, select a time span.
If you select *Year to date*, the report output includes all of the days from January 1 to the present date. If you select *From given start date to current date* you will produce reports for your fiscal year.
8. Click the **Distribution** tab.
9. Select the check boxes of the schedules you want to email to employees.
10. Click **Save**.
11. Add reports.
See "Adding work schedules to an Employee schedule mailer schedule" on page 319.

Adding Contact Center Management reports to schedules

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

To add a report to a Report Schedule

1. In **Reporter=>Scheduled Reports**, select the **Report Schedules** tab, select a schedule and click **Edit schedule**.
2. Click **Add a report**.
3. Select a report category.
4. Select a report type.
5. Follow the steps in "Generating reports " on page 310 for the Basic tab to set up the report.
6. Click **Submit** to add the report to the schedule.

Adding agent and employee reports to User report schedules

NOTE: The report options available vary depending on the type of report being added.

To add agent and employee reports to a User report schedule

1. In **Reporter=>Scheduled Reports**, on the **User report schedule** tab, select a schedule and click **Manage schedule properties**.
2. Click **Add a report**.
3. Select a report category, such as **Agent reports**.
4. Under **Report type**, select the report you want to add to the schedule.
5. After **Start hour** and **End hour**, select a start hour and end hour for the report.
6. After **Interval**, select the time interval for reporting.
7. After **Days to include**, select the days of the week to include in the report (for example, if you select a date range of September 1 to 30, and select Wednesday and Friday as the days to include, you will produce a report for the Wednesdays and Fridays that fall between September 1 and September 30).
8. After **Report mode**, select either **Default** or **Over midnight** .
9. After **Shift Mode**, select either **Default** or **Agent Group Presence**.
10. After **Report Output language**, select a language.
11. After **Render type**, specify how you will view reports, either in Excel or .pdf format.
12. Click **Submit**.

Adding work schedules to an Employee schedule mailer schedule

To add work schedules to an Employee schedule mailer schedule

1. In **Reporter=>Scheduled Reports**, on the **Employee schedule mailer** tab, select a schedule and click **Manage schedule properties**.
2. Click **Add a report**.
3. Select a category of report, such as Workforce Scheduling reports.
4. Under **Report type**, select the work schedule you want to add to the schedule.

5. After **Report Output language**, select a language.
6. After **Render type**, specify how you will view reports, either in Excel or .pdf format.
7. Click **Submit**.

Generating scheduled reports immediately

If you want to generate your scheduled reports at a specific time (other than immediately), you specify the date and time they will be generated when you create the schedule. See "Creating report schedules" on page 315.

To generate scheduled reports immediately

1. Click **Reporter=>Scheduled Reports**.
2. Click the tab of the report schedule type for which you want to generate a scheduled report.
3. Under **Work with an existing schedule**, select the schedule you want to generate.
4. Click **Execute schedule now**.
The Execute schedule now window opens.
5. In the **Start date** and **End date** calendars, select start and end dates for the report.
6. Click **Submit**.
The reports associated with the schedule are generated immediately and placed in your Report Inbox.

REPORT INBOX

The Report Inbox application displays the on-demand, scheduled, and forecast reports generated under your user name over the past 30 days. Inbox manager deletes reports from your Inbox by date range.

NOTE:

- In Report Inbox, if the report status is *Pending* for an extended period of time, start Client Component Pack Manager and confirm the Enterprise Server IP address and your user name and password are correct.
- In Report Inbox, if *Data Limit Exceeded* opens, re-generate the report using a shorter time span.

Report Inbox includes





















- *Today's reports* displays all of the reports generated today under your user name.
- *Yesterday's reports* displays all of the reports generated yesterday under your user name.
- *All of your reports* displays all of the reports generated under your user name over the last 30 days.
- *Inbox Manager* deletes reports from your Inbox by date range.

REPORTER INBOX OPTIONS

Report Inbox has the following options.

- *Report type* lists the report name.
- *Media server* defines the media server used in reporting.
- *Name* is the name of the device or device group.
- *Reporting number* specifies the reporting number of the device or device group as configured on the telephone system.
- *Start date* is the starting date of the time period covered in the report
- *End date* is the ending date of the time period covered in the report.
- *Start time* is the starting time of day included in the report.
- *End time* is the ending time of day included in the report.
- *Interval* is the interval selected in the report
- *Status* confirms if your report is ready. When a *Complete* icon appears in the status field the report is waiting in your Report Inbox. When a *Pending* icon appears, the report is not ready. A *No data* icon means no records are available for the parameters you specified. A *Failed* icon means the report did not generate. If a report fails, the Reporting Service logs errors in the NT Event log. Table 27 describes the status indicator icons.
- *View* displays reports generated in Microsoft Excel.

Table 27: Report status indicators

STATUS	EXCEL ICON	PDF ICON
Complete		
Pending		
No Data		
Failed		
Email Complete		
Email Pending		
Email Failed		
Printing Complete		
Printing Pending		
Printing Failed		

VIEWING REPORTS

To view report details

1. Click **View Report Inbox** (upon submitting a report) or click **Report Inbox=>Today's reports**.
2. Select the **Automatically refresh this page every 10 seconds** check box to automatically update the Status column.
The Status column indicates if your reports are ready:
 - Complete: The report is waiting in your report Inbox.
 - Pending: The report is not ready.
 - No data: No records were available for the parameters you specified.
 - Data limit exceeded: The time span selected was too great. Select a shorter time span and re-generate the report.
 - Failed: The report did not generate. If a report fails, Inbox Manager logs errors in the event log. Clicking Re-submit regenerates the report.
3. Click **View** to view the report.

EDITING REPORTS IN EXCEL

You can graph specific data by highlighting one or more columns of data in the Excel spreadsheet and using the Excel Chart Wizard. For more information, see Microsoft Excel Help.

DELETING REPORTS

The prairieFyre Maintenance Alarm Dispatcher service deletes any reports that are 30 days or older from your Report Inbox. You must save any reports you want to retain beyond 30 days to your hard drive or network directory.

Report Writer uses the following criteria to determine a report's age. For on-demand reports, the request date governs the report's age. For scheduled reports, the date the system generates the report governs the report's age. Inbox manager does not delete reports you schedule to generate in the future.

To delete all of the reports submitted on a given date

1. Click **Report Inbox=>Inbox manager**.
2. Select fixed dates or a date range for deleting reports.
3. Select the status type(s).
4. Click **Delete**.
The Inbox manager deletes all of the reports submitted on the dates you specified.

CONFIGURING USER PRINTER SETTINGS

You can configure reports to print on either a network or a local printer, for each employee.

To configure user printer settings

1. In YourSite Explorer, click **Employee**.
2. Select an employee and click the **User account** tab.
3. Type the file path of the **Network printer**.
You must configure the network printer as the default printer on the Enterprise Server. The printer path name is case sensitive.
4. If you want the employee's reports to print from their desktop printer, select **Send printed report to the employee's desktop printer**.
5. If you want to use the employee's email address for report distribution, select **Use the employee's email address for report distribution**.
6. Click **Save**.

EXCLUDING JUNK MAIL STATISTICS FROM EMAIL HANDLED AND COMPLETED COUNTS

You can optionally configure multimedia reports to exclude junk mail from email Handled and Completed counts. For more information, see the following Mitel Knowledge Base article <http://micc.mitel.com/kb//KnowledgebaseArticle52080.aspx>.

TROUBLESHOOTING REPORTING ISSUES

Common reporting troubleshooting issues are described below.

Troubleshooting missing data

NOTE: You can run reports on licensed employees only.

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

To summarize data

1. Open **Contact Center Client**
2. If prompted, type your user name and password.
3. Click **Log on**.
4. On the ribbon, **Tools=>Management**.
5. Click **Maintenance=>Summarize data**.
6. Follow the steps in the Summarize Data Wizard to summarize the data.

Troubleshooting Reporting Service

Why is Reporting Service not emailing or printing my reports?

- Ensure the SMTP connections are correctly configured.
- Ensure the printer settings are correctly configured.
- View the log file for Reporting Service at <installation drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\Logs\Reporting.log to find out why reports are not being printed/emailed the way you expect in the installation/Log file.

Chapter 9

FORECASTING

Forecasting terms

Forecasting tool

FORECASTING

Forecasting is the basis of estimating required resources to handle a contact center's workload. Using historical data generated by Mitel contact center telephone systems and multimedia media servers, forecasting allows you to adjust key modifiers to predict the number of agents required, by interval, to handle the predicted workload.

The Forecasting tool available in Contact Center Client and Workforce Scheduling enables users to quickly choose historical data from both voice and multimedia queues or queue groups to use in the forecast, providing average transaction traffic by day of week, by media, as well as by historic manned agents and handling statistics for user-selected intervals of time. Supervisors can create forecasts based on historic contact center volumes and manually adjust various modifiers to generate hypothetical or future anticipated traffic scenarios, optimizing the balance between the agents required to handle the anticipated traffic with the expected handling time, wrap up time and Service Level objectives. The Forecasting tool lets you adjust key statistics together with intra-day contact volumes rather than only daily statistics which provides a much more accurate output of agents required per interval. For example, you may have a situation where calls coming into your call center are more complex earlier in the day and/or earlier in the week creating a higher demand for agents to be available at these times. It is possible that handling time drops throughout the day and the demand for agents reduces, allowing for alternate options for agents such as off line work, team meetings or performance reviews.

Your ability to forecast is limited only by the available ACD data collected and available in your SQL database. For example you may chose to take the last few weeks to help predict the next few weeks or you could take the last year to help predict the average traffic per week, or you might want to only take the period of time in the past where you ran a particular campaign/season to anticipate the amount of traffic to expect for a similar upcoming campaign/season, etc. . After you run a forecast, you could examine the data and make adjustments based on current or anticipated contact center conditions. You could then tweak the forecast as required.

NOTE: Ring Groups are not supported with Forecasting, either as queues or as a member of a reporting queue groups.

FORECASTING TERMS

Conducting a forecast involves accurately estimating Time to Handle, Wrap Up Time, and Contacts Offered values. The following terms are used in forecasting resource requirements:

- **Service Level percent**
See "Understanding reports" on page 300.
- **Service Level time**
See "Understanding reports" on page 300.
- **Wrap Up time**
Wrap Up Time is a real-time and reporting statistic detailing the total time an agent spends in the Work Timer state. The Wrap Up Time is a standardized period. If an agent requires additional time to complete paperwork or online transactions, the agent can leave the ACD queue temporarily for this purpose.
- **Agent Efficiency percent**
Agent Efficiency percent is the percentage of time agents spend on ACD contacts relative to the time agents are scheduled to work. Agent efficiency is calculated using a straight linear

relationship. For example, 50% agent efficiency means that two more agents are required to handle the forecasted workload. An Agent efficiency percentage of 100 is unrealistic. Agents routinely take breaks, perform other non-ACD duties, make outgoing calls, and place themselves in Make Busy.

- **Contacts Offered**

You can predict the queue member requirement for your Service Level percent and Service Level time targets by applying the Erlang C equation to the estimated Call Load and average ACD Handling Time.

- **Manned Agents**

Manned Agents is the average number of agents who were logged on for the interval of time being forecasted.

- **Average Handle Time**

Average Handle Time is the average time queue members spend handling contacts, and is determined by comparing the contact duration to the number of contacts offered.

NOTE:

- The Average Handle Time in the Forecasting tool is calculated differently than the Average Handling Time in CCMWeb reports, which is determined by comparing contact duration to the number of contacts answered.
- The Daily Average Handle Time in the Forecasting tool is calculated from the interval rows in the forecast and may differ from the Average Handling Time for that day in contained in a report.

- **Time to Handle**

Time to Handle is the average time calls wait in queue before being handled.

- **ACD Handling Time**

ACD Handling time is the talk time plus the hold time. If a queue member calls a supervisor in search of more information (while the caller is on hold) and/or transfers or conferences the call, the system adds these times to the ACD Handling Time value.

- **Call Load**

The term *Call Load* is to the combined effect of the number of contacts received by the ACD queue and their duration, or the calls offered x (average ACD Handling Time + average Wrap Up Time).

FORECASTING TOOL

The Forecasting tool is accessed via Contact Center Client. If you are licensed for Workforce Scheduling, you can also access it in that application under the Tools tab. In order to access the Forecasting tool, your security role must have the 'May manage Forecasting' option enabled.

You use the Forecasting tool to create forecasts based on historical contact center traffic volumes. After loading historical data into the tool, you can perform 'what-if' scenarios and optimize the balance between the agents scheduled and your Service Level objectives.

The Forecasting tool offers a tabbed interface for viewing and setting historical data for each day of the week. If more than one media type has been included in the historical data, each day's tab will have a section for each media type included in the historic data. The forecast grid is divided into rows based on the interval time selected when loading historical data, enabling users to adjust statistics by 15, 30, or 60 minute intervals. The statistics have Historic and Current values, which display the original values from the loaded historical data and the current values after user modification respectively.

After a forecast has been performed, each day lists the agents required for each interval. Figure 68 shows the Forecasting tool.

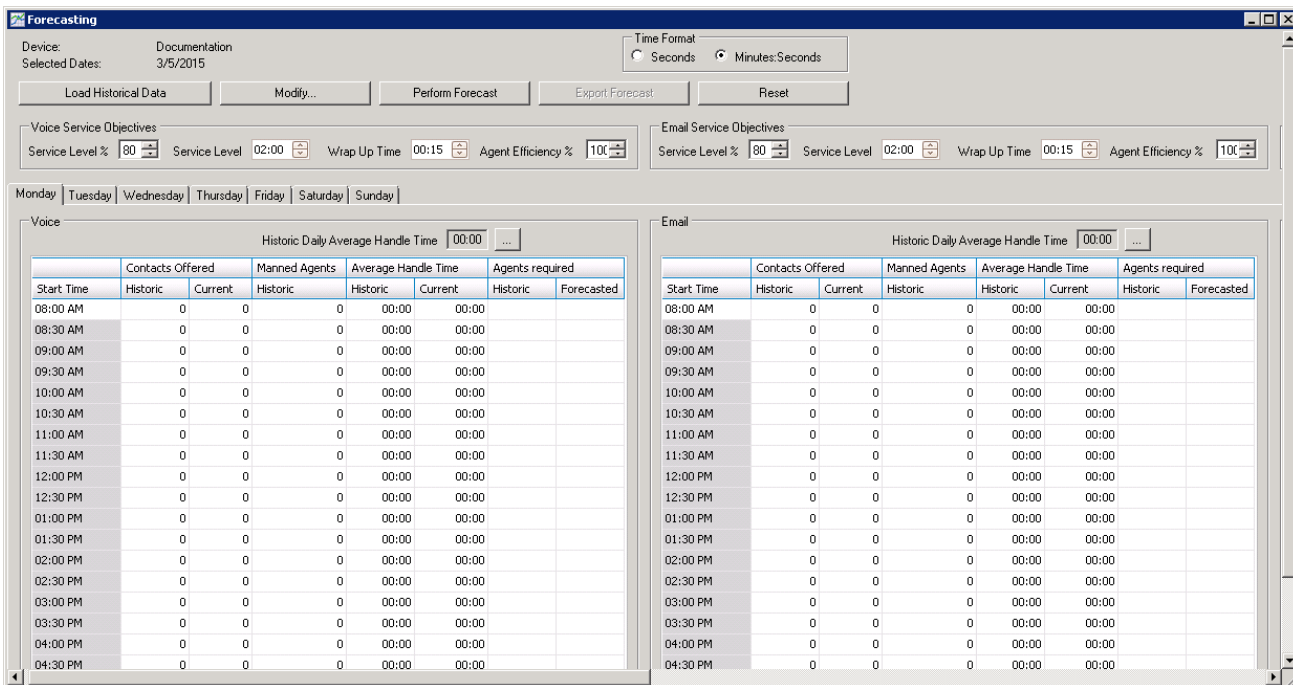


Figure 68: Forecasting window

To forecast resource requirements you

1. Load historical data.
See "Loading historical data" on page 329.
2. Modify historical data if required.
See "Modifying historical data" on page 330.
3. Perform a forecast.
See "Performing forecasts" on page 334.
4. Export the forecast.
See "Exporting forecasts" on page 335.

To access the Forecasting tool

1. Click **Tools** in the Contact Center Client ribbon.
2. In the **Data Mining** section, click **Forecasting**.

LOADING HISTORICAL DATA

When you load historical data, you include data from a queue or queue group over a historical period that best represents the contact center activity for the time period for which you are trying to forecast. You can select one or more specific dates and/or date ranges when loading historical data. You can select sequential or non-sequential dates (for example, Monday, Wednesday, and Friday) to use in the forecast. You can also exclude specific dates from within your date range.

NOTE:

- Users should identify and exclude any outliers or extreme values from the time period they are loading historical data from, as these may give artificially inflated or deflated values.
- Historical data for agents can be validated by comparing it to the queue and queue group period reports for the same periods.
- Ring Groups are not supported with Forecasting, either as queues or as a member of a reporting queue groups.

The following procedure takes place in an open Forecasting tool window.

To load historical data

1. Click **Load historical data**.
The Forecasting window opens.
2. Under **Queues** or **Queue groups**, click on the queue or queue groups you want to use as the source of historical data.
NOTE: You can load historical data for a queue or queue group. If you are using the forecast to build a schedule, select historical data from the same queue group with which the schedule is associated. This data will best represent the agents required for your schedule.
3. If you want to include or exclude data from a specific date, under **Historical date(s) for the forecast**, select **Specific day** and then select a date.
4. If you want to include or exclude data from a date range, click **Date range** and specify a range of dates.
5. If you are including the data from the specified date(s), click **Include dates**.
6. If you are excluding the data from the specified date(s), click **Exclude dates**.
7. Repeat steps 3-6 until you have specified the date(s) or date range(s) from which you will derive your historical data.
8. After **Start hour** and **End hour**, select the time frame for historical data.
9. After **Interval**, select the schedule interval: 15, 30, or 60 minutes.
The Interval value, in minutes, is the time increment by which the forecast will be displayed. It is recommended that you select an interval that matches the increments in which you schedule your employees. For example, if you schedule your employee shifts in 30 minute increments, select 30 minutes as the Interval value.
10. Click **Submit**.

MODIFYING HISTORICAL DATA

After loading your historical data, you can modify the values of Contacts Offered and Average Handle Time to generate different forecast results based on the modified values. You can also modify values after performing forecasts to obtain different forecasts of required agents. The historical values for data are always displayed, regardless of modifications, for comparison

Modifying Average Handle Time

You can modify the Average Handle Time value for an interval, a day, or several days simultaneously. When you select a modification to apply to a value, either the Historic or Current value, it is applied as the new Current value. You cannot change the Daily Average Handle Time, but you can use it to modify the Average Handle Time of other intervals.

The following procedures outline how to

- Modify the Average Handle Time parameter on the forecast grid
- Modify an interval's Average Handle Time parameter
- Modify the Average Handle Time parameter using the Historic Daily Average Handle Time parameter

The following procedures take place in an active Forecasting tool window.

To modify the Average Handle Time parameter on the forecast grid

1. Click **Modify...=>Average Handle Time**.
Alternatively, select an interval row, click the cell for Current Average Handle Time, and click the ... button.
See Figure 69.
2. Under **Specify the Average Handle Time value(s)**, specify how you want to modify Average Handle Time:
 - Increase or decrease Average Handle Time by a specific number of seconds
 - Increase or decrease Average Handle Time by a specific percentage
 - Set the Average Handle Time to a specific number of seconds
3. Under **Apply the changes to the following data source**, specify if you want to have the modification applied to the original value or the current grid value.
4. Under **Apply to days**, select the days for which you want to modify Average Handle Time.
5. Under **Apply to media type**, select the media types for which you want to modify **Average Handle Time**.
6. Click **Apply**.

To modify an interval's Average Handle Time parameter

1. Select an interval row, click the cell for **Current Average Handle Time**.
2. Set the Average Handle Time parameter for the interval.

To modify the Average Handle Time parameter using the Historic Daily Average Handle Time parameter

1. Click the ... button after Historic Daily Average Handle Time.
2. Under **Specify the Average Handle Time value(s)**, specify how you want to modify the Historic Daily Average Handle Time:
 - Increase or decrease Average Handle Time by a specific number of seconds
 - Increase or decrease Average Handle Time by a specific percentage
 - Set the Average Handle Time to a specific number of seconds
3. Under **Apply to days**, select the interval(s) for which you want to apply the modified Historic Daily Average Handle Time.
4. Click **Apply**.

Average Handle Time

Specify the Average Handle Time value(s)

☒ Increase/Decrease Average Handle Time value(s) by 0 seconds

☐ Increase/Decrease Average Handle Time value(s) by 0 percent

☐ Change Average Handle Time value(s) to 0 seconds

Apply the changes to the following data source

☒ Original/Historic value(s) ☐ Current grid value(s)

☐ Daily Historic Average Handle Time Value

Apply to days

☐ Selected time interval(s) ☐ Selected day ☒ Days of the week

From 08:00 AM To 05:00 PM

☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday

☒ Friday ☒ Saturday ☒ Sunday

Apply to media type

☒ Voice ☒ Email ☒ Chat ☒ SMS

Apply Cancel

Figure 69: Average Handle Time window

Modifying Contacts Offered

You can modify the Contacts Offered value for one or several time intervals simultaneously. When you select to modify a value, either Historic or Current, it is applied as the new Current value.

This section explains how to:

- Modify the Contacts Offered parameter on the forecast grid
- Modify an interval's Contact Offered parameter

The following procedures take place in an active Forecasting tool window.

To modify the Calls Offered parameter on the forecast grid

1. Click **Modify...=>Calls Offered**.
See Figure 70.
2. Under **Specify how you want to change the Calls Offered value(s)**, specify how you want to modify Calls Offered:
 - Increase or decrease Contacts Offered by a specific number of calls
 - Increase or decrease Contacts Offered by a specific percentage
 - Set the Contacts Offered to a specific number of call
3. Under **Apply the changes to the following data source**, specify if you want to modify the original value or the current grid value.
4. Under **Apply to times**, select the days and time interval for which you want to modify Contacts Offered.
5. Under **Apply to media** type, select the media types for which you want to modify Contacts Offered.
6. Click **Apply**.

To modify an interval's Contacts Offered parameter

1. Select an interval row, click the cell for **Current Contacts Offered**.
2. Set the Current Contacts parameter for the interval.

Contacts Offered

Specify the Contacts Offered value(s)

☒ Increase/Decrease Calls Offered value(s) by calls

☐ Increase/decrease Calls Offered value(s) by percent

☐ Change Contacts Offered value(s) to calls

Apply the changes to the following data source

☒ Original/Historic value(s) ☐ Current grid value(s)

Apply to times

☐ Selected time interval(s) ☐ Selected day ☒ Days of the week

From To

☒ Monday ☒ Tuesday ☒ Wednesday ☒ Thursday

☒ Friday ☒ Saturday ☒ Sunday

Apply to media type

☒ Voice ☒ Email ☒ Chat ☒ SMS

Figure 70: Contacts Offered window

Modifying the weekly total for Contacts Offered

You can modify the Contacts Offered values for an entire week simultaneously. Modifying these values changes the number of Contacts Offered while maintaining the same proportion of calls across all time intervals. For example, if you increase the weekly total by 10 percent, an interval with 10 calls will change to 11. However, an interval with zero calls will remain zero.

The following procedure takes place in an active Forecasting tool window.

To modify the Contacts Offered parameter on the forecast grid

1. Click **Modify...=>Weekly total**.
See Figure 71.
2. Under **Specify how you want to change the weekly total**, specify how you want to modify Contacts Offered over the week:
 - Increase or decrease the weekly total of Contacts Offered by a specific number of contacts
 - Set the weekly total of Contacts Offered to a specific number of contacts
3. Under **Apply to totals**, specify if you want to modify the original values or the current grid values.
4. Click **Apply**.

Weekly total for Contacts Offered

Voice
Historic weekly total: 47372 Current weekly total: 47372

Email
Historic weekly total: 2460 Current weekly total: 2460

Chat
Historic weekly total: 1177 Current weekly total: 1177

SMS
Historic weekly total: 0 Current weekly total: 0

Specify the weekly total
☒ Increase/Decrease weekly total by 0.0 percent
☐ Change weekly total to 0 calls

Apply to totals
☒ Original/Historic totals ☐ Current grid totals

Apply to media type
☒ Voice ☒ Email ☒ Chat ☒ SMS

Apply Cancel

Figure 71: Weekly total for Contacts Offered window

PERFORMING FORECASTS

When you perform a forecast, you receive the required agents based on both the historical and current values. If you adjust any of the values in your historical data, you must perform the forecast again.

NOTE: It is recommended that you save your forecast as an Excel file to preserve your settings to use or compare with the next forecast you make.

To run a forecast

1. Specify the Service Level %, Service Level Time, Wrap Up Time, and Agent Efficiency % you expect for the queue or queue group.
2. Click **Perform forecast**.
You can perform what-if scenarios on the historical data using different Service objectives statistics until you are satisfied with the forecast.

EXPORTING FORECASTS

After performing a forecast, you can export it as a Microsoft Excel spreadsheet or export the forecast to Workforce Scheduling.

Saving forecasts as Excel files

After you generate forecast data you can export it to a Microsoft Excel .xlsx worksheet. If your forecast has different media types, each media type will have its own worksheet in the .xlsx file.

To export a forecast as an Excel file

1. Click **Export Forecast**.
2. Click **Microsoft Excel**.
3. Click **Export**.

The forecast opens in a Microsoft Excel spreadsheet you can modify and save.

Exporting forecasts to Workforce Scheduling

If you are licensed for Workforce Scheduling, after you generate forecast data, you can export it into a Workforce Scheduling schedule.

When scheduling for agents who handle a particular media type, it is recommended that you export forecasts that use solely data from that media type. For example, if you are forecasting based on historical data from an email queue, the forecast should be exported into a Workforce Scheduling schedule that only handles email ACD contacts.

To export a forecast into a Workforce Scheduling schedule

1. Click **Export Forecast**.
2. Select **Workforce**.
3. For each media type, select the schedule for which to apply the forecast.
NOTE: Each media type must be exported to a different schedule.
4. Click **Export**.

Chapter 10

DATA-MINING

ACD Inspector

SMDR Inspector

Auditor

DATA MINING

The data-mining tools comprise

- **ACD Inspector**
ACD Inspector searches for agent and ACD queue event records.
- **SMDR Inspector**
SMDR Inspector searches through SMDR data to find specific contact center events.
- **Auditor**
Using Auditor you can view the historical real-time events that occurred on a particular date, in the sequence they occurred, at your own pace.

NOTE: For ACD Inspector and SMDR Inspector to function effectively when using Internet Explorer, you must add Contact Center Management to the Internet Explorer Trusted Sites category and set the Internet security to medium. See the *Contact Center Management Installation Guide*.

You access ACD and SMDR Inspectors via the Contact Center Client ribbon. In order to access the ACD and SMDR Inspectors, your security role must have the 'May manage ACD Inspector' and 'May manage the SMDR Inspector' options enabled.

To access ACD and SMDR Inspectors

1. Click **Tools** in the Contact Center Client ribbon.
2. In the **Data Mining** column, click **Inspectors** to open the Data Inspectors tool. The Data Inspectors window opens.
See Figure 72.

The screenshot shows the 'Data Inspectors' application window. It has a title bar with standard Windows controls. Below the title bar, there are two tabs: 'SMDR Inspector' and 'ACD Inspector', with 'ACD Inspector' currently selected. The main area is divided into several sections:

- Select dates:** Contains a 'Date' field and two buttons: 'Select dates' and 'Delete dates'.
- Select media servers:** A list box showing several media servers with checkboxes: Pfprim, pfacd2, pfacd1, 6150Fax, 6150Email, and 6150Chat.
- Digits dialed:** Four input fields for 'Digits dialed', 'ANI digits', 'DNIS digits', and 'Account codes'.
- Outbound calls:** One input field for 'Final destination digits'.
- Call parties:** Three input fields for 'Calling party', 'Called party', and 'Third party'.
- Call identification:** Three input fields for 'Call ID', 'Sequence ID', and 'Associated ID'.

At the bottom, there are three tabs: 'Call parties', 'Call types', and 'Options'. Below these is a link: [How do I perform a search?](#). On the right side, there are three buttons: 'Reset criteria', 'Stop search', and 'Start search'. At the very bottom, there are two tabs: 'SMDR Inspector criteria' and 'SMDR Inspector results'.

Figure 72: Data Inspectors window

ACD INSPECTOR

ACD Inspector searches through telephone data obtained from the telephone system, for agent and ACD queue event records. For example, using ACD Inspector, you can find the exact time an agent logs off at lunch. You can run a search and examine the activities of individual agents or all of the agents in a particular agent group or customer service queue during that time interval. You can also search on specific agent states and other parameters, such as the number of calls waiting and the number of active agents. The search follows a wild card format. Your specifications do not have to be exact. You can make the search as inclusive or exclusive as you wish. The results are placed in an easy-to-interpret grid that can be printed or saved to file. You can verify that your reports are valid by conducting searches against raw telephone system data.

There are four types of search result tabs:

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

RUNNING SEARCHES IN ACD INSPECTOR

NOTE: When you run searches on queues in ACD Inspector, be sure to include a P preceding the queue number.

When you run a search, ACD Inspector searches through the raw telephone system data on the local hard drive. Each search requires the following information:

Select dates/Delete dates

The Select dates button specifies the date range within which you want to search. The Delete dates button deletes days within the range you selected. The date is displayed month first, then day, then year.

Select media servers

The Select media servers check boxes specify the origin of the data used in the search. Currently you can search on voice media servers only.

In addition to the date and media server parameters, the ACD Inspector has the following search criteria tabs:

- Agent events
- Queue events
- Option events

You can use the Reset criteria button to reset all of the search parameters to their default settings.

Agent events criteria for searches

NOTE: When conducting a search, if you accept the default settings—all check boxes—the search output will contain all of the event records. You can clear check boxes to narrow down your search. For example, if you clear all of the agent states except for the Agent login and Agent logout check boxes, the agent event search output will include log on and log off event records only.

When you click Tools=>Inspectors=>ACD Inspector, the Agent events tab opens. It displays the agent event criteria used in the search. (See Figure 73.)

Select dates

Select dates

Delete dates

Date

1/5/2015

1/6/2015

Select media servers

Media server

☒ 3300 ICP

Agent information

Agent ID

Line numbers

1 -> 99

Extension

Agent events

Agent event

☒ Agent Login

☒ Agent Logout

☒ Agent Set Do Not Disturb

☒ Agent Remove Do Not Disturb

☒ Select all

Idle event modifiers

☒ Unknown

☒ Idle

☒ Do Not Disturb Set

ACD

☒ ACD queue

Agent events Queue events Options

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

Reset criteria Stop search Start search

ACD Inspector criteria ACD Inspector results

Figure 73: ACD Inspector main window - Agent events tab

The Agent events tab has the following search criteria:

Agent information

The Agent information boxes specify the agent's ID and extension number, and line numbers for one or more telephone lines to which the agent connects. You can search for agent information records for a particular agent, or for all of the agents. The agent information specifies the Agent ID for the media server you have already selected. For example, if you selected the media server Phone, ensure you select the Agent Login ID for the media server Phone. It is specified in YourSite Explorer=>YourSite=>Agents.

Agent events

The Agent events criteria are listed and automatically selected.

Idle event modifiers

The idle event modifier check boxes provide additional agent event searches. You can select one or more check boxes to include records for agents who are in the following states: unknown, idle, DND, Make Busy, and both DND and Make Busy.

NOTE: When conducting a search, if you accept the default settings the search output will contain all of the event records. You can clear check boxes to narrow down your search.

ACD queue

The ACD queue specifies the queue to which your agent belongs. For example, if the agent belongs to Tech Support, then you specify the Tech support queue. The agent's queue is specified in YourSite Explorer=>YourSite=>Queues. When you enter an ACD queue number and an agent number (in the Agent ID box), the search results contain records for all of the calls the agent receives from the queue.

Table 28 describes the ACD information provided by the Agent events tab.

Table 28: ACD information provided by Agent event tab

AGENT EVENTS	DESCRIPTION
Agent Login	This record is produced whenever an agent successfully logs on.
Agent Logout	This record is produced whenever an agent successfully logs off. If agent A is currently logged on extension X and agent B logs on to extension X, a log off record is automatically produced for A. This is followed by the log on record for B. Make Busy is automatically enabled on the extension when the agent logs out. No remove Make Busy record is produced. The extension number is the prime line of the ACD set which an agent is logged on.
Agent Set Do Not Disturb	<p>A record is not produced when a hunt group is placed in DND. The records do not differentiate between setting DND locally and remotely. The extension number reported is always the prime line of the ACD extension. A set DND record will be produced for the following conditions:</p> <ul style="list-style-type: none">• Setting DND locally by using the DND access code• Setting DND remotely by using the remote DND access code• Setting DND remotely by using the attendant console features key• Setting DND locally on a SUPERSET 4 telephone by pressing the select features hardkey and dialing the digit 2 or setting it on a SUPERSET 4DN or SUPERSET 430 telephone by pressing the Do Not Disturb Feature Key

Table 28: ACD information provided by Agent event tab (continued)

AGENT EVENTS	DESCRIPTION
Agent Remove Do Not Disturb	<p>The extension number is always the prime line of the ACD extension. A clear DND record will be produced for the following conditions:</p> <ul style="list-style-type: none"> • Clearing DND locally by using an access code • Clearing DND remotely by using the Cancel Remote DND access code • Clearing DND remotely by using the attendant console feature key • Clearing DND by using the Cancel All Features access code • Clearing DND by using the Cancel All DND feature on the attendant console • Agent logging in on an extension in DND
Agent Set Make Busy	<p>This record is produced whenever an extension is placed in the Make Busy state. A record is not produced when an agent logs out because Set Make Busy is implied when an agent log out record is received. The extension number is always the prime line of the ACD extension.</p>
Agent Remove Make Busy	<p>This is similar to Set Make Busy. No record is produced when the agent logs on. The remove Make Busy is implied by the log in record. The extension number is always the prime line of the ACD extension.</p>
Agent Answer ACD	<p>This record is produced whenever an agent answers a call that was directed to the ACD hunt group. The event record contains the Agent ID and extension number (hunt group pilot number to which the call was placed). The ACD extension that answered the call can be determined by using the last agent log in event for that extension. If the ACD set does not have a logged in agent, the Agent ID area is blank and the extension number is that extension's prime line.</p>
Agent Answer Personal	<p>A record of all of the non-ACD hunt group calls are included in this category. The extension number is always the prime line of the ACD extension that answered.</p>
Agent Make Outbound	<p>This record is produced whenever an agent originates a call and enters a conversation. A record is not produced under the following conditions: entering a feature access code, dialing an invalid number, or hanging up before the called party answers. An agent extension number is always the prime line of the ACD set that originated the call.</p>

Table 28: ACD information provided by Agent event tab (continued)

AGENT EVENTS	DESCRIPTION
Agent Idle	<p>If Work Timer is in effect, the Agent Idle record is produced when the Work Timer expires or when it is cancelled. If the agent enters Make Busy while Work Timer is in effect, an Agent Idle record is produced followed immediately by a set Make Busy record. A record is not produced to show the end of the call or the start of the Work Timer. This entire period is treated as part of the time to process the call.</p> <p>If Work Timer is not in effect, the Agent Idle record is produced at the end of a call, not when the agent hangs up. For example, if the agent presses the HANG-UP softkey and remains off hook for 5 seconds, the record is produced when the HANG-UP is pressed, not when the agent actually goes on hook. The extension number is always the prime line of the ACD set that is now idle.</p>
Agent Work Timer Stat	This record is produced when an agent terminates an ACD call and the Work Timer is started for that agent. If the Work Timer cannot be started, an idle event record is produced instead.
Agent Remove Work Timer	This record is produced when the Work Timer expires for that agent.
Agent Hold Active	When an agent places a call on hold, a record is produced. If the agent places another call or answers a call on a second line, the second call will be recorded independently of the first.
Agent Hold Retrieve	When the held call is retrieved, a record is produced, indicating that the agent is now busy on that line.
Agent Hold Abandon	When the held call is abandoned, a record is produced for that line.
Agent Answer Remote ACD	When an agent answers a remote ACD call, a record is produced. When you have networked ACD (more than one telephone system networked together), local calls are calls routed through the same telephone system that the agent's extension is located, remote calls are calls routed through the other telephone system.
Agent Ringing ACD	This record is produced when the telephone rings with an ACD call.
Interactive Contact Center Queue Set DND Request	This record is produced when the agent set the queue in DND.
Interactive Contact Center Queue Set DND	A record is produced when the supervisor puts a queue in DND and when the Contact Center Management system puts a queue in DND. In YourSite Explorer=>Queues=>Business Hours tab, you set the hours of operation for the business. The Contact Center Management system reads these hours of operation and will put this queue in DND during off hours.

Table 28: ACD information provided by Agent event tab (continued)

AGENT EVENTS	DESCRIPTION
Interactive Contact Center Queue Remove DND Request	This record is produced when the agent removed the queue from DND.
Interactive Contact Center Queue Remove DND	A record is produced when the supervisor removes the queue from DND and when the Contact Center Management system removes the queue from DND. In YourSite Explorer=>Queues=>Business Hours tab, you set the hours of operation for the business. The Contact Center Management system reads these hours of operation and will remove this queue from DND during business hours.
Interactive Contact Center Agent Login Request	This record is produced when the agent logged on.
Interactive Contact Center Agent Login	This record is produced when the supervisor logged on the agent.
Interactive Contact Center Agent Logout Request	This record is produced when the agent logged off.
Interactive Contact Center Agent Logout	This record is produced when the supervisor logged off the agent.
Interactive Contact Center Set MKB with Reason Code Request	This record is produced when the agent sets himself as Make Busy.
Interactive Contact Center Set MKB with Reason Code	This record is produced when the supervisor sets the agent in Make Busy.
Interactive Contact Center Remove MKB Request	This record is produced when the agent sets himself in Make Busy.
Interactive Contact Center Remove MKB	This record is produced when the supervisor removes the agent from Make Busy.
Interactive Contact Center Set DND Request	This record is produced when the agent sets himself as DND.

Table 28: ACD information provided by Agent event tab (continued)

AGENT EVENTS	DESCRIPTION
Interactive Contact Center Remove DND	This record is produced when the supervisor removes the agent from DND.
Interactive Contact Center Sync Queue	This record is produced when Interactive Contact Center queues are synchronized to match the telephone system queues. In YourSite=>Configuration=>Queue, under Interactive Contact Center options, you can select this queue to be synchronized with the telephone system data each night. That means that the information in Contact Center Management will be changed to reflect what is programed on the telephone system.
Interactive Contact Center Sync Agent Group	This record is produced when Interactive Contact Center agent groups are synchronized to match the telephone system queues.
Interactive Contact Center Sync Agent	This record is produced when Interactive Contact Center agents are synchronized to match the telephone system queues.
Interactive Contact Center Sync Started	This record is produced when the synchronization between the Contact Center Management database and the telephone system is started.
Interactive Contact Center Sync Finished	This record is produced when the synchronization between the Contact Center Management database and the telephone system is finished.

Queue events criteria for searches

When performing a queue events search, you can search on the following criteria:

- Agent group statistics
- Queue statistics
- Date

The Queue events tab has the following search criteria:

Queue information

The Queue information box specifies the ACD queue or agent group used in the search. When you type an ACD queue or agent group number, the search results contain records specific to that ACD queue or agent group.

Queue event

When you select all three queue event check boxes (Agent Group statistics, Queue statistics, Date), the search results contain records for all of the agent groups and queues, and all of the telephone system refresh cycles. The telephone system performs a re-synchronization and generates a refresh record every time it notices the date or hour has changed (once an hour).

Agent information

The Agent information boxes specify the range of values for the Agents Available statistic used in the search. For example, if you select a range of 5 to 10, the search results contain records for all of the calls during periods when 5 to 10 agents were logged on to the ACD, but not in Make Busy or Do Not Disturb.

Calls waiting/Longest waiting settings

The Calls waiting settings and Longest waiting settings boxes specify ranges of values for the Calls waiting and Longest waiting statistics. For example, selecting a range from 10 to 999 in the Calls waiting box produces all of the records for calls received during periods when more than 10 callers waited in queue.

The Queue events tab displays the queue event criteria used in the search. (See Figure 74.)

The screenshot displays the 'Queue Events' tab in the ACD Inspector application. The interface is organized into several sections:

- Select Dates:** Contains a 'Select Dates' button, a 'Delete Dates' button, and a table with two columns: 'Date' and an empty column. The 'Date' column contains the values '3/4/2004' and '3/1/2004'.
- Select Media Servers:** Contains a table with two columns: 'Media Server' and an empty column. The 'Media Server' column has a checked checkbox next to the value 'Phone'.
- Queue Information:** Contains a label 'ACD Queue or Agent Group:' followed by a text box containing 'p280'.
- Queue Event:** Contains a table with two columns: 'Queue Event' and an empty column. The 'Queue Event' column has three rows: 'Agent Group Stats' (unchecked), 'Queue Stats' (checked), and 'Date' (unchecked).
- Agent Information:** Contains a label 'Agents Available:' followed by two spinners. The first spinner is set to '0' and the second is set to '2', with a right-pointing arrow between them.
- Call Waiting Settings:** Contains two sections:
 - Local Calls Waiting:** Two spinners set to '0' and '999' with a right-pointing arrow between them.
 - Remote Calls Waiting:** Two spinners set to '0' and '0' with a right-pointing arrow between them.
- Longest Waiting Settings:** Contains two sections:
 - Local Longest Waiting:** Two time spinners set to '00:01:00' and '00:03:00' with a right-pointing arrow between them.
 - Remote Longest Waiting:** Two time spinners set to '00:00:00' and '00:00:00' with a right-pointing arrow between them.

At the bottom of the form, there are three tabs: 'Agent Events', 'Queue Events' (which is selected), and 'Options'. Below the tabs are three buttons: 'Reset Criteria', 'Stop Search', and 'Start Search'. At the very bottom, there are two buttons: 'ACD Inspector Criteria' and 'ACD Inspector Results'.

Figure 74: ACD search criteria - Queue events tab

Option events criteria for searches

The Option events tab displays the telephone system refresh records, error, and information criteria used in the search. (See Figure 75.)

The Option events tab has the following search criteria:

Time ranges

The Time ranges boxes specify the time interval used for the search. The time interval applies to searches on agent and queue events.

Exception records

Collector Service tags telephone system records that contain errors with an E (telephone system 1) or e (telephone system 2). Under Exception records, you select the Error records check box to include these records in the search output.

Collector Service writes a log record to the data stream upon start up. It tags the log record with an I to indicate it is an information record. You select the Information records check box to include log records in the search output. ACD Inspector displays the error and information search result records on the Exception records tab.

In contact centers that have two telephone systems, Collector Service tags records from the second telephone system with an S. The Com ports used by your telephone systems are specified in YourSite Explorer under Media Servers=>Data collection.

Output record count

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

Select Dates

Select Dates

Delete Dates

Date
3/1/2004
3/2/2004
3/3/2004
3/5/2004
3/6/2004
3/7/2004
3/8/2004

Select Media Servers

Media Server
<input checked="" type="checkbox"/> Phone

Time Ranges

Start At: 00:00:00 End At: 23:59:59

Exception Records

☒ Error Records ☒ Information Records

Output Record Count

Maximum Output Rows To Display: 10000

Agent Events Queue Events Options

[How Do I Search?](#)

Reset Criteria Stop Search Start Search

ACD Inspector Criteria ACD Inspector Results

Figure 75: ACD search criteria - Option events tab

RUNNING AGENT EVENTS SEARCHES

NOTE: When you run a search on Agent Answer ACD, type the Agent ID but do not type the agent's extension. Once answered, an ACD call is not pegged as an extension but is pegged as ACD. You will get no data if you type the agent's extension.

You can run an Agent events search to find all of the records of when agent 2005 was on ACD and used Set Make Busy.

To run an Agent events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click **Select dates** and select March 3, 2003 to March 5, 2003.
3. Under **Select media servers**, **Phone** is preselected.
4. **NOTE:**
5. When you run a search on Agent answer ACD, type the Agent ID but do not type the agent's extension. Once answered, an ACD call is not pegged as an extension but is pegged as ACD. You will get no data if you type the agent's extension.

6. You can find the Agent ID by selecting YourSite=>Configuration=>Agent login=>Agent login. The Agent ID is located under the Agent login ID heading. Ensure you select the Agent ID associated with the Phone media server.
7. Under **Agent information**, type the Agent ID, 2005.
8. Under **Agent events**, if you are not selecting all events, clear **Select all**.
9. Select the **Agent event(s)** you want to search on, in this case, **Agent answer ACD**, **Set Make Busy**, and **Remove Make Busy**.
10. You can leave the **ACD queue** blank.
11. Click **Start search**.
12. The ACD Inspector results - Agent events tab opens.

Agent events search results

This section describes the records produced when you run searches in ACD Inspector. Table 29 describes the ACD information provided by the Agent events tab. The Agent events tab displays the ACD activity and the Make Busy activity for agent 2005. (See Figure 76.)

Media Se...	Function/Event	Date	Time	Ext...	Age...	Line	Idle Event Mo...
Phone	Agent Answer ACD	3/4/2004	13:58:02	P280	2005	0	
Phone	Agent Set Makebusy	3/5/2004	12:55:59	1106	2005	0	
Phone	Agent Set Makebusy	3/5/2004	12:56:00	1106	2005	3	
Phone	Agent Remove Ma...	3/5/2004	13:19:26	1106	2005	0	
Phone	Agent Answer ACD	3/5/2004	15:17:58	P280	2005	0	

Agent Events
Queue Events
Date Events
Exception Events

Search Complete
Bad Records
Filtered Records 47

ACD Inspector Criteria
ACD Inspector Results

Figure 76: ACD search results - Agent events tab

Table 29: Agent events result information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the telephone system (with or without MiTAI) that produced the event record.
Function/Event	The Function/Event box displays the criteria for which you searched - in this case Agent answer ACD, Agent set Make Busy, Agent remove Make Busy.
Date	The Date box displays the date of the event record (month/day/year).
Time	The Time box displays the time the event occurred.
Extension Queue ID	The Extension Queue ID displays the Extension or ACD queue used for the call. The Extension Agent ID column contains the extensions when a search involves the extension (such as Make Busy). It contains Queue IDs when no extension information is requested (such as Agent Answer ACD).
Agent ID	The Agent ID box displays the agent number for the agent involved in the call.
Line	The Line number box displays the telephone line the agent used to pick up or originate the call.
Idle Event Modifier	The Idle Event Modifier box indicates when the agent is idle.

Narrowing an Agent events search

You can use the Options tab in conjunction with the Agent events search or the Queue events search. Using the Options tab, you narrow down the time frame for either search.

You can run an Agent events search to find all of the records for a specific agent who was on ACD and when that agent used Set Make Busy. Then you narrow the search with the Options tab to search between 9:00 A.M. and 11:00 A.M. only. The ACD Inspector results on the Agent events tab display the ACD activity and the Make Busy activity for agent 2005 between 9:00 A.M. and 11:00 A.M. (See Figure 77.)

To run an Agent events/Options events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click **Select dates** and select March 3, 2007 to March 5, 2007.
3. Under **Select media servers**, **Phone** is preselected.
NOTE:
 - When you run a search on Agent answer ACD, type the Agent ID but do not type the agent's extension. Once answered, an ACD call is not pegged as an extension but is pegged as ACD. You will get no data if you type the agent's extension.
 - You can find the Agent ID by selecting YourSite=>Configuration=>Agent login=>Agent login. The Agent ID is located under the Agent login ID heading. Ensure you select the Agent ID associated with the Phone media server.
4. Under **Agent information**, type the Agent ID, 2005.
5. Under **Agent events**, if you will are not selecting all events, clear **Select all**.
6. Select the **Agent event(s)** you want to search on, in this case, **Agent answer ACD**, **Set Make Busy**, and **Remove Make Busy**.
You can leave the ACD queue blank.
7. Click the **Option** tab.
8. Under **Time ranges**, select the **Start at** and **End at** times with which to narrow the Agent events search.
In this example, the start time is 9:00 A.M. and the end time is 11:00 A.M.
9. Click **Start search**.
The ACD Inspector results - Agent events tab opens.

Media Se...	Function/Event	Date	Time	Extension Queue...	Agent ID	L	Idle Event Mo
Phone	Agent Answer ACD	3/3/2004	10:40:23	P280	2005	0	
Phone	Agent Answer ACD	3/3/2004	10:56:55	P280	2005	0	
Phone	Agent Answer ACD	3/4/2004	10:08:58	P280	2005	0	
Phone	Agent Answer ACD	3/5/2004	10:11:35	P280	2005	0	

Agent Events

Queue Events

Date Events

Exception Events

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

ACD Inspector Criteria
ACD Inspector Results

Figure 77: ACD search results - Agent events tab

RUNNING QUEUE EVENTS SEARCHES

You can run a Queue events search to determine when you had too few agents available to answer calls for a particular queue. You search for a maximum of two agents and local calls that waited between one and three minutes.

To run a Queue events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click the **Queue events** tab.
3. Click **Select dates** and select March 1, 2003 and March 4, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Queue information**, type the ACD Queue, p280.
6. Under **Queue event**, select **Queue stats**.
7. Under **Agent information**, type 0-2 agents.
In this example, you want to know when you have only two agents scheduled to answer the queue.
8. Under **Calls waiting setting**, select 0-999 Local calls waiting.
In this example, you want to know the number of calls waiting on the telephone system to which your agent is connected. If you have only one telephone system, you do not have any remote calls waiting.

9. Under **Longest waiting settings**, select 1-3 minutes.
In this example, you want to know the number of local calls that waited between 1-3 minutes. You think waiting up to a minute is acceptable, so you did not search for calls less than a minute. If you have only one telephone system, you do not search for the remote longest waiting.
10. Click **Start search**.
The ACD Inspector results - Agent events tab opens.
11. Click the **Queue events** tab.

Queue events search results

The Queue events tab displays the number of calls that waited between one and three minutes (one call), when there were a maximum of two agents available, for the dates selected, for queue 280. (See Figure 78.)

Media...	Function / Event	Date	Time	Queue/...	Agents...	CW	LW	R	R
Phone	Queue Stats	3/1/2004	11:25:52	P280	2	1	60	0	0
Phone	Queue Stats	3/1/2004	11:41:40	P280	1	1	60	0	0
Phone	Queue Stats	3/4/2004	10:47:38	P280	2	1	60	0	0

Agent Events

Queue Events

Date Events

Exception Events

Control Load Time - 0 - min - 9 - sec

Bad Records

Filtered Records 3

Save Search

Stop Search

ACD Inspector Criteria

ACD Inspector Results

Figure 78: ACD search results - Queue events tab

Table 30 describes the ACD information provided by the Queue events tab.

Table 30: Queue events result information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the telephone system (with or without MiTAI) application that produced the event record.
Function/Event	The Function/Event box indicates whether the event record is for a queue or an agent group.
Date	The Date box displays the date of the event record (month/day/year).
Time	The Time box displays the time the event occurred (in seconds).
Queue/Agent group	The Queue/Agent group box displays the queue or agent group number.
Agents available	The Agents available box displays the current number of agents logged on to the ACD system, who are not in Make Busy or Do Not Disturb.
CW (Number of local calls waiting)	The CW box displays the number of local callers waiting for an available agent.
LW (Longest local call waiting)	The LW box displays the wait time for the caller waiting the longest in queue for an available agent.
Rem CW (Number of remote calls waiting)	When you have networked ACD (more than one telephone system networked together), the Rem CW box displays the number of remote callers waiting for an available agent.
Rem LW (Longest remote call waiting)	When you have networked ACD (more than one telephone system networked together), the Rem LW box displays the wait time for the caller waiting the longest in a remote queue for an available agent.

Narrowing a Queue events search

You use the Options tab in conjunction with the Agent events search or the Queue events search. Using the Options tab, you can narrow down the time frame for either search.

You can run a Queue events search to find when you have too few agents available to answer calls for a particular queue. You search for a maximum of two agents and local calls that waited between one and three minutes. Then you narrow the search with the Options tab to search between 9:00 A.M. and 11:00 A.M. only.

To run a Queue events/Options events search

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click the **Queue events** tab.
3. Click **Select dates** and select March 1, 2003 to March 4, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Queue information**, type the ACD Queue, p280.

6. Under **Queue event**, select **Queue stats**.
7. Under **Agent information**, type 0-2 agents.
In this example, you want to know when you have only two agents scheduled to answer the queue.
8. Under **Calls waiting setting**, select 0-999 Local calls waiting.
9. In this example, you want to know the number of calls waiting on the telephone system to which your agent is connected. If you have only one telephone system, you do not have any remote calls waiting.
10. Under **Longest waiting settings**, select 1-3 minutes.
11. In this example, you want to know the number of local calls that waited between 1-3 minutes. You think waiting up to a minute is acceptable, so you did not search for calls less than a minute. If you have only one telephone system, you do not search for the remote longest waiting.
12. Click the **Option** tab.
13. Under **Time ranges**, select the **Start at** and **End at** times with which to narrow the Agent events search.
14. In this example, the start time is 9:00 A.M. and the end time is 11:00 A.M.
15. Click **Start search**.
16. The ACD Inspector results - Agent events tab opens.
17. Click the **Queue events** tab.

The Queue events tab displays the number of calls that waited between one and three minutes, when there were a maximum of two agents available, for the dates selected, between 9:00 A.M. and 11:00 A.M. for queue 280. There was only one call that waited between one and three minutes in the selected time frame and queue. (See Figure 79.)

Med...	Function / Event	Date	Time	Queue/Agent Group	A	CW	L	R	Rem LW
Phone	Queue Stats	3/4/2004	10:47:38	P280	2	1	60	0	

Agent Events
Queue Events
Date Events
Exception Events

Control Load Time - 0 - min - 9 - sec
Bad Records
Filtered Records 1

ACD Inspector Criteria
ACD Inspector Results

Figure 79: ACD search results - Queue events tab

RUNNING WILD CARD QUEUE EVENTS SEARCHES

When performing searches on the Queue Events tab, you can enter a *P800* under Queue information and the search will produce records involving Queue 800 only. Alternatively, you can run wild card searches. When you perform wild card searches, you use *** to represent the wild card. For example, if you enter *'*00'* under Queue information on the Queue events tab, the search will produce records for all of the Queues or Agent groups that end in '00' (for example, 200, 300).

To run a wild card Queue events search, where all of the queues end in '00'.

1. In Contact Center Client, click **Tools=>Inspectors=>ACD Inspector**.
The **Agent events** tab of the **ACD Inspector criteria** tab opens.
2. Click the **Queue events** tab.
3. Click **Select dates** and select February 9, 2003 and February 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Queue information**, type ***00**.
6. In this example, you are searching for all of the queues that end in '00'.
7. Under **Queue event**, select **Queue stats**.
8. Under **Agent information**, type 0-2 agents.
9. In this example, you want to know when you have only two agents scheduled to answer the queue.
10. Under **Calls waiting setting**, select 0-999 Local calls waiting.

11. In this example, you want to know the number of calls waiting on the telephone system to which your agent is connected. If you have only one telephone system, you do not have any remote calls waiting.
12. Under **Longest waiting settings**, select 1-3 minutes.
13. In this example, you want to know the number of local calls that waited between 1-3 minutes. You think waiting up to a minute is acceptable, so you did not search for calls less than a minute. If you have only one telephone system, you do not search for the remote longest waiting.
14. Click **Start search**.
The ACD Inspector results - Agent events tab opens.
15. Click the **Queue events** tab.
See Figure 80.

Media...	Func...	Date	Time	Queu...	Agent...	CW	LW	I	R...
Phone	Queue Stats	2/9/2004	16:07:44	P800		0	0	0	0
Phone	Queue Stats	2/9/2004	17:07:44	P300		2	0	0	0
Phone	Queue Stats	2/9/2004	17:07:45	P800		0	0	0	0
Phone	Queue Stats	2/9/2004	18:07:44	P300		2	0	0	0
Phone	Queue Stats	2/9/2004	18:07:45	P800		0	0	0	0
Phone	Queue Stats	2/9/2004	19:07:44	P300		2	0	0	0
Phone	Queue Stats	2/9/2004	19:07:45	P800		0	0	0	0
Phone	Queue Stats	2/9/2004	20:07:44	P300		2	0	0	0
Phone	Queue Stats	2/9/2004	20:07:45	P800		0	0	0	0
Phone	Queue Stats	2/9/2004	21:07:45	P300		2	0	0	0
Phone	Queue Stats	2/9/2004	21:07:46	P800		0	0	0	0
Phone	Queue Stats	2/9/2004	22:07:45	P300		2	0	0	0
Phone	Queue Stats	2/9/2004	22:07:46	P800		0	0	0	0
Phone	Queue Stats	2/9/2004	23:07:46	P300		2	0	0	0
Phone	Queue Stats	2/9/2004	23:07:47	P800		0	0	0	0
Phone	Queue Stats	2/10/2004	00:07:46	P300		2	0	0	0
Phone	Queue Stats	2/10/2004	00:07:47	P800		0	0	0	0
Phone	Queue Stats	2/10/2004	01:07:46	P300		2	0	0	0
Phone	Queue Stats	2/10/2004	01:07:47	P800		0	0	0	0
Phone	Queue Stats	2/10/2004	02:07:46	P300		2	0	0	0
Phone	Queue Stats	2/10/2004	02:07:47	P800		0	0	0	0
Phone	Queue Stats	2/10/2004	03:07:47	P300		2	0	0	0

Agent Events
Queue Events
Date Events
Exception Events

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

ACD Inspector Criteria
ACD Inspector Results

Figure 80: ACD Wild card search results - Queue events tab

Wild card queue events search results

The Queue events tab displays the Queue statistics when there were a maximum of two agents available, for the dates selected, for all of the queues that end in '00'. The Queue statistic in this case are the records of the telephone system performing re-synchronization. A refresh record is produced every time the system notices the date or hour has changed (once an hour).

RUNNING SEARCHES FOR ERROR AND INFORMATION RECORDS

Using the Options tab, you can run a search for error and information records. The error messages are records of sequence errors. The information records are records of when the Collector restarts.

To run an exception events search

1. Click the **ACD Inspector criteria** tab.
2. Click the **Options** tab.
3. Click **Select dates** and select a date.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Time ranges**, type the Start at and End at times.
6. Under **Exception records** ensure the **Error records** and/or **Information records** check boxes are selected.
7. Under **Output record count**, select the maximum number of records you want to display.
8. Click **Start search**.
The ACD Inspector results - Agent events tab opens.
9. Click the **Exception events** tab.

Exception events search results

Table 31 describes the ACD information provided by the Exception events tab.

Table 31: Exception event result information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the telephone system (with or without MiTAI) application that produced the event record.
Record	The Function/Event box displays refresh records. The refresh event signifies the start of a new cycle of group and queue statistics.

SMDR INSPECTOR

SMDR Inspector searches through SMDR data to find specific contact center events. For example, suppose you receive a complaint from a caller who waited 16 minutes in queue for a customer service agent, sometime between 1:00 P.M. and 1:30 P.M. sometime last week. In a single session, you can search through data from multiple days to find a specific event. The search follows a wild card format. Your specifications do not have to be exact. You can make the search as inclusive or exclusive as you wish. The results are placed in an easy-to-interpret grid that can be printed or saved to file. You can verify that your reports are valid by conducting searches against raw telephone system data.

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

- Queue P001
- Calls the telephone system sent to agent group 23
- The queue for which agent 8000 answered calls
- Outbound calls made by agent 2311 (internal and external)
- Where Account Codes were entered
- DNIS that start with 89
- Calls transferred to trunks

The search result tabs consist of the following:

- SMDR search results
- Exception results

STARTING SMDR INSPECTOR

To start SMDR Inspector on the client computer

1. Click **Tools** in the Contact Center Client ribbon.
2. In the **Data Mining** column, click **Inspectors** to open the Data Inspectors tool.

RUNNING SEARCHES IN SMDR INSPECTOR

When you run a search, SMDR Inspector searches through the raw telephone system data on the local hard drive. Each search requires the following information:

Select dates/Delete dates

The Select dates button specifies the date range within which you want to search. The Delete dates button deletes days within the range you selected. The date is displayed month first, then day, then year.

Select media servers

The Select media servers check boxes specify the origin of the data used in the search. Currently you can search on telephone activity only. In the future, you will be able to search on email and chat activity.

In addition to the date and media server parameters, SMDR Inspector has the following search criteria tabs:

- Call parties
- Call types
- Options

Call parties criteria for searches

The Call parties criteria helps you to find call events such as, what calls an agent received (Called party), what calls an agent made (Calling party), or what extension the call was transferred to (Third party). (See Figure 81.)

The Call parties tab search options are as follows.

Digits dialed

The Digits dialed box specifies the queue number of the queue that picks up the call (for inbound calls).

The ANI digits box specifies the area code and telephone number for an inbound call. The search results contain records that match the data the user typed in the ANI field.

The DNIS digits box specifies the phone number the caller dialed. The DNIS could be product specific, or it could specify demographic variables or marketing targets.

The Account Code box specifies the Account Code number used in the search. Agents enter Account Code numbers to tag inbound and outbound calls.

Outbound calls

The Outbound calls box specifies telephone number the agent dials (for outbound calls).

Call parties

The Calling party box specifies the extension or agent number (for an outbound call), or the trunk number (for an inbound call) used in the search.

The Called party box specifies the answering extension or the trunk number (for an outbound call) used in the search.

The Third party box searches for call records on the extension number used in a transfer.

Call identification

The Call identification box specifies the Mitel call IDs assigned to a call segment.

The Sequence ID box specifies the sequence number assigned to the call record by the telephone system.

The Associated ID box specifies the number attached to associated data records of the call assigned by the telephone system.

Select Dates

Select Dates:

Date: 3/10/2004

Select Media Servers

Media Server: ☒ Phone

Digits Dialed

Digits Dialed:

ANI Digits:

DNIS Digits:

Account Codes:

Outbound Calls

Final Destination Digits:

Call Parties

Calling Party:

Called Party: 2005

Third Party:

Call Identification

Call ID:

Sequence ID:

Associated ID:

Options **Call Parties** Call Types

[How Do I Search?](#)

SMDR Inspector Criteria SMDR Inspector Results

Figure 81: SMDR search criteria - Call parties tab

Call types criteria for searches

The Call types tab displays the types of calls the agent receives, for example, ACD or non-ACD, abandoned, interflowed, requeued, unavailable, or outbound calls. (See Figure 82.)

The Call types tab search options are as follows.

Call types

The *Call types* check boxes specify one or more categories of calls used in the search. The telephone system generates an Unavailable (Queue unavailable calls) event record when a caller dials a queue and the queue is not available (in DND) or there are no agents logged on to handle the call.

Answer supervision

The *Answer supervision* check box searches for instances where calls were answered by the called party. If you have answer supervision and you make an outbound call but the called party does not answer (you hang up) then an SMDR record is generated with no duration. If you do not have answer supervision then no SMDR record is generated at all.

Busy call

The *Busy call* check box searches for call records on queues or extensions the caller dials but finds busy.

Error by caller

The *Error by caller* check box searches for call records on numbers the caller dials that are not recognized by the telephone system.

TAFAS answered

The *TAFAS Answered* check box searches for call records that involve calls manually picked up by agents at alternate extensions. In a TAFAS answered call, an employee hears another employee's phone ring and dials a number to pick up the call.

Internal call

The *Internal call* check box searches for call records on calls between employees that do not involve trunks.

Blank

The *Blank* check box searches for call records that have no data in the Call completion box. That is, when the check box is selected, the search output contains records where there is nothing recorded in the Call completion box.

Attendant involved

The *Attendant involved* options specify whether or not call records for calls involving an automated attendant are used in the search.

Transfer/Conference

The *Transfer/Conference* check box searches for records on transferred or conferenced calls.

Speed call/Forward

The *Speed call/Forward* check boxes search for call records involving a speed dial and/or conference function. When the Blank check box is selected, the search output contains records where there is nothing recorded in the Speed or Fwd check boxes.

System ID

The *System ID* check box searches for call records that pertain to a specific telephone system. In a multi-site enterprise, you program each telephone system with a 3-digit system ID number. You can distinguish records by their system ID number. The telephone system appends it to all of the SMDR records.

Select Dates

Select Dates:

Delete Dates

Select Media Servers

Media Server

☒ Phone

Digits Dialed

Digits Dialed:

ANI Digits:

DNIS Digits:

Account Codes:

Outbound Calls

Final Destination Digits:

Call Parties

Calling Party:

Called Party:

Third Party:

Call Identification

Call ID:

Sequence ID:

Associated ID:

Options **Call Parties** Call Types

[How Do I Search?](#)

SMDR Inspector Criteria SMDR Inspector Results

Figure 82: SMDR search criteria - Call types tab

Options criteria for searches

When you click Tools=>Inspectors=>SMDR Inspector, the Options tab opens. The Option criteria work in conjunction with the Call parties criteria and the Call types criteria to narrow down the search. (See Figure 83.)

The Options tab search options are as follows.

Time ranges

The Time ranges boxes specify the time interval used for the search.

Call duration

The Call duration boxes specify a range of values for the Call duration statistic used in the search.

Time to answer

The Time to answer boxes specify a range of values for the Time to answer statistic used in the search. For example, if you select a time to answer of 240 to 999 seconds, the search records include calls that were answered by an agent after waiting at least 240 seconds to be answered.

Exception records

The Collector Service tags telephone system records that contain errors with an *E* (telephone system 1) or *e* (telephone system 2). You select the Error records check box to include these records in the search output.

The Collector Service writes a log record to the data stream upon start up. It tags the log record with an *I* to indicate it is an information record. You select the Information records check box to include log records in the search output. ACD Inspector displays the error and information search result records on the Exception Records tab.

In contact centers that have two telephone systems, the Collector Service tags records from the second telephone system with an *S*. You specify the Com ports used by your telephone systems on the Data collection tab in YourSite Configuration.

Output record count

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

Figure 83: SMDR search criteria - Options tab

SMDR search results information

The SMDR Search results tab shows the search results for Call parties, Call types, and Options searches. Table 32 describes the SMDR information provided by the SMDR Search results tab.

Table 32: SMDR search results information

COLUMN HEADING	DESCRIPTION
Media server	The Media server box identifies the telephone system (with or without MiTAI) that produced the event record.
Start time	The Start time of a call is reported in hours and minutes in either a 12- or 24-hour format. If a 12-hour clock is used, the letter <i>P</i> indicates P.M. (hh:mmP)
Date	The Date box displays the date of the event record (month/day/year).

Table 32: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
Total duration	The duration of a call is reported in hours, minutes and seconds (hh:mm:ss). Leading zeros are output (Maximum time = 99 hours, 59 minutes, 59 seconds). If the call duration exceeds 100 hours, a call duration of 99 hours, 99 minutes, 99 seconds will be recorded.
Calling party	<p>The Calling party is the identity of the party that/who originated the call. It may be a station, an attendant, or an incoming trunk, as described below:</p> <p>(a) Station number as Calling party (cccc). A station number (extension number or agent ID) may be one to four digits (0-9, *, #) which are left-justified (that is, no leading zeros).</p> <p>(b) Attendant as Calling party (ATTm). Calls originated by an attendant that do not involve a third party are reported as a calling party by ATT, followed by the console number. When the console number is in the range of 10 through 99, the format is modified to be ATmm. If an attendant calls an outside party on behalf of a station or trunk, that station or trunk is reported as the caller but the attendant flag symbol [*] is shown in the Attendant was Involved box.</p> <p>(c) Trunk number as Calling party (Tnnn or Xnnn). When the originating party is an incoming CO trunk, Tnnn is shown on the record, where nnn is the number of the trunk. If the trunk number is less than three digits long, it is left-padded with zeros. If the extended digit length option is enabled, the trunk number nnnn may be up to four digits long, left-justified and without leading zeros. When the originating party is an incoming non-CO trunk, Xnnn is shown in the trunks record. The T or X ensures that CO trunks and CO Attendant trunks can be distinguished from tie trunks. The trunk number is the trunk ID specified during customer data entry in the Trunk Assignment form.</p>
Attendant flag	This 1-digit box contains an asterisk [*] when a call is assisted by, or initially answered by, an attendant. This flag will not be shown if a call is transferred to an attendant.
Time to answer (Time to Ans)	<p>This is the number of seconds from the time an incoming external call rings the destination until the call is answered. If a call is never answered, this box displays three asterisk [***]. Leading zeros are output and the box remains at 999 when an overflow is reached. If the Call Distribution (MCD) feature package is installed, and the MCD report transfers option is enabled, this box contains the total time to answer regardless of the number of times the call is rerouted. This box does not apply to Internal SMDR.</p> <p>NOTE: Time to answer does not include the duration the request waits in queue outside of regular business hours.</p>

Table 32: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
Digits dialed	External SMDR
	External SMDR records the digits dialed on the outgoing trunk. A maximum of 26 digits is recorded. This number is reduced to 20 when the Report Meter Pulses option is selected in CDE. This box does not include the trunk group access code on outgoing calls. The digits recorded are the actual digits outpulsed on the trunk after digit modification has been performed. On incoming calls, the digits dialed in on the trunk are recorded. The digits dialed field contains the digits the telephone system used to route the call. For an incoming call this could be the extension or the path to which the call is being routed. For outgoing calls this is the number the caller dialed. When more than 26/20 digits are dialed, the remaining digits are ignored.
	If the MCD option is enabled, each device is listed whenever the call is rerouted, rather than the last device as in non-MCD loads. To reflect the MCD option, the Digits dialed on the Trunk box displays dd1 ddd2 ddd3.
	Internal SMDR
	Internal SMDR records the digits dialed on an internal line. Up to 26 digits are recorded.

Table 32: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
Call completion flag	External SMDR (Outgoing calls)
	This reports the completion status of an outgoing call in so far as the telephone system is able to determine it. When an outgoing call fails toll-deney checking and is dropped, this box contains a <i>T</i> . When the trunk group is programmed to receive <i>Answer Supervision</i> and a supervision is received, an <i>A</i> is reported. When the trunk group is programmed for <i>Toll Reversal</i> and a supervision is received, a <i>T</i> is reported.
	External SMDR (Incoming calls)
	The telephone system can monitor the outcome of a call and can provide a comprehensive report on call completion. When the station or hunt group to which a call is directed is busy, a <i>B</i> is recorded. When an incoming trunk accesses an invalid number and receives reorder tone, an <i>E</i> is reported. An <i>E</i> is also reported for incomplete calls. A <i>T</i> is reported if the incoming trunk is answered with Trunk Answer From Any Station (TAFAS) and if an outgoing trunk call is toll denied, or if the call is Pickup answered.
	When an incoming call is forwarded by an attendant to a busy station, a <i>B</i> is shown in the call completion status box, the number called is shown as the third party, and the Attendant is shown as the called party.
	Internal SMDR
	An <i>I</i> indicates that an internal call was completed.
	Speed Call or Call forward flags (S or F)
	This box contains an <i>S</i> when the number is speed dialed, and an <i>F</i> when an external call is forwarded through the external call forward feature.
Speed call forward	If Internal SMDR is enabled, an <i>F</i> is also recorded when an internal call is forwarded through the call forward feature. However, for internal calls the Third Party box does not contain the number of the station that initiated the call forward feature. The Third Party box is left blank because the Digit dialed box identifies the station that has call forward enabled.
	The Speed call/Forward check boxes search for call records involving a speed dial and/or conference function. When the Blank check box is selected, the search output contains records where there is nothing recorded in the Speed or Fwd check boxes.

Table 32: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
Called party	A Called party can be a station number, an attendant, or for outgoing calls, the outgoing trunk number. The Called party output format is identical to that used for the Calling party. See <i>Calling party</i> . For incoming calls to an attendant, the called party is recorded as the attendant unless the attendant transfers a call to a station. For direct-in-lines, it would be the station number. On outgoing calls handled by an attendant, the called party would be the outgoing trunk's ID.
Transfer/Conference call (Trans Conf)	This box identifies calls involving three or more parties. It contains a <i>T</i> for supervised transfers, <i>X</i> for unsupervised transfers (that is, transfer in to busy reports a <i>T</i> , transfer in to ringing reports an <i>X</i>), and a <i>C</i> for 3-way conversations or conferences.
Third party	<p>The Third party box contains the number of the station to which a trunk call has been transferred. When several transfers take place during a trunk call, the first party is the only one reported, as long as MCD Report transfers = <i>No</i>, and Record transfers = <i>No</i>.</p> <p>If an external call is made to a station whose call forwarding is set to an external number, the Third party box contains the number of the station that initiated the call forward feature. For internal calls, the Third Party box is left blank because the Digit dialed box identifies the station that has external call forward enabled.</p>
Account Code	Enabling the report Account Codes option in the SMDR Options Assignment form allows an Account Code of two to 12 digits to be recorded here, if one is used to make a call. Leading zeros are reported if they are entered.
Route optimization flag	At the starting and end nodes of a network call a flag will be shown in this box if route optimization has taken place. A route optimized call involves two trunks to the same party: the pre-optimization trunk and the post-optimization trunk. An SMDR record will be produced for both trunks, which will be distinguished by a lower case <i>r</i> for the pre-optimization trunk, and an upper case <i>R</i> for the post-optimization trunk. Route optimization is available with the MSDN/DPNSS Voice IV feature package only.
ANI/DNIS	ANI/DNIS digits are recorded in this box. ANI and DNIS numbers can be up to 10 digits in length, and are recorded for incoming calls on ANI/DNIS trunks. COS option ANI/DNIS reporting must be enabled.

Table 32: SMDR search results information (continued)

COLUMN HEADING	DESCRIPTION
System identifier	This optional 3-digit box may contain values from 000 to 999. 000 indicates that no identifier has been entered. In the absence of a System identifier, a Node identifier is printed (when programmed). When more than one node identifier exists, the first one on the programmed list is printed. When both a System ID and a Node ID are programmed, the System ID takes precedence. Programming of System Identifiers and Node Identifiers is described in the Customer data entry volume.
Call ID	The Call ID box specifies the call number to which the record relates.
Call ID seq	The Sequence ID box specifies the sequence number assigned to the call record.
Assoc call ID	The Associated ID box specifies the number attached to associated data records of the call.
System ID	This optional 3-digit box may contain values from 000 to 999. 000 indicates that no identifier has been entered. In the absence of a System identifier, a Node identifier is printed (when programmed). When more than one node identifier exists, the first one on the programmed list is printed. When both a System ID and a Node ID are programmed, the System ID takes precedence. Programming of System Identifiers and Node Identifiers is described in the Customer data entry volume.
Record	See "SMDR record boxes" on page 370.

SMDR record boxes

This section describes the SMDR search output records available.

The telephone system records SMDR data in table format. Table 33 provides information used to interpret the SMDR Inspector search output. It summarizes the SMDR record boxes and provides the meaning of the symbols used.

Table 33: Summary of boxes in SMDR records

NAME	FORMAT	DEFINITION	NOTES
Date	mm/dd	mm = Month	mm = 01 - 12
		dd = Day	dd = 01 - 31
Start time	hh:mmp	hh = Hours	hh = 00 - 12 or 00 - 23
		mm = Minutes	mm = 00 - 59
		p = pm	p = P.M. (12-hour clock)

Table 33: Summary of boxes in SMDR records (continued)

NAME	FORMAT	DEFINITION	NOTES
Duration of call	hh:mm:ss	hh:mm:ss = duration in hours:minutes:seconds	hh = 00 - 99 mm = 00 - 99 ss = 00 - 99
	hhhh:mm:ss	hhhh:mm:ss = duration in hours:minutes: seconds	hhhh = 0000 - 9999 mm = 00 - 99 ss = 00 - 99
Calling party	pppp	cccc = Extension # Tnnn = Trunk # (CO) Xnnn = Trunk # (non-CO) ATTm = Attendant	c = 0 - 9, *, # nnn = 000 - 999 m = Console # (ATmm for Attendant 00 - 99)
	ppppppp	ccccccc = Extension # Tnnnn = Trunk # (CO) Xnnnn = Trunk # (non-CO) ATTmm = Attendant	c = 0 - 9, *, # nnnn = 0000 - 9999 mm = Console #
Attendant	f	* = Attendant -- = Attendant not involved	Attendant answered or initiated the call, then transferred it to an extension
Time to answer	ttt	ttt = time in seconds (000 - 999) *** = Call unanswered	Leading zeros output. Incoming calls only.
Digits dialed on the trunk	xx...x		x = 0 - 9, *, #
	x...x y...y or Tx...x y...y (Network Format)	Up to 26 (20 if metering) digits dialed on the trunk Network Format: up to 26 digits (20 if metering) in total	y = 0 - 9, *, # x...x = Node ID & Extension # (up to 14 digits) y...y = actual digits dialed Tx...x = Node ID & Trunk #

Table 33: Summary of boxes in SMDR records (continued)

NAME	FORMAT	DEFINITION	NOTES
Call completion status	h	A = Answer supervision	
		B = Called party busy	Outgoing
		E = Caller error	Incoming Direct/Dial-in
		I = Internal call	Incoming/Dial-in incoming
		T = Toll-denied, TAFAS answered, or Pickup answered	Incoming/Outgoing
Speed call or Call fwd flags	S or F	S = Number was Speed called	
		F = External call forwarded through External call fwd feature or internal call forwarded through Call forward feature	Outgoing
Called party	qqqq	cccc = Extension #	c = 0-9, *, #
		Tnnn = Trunk # (CO)	nnn = Range specified in telephone system form programming
		Xnnn = Trunk # (non-CO)	
		ATTm = Attendant	m = Console # (ATmm for Attendant 00 - 99)
	qqqqqqq	ccccccc = Extension #	c = 0-9, *, #
		Tnnnn = Trunk # (CO)	nnnn = 0000 - 9999
		Xnnnn = Trunk # (non-CO)	
		ATTmm = Attendant	mm = Console #
Transfer/Conference call	K	T = Supervised transfer	
		X = Unsupervised transfer	
		C = 3-Way or Conference	U and I only apply to ACD TELEMARKETER® 2000.
		R = re-queue call	
		U = Path unavailable	
		I = Interflow	
Third party	rrr	cccc = Extension #	c = 0-9, *, #
	rrrrrr	cccccccc = Extension #	c = 0-9, *, #
Account Code (opt.)	aa....a	Length of 2 to 12 digits	a = 0-9, space-filled

Table 33: Summary of boxes in SMDR records (continued)

NAME	FORMAT	DEFINITION	NOTES
Route optimization flag (opt.)	s	r = pre-optimization trunk R = post-optimization trunk - = Space (no route optimization)	
System identifier (optional)	iii	Entered by System ID	i = 0 - 9 iii = 000 - 999 000 = No code entered In the absence of a System ID, a Node ID is printed (if programmed). When both System ID and Node ID are programmed, System ID takes precedence.
ANI/DNIS	xx...xxxxxxx	Format -aaaaaaaaa-ddddddddd - = blank a = ANIS digit d = DNIS digit Extended digit length format -aaaaaaaaa-dddddd	For Extended digit length format only the 7 right most DNIS digits are recorded.

RUNNING CALL PARTIES SEARCHES

You can run a Call party search to find out who called agent 2005 on March 10, 2004.

To run a Call parties search

1. Click the **SMDR Inspector criteria** tab.
The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.
6. Click **Start search**.
The SMDR Inspector results - SMDR Search results window opens.

Call parties search results

The SMDR Search results tab displays the results of who called agent 2005. The agent's extension is 1106. He answers calls that come to queue 280 and dial zeros (which is extension 1290). On line one of the results, an outside call dialed the agent's extension. On line two, the agent answered a call from his queue (P280). On line three, we see that extension 1107 called the agent. On line four, we see that extension 1112 called the agent. (See Figure 84.)

M	Start Time	Date	Total Duration	Calli...	T	Digits Dl...	Calle...	Tran
Phone	09:40:00	3/10/2004	00:00:25	T8101	1	1106	2005	
Phone	09:49:00	3/10/2004	00:15:02	T8102	13	P280 101 101	2005	
Phone	10:05:00	3/10/2004	00:00:25	T8107	10	1106	2005	
Phone	11:09:00	3/10/2004	00:00:29	T8112	4	1106	2005	
Phone	11:11:00	3/10/2004	00:09:27	T8102	5	P280 101 101	2005	
Phone	11:23:00	3/10/2004	00:00:13	T8102	5	1290	2005	
Phone	11:51:00	3/10/2004	00:01:19	T8103	8	1106	2005	
Phone	12:23:00	3/10/2004	00:08:21	T8102	12	P280 101 101	2005	
Phone	12:32:00	3/10/2004	00:13:57	T8102	10	P280 101 101	2005	
Phone	12:53:00	3/10/2004	00:15:01	T8102	5	1106	2005	
Phone	13:17:00	3/10/2004	00:05:15	T8102	6	P280 101 101	2005	
Phone	13:32:00	3/10/2004	00:10:04	T8102	4	1290	2005	
Phone	13:54:00	3/10/2004	00:01:00	T8102	5	P280 101 101	2005	
Phone	16:01:00	3/10/2004	00:06:07	T8101	14	P280 101 101	2005	
Phone	16:14:00	3/10/2004	00:16:59	T8101	13	P280 101 101	2005	
Phone	16:37:00	3/10/2004	00:00:16	T8104	6	1290	2005	

SMDR Search Results
Exception Results

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

Save Search
Stop Search

SMDR Inspector Criteria
SMDR Inspector Results

Figure 84: SMDR search results tab - Call parties search

RUNNING CALL TYPES SEARCHES

You run a Call types search when you want to narrow down the Call parties search. Previously, you have completed a Call parties search for agent 2005 (Call parties tab). Now you want to narrow the search to include only Answer non-ACD call types.

To run a Call types search

1. Click the **SMDR Inspector criteria** tab.
The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.

6. Click the **Call types** tab.
7. Under **Call types**, clear the check boxes for all of the criteria but Answer non-ACD.
8. Click **Start search**.
The SMDR Inspector results - SMDR Search results window opens.

Call types search results

The SMDR search results tab displays the call parties/call type results. All of the non-ACD calls received by agent 2005 on March 10, 2004 are displayed. They included external and internal calls where the caller dialed the agent's extension (1106), and all of the dial zero calls. (ACD calls are calls that are sent through the queue.) (See Figure 85.)

M	Start Time	Date	Total Duration	Calli...	T	Digits Dialed	Calle...
Phone	09:40:00	3/10/2004	00:00:25	T8101	1	1106	2005
Phone	10:05:00	3/10/2004	00:00:25	1107	10	1106	2005
Phone	11:09:00	3/10/2004	00:00:29	1112	4	1106	2005
Phone	11:23:00	3/10/2004	00:00:13	T8102	5	1290	2005
Phone	11:51:00	3/10/2004	00:01:19	T8103	8	1106	2005
Phone	12:53:00	3/10/2004	00:15:01	T8102	5	1106	2005
Phone	13:32:00	3/10/2004	00:10:04	T8102	4	1290	2005
Phone	13:57:00	3/10/2004	00:00:06	T8102	7	1106	2005
Phone	14:55:00	3/10/2004	00:00:08	1134	3	1106	2005
Phone	15:59:00	3/10/2004	00:01:12	T8101	7	1290	2005
Phone	16:37:00	3/10/2004	00:00:16	T8104	6	1290	2005

SMDR Search Results Exception Results

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

Save Search Stop Search

SMDR Inspector Criteria SMDR Inspector Results

Figure 85: SMDR search results - Call types search

RUNNING OPTION SEARCHES

You run Option searches to narrow down further, Call types and Call parties searches. Previously, you ran a Call parties search for agent 2005, and then a Call types search to include only Answer non-ACD calls. Now you want to search for Answer non-ACD calls for agent 2005 that occurred between 9:00 A.M. and 1:00 P.M.

To run an Options search

1. Click the **SMDR Inspector criteria** tab.
The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.
6. Click the **Call types** tab.
7. Under **Call types**, clear the check boxes for all of the criteria but Answer non-ACD.
8. Click the **Options** tab.
9. Under **Time ranges**, after the Start At time, type 9:00:00.
10. Under **Time ranges**, after the End At time, type 12:59:59.
11. Click **Start search**.
The SMDR Inspector results - SMDR Search results window opens.

Options search results

The SMDR search results tab displays the call parties/call type/options results. All of the non-ACD calls received by agent 2005 on March 10, 2004 between 9:00 A.M. and 1:00 P.M. are displayed. They included external and internal calls where the caller dialed the agent's extension (1106), and all of the dial zero calls. (ACD calls are calls that are sent through the queue.) (See Figure 86.)

M	Start Time	Date	Total Duration	Calli...	T	Digits Dialed		S	Calle...
Phone	09:40:00	3/10/2004	00:00:25	T8101	1	1106			2005
Phone	10:05:00	3/10/2004	00:00:25	1107	10	1106	I		2005
Phone	11:09:00	3/10/2004	00:00:29	1112	4	1106	I		2005
Phone	11:23:00	3/10/2004	00:00:13	T8102	5	1290			2005
Phone	11:51:00	3/10/2004	00:01:19	T8103	8	1106			2005
Phone	12:53:00	3/10/2004	00:15:01	T8102	5	1106			2005

SMDR Search Results

Exception Results

Search Complete

Bad Records

Filtered Records 6

Save Search

Stop Search

SMDR Inspector Criteria

SMDR Inspector Results

Figure 86: SMDR Search result - Options search

RUNNING SEARCHES FOR ERROR AND INFORMATION RECORDS

Using the Option tab you can run a search for error and information records. The error messages are records of sequence errors. The information records are records of when the Collector restarts.

Previously, you ran a Call parties search for agent 2005, and then a Call types to include Answer non-ACD that occurred between 9:00 A.M. and 1:00 P.M.

To run an Exception event search

1. Click the **SMDR Inspector criteria** tab.
The Options tab opens.
2. Click the **Call parties** tab.
3. Click **Select dates** and select March 10, 2003.
4. Under **Select media servers**, **Phone** is preselected.
5. Under **Call parties**, type the Called party, agent ID 2005.
6. Click the **Call types** tab.
7. Under **Call types**, clear the check boxes for all of the criteria but Answer non-ACD.
8. Click the **Options** tab.
9. Under **Time ranges**, after the Start At time, type 9:00:00.
10. Under **Time ranges**, after the End At time, type 12:59:59.
11. Under **Exceptions**, select the **Error records** and **Information records** check boxes.
12. Click **Start search**.
The SMDR Inspector results - SMDR Search results window opens.

Exception search results

There was an information record produced every five minutes. Either the alarm is set incorrectly (the system thinks it should be receiving data because the business hours indicate the business is open), or the connection has died. The Exception results tab displays error and information records. (See Figure 87.)

The Exception search has the following results information:

Media server

The Media server box identifies the telephone system (with or without MiTAI) that produced the event record.

Record

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

Media Server	Record
Phone	INFORMATION-Wednesday, March 10, 2004 06:58:20
Phone	INFO----SetNoDataAlarmActive-[TCP;10.1.2.2:1752;]-[SMDR Records]-[300 Secs Since Record]-Closi...
Phone	INFORMATION-Wednesday, March 10, 2004 06:58:20
Phone	INFO----CPFOneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...
Phone	INFORMATION-Wednesday, March 10, 2004 06:58:50
Phone	INFO----Opening Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-RESET COMPLETE..Waiting For Data...
Phone	INFORMATION-Wednesday, March 10, 2004 07:03:20
Phone	INFO----StillNoData-[TCP;10.1.2.2:1752;]-[SMDR Records]-[600 Secs Since Record]-Closing Port!
Phone	INFORMATION-Wednesday, March 10, 2004 07:03:20
Phone	INFO----CPFOneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...
Phone	INFORMATION-Wednesday, March 10, 2004 07:03:50
Phone	INFO----Opening Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-RESET COMPLETE..Waiting For Data...
Phone	INFORMATION-Wednesday, March 10, 2004 07:08:20
Phone	INFO----StillNoData-[TCP;10.1.2.2:1752;]-[SMDR Records]-[900 Secs Since Record]-Closing Port!
Phone	INFORMATION-Wednesday, March 10, 2004 07:08:20
Phone	INFO----CPFOneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...
Phone	INFORMATION-Wednesday, March 10, 2004 07:08:51
Phone	INFO----Opening Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-RESET COMPLETE..Waiting For Data...
Phone	INFORMATION-Wednesday, March 10, 2004 07:13:21
Phone	INFO----StillNoData-[TCP;10.1.2.2:1752;]-[SMDR Records]-[1200 Secs Since Record]-Closing Port!
Phone	INFORMATION-Wednesday, March 10, 2004 07:13:21
Phone	INFO----CPFOneStream::FinishStartComReset-Closing Port-[TCP;10.1.2.2:1752;]-[SMDR Records]-Fo...
SMDR Search Results Exception Results	
Search Complete Bad Records Filtered Records 11	
<div> <div></div> <div>Save Search</div> <div>Stop Search</div> </div>	
SMDR Inspector Criteria SMDR Inspector Results	

Figure 87: SMDR search results - Exception results tab

WILD CARD SEARCHES

NOTE:

- To search for a string of numbers within a digits dialed string, enclose the string of numbers in parenthesis, such as '8905'. The search will produce records that include 8905 only in the digits dialed string.
- To search for records where the calling, called or third party involved a trunk (BOTH T and X in one search), put a C in the calling, called or third party box.

When performing searches on the Queue Events tab, you can enter a *P800* under Queue information and the search will produce records involving Queue 800 only. Alternatively, you can run wild card searches. When you perform wild card searches, you use * to represent the wild card. For example, if you enter '*00' under Queue information on the Queue events tab, the search will produce records for all of the Queues or Agent groups that end in '00' (for example, 200, 300).

EXPORTING SEARCH RESULTS

You can save the ACD Inspector and SMDR Inspector search results in the following formats:

- HTML
- Microsoft Excel
- XML
- Text

To export the search results

1. Click **Save search**.
The Inspector Search Results Export window opens.
2. Select the format in which you want the search results saved: **HTML**, **Microsoft Excel**, **XML**, or **Text**.
3. Click **Next**.
4. Click the ellipses to select the location where you want to save the file.
5. After **File name**, type the file name.
6. Click **Save**.
7. Click **Next**.
8. Click **Next** to confirm the format in which you want to save the file and the location of the file.
A window opens with the message 'Inspector Search Results export to [export type] complete.'
9. Click **OK**.
10. Click **Finish**.
A window opens with the message 'Would you like to view/open this file now?'
11. If you want to view the file immediately, click **Yes**.
The file opens.

AUDITOR

Using Contact Center Auditor you can view historical, multimedia real-time events, at your own pace. Auditor makes it easy for you to analyze when and why past service problems occurred. You can see a series of events that led to a problem and analyze when and why it occurred. In the future, you will be able to recognize when another problem is about to occur.

For example, you notice that on July 15 you have 12 contacts abandon between 10:00 AM and 10:15 AM. You can review the contacts and the agents' actions on that date for that time period with Auditor. Did all of the contacts arrive at the same time? Did all of the agents go on break at the same time? If all of the contacts arrived at once, you need to schedule more people. If all of the agents went on break at the same time, you need to adjust their break schedule.

Using Auditor you can also track when employees log on and log off the system. It is easy to determine if any of the employees consistently start late or finish early.

With Auditor, you can use existing profiles, including alarm thresholds, when viewing past days run in real-time.

In order to access Auditor, your security role must have the 'May manage Auditor' option enabled.

The first tool bar consists of real-time monitors that provide information on agent availability, queue statistics, and graphic displays on queues. (See Figure 88.)

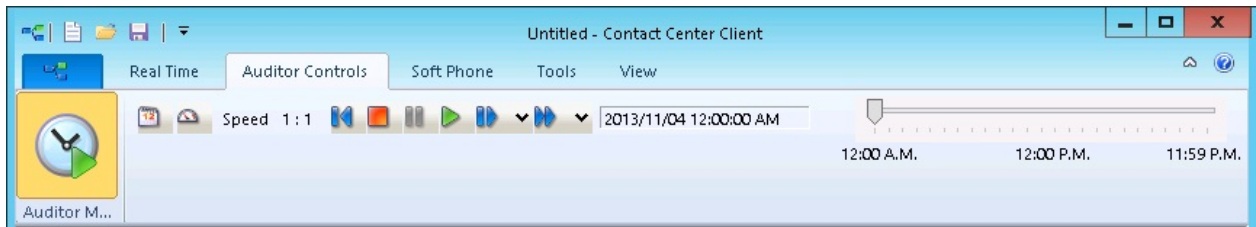








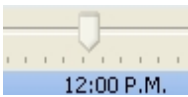


Figure 88: Auditor

AUDITOR ICONS

Using Auditor's second toolbar you select the date of the historical real-time events that you want to view and the speed at which to play the events. The icons are described in Table 34.

Table 34: Auditor Icons

ICON	TERM	MEANING
	Calendar	You can select the date of the historical real-time events that you want to view by clicking the calendar.
	Speed of audit	The Speed of audit is expressed as a ratio of real-time to play speed. You can select the speed from a list of ratios that opens when you click the clock: 1:1, 1:2, 1:5, 1:10, 1:30, 1:60, and 1:120. If you select the ratio 1:1, it will take you one second to view one second of the past day. If you select 1:60, it will take you one second to view one minute of the past day.
	Rewind	If you click Rewind when the play is stopped, you jump back to the beginning of the day.
	Stop	You can stop the real-time historical events from playing, and jump back to the beginning of the day, by clicking Stop.
	Pause	You can pause the real-time historical events by clicking Pause.
	Play	You can play the real-time historical events by clicking Play.
	Step forward	You can select the increment (in seconds) you will advance from a list that opens when you click the down arrow to the right of Step forward: 1 sec, 2 sec, 5 sec, 10 sec, 15 sec, 30 sec, and 45 sec. If you select 30 seconds, then when the play is stopped, you can step forward in 30 second increments each time you click Step forward. When you reach the end of data for that day, you will automatically jump to the end of the day.
	Jump forward	You can select the increment (in minutes) you will advance from a list that opens when you click the down arrow to the right of Jump forward: 1 min, 2 min, 5 min, 10 min, 15 min, 30 min, and 60 min. If you select 10 minutes, then when the play is stopped, you can jump forward in 10 minute increments each time you click Jump forward. When you reach the end of data for that day, you will automatically jump to the end of the day.
	Slider	As you view the events of the day, the slider indicates the time at which the events occurred. The length of the slider represents the length of the day for which you are viewing historical real-time events.

VIEWING HISTORICAL REAL-TIME EVENTS

You start Contact Center Client to gain access to Auditor functionality. For more information on Contact Center Client real-time monitoring, see "Contact Center Client" on page 202.

To view historical real-time events, you must

1. Start Contact Center Client.
2. Open the grids in which you want to view historical events.
3. Start Auditor.

Starting and using Auditor

NOTE: If you are using the Contact Center Client marquee, Interactive Visual Queue, Contact Center PhoneSet Manager, or Contact Center Softphone applications (which function in real time only), open Auditor in another instance of Contact Center Client.

To start and use Auditor

1. In the Contact Center Client ribbon, click **Auditor Controls**.
2. Click **Auditor Mode** in the toolbar ribbon.
The Auditor toolbar displays.
See Figure 89.
3. Click the calendar icon and select a date.
The date displays on the left of the slider.
4. Click the speed icon and select the speed of the audit.
The speed of the audit, expressed as a ratio of real time to play speed, displays on the right of the speed icon.
5. Move the slider to select the time of day at which you want to start monitoring.
6. Click the play button to play the real-time events of the selected date.
The historical real-time events play at the speed you selected.

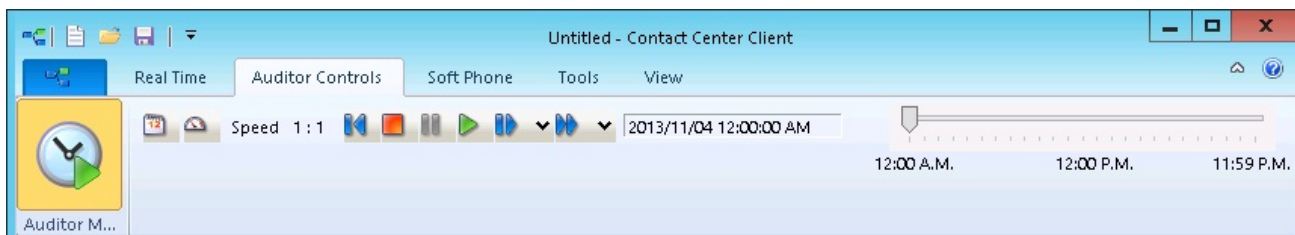


Figure 89: Auditor toolbar

Chapter 11

DATA COLLECTION

*Verifying media servers are receiving
telephone system data*

DATA COLLECTION

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

NOTE: A single collection point can collect ACD/SMDR data from up to 65 voice media servers. If you are attempting to collect data from more than 65 PBXs with a single collection point, you must contact Mitel Technical Support at 1-800-722-1301 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia pacific) for guidance.

The Enterprise Server Collector Service writes SMDR and ACD data to text files. The text files are located on the Enterprise Server in C:\Program Files (x86)\prairieFyre Software Inc\CCM\DataDirectory\Node_x.

VERIFYING MEDIA SERVERS ARE RECEIVING TELEPHONE SYSTEM DATA

The Data link window displays the following information

- **SMDR/ACD**
SMDR/ACD displays SMDR/ACD records as they arrive from the telephone system.
- **Records today**
Records today displays the total number of SMDR/ACD records received by Collector Service for the day that were valid SMDR or ACD records.
- **Last received**
Last received displays the date and time Collector Service received the SMDR/ACD record last sent.
- **Clear records**
The Clear records button clears the records displayed on the Data links window.
- **Reset SMDR link/Reset ACD link**
The Reset SMDR link/Reset ACD link button resets the SMDR/ACD data link from the telephone system to Collector Service when SMDR data stream/ACD data stream shows no data is streaming. If you attempt to reset the link and data does not start streaming, check your cabling connections from the telephone system to TCP/IP sockets.

To verify a media server is receiving telephone system data

- In YourSite Explorer, select a 3300 ICP media server and click the **Data link** button in the **Tool** tab of the ribbon to access the Data link window.
See Figure 90.

To reset the data links

- If no data is streaming in the SMDR or ACD panes, click the **Reset SMDR/ACD** link button.

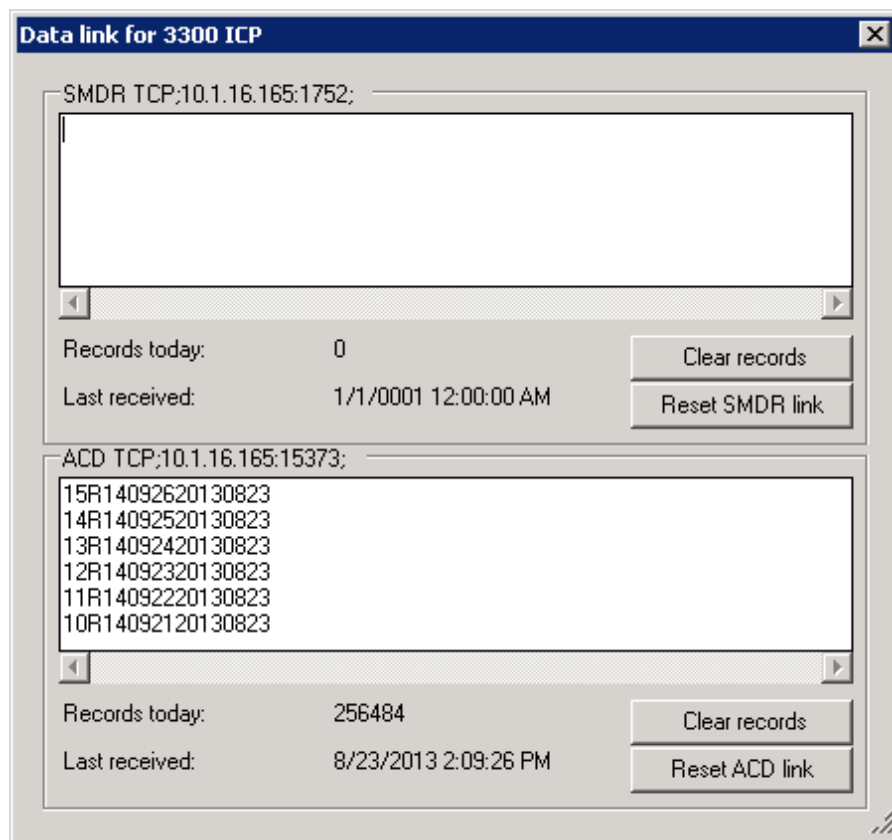


Figure 90: Data link window

TROUBLESHOOTING DATA COLLECTION ISSUES

There are several possible reasons why data does not stream. The following solutions address the most common streaming problems:

SMDR data is not streaming

SMDR data records are generated at the end of calls. If SMDR data is not flowing through the TCP/IP sockets, then the telephone system is not producing data records, your Class of Service and/or SMDR Options Assignment forms are not configured correctly, you are unable to connect, or no data is being sent from the TCP/IP sockets.

If SMDR data is not streaming

1. On the Data link window of the telephone system media server, click **Reset SMDR Link** to restore the connection.
2. Wait 60 seconds.
3. If you have an ethernet connection, verify it is up and running.
4. If SMDR data is still not flowing, on the Enterprise Server, verify the SMDR Options and Class of Service Options Assignment forms are configured correctly on the telephone system.
See the *Contact Center Management Installation Guide*.

5. If SMDR data is still not flowing, on the Enterprise Server, use a telnet client session to verify data is flowing through the TCP/IP sockets.
6. Restart Collector Service.
7. If SMDR data is still not flowing, call Mitel customer support at 1-800-722-1301, Option 6 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).

ACD DATA IS NOT STREAMING

ACD data records are generated with each agent event and with periodic refresh events produced by the telephone system. If ACD data is not flowing through the TCP/IP sockets, then the telephone system is not producing data records, you are unable to connect, or no data is being sent from the TCP/IP sockets.

If ACD data is not streaming

1. On the Data link window of the telephone system media server, click **Reset ACD Link** to restore the connection.
2. Wait 60 seconds.
3. If you have an ethernet connection, verify it is up and running.
4. If ACD data is still not flowing, on the Enterprise Server, use a telnet client session to verify data is flowing through the TCP/IP sockets.
5. Restart Collector Service.
6. If ACD data is still not flowing, please call Mitel customer support at 1-800-722-1301, Option 6 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).

Viewing the data collection TCP/IP ports

You can use your preferred telnet client to verify if data is flowing from the TCP/IP sockets.

Restarting Collector Service

You must restart Collector Service after you view the TCP/IP sockets with a telnet client.

To stop Collector Service

1. On the Enterprise Server, in Windows, navigate to **Services**.
2. Right-click **prairieFyre Collector Service (v5)** and click **Stop**.
3. Right-click **prairieFyre Collector Service (v5)** and click **Start**.

Chapter 12

INTERACTIVE CONTACT CENTER

Using Interactive Contact Center

INTERACTIVE CONTACT CENTER

Interactive Contact Center is an optional application that enables supervisors who have a 3300 ICP telephone system to control the availability of agents, extensions, ACD queues, and ring groups. Agents can control their own availability: they can log themselves on or off, and place themselves in or remove themselves from Make Busy or Do Not Disturb.

USING INTERACTIVE CONTACT CENTER

Interactive Contact Center is designed for agents and supervisors.

SUPERVISORS AND INTERACTIVE CONTACT CENTER

Using Interactive Contact Center, supervisors can

- Control the availability of agents and ACD queues
- Log agents on and off of the telephone system
- Have agents leave their agent groups and join other agent groups. Agent groups are assigned to queues so, in this way, agents can be moved from one queue to another as needed
- Have extensions leave their ring groups and join other ring groups
- Place agents in Make Busy
- Place agents in Do Not Disturb
- Place extensions into Do Not Disturb
- Place queues in Do Not Disturb

An employee's voice agent can be assigned to multiple agent groups, which can be associated to multiple queues. In order to move the agent from one queue to another queue, the supervisor has the agent leave one agent group and join another agent group.

You create associations between agent groups and queues in YourSite Explorer.

You can restrict individual supervisors from managing particular monitors and devices in YourSite Explorer

AGENTS AND INTERACTIVE CONTACT CENTER

Using Interactive Contact Center, agents can

- Log themselves on and off of the telephone system
- Remove themselves from agent groups and place themselves into other agent groups. Agent groups are assigned to queues so, in this way, agents can move themselves from one queue to another as needed
- Place themselves in Make Busy
- Place themselves in Do Not Disturb

You can restrict individual agents from managing particular monitors and devices in Contact Center Management using YourSite Security.

Every time agents leave their desks they must set Make Busy or Do Not Disturb. There are many reasons why agents leave their desks. You assign each of these reasons a Make Busy or Do Not Disturb Reason Code and then agents can apply the codes. When you run an Agent Performance by Make Busy / DND Code report, the report clearly indicates when an agent went in Make Busy or Do Not Disturb, and why (which code the agent selected each time).

STARTING CONTACT CENTER CLIENT

You start Contact Center Client to access real-time functionality. Supervisors and agents can view real-time voice statistics. In contact centers that have the optional Multimedia Contact Center application, supervisors and agents can view real-time voice, email, and chat statistics. After starting Contact Center Client, you can choose to minimize it to either the system tray or the taskbar, depending on your operating system.

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

To start Contact Center Client

1. Open **Contact Center Client**.
2. If prompted, type your user name and password and verify the Enterprise Server IP address.
3. If you use Secure Socket Layer, select **SSL**.
4. Optionally, select the **Remember my credentials** check box.
5. Click **Log in**.

EMPLOYEE AND AGENT CONTROL

Using Interactive Contact Center and Contact Center Client, you can control agents on the following monitors:

- Agent State by Position and Employee State by Position
- Agent State by Time and Employee State by Time
- Agent Shift

Agent control gives you control over individual agents. Monitor control gives you control over all of the agents on a monitor. All of the agents on the monitor are affected simultaneously by the action you take.

If you have Context Sensitivity enabled for monitors, the Agent Control and Monitor Control tabs display in the Contact Center Client ribbon when you have any of the above monitors open. You can perform actions using either a right-click and select method within the monitor or by selecting an agent or an empty cell (monitor control) and accessing the action menu in the Agent or Monitor Control tab views. (See Figure 91.)

NOTE: Monitor control is available only if you configure extensions for your employees.

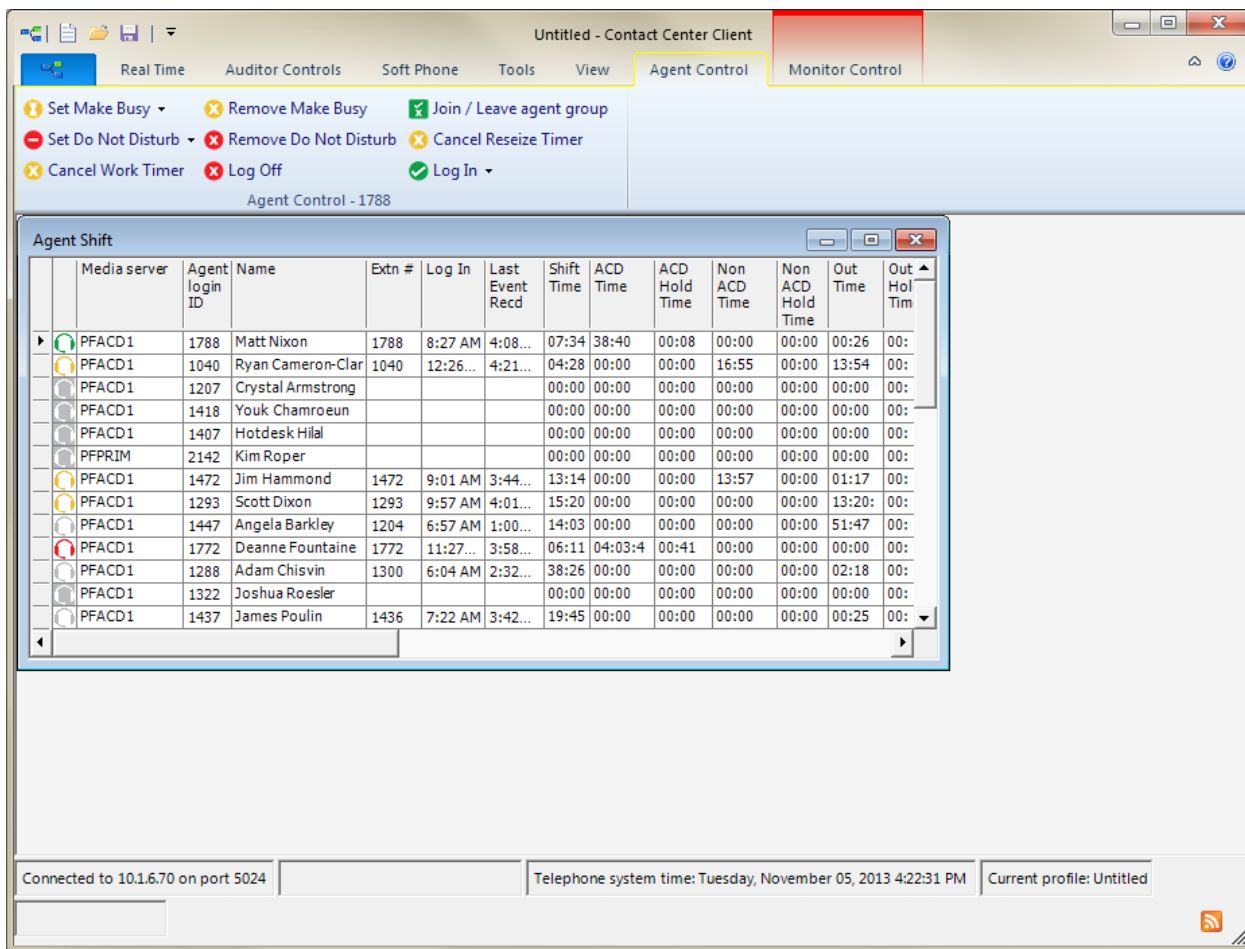


Figure 91: Agent Shift - Agent Control tab options

Agents and Agent Group Presence

If you have a Mitel 3300 ICP (MCD 4.0 SP4 and 5.0 or greater) telephone system, you can add agents to and remove agents from one or more agent groups using Interactive Contact Center.

Employee agents can be assigned to multiple agent groups, which are in turn are associated with different queues. When agent groups are created, an employee's agents are assigned a default group presence, either Present or Absent. Employees whose agents' default presence is Absent will be set in the Logged In Not Present agent state when they log in. To handle calls, the employee manually changes their agent presence in Contact Center Client. Employees whose agents default presence is Present will be set in the Idle agent state when they log in. For details about Agent states, see "Employee and Agent states" on page 207.

The Mitel 3300 ICP (MCD 4.0 SP4 and 5.0 or greater) enables agents to be placed in or removed from multiple agent groups (up to 16 on the Mitel 3300 MXe II Controller and up to 30 on the Mitel 3300 MXe server). Agents can be added and removed from agent groups using Feature Access Codes (FAC), a Feature Access Key (FAK) programmed on their set, or using Interactive Contact Center.

The agent group presence option is controlled by Class of Service. Once the appropriate Class of Service has been set, the agent group presence status can be changed in the following ways.

- Feature access keys can be programmed on a Mitel multiline phone set. One button would be used to join or leave each agent group to which the agent is a member.
- Supervisors and agents can dial a feature access code followed by the group number to change their status for that group or to change their status for all groups to which they are a member.
- The desktop tool in the embedded system management can be used to make status changes.
- MiTAI controls are also available to make status changes.

Agent Group Presence has several licensing and configuration prerequisites:

- You must have purchased a Contact Center Standard Starter Pack license or greater to use Interactive Contact Center. For more information on Contact Center Starter Packs, see the *Contact Center Solutions and Business Reporter System Engineering Guide*.
- For agents to use Agent Group Presence, Group Presence Control must be enabled for all agents on the Class of Service Options Assignment form on the Mitel 3300 ICP.
- For supervisors or system administrators to use Agent Group Presence, they must log into Contact Center Client as a non-administrative user. They also require a valid employee license and an associated device with Group Presence Control and Group Presence Third Party Control enabled on the Class of Service Options Assignment form on the Mitel 3300 ICP.
- Real-time monitoring must be enabled in YourSite Explorer for all agents. For supervisors to control agent group presence in Interactive Contact Center, the agent and at least one of the agent's dialable numbers must be enabled for Real-time monitoring. See "Adding agents" on page 136.

Agent Group Presence also requires that specific security roles be enabled:

- To control agent presence status in Interactive Contact Center, you must enable 'May change the real-time presence states of agents in Interactive Contact Center'.
- To control supervisor presence status in Interactive Contact Center, you must enable 'May control my real-time presence status in Interactive Contact Center'.

For more information, see "Configuring security roles" on page 193.

If the ACD Logout Agent No Answer Timer Class of Service option is enabled on your Mitel 3300 telephone system, when an agent in an agent group fails to answer a call offered to them after the logout time expires, the agent is logged out of their agent group. In an environment using MCD 5.0 SP2 or greater, however, agents who fail to answer an offered call before the logout time expires are removed by the telephone system from their agent group.

Agent group presence best practices

It is important to note that agents may join or leave agent groups but not queues. Agents become absent from a queue indirectly if they leave all agent groups associated with that queue. An agent who is present in an agent group which is associated to all queues would be disassociated from all queues simultaneously if they became absent in their agent group. Since the goal of agent group presence is to provide a dynamic response to varying queue activity, allowing agents to become absent from all queues simultaneously is counterproductive.

As a best practice, we recommend you associate agent groups to queues based on business groups within your organization. A unique agent group to business group queue(s) association allows agents who leave an agent group associated to a particular business group to remain present in an agent group(s) associated to other business group(s).

Hiding the Monitor control option

Interactive Contact Center enables you to manage the presence of all devices in a monitor using Monitor Device Control. If you do not want to use monitor control, you can hide this option so it is not accessible.

To hide the Monitor control option

1. In Contact Center Client, click the **Contact Center Client icon tab=>Options**.
2. Under **Device control**, clear the **Display monitor device control option** check box.
3. Click **OK**.

Logging on an agent

NOTE:

- An ACD hot desking agent must enter an extension number each time the agents logs on to the telephone system using Interactive Contact Center. The agent cannot rely on the extension number last used when logging on. This is because the ACD data stream unifies the agent ID and the extension. After a hot desking agent logs on or off of the telephone system using Interactive Contact Center, sometimes the Interactive Contact Center agent controls are not available to the agent for two to five minutes.
- You will be unable to log in an agent to the ACD if there are no available 3300 ICP user licenses.
- If your contact center participates in the use of PINs, supervisors with the correct Class of Service do not require an agent's PIN to interactively log in a hot desking agent.
- Supervisors marked as Advanced supervisor or System Administrator will not be prompted to enter a PIN when logging into Interactive Contact Center, Softphone, or PhoneSet Manager provided third party call control is configured under security in CCMWeb and on the telephone switch.
- If a hot desking agent logs into an extension that serves as the overflow point for a ring group, calls to that ring group will not be offered to the extension and will remain queued or ringing until abandoned or answered.
- Hot desking users logging into a ring group extension must also be a member of the ring group to ensure accurate reporting.

You log employee voice agents in and out in either an open Employee or Agent Monitor in Contact Center Client.

To log in an agent in an open Employee monitor

- Right-click the cell of an employee and click **Employee control=>Log in=>voice agent**. Alternatively, select the employee cell in an open monitor, click **Log in** from the **Employee Control** tab on the Contact Center Client ribbon, and select the voice agent.
NOTE: When you log in an employee's voice agent, you must enter the extension for the agent. See the procedure below.

To log in an agent by extension in an open Employee monitor

1. Right-click the cell of an employee and click **Employee control=>Log in=>By extension**.
2. If the employee has multiple voice agents, select the agent to log in from the drop-down list.
3. Type the **Agent's extension**.
4. Click **OK**.

To log in an agent in an open Agent monitor

- Right-click the cell of a voice agent who is not logged into and click **Agent Control=>Log in=>voice agent**. Alternatively, select the agent cell in an open monitor and click **Log in** from the Contact Center Client ribbon.
NOTE: When you log in a voice agent, you must enter the extension for the agent. See the procedure below.

To log in an agent by extension in an open Agent monitor

1. Right-click the cell of a voice agent and click **Agent control=>Log in=>By extension**.
2. If the employee has multiple voice agents, select the agent to log in from the drop-down list.
3. Type the **Agent's extension**.
4. Click **OK**.

Logging off an agent

You can log off an employee from all media in an Employee monitor or Agent monitor, which logs off all of the employee's voice agents. If the employee is also logged into Softphone in Contact Center Client, they will be logged out of Softphone as well. The following procedures take place in either an open Employee monitor or an open Agent monitor in Contact Center Client.

To log off all of an employee's agents in an open Employee monitor

- Right-click the cell of an employee and click **Employee control=>Log off**. Alternatively, select the employee cell in an open monitor and click **Log Off** from the **Employee Control** tab on the Contact Center Client ribbon.

To log off an agent in an open Agent monitor

- Right-click the cell of an agent and click **Agent control=>Log off**. Alternatively, select the agent cell in an open monitor and click **Log Off** from the **Agent Control** tab on the Contact Center Client ribbon.

To log off all agents of employees in an open Employee monitor

1. Right-click the monitor and click **Monitor control=>Log off**.
Alternatively, click the **Monitor Control** tab in the Contact Center Client ribbon and select **Log Off**.
2. Click **Yes**.

To log off all of agents in an open Agent monitor

1. Right-click the monitor and click **Monitor control=>Log off**.
Alternatively, click the **Monitor Control** tab in the Contact Center Client ribbon and select **Log Off**.
2. Click **Yes**.

Joining and leaving agent groups

After logging into Contact Center Client, agents use Interactive Contact Center to control their presence status in agent groups. Optionally, supervisors can use Interactive Contact Center to control the presence status of agents in specific agent groups.

NOTE:

- Agents must be Standard or higher to control their own Agent Group Presence. Basic Agents cannot control their own Agent Group Presence.
- An agent's ACD hot desk line remains in service while they are logged in as an ACD hot desk user even if they are not present in any ACD groups and not receiving ACD calls.
- For information on the configuration, licensing, and security role prerequisites that must be met in order to use Agent Group Presence, see "Agents and Agent Group Presence" on page 390.

To join an agent to or have an agent leave an agent group in an open Employee monitor

1. Right-click the cell of an employee and click **Employee control=>Join/Leave agent group=>[Agent]**.
Alternatively, select the cell of an employee and in the **Employee Control** tab of the Contact Center Client ribbon, click **Join/Leave agent group=>[Agent]**.
2. Select the agent group(s) to which you want the employee's agent(s) to join or deselect the agent group(s) to have the employee's agent(s) leave the agent groups.
3. Click **OK**.

To join an agent to or have an agent leave an agent group in an open Agent monitor

1. Right-click the cell of an agent who is logged on and click **Agent control=>Join/Leave agent group**.
Alternatively, select the cell of an agent and click **Join/Leave agent group** from the Agent Control tab in the Contact Center Client ribbon.
2. Select the agent group(s) to which you want the agent(s) to join or deselect the agent group(s) to have the agent(s) leave the agent groups.
3. Click **OK**.

Placing agents in Make Busy

Placing employees into Make Busy places both employees and all of their agents into Make Busy.

The following procedures take place in either an open Employee monitor or an open Agent monitor in Contact Center Client.

To place an employee in Make Busy in an open Employee monitor

- Right-click the cell of an employee and click **Employee control=>Set Make Busy=>reason code**. Alternatively, select an empty cell in an open monitor and click **Set Employee Make Busy=>reason code** from the **Employee Control** tab in the Contact Center Client ribbon.

To place all employees in an open Employee monitor in Make Busy

1. Right-click the monitor and click **Monitor control=>Set Make Busy=>reason code**. Alternatively, select an empty cell in an open monitor and click **Set Make Busy=>reason code** from the **Monitor Control** tab in the Contact Center Client ribbon.
2. Click **Yes**.

To place all employees in Make Busy in an open Agent monitor

- Right-click the cell of an agent and click **Agent control=>Set Employee Make Busy=>reason code**. Alternatively, select the agent cell in an open monitor and click **Set Employee Make Busy=>reason code** from the **Agent Control** tab in the Contact Center Client ribbon.

To place all employees in an open Agent monitor in Make Busy

1. Right-click the monitor and click **Monitor control=>Set Employee Make Busy=>reason code**. Alternatively, select an empty cell in an open monitor and click **Set Make Busy=>reason code** from the **Monitor Control** tab in the Contact Center Client ribbon.
2. Click **Yes**.

Removing employees from Make Busy

Removing employees from Make Busy removes both employees and all of their agents from Make Busy.

The following procedures take place in either an open Employee monitor or an open Agent monitor in Contact Center Client.

To remove an employee in an open Employee monitor from Make Busy

- Right-click the cell of an employee whose agents are in Make Busy and click **Employee control=>Remove Make Busy** for all of the employee's agent IDs. Alternatively, select an empty cell in an open monitor and click **Remove Make Busy** from the **Employee Control** tab in the Contact Center Client ribbon.

To remove employees in an open Employee monitor from Make Busy

- Right-click the cell of an employee who is in Make Busy and click **Monitor control=>Remove Make Busy**. Alternatively, select an empty cell in an open monitor and click **Remove Make Busy** from the **Monitor Control** tab in the Contact Center Client ribbon.

To remove an employee in an open Agent monitor from Make Busy

- Right-click the cell of an agent in Make Busy and click **Agent control=>Remove Make Busy**. Alternatively, select the agent cell in an open monitor and click **Remove Make Busy** from the **Agent Control** tab in the Contact Center Client ribbon.

To remove all employees in an open Agent Monitor from Make Busy

- Right-click the cell of an employee and click **Monitor control=>Remove Make Busy**. Alternatively, select an empty cell in an open monitor and click **Remove Make Busy** from the **Monitor Control** tab in the Contact Center Client ribbon.

Placing employees in Do Not Disturb

NOTE: If an agent in Make Busy sets and later removes Do Not Disturb on their extension, Work Timer will not work until the agent either logs off the telephone system or until calls remove Make Busy on the extension (even though the agent state is set to idle).

Placing employees into Do Not Disturb places both employees and all of their agents into Do Not Disturb.

The following procedures take place in either an open Employee monitor or an open Agent monitor in Contact Center Client.

To place an employee in an open Employee monitor in Do Not Disturb

- Right-click the cell of an employee and click **Employee control=>Set Do Not Disturb=>reason code**. Alternatively, select the employee cell in an open monitor and click **Set Employee Do Not Disturb=>reason code**.

To place all employees in an open Employee Monitor in Do Not Disturb

- Right-click the monitor and click **Monitor control=>Set Do Not Disturb=>reason code**. Alternatively, select an empty cell in an open monitor and click **Set Do Not Disturb** from the **Monitor Control** tab in the Contact Center Client ribbon.

To place an employee in an open Agent monitor in Do Not Disturb

- Right-click the cell of an agent who is logged on and click **Agent control=>Set Employee Do Not Disturb=>reason code**. Alternatively, select the agent cell in an open monitor and click **Set Do Not Disturb=>reason code** from the Agent Control tab in the Contact Center Client ribbon.

To place all employees in an open Agent monitor in Do Not Disturb

- Right-click the monitor and click **Monitor control=>Set Do Not Disturb=>reason code**. Alternatively, select an empty cell in an open monitor and click **Set Do Not Disturb** from the Monitor Control tab in the Contact Center Client ribbon.

Removing employees from Do Not Disturb

Removing employees from Do Not Disturb places removes employees and all of their agents from Do Not Disturb.

The following procedures take place in either an open Employee monitor or an open Agent monitor in Contact Center Client.

To remove an employee and their multimedia agents from Do Not Disturb in an open Employee monitor

- Right-click the cell of an employee who is in Do Not Disturb and click **Employee control=>Remove Do Not Disturb**. Alternatively, select the employee cell in and click **Remove Do Not Disturb** from the **Employee Control** tab in the Contact Center Client ribbon.

To remove all of a monitor's employees and their multimedia agents from Do Not Disturb in an open Employee monitor

- Right-click the monitor and click **Monitor control=>Remove Do Not Disturb**. Alternatively, select an empty cell in an open monitor and click **Remove Do Not Disturb** from the **Monitor Control** tab in the Contact Center Client ribbon.

To remove an employee and their multimedia agents from Do Not Disturb in an open Agent monitor

- Right-click the cell of an agent who is in Do Not Disturb and click **Agent control=>Remove Do Not Disturb**. Alternatively, select the agent cell in an open monitor and click **Remove Do Not Disturb** from the **Agent Control** tab in the Contact Center Client ribbon.

To remove all of a monitor's employees and their multimedia agents from Do Not Disturb in an open Agent monitor

- Right-click the monitor and click **Monitor control=>Remove Do Not Disturb**. Alternatively, select an empty cell in an open monitor and click **Remove Do Not Disturb** from the **Monitor Control** tab in the Contact Center Client ribbon.

Canceling Work Timer for employees

In an Employee monitor or Agent monitor, you can cancel Work Timer for one or more employees. The following procedures take place in either an open Employee monitor or an open Agent monitor in Contact Center Client.

To cancel Work Timer in an open Employee monitor

- Right-click the cell of an employee who is in Work Timer and click **Employee control=>Cancel Work Timer**. Alternatively, select the employee cell in an open monitor and click **Cancel Work Timer** in the appropriate media section of the **Employee Control** tab in the Contact Center Client ribbon.

To cancel Work Timer for all employees in an open Employee monitor

- Right-click the monitor and click **Monitor control=>Cancel Work Timer**. Alternatively, select an empty cell in an open monitor and click **Cancel Work Timer** in the media type's section of the **Monitor Control** tab in the Contact Center Client ribbon.

To cancel Work Timer for an employee in an open Agent monitor

- Right-click the cell of an agent who is in Work Timer and click **Agent control=>Cancel Work Timer**. Alternatively, select the agent cell in an open monitor and click **Cancel Work Timer** from the **Agent Control** tab in the Contact Center Client ribbon.

To cancel Work Timer for all employees in an open Agent monitor

- Right-click the monitor and click **Monitor control=>Cancel Work Timer**. Alternatively, select an empty cell in an open monitor and click **Cancel Work Timer** from the **Monitor Control** tab in the Contact Center Client ribbon.

Canceling the Reseize Timer for external hot desk agents

If an external hot desk user is unavailable (they are in a non-ACD call or off hook) and the ACD path attempts to deliver a call to them the telephone system will initiate the Reseize Timer, preventing further ACD call delivery attempts until the timer expires or is canceled by the agent or supervisor. Value settings for reseize timers are a minimum of four seconds, a default of 180 seconds, and a maximum of 60 minutes. These values are configured on the telephone system. When an agent is in the Reseize Timer state, the applicable real-time monitors in Contact Center Client display the Make Busy icon as well as text denoting the agent's current state as 'Reseize Timer'.

The following procedures take place in either an open Employee monitor or an open Agent monitor in Contact Center Client.

To cancel Reseize Timer for an employee's voice agent in an open Employee monitor

- Right-click the cell of an employee who is in Reseize Timer and click **Employee control=>Cancel Reseize Timer**. Alternatively, select the employee cell in an open monitor and click **Cancel Reseize Timer** in the appropriate media section of the **Employee Control** tab in the Contact Center Client ribbon.

To cancel Reseize Timer for all employee voice agents in a monitor in an open Employee monitor

- Right-click the monitor and click **Monitor control=>Cancel Reseize Timer**. Alternatively, select an empty cell in an open monitor and click **Cancel Reseize Timer** from the **Monitor Control** tab in the Contact Center Client ribbon.

To cancel Reseize Timer for an employee's voice agent in an open Agent monitor

- Right-click an agent who is in Reseize Timer and click **Agent control=>Cancel Reseize Timer**. Alternatively, select the agent cell in an open monitor and click **Cancel Reseize Timer** in the appropriate media section of the **Agent Control** tab in the Contact Center Client ribbon.

To cancel all of the voice agents on a monitor in the Reseize Timer state in an open Agent monitor

- Right-click the monitor and click **Monitor control=>Cancel Reseize Timer**. Alternatively, select an empty cell in an open monitor and click **Cancel Reseize Timer** from the **Monitor Control** tab in the Contact Center Client ribbon.

EXTENSION CONTROL

Using Interactive Contact Center and Contact Center Client, you can control extensions on the following monitors:

- Extension State by Position
- Extension Now

Extension control gives you control over individual extensions. Monitor control gives you control over all the extensions on a monitor. All of the extensions on the monitor are affected simultaneously by the action you take. You can perform actions using either a right-click and select method within the monitor or by selecting an extension or an empty cell (monitor control) and accessing the action menu in the Extension or Monitor Control tabs in the ribbon. (See Figure 92.)

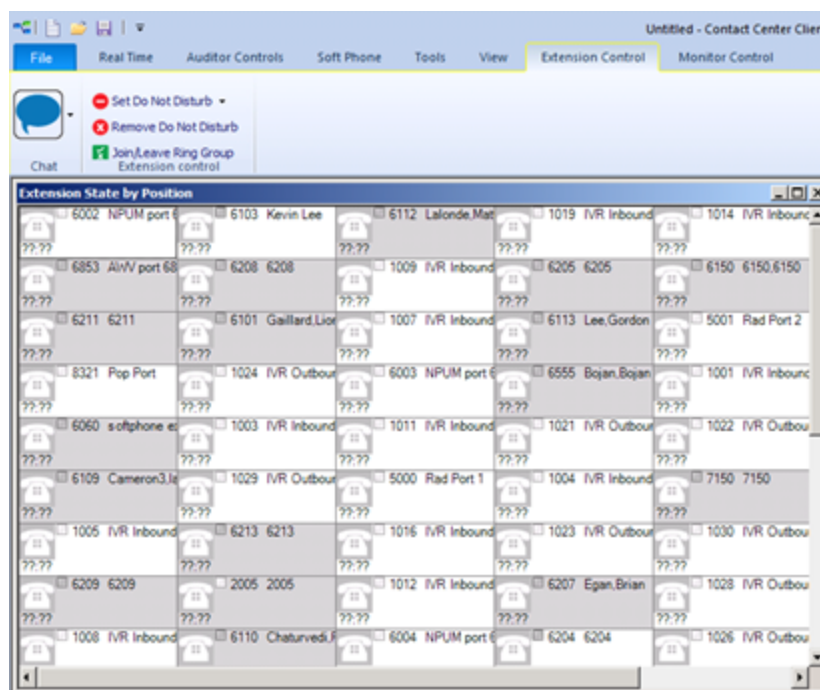


Figure 92: Extension State by Position – Extension Control tab

Ring group presence

If you are licensed for ring groups, you can join extensions to and have extensions leave one or more ring groups using Interactive Contact Center.

Extensions can be assigned to multiple ring groups. Within a ring group, an extension can be set to Present, enabling it to receive calls, or Absent, ensuring that calls are not offered to the extension. By default, extensions are set to Present. Supervisors can manually change the extension presence in Contact Center Client.

The ring group presence option is controlled by Class of Service. Once the appropriate Class of Service has been set, the ring group presence status can be changed in the following ways.

- Supervisors and agents can dial a feature access code followed by the group number to change the extension status for that group or to change their status for all groups to which they are a member.
- The desktop tool in the Embedded System Management can be used to make status changes.
- MiTAI controls are also available to make status changes.

Ring Group Presence has several licensing and configuration prerequisites:

- For extensions to use ring group presence, Group Presence Control must be enabled for all extensions on the Class of Service Options Assignment form on the Mitel 3300 ICP.
- Real-time monitoring must be enabled in YourSite Explorer for all extensions. For supervisors to control ring group presence in Interactive Contact Center, the ring group and at least one of the ring group's extensions must be licensed for real-time monitoring. Extensions that have the MCD option 'ACD Enabled' selected cannot be made present in a ring group. See "Adding extensions" on page 158.
- The ability to modify Ring Group Presence can also be controlled using HCI options on your telephone system. It is recommended that your extension Class of Service conforms to the Golden Rules document available from the MiCC Knowledge Base at <http://micc.mitel.com/kb/>.

Ring Group Presence also requires that specific security roles be enabled:

- To control agent presence status in Interactive Contact Center, you must enable 'May change the realtime presence states of agents in Interactive Contact Center'.
- To control supervisor presence status in Interactive Contact Center, you must enable 'May control my real-time presence status in Interactive Contact Center'.

For more information, see "Configuring security roles" on page 193.

Joining and leaving ring groups

Interactive Contact Center can be used to control the presence of extensions in ring groups.

NOTE: An extension that has the MCD setting "ACD Enabled" cannot join a ring group. Extensions created in YourSite Explorer are ACD Enabled by default.

The following procedures take place in an open Extension monitor in Contact Center Client.

To join an extension to or remove an extension from a ring group

1. Right-click the cell of an extension and click **Extension control=>Join/Leave**. Alternatively, select the cell of an extension and in the **Extension Control** tab of the **Contact Center Client** ribbon, click **Join/Leave**.
2. Select the ring group(s) to which you want the extension to join or deselect the ring group(s) to have the extension leave the ring group(s).
3. Click **OK**.

Placing an extension in Do Not Disturb

The following procedures take place in an open Extension monitor in Contact Center Client.

To place an extension in Do Not Disturb

- Right-click the cell of an extension and click **Extension control=>Set Do Not Disturb=>reason code**. Alternatively, select the Extension Control tab and select Set Do Not Disturb=>reason code.

To place all extensions into Do Not Disturb in an open monitor

1. Right-click the cell of an extension and click **Monitor control=>Set Do Not Disturb=>reason code**.
Alternatively, select the **Monitor Control** tab and select **Set Do Not Disturb=>reason code**.
2. Click **Yes**.

Removing an extension from Do Not Disturb

The following procedures take place in an open Extension monitor in Contact Center Client.

To remove an extension from Do Not Disturb

- Right-click the cell of an extension in Do Not Disturb and click **Extension control=>Remove Do Not Disturb**.
Alternatively, select the **Extension Control** tab and select **Remove Do Not Disturb**.

To remove all extension from Do Not Disturb in an open monitor

- Right-click the cell of an extension and click **Monitor control=>Remove Do Not Disturb**.
Alternatively, select the **Extension Control** tab and select **Remove Do Not Disturb**.

QUEUE CONTROL

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

You can control queues

- Manually
- Using a schedule
- Using a queue control plan

Manually controlling queues

NOTE:

- You can see queue statistics during business hours as long as the business schedule you configure in **YourSite=>Schedule** or **YourSite Explorer=>Schedules** is consistent with your company's hours of operation. You assign business-hours schedules to queues in **YourSite=>Configuration=>Queue=>Queue** or in **YourSite Explorer=>Queues=>Business Hours**.
- Manual queue control overrides queue schedules and queue control plans.

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

The Monitor Options tab displays in the ribbon for the Queue Now monitor. You can perform actions using either a right-click and select method in the open monitor or by accessing the action menu in the Monitor Options ribbon. (See Figure 93.)

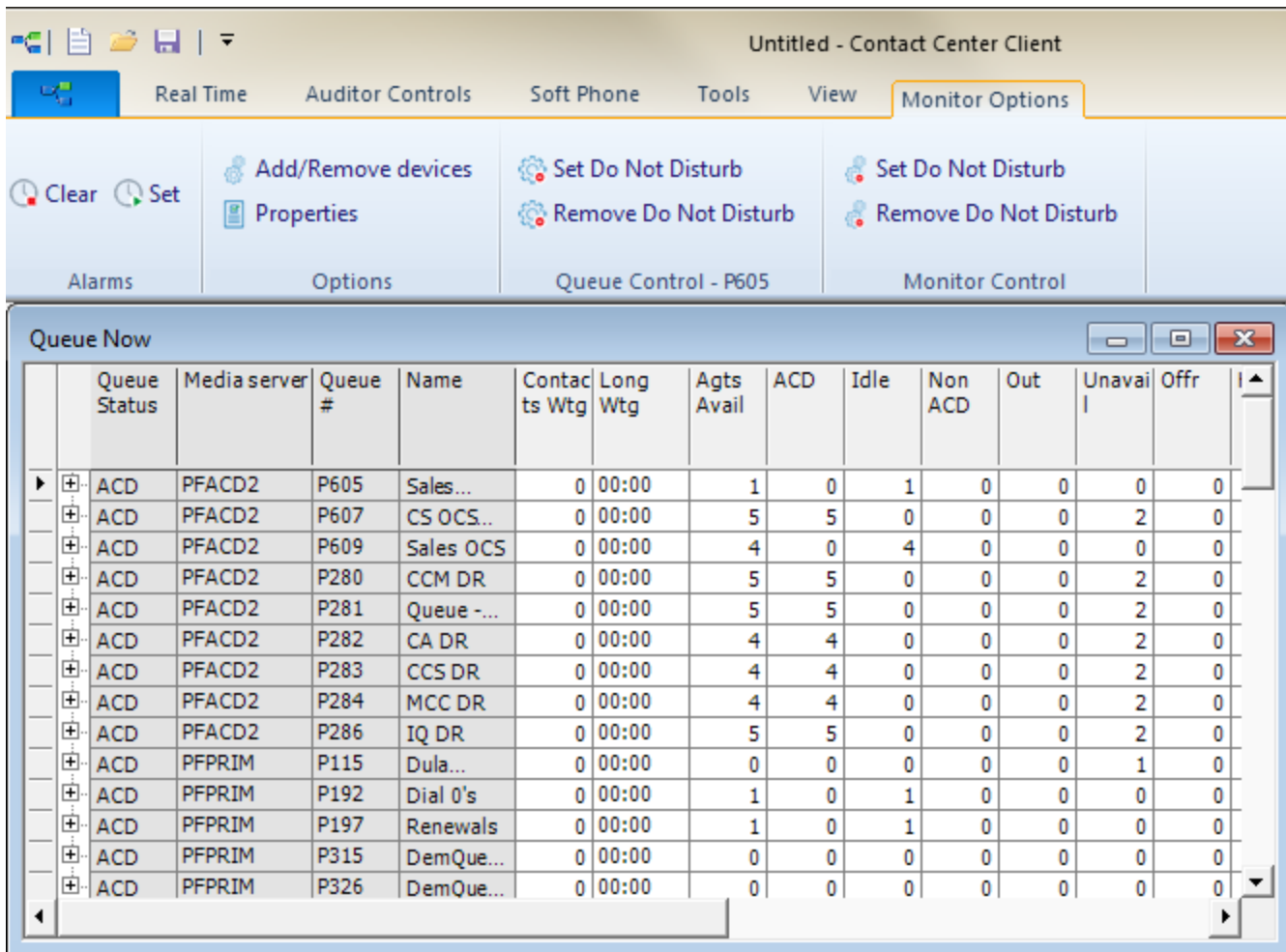


Figure 93: Queue Now monitor - Monitor Options tab

Hiding the Monitor control option

Interactive Contact Center enables you to manage the presence of all devices in a monitor using Monitor Device Control. If you do not want to use monitor control, you can hide this option so it is not accessible.

To hide the Monitor control option

1. In Contact Center Client, click the **Contact Center Client icon tab=>Options**.
2. Under **Device control**, clear the **Display monitor device control option** check box.
3. Click **OK**.

Placing queues in Do Not Disturb

Using manual queue control, you can place queues in and remove queues from Do Not Disturb on the Queue Now monitor. A call will not enter a queue that is in Do Not Disturb. The call is sent to an unavailable answer point programmed in the telephone system.

NOTE: Putting a ring group into Do Not Disturb removes the presence of all of its members.

To place a queue in Do Not Disturb

- Right-click the cell of an active queue and click **Queue control=>Set Do Not Disturb**. Alternatively, select the queue in an open Queue Now monitor and click **Set Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon. See Figure 94.

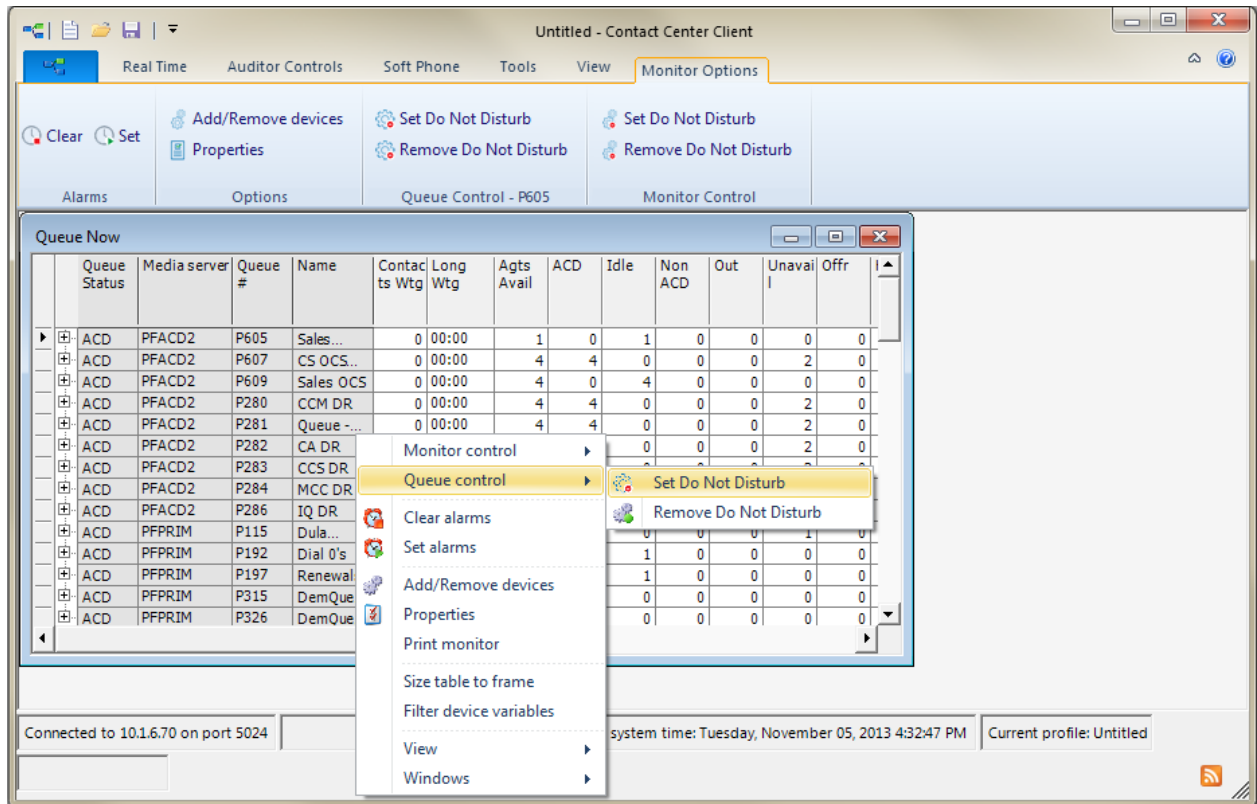


Figure 94: Placing a queue in Do Not Disturb

To place all of the queues on a monitor in Do Not Disturb

- Right-click the monitor and click **Monitor control=>Set Do Not Disturb**. Alternatively, select an open Queue Now monitor and click **Set Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon.

Removing queues from Do Not Disturb

To remove a queue from Do Not Disturb

- Right-click the cell of a queue that is in Do Not Disturb and click **Queue control=>Remove Do Not Disturb**. Alternatively, select the queue in an open Queue Now monitor and click **Remove Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon.

To remove all of the queues on a monitor from Do Not Disturb

- Right-click the monitor and click **Monitor control=>Remove Do Not Disturb**. Alternatively, select an open Queue Now monitor and click **Remove Do Not Disturb** from the Monitor Option tab in the Contact Center Client ribbon.

Controlling queues using a schedule

You can apply Business Hour schedules to queues to open queues during business hours and close queues after business hours. For more information, see "Opening and closing queues with business hour schedules" on page 153.

Scheduling queues to enter or leave Do Not Disturb

Using a schedule, you can place queues in and remove queues from Do Not Disturb on the Queue Now monitor. For more information, see "Opening and closing queues with business hour schedules" on page 153.

Controlling queues using queue control plans

NOTE: You must install Interactive Contact Center before you can use Interactive Contact Center Queue control.

Using queue control plans, you can place queues in and remove queues from Do Not Disturb, and close and re-open queues automatically based on predefined criteria. For more information, see "Closing and re-opening queues with queue control plans" on page 153.

Creating Queue control plans

Queue control plans open and close queues based on plan parameters only during business hours. Each queue is controlled by only one queue control plan at a time. You can apply the same queue control plan to several queues. For information on creating queue control plans, see "Closing and re-opening queues with queue control plans" on page 153.

Chapter 13

INTERACTIVE VISUAL QUEUE

Using Interactive Visual Queue

INTERACTIVE VISUAL QUEUE

Interactive Visual Queue is a Contact Center Client real-time monitor that works in conjunction with Contact Center Management and Interactive Contact Center. Interactive Visual Queue comprises a Queued media grid and an Abandoned media grid. In the Queued media grid, supervisors and agents can view calls within queues and then use a drag-and-drop operation to move calls from busy queues to less active queues. In the Abandoned media grid, supervisors can view abandoned call information, including the caller name, phone number, and time of the abandoned call. Agents can use the Abandoned media grid to call back abandoned callers.

Ring groups are not supported with Interactive Visual Queue and any queue groups displayed in Interactive Visual Queue will not display calls in the ring group queues.

USING INTERACTIVE VISUAL QUEUE

Interactive Visual Queue works in conjunction with Contact Center Management. Before you use Interactive Visual Queue you must configure queue options in YourSite Explorer so they mirror those of the 3300 ICP telephone systems.

NOTE: In order to use Interactive Visual Queue, you must enable all HCI options on Class of Service Assignment form 1 (COS 1).

CONFIGURING OPTIONS IN CONTACT CENTER MANAGEMENT

In YourSite Configuration, for each queue you want to monitor, you must configure the priority level and the method for handling interflowed calls. The values you configure must match the values specified on the Path Assignment form of your telephone system.

NOTE: The YourSite Configuration settings for Interactive Visual Queue monitors do not affect call flow activity on the actual queues. These settings only affect the way Interactive Visual Queue displays the queue monitors in Contact Center Client. If you want to modify call flow on the actual queues, you must change the telephone system settings.

If the telephone system settings and Interactive Visual Queue settings do not match, Interactive Visual Queue will not display the correct call activity. For example, if Queue 1 is set to a priority of 10 on the telephone system and a priority of 20 in YourSite Configuration, Interactive Visual Queue will display calls in Queue 1 as priority 20. However, the actual queue will handle the calls as priority 10.

STARTING CONTACT CENTER CLIENT

Interactive Visual Queue resides in Contact Center Client.

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

To start Contact Center Client

1. Open **Contact Center Client**.
2. If prompted, type your user name and password and verify the Enterprise Server IP address.
3. If you use Secure Socket Layer, select the **SSL** check box.
4. Optionally, select the **Remember my credentials** check box.
5. Click **Log in**.

OPENING INTERACTIVE VISUAL QUEUE

You access Interactive Visual Queue by logging on to Contact Center Client and then opening the Real-time toolbar.

To open an Interactive Visual Queue monitor

1. Log on to Contact Center Client.
2. In the Contact Center Client ribbon, click **Real time**.
3. Click **Interactive Visual Queue**.
The Add/Remove device IDs window opens.
4. Select a queue from the Queues list and click **OK**.
See Figure 95.

NOTE:

- Virtual queue groups are shown in the Queue groups list.
- To use Interactive Visual Queue effectively, you should open two or more queue monitors.

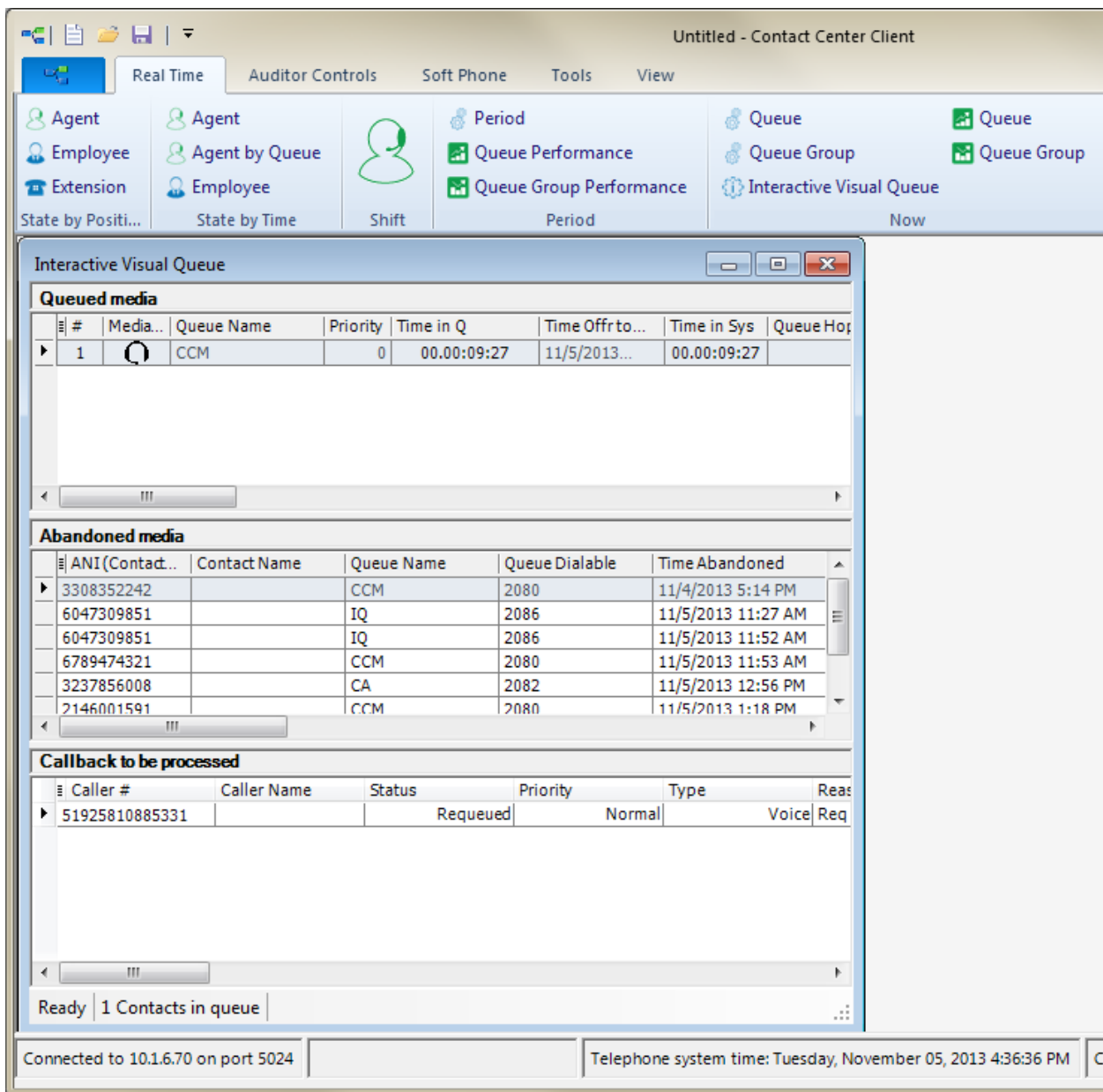


Figure 95: Interactive Visual Queue monitor

INTERACTIVE VISUAL QUEUE MONITOR GRIDS

The Interactive Visual Queue monitor comprises the Queued media grid and the Abandoned media grid. The Queued media grid lists the calls that are currently in the selected queues or queue groups. The Abandoned media grid lists abandoned calls. The calls are listed in order of priority and the columns can be sorted. You can configure the column headings and specify which columns are displayed. If you are licensed for IVR Routing Advanced Starter Pack or greater, Interactive Visual Queue includes the Callback to be processed grid, which lists callbacks.

NOTE: The abandoned calls column in the Interactive Visual Queue monitor displays all abandoned calls except those abandoned while ringing an agent or extension. The abandoned column in the Queue Now monitor does not peg short abandons as abandoned calls, but does peg calls that are abandoned while ringing an agent or extension if they do not peg as a short abandon. Because of these differences, you may notice discrepancies between the abandoned call information in these two monitors.

The following list provides descriptions of the column headings available in the Queued media grid:

- *Position (#)* displays the answer position relative to other contacts in the queue
- *Media icon* displays the media type
- *Queue Name* is the name of the queue
- *Queue Dialable* displays:
 - Voice—the dialable number of the queue
 - Chat—Queue Auto Response User Name
 - Email—Email address of the queue
- *Priority* is the priority of the contact in the queue (the lower the number, the higher the priority)
- *Time in Queue* is the contact's total time in the current queue
- *Time Offered to System* is the time the contact first entered the system
- *Time in System* is the contact's total time in the system
- *Queue Hops* is the number of times a contact has changed queues
- *ANI (Contact ID)* displays:
 - Voice—caller # / ANI
 - Chat—Chat email address from pre-chat form
 - Email—From email address
- *Subject* displays
 - Voice—blank
 - Chat—Chat subject from pre-chat form
 - Email—Email subject
- *Is Callback* indicates if the queued media is a callback request (voice only)
- *Service level countdown* provides a countdown in seconds when the conversation will exceed the target time to meet the service level
- *Contact Name* is the name associated with the contact (if available)
 - Voice—caller ID
 - Chat—Chat name from pre-chat form
 - Email—Email "From" name, if available
- *Time Offered to Queue* is the time the contact entered the current queue
- *DNIS (To Address)* displays
 - Voice—DNIS Number
 - Chat—blank
 - Email—receiver's email address

- *To Name* displays
 - Voice—DNIS Name, if configured in YourSite Explorer for the associated DNIS number
 - Chat—blank
 - Email—Email “To” name, if available
- *Collected Information* displays the single or series of collected results provided by IVR Routing. Collected information requires IVR Routing, Verified Collected Digits and, optionally, Remote Database Verification or CTI Developer Toolkit
- *Queue Reporting* is the queue’s reporting number

The following list provides descriptions of the column headings available in the Abandoned media grid:

- *ANI (Contact ID)* displays caller # / ANI
- *Contact Name* is the caller ID associated with the contact (if available)
- *Queue Name* is the name of the queue
- *Queue Dialable* displays the dialable number of the queue :
- *Time Abandoned* is the time at which the contact abandoned the queue
- *Time Since Abandoned* is the elapsed time since the contact abandoned the queue
- *Last Callback Employee* is the employee name and employee ID associated with the most recent callback attempt
- *Last Callback Time* is the time at which the most recent callback was attempted
- *Time Since Last Callback* is the elapsed time since the most recent callback attempt
- *Time Offered to Queue* is the time the contact entered the current queue
- *Time in Queue* is the contact's total time in the current queue
- *Time Offered to System* is the time the contact first entered the system
- *Time in System* is the contact's total time in the system
- *Queue Hops* is the number of times a contact has changed queues
- *Is Callback* indicates if the queued media is a callback request (voice only)
- *Service level countdown* provides a countdown in seconds when the conversation will exceed the target time to meet the service level
- *DNIS (To Address)* displays the DNIS number
- *To Name* displays the DNIS name, if configured in YourSite Explorer for the associated DNIS number
- *Subject* displays DNIS
- *Collected Information* displays the single or series of collected results provided by IVR Routing. Collected information requires IVR Routing, Verified Collected Digits and, optionally, Remote Database Verification or CTI Developer Toolkit
- *Queue Reporting* is the queue’s reporting number
- *Media icon* displays the media type

The following list provides descriptions of the column headings available in the Callback grid:

- *Caller #* displays the phone number provided by the contact
- *Caller Name* displays the contact's name
- *Status* displays the state of the callback
 - New request
 - In progress
 - Requeued
 - Completed
 - Unknown
- *Priority* the importance level of the callback.
 - Voice—Normal
 - Web—Normal
 - Abandoned—Low
- *Type* displays the type of callback
 - Voice
 - Web
 - Abandoned
- *Reason* displays the callback's reason for its current status
- *Attempted Calls to Agent* displays the number of times the agent attempted the callback
- *Last Time Agent Attempted* displays the last time the agent attempted the callback
- *Request time* displays the specific time the callback will be executed
- *Time Received* displays the specific time the caller submitted the callback request
- *Web IP Address* displays the IP address of the contact who submitted the callback request.
- *Last Attempted Call To Client* displays the specific time the last callback attempt to the caller was made
- *Attempted Calls To Client* displays the number of times the callback was attempted
- *Client Available From* displays the earliest time the contact is available to receive the callback
- *Client Available To* displays the latest time the caller is available to receive the callback
- *ANI* displays the phone number of the caller
- *DNIS* displays the phone number the caller dialed
- *Dialable* displays the number of the device that will handle the callback
- *Device Name* displays the name of the device that will handle the callback
- *Device Type* displays the type of device that will handle the callback – agent, queue, or extension
- *Recorded Message* displays a hyperlink to the voice callback request .wav file left by the caller
- *Area* displays the state, province, or other area the call originated from
- *Country* displays the country the call originated from
- *Port* displays the number of the port attempting to perform the callback
- *Region* displays the region the call originated from

Sorting contacts by columns

Monitor columns can be used to sort contacts in Interactive Visual Queue. You can only sort by one column in a grid at a time. By default, the Queued media grid is sorted by Position number. Sort preferences are preserved in your Contact Center Client profile.

To sort contacts by columns in the Interactive Visual Queue monitor

- Click on the column heading by which you want to sort.
To reverse the sort order, click on the column again.

REDIRECTING CALLS

A call can move between queues automatically (interflow) or manually (redirection).

Interflow

You can configure queue settings on the telephone system to automatically move a call from one queue to another after a specific duration. For example, you can configure your system to move a call from Queue 1 to Queue 2 if the call has not been answered within 30 seconds. Interflow occurs without any user interaction.

Redirection

Using Interactive Visual Queue, you can manually redirect a call from a queue to another queue or a dialable number.

There are two ways a call can be removed from the system. If a call is moved more than 10 times, either by redirection or by interflow, the call is dropped from the system. You can see the current number of times a call has moved between queues in the Queue Hops column. A call will also be automatically removed from the system if its total time in the system exceeds 24 hours. The Total Time column lists the call's duration in the system.

You can manually redirect a call in the Queued media grid using the following methods:

- Drag and drop a call between queues.
- Use the right-click menu to move a call between queues.
- Use the right-click menu to send a call to a specific dialable number (for example, an extension or voice mail port).

You may notice that the first two methods perform the same action. However, the second method is convenient when queue monitor is maximized and you want to move a call without having to resize one or more monitors.

NOTE: If you right-click a call and redirect it to a specific extension, the call will no longer be considered an ACD call for reporting purposes. If you redirect a call using either of the other two methods, the call remains an ACD call.

When you manually redirect (drag and drop) a call in Interactive Visual Queue, Contact Center Management changes the way the call is pegged on the Queue Performance reports. If you redirect a call before the short abandon time set for the queue, the call is pegged as *Unavailable*. If you redirect a call after the short abandon time set for the queue, the call is pegged as *Interflowed*. An internal ACD call is pegged as *Abandoned* if the call is redirected at any time.

Redirecting calls between queues

To redirect a call from one queue to another queue using a drag-and-drop operation

1. In the Queued media grid, click anywhere in the row of the call you want to move.
2. Use a drag-and-drop operation to move the call from its original queue monitor to a new queue monitor.

To redirect a call from one queue to another queue using the menu

1. In the Queued media grid, right-click the row of the call you want to redirect and click **Send to**. A list of available queues appears.

NOTE: You can select multiple rows to move multiple calls to a new queue.

2. Click the name of the queue to which you want to move the call.

Redirecting voice contacts to specific agents

You can transfer voice contacts in queue directly to agents who are available or in Make Busy/Overloaded states. Agents in Do Not Disturb cannot receive transferred contacts and will not appear in the list of available agents.

To redirect voice contacts to agents

1. In the Queued media grid, right-click the row of the contact you want to redirect and click **Send to=>Agent**.

A list of available agents who can handle the voice contact displays.

NOTE: You can use the search button to locate a specific agent, either by name or reporting number.

2. Click the name of the agent to which you want to send the contact.
3. Click **OK**.

Redirecting calls to specific numbers

Using the Send to menu option, you can redirect calls in Interactive Visual Queue to any extension. In addition, if you have Contact Center Softphone installed, you can send a call directly to your own extension by selecting Send to=>Me.

To redirect a call to a dialable number

1. In the Queued media grid, right-click the row of the call you want to redirect and click **Send to=>[Extension]**.

When you click [Extension], it changes to a text box.

2. Type a number in the text box and press **Enter**.
See Figure 96.

NOTE: You cannot use the Extension option if you have multiple calls selected. Only one call can be sent to a dialable number at a time.

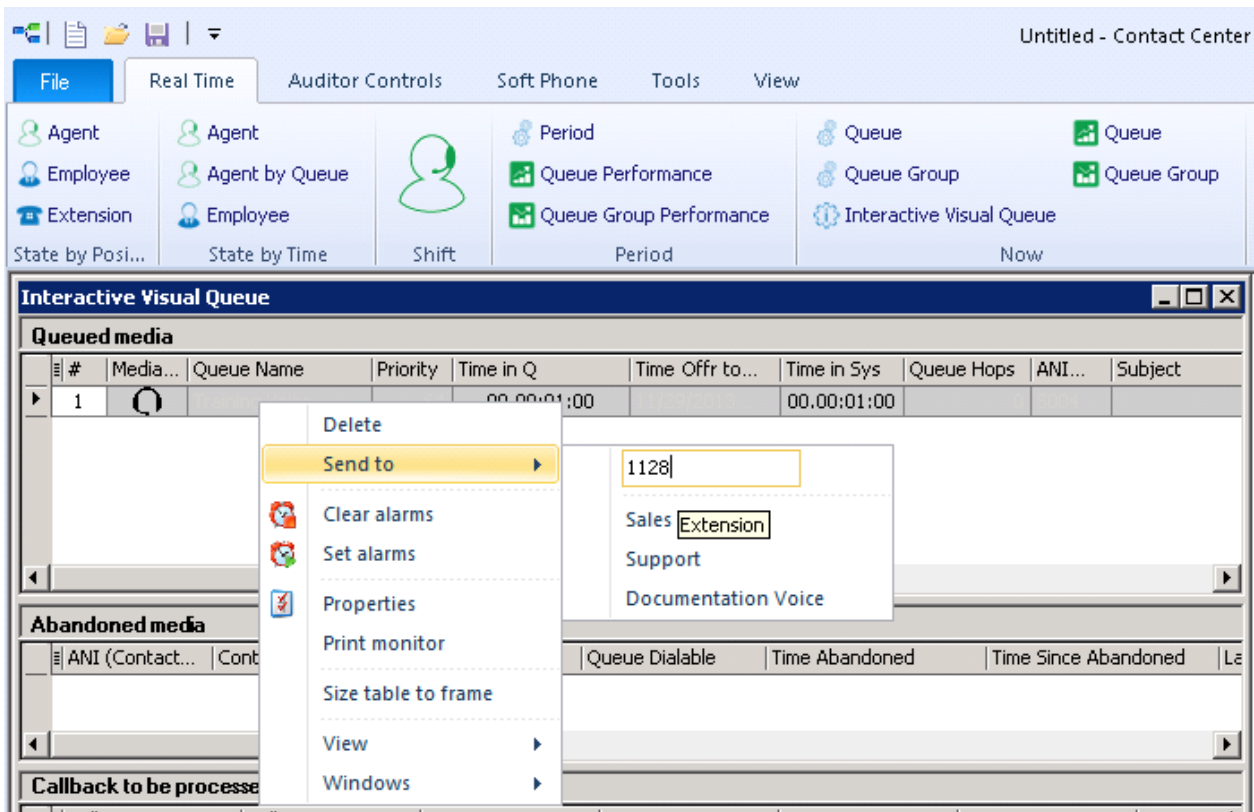


Figure 96: Redirecting a call to an extension

To redirect a call to your extension

1. In the Queued media grid, right-click the row of the call you want to redirect.
2. Click **Send to=>Me**

NOTE: This option is not available unless you have Contact Center Softphone installed and configured on your computer.

Removing calls

To remove a call from Interactive Visual Queue

1. Right-click the row of the call you want to remove.
2. Click **Delete**.
The call is removed from Interactive Visual Queue.

NOTE: Deleting a call from an Interactive Visual Queue monitor will not remove it from the actual queue. This will just cause Interactive Visual Queue to stop tracking the call.

CALLING BACK ABANDONED CALLERS

The Abandoned media grid displays abandoned call information and enables agents to call back abandoned callers.

NOTE:

- If you want Interactive Visual Queue to automatically insert 1 when calling back long distance phone numbers, you must program your telephone system ARS accordingly. For more information, see the *Mitel 3300 ICP System Administration Tool Help*.
- Abandoned call information is automatically deleted from the Abandoned media grid after 24 hours.
- Abandoned calls cannot be transferred to agents.

To call back an abandoned caller

1. Right-click the row of the abandoned call you want to call back, and select **Call** to automatically dial the abandoned caller.
NOTE: Each time an agent attempts to call back an abandoned caller, their name and ID are attached to the call record and display in the Last callback employee column of the Abandoned media grid.
2. After you have contacted the abandoned caller, right-click the row associated with that call, and select **Delete** to remove the abandoned call record from the Abandoned media grid.

CONFIGURING ALARMS

You set alarms on Interactive Visual Queue monitors similar to the way you set alarms on Contact Center Client monitors. The main difference is that some of the variables you can monitor, Caller Number, Caller Name, DNIS Number, DNIS Name, Collected Digits, and Collected Information, use a string for their value as opposed to a threshold boundary. For example, you can set an alarm that is triggered when a specific name appears in the Caller Name column.

The value you type for Caller Number or Caller Name alarms is a wildcard, which means the alarm will trigger if that value appears in any form. For example, if you configure a Caller Name alarm for the value *John*, the alarm will trigger for the values *John Smith*, *Johnathan*, *longjohn*, and so on.

To configure alarms:

1. Right-click an Interactive Visual Queue monitor and click **Set alarms**.
The Set Alarms window appears.
2. Under **Performance variables**, select the variable you want to monitor.
3. Under **Alarm thresholds**, click **Add value** and select a boundary (or value) for the variable you selected as well as the alarm type(s) that will indicate when the variable exceeds those boundaries.
4. For more information on configuring monitor alarms, see "Setting alarms" on page 263.
5. If you want to add further alarms for the variable, repeat step 3.
6. Click **OK** to save the alarms.

UNDERSTANDING CALL PRIORITY

Each queue has a default priority level. When a call enters the system for the first time, the call adopts the default priority of whichever queue it enters. If all calls in a queue have the same priority, the position of the calls are based on each call's total time in the current queue. If a queue contains calls that have multiple priority levels, higher priority calls will have a higher position in the queue than lower priority calls.

As long as a call remains in a queue, it maintains its priority. However, if a call moves from one queue to another queue, the call's priority may change, based on the method used to move the call.

When you redirect a call manually, the call always adopts the default priority level of the destination queue. For example, suppose Queue 1 has a priority of 1 and Queue 2 has a priority of 15. When a call first enters Queue 1, it has a priority of 1. However, if you manually move that call to Queue 2, using either a drag-and-drop operation or the right-click menu, the call priority lowers to 15. The rules work the same in reverse. If you manually move a priority 15 call from Queue 2 to Queue 1, the call priority increases to 1 when it enters Queue 1.

Calls interflowed automatically retain the original call priority, or adopt the priority of the new queue based on telephone system settings. The interflow options you specify for a queue in YourSite Explorer must be identical to those of the telephone system. For more information on configuring interflowed calls, see "Adding queues" on page 142.

VIEWING CALLBACK INFORMATION IN INTERACTIVE VISUAL QUEUE

When licensed with an IVR Routing Advanced Starter pack or greater, Interactive Visual Queue also provides the Callbacks to be processed grid, which displays all callbacks in the displayed queues in the Interactive Visual Queue monitor. Users can access the Callbacks to be processed grid to manage callbacks in queue. For more information, see "Managing callbacks in Interactive Visual Queue callback monitors" on page 417.

The following list provides descriptions of the column headings available in the Callbacks to be processed grid and the Global Callback monitor:

- *Caller #* displays the phone number provided by the contact
- *Caller Name* displays the contact's name
- *Status* displays the state of the callback
 - *New request*
 - *In progress*
 - *Requeued*
 - *Completed*
 - *Unknown*
- *Priority* the importance level of the callback.
 - *Voice—Normal*
 - *Web—Normal*
 - *Abandoned—Low*
- *Type* displays the type of callback

- *Voice*
- *Web*
- *Abandoned*
- *Reason* displays the callback's reason for its current status
- *Attempted Calls to Agent* displays the number of times the agent attempted the callback
- *Last Time Agent Attempted* displays the last time the agent attempted the callback
- *Request time* displays the specific time the callback will be executed
- *Time Received* displays the specific time the caller submitted the callback request
- *Web IP Address* displays the IP address of the contact who submitted the callback request.
- *Last Attempted Call To Client* displays the specific time the last callback attempt to the caller was made
- *Attempted Calls To Client* displays the number of times the callback was attempted
- *Client Available From* displays the earliest time the contact is available to receive the callback
- *Client Available To* displays the latest time the caller is available to receive the callback
- *ANI* displays the phone number of the caller
- *DNIS* displays the phone number the caller dialed
- *Dialable* displays the number of the device that will handle the callback
- *Device Name* displays the name of the device that will handle the callback
- *Device Type* displays the type of device that will handle the callback – agent, queue, or extension
- *Recorded Message* displays a hyperlink to the voice callback request .wav file left by the caller
- *Area* displays the state, province, or other area the call originated from
- *Country* displays the country the call originated from
- *Port* displays the number of the port attempting to perform the callback
- *Region* displays the region the call originated from

Managing callbacks in Interactive Visual Queue callback monitors

Using Interactive Visual Queue's Callback to be processed grid, users can requeue, reject, and delete callbacks from monitors. Requeued callbacks are re-entered into their queue. Rejected callback are removed from the queue and will not be offered to employees. Deleted callbacks are removed from the current monitor, but are not removed from the system.

Users can also adjust a callback's priority. Callback priority determines the order of which callbacks will be offered to agents. Callbacks are offered to agents in order of their priority and then by the longest waiting callback of that priority. For example, High priority callbacks are offered before Normal priority callbacks, even if the Normal priority callbacks have been in queue longer.

The following procedures explain how to:

- Requeue a callback
- Reject a callback
- Delete a callback
- Change a callback's priority

To requeue a callback

1. Right-click a callback and select **Requeue**.
2. Select **Yes**.

To reject a callback

1. Right-click a callback and select **Reject**.
2. Select **Yes**.

To delete a callback

1. Right-click a callback and select **Delete**.
2. Select **Yes**.

To change a callback's priority

- Right-click a callback and select **Change priority=>[priority level]**.

Chapter 14

CONTACT CENTER PHONESET MANAGER AND CONTACT CENTER SOFTPHONE

*Using Contact Center PhoneSet Manager
and Contact Center Softphone*

CONTACT CENTER PHONESET MANAGER AND CONTACT CENTER SOFTPHONE

The Contact Center PhoneSet Manager and Contact Center Softphone applications are designed for the 3300 ICP telephone system. They provide ACD agent functions and enable agents to use their desktop computers as IP-based phones.

NOTE:

- Soft phone is not supported on the Enterprise Server.
- Interactive Contact Center is required to control the availability of agents and ACD queues. See "Interactive Contact Center" on page 388.
- External hot desking agents are supported for use with Contact Center PhoneSet Manager only.

USING CONTACT CENTER PHONESET MANAGER AND CONTACT CENTER SOFTPHONE

Contact Center PhoneSet Manager and Contact Center Softphone enable agents to use their desktop computers as IP-based phones. Contact Center PhoneSet Manager automates Mitel IP phone sets from the computer desktop. An agent who uses Contact Center PhoneSet Manager has a headset connected to a desk phone. Contact Center Softphone provides complete phone set functionality from the computer desktop. A computer and wired or wireless USB headset deliver calls to the agent.

STARTING CONTACT CENTER CLIENT

Contact Center Softphone and Contact Center PhoneSet Manager reside in Contact Center Client.

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

To start Contact Center Client

1. Open **Contact Center Client**.
2. If prompted, type your user name and password and verify the Enterprise Server IP address.
3. If you use Secure Socket Layer, select the **SSL** check box.
4. Optionally, select the **Remember my credentials** check box.
5. Click **Log in**.

TESTED HEADSETS

The following headsets have been tested with Contact Center Softphone and are supported as audio devices only:

Plantronics models:

- Plantronics USB Headset – Savi D100/W430: Current
- Plantronics USB Headset – Blackwire
- C420
- C600 family
- Plantronics USB Headset – DA4
- Plantronics USB Headset – BUA 100

Jabra models:

- Jabra GN 9330e USB
- Jabra GN 2000 USB
- Jabra BIZ 2400 USB Duo MS

NOTE: In order for the Plantronics and GN Netcom headsets to work with Contact Center PhoneSet Manager you must have the correct amplifier adaptor for the Mitel phones. In order for the Plantronics and GN Netcom headsets to work with Contact Center Softphone you must have the correct USB adaptor.

USB-TO-HEADSET ADAPTORS

For Contact Center Softphone, the Plantronics H251N and H261N and the GN Netcom GN 2110 ST and GN 2115 ST headsets must be connected to your computer by a USB-to-headset adaptor. We have tested the following USB-to-headset adaptors to confirm they work with Contact Center Softphone:

- Plantronics DA60 USB-to-Headset Adaptor (part number DA60)
- GN Netcom USB-to-headset adaptor (part number GN 8110)
- GN Netcom USB-to-headset adaptor (part number GN 8120)

You can integrate the GN 8120 with Contact Center Softphone and use the three different function buttons on the GN 8120 to perform specific functions in Contact Center Soft phone. Table 35 shows the GN 8120 button functions.

Table 35: GN 8120 button functions

BUTTON	STATE	ACTION
Blue volume control	Any state	Increases or decreases the headset speaker volume, which controls the volume at which you can hear a caller
White button	Any state	Turns the mute function on or off
Green button	Incoming call is ringing on one of your line appearances	Answers a call
	You are currently talking to someone and you do not have anyone on consultation hold	Hangs up a call
	You are currently talking to someone and you have someone on consultation hold	Performs a swap with the party on hold
Red button	You are currently talking to someone, and you do not have anyone on consultation hold	Places the current call on hold
	You currently have someone on hold	Retrieves the call on hold
	You are currently talking to someone and you have someone on consultation hold	Cancels the current call and returns you to the party on hold

Table 36 shows situations where the LEDs will be lit or flashing based on the state of Contact Center Softphone.

Table 36: GN 8120 LED displays

WHAT YOU ARE DOING	GN 8120 LED DISPLAYS
All lines are idle, and the mute function is off	All LEDs are off
The mute function is on	Blue LED above the white button is on
A call is ringing	Green LED above green button is flashing
You are currently dialing, waiting for an answer, or talking to someone, and you do not have anyone on hold	Green LED above green button is on
You are currently talking to someone, and he has put you on hold	Green LED above green button is flashing
You put someone on hold	Red LED above red button is on
You are currently talking to someone, and you have someone on consultation hold	Green LED above green button is on Red LED above red button is flashing

Integrating the GN 8120 with Contact Center Softphone

To integrate the GN 8120 with Contact Center Softphone

1. Log on to Contact Center Client.
2. In the Contact Center Client ribbon, click **Soft Phone**
3. Click the **Soft Phone** icon in the toolbar ribbon.
The Soft phone configuration window opens.
4. After **Input audio device**, choose the GN 8120.
5. After **Output audio device**, choose the GN 8120.
6. Click **OK**.

SETTING UP THE SOFT PHONE

The functionality of Contact Center PhoneSet Manager and Contact Center Softphone is similar. For simplicity, we will use *soft phone* when referring to features and functionality common to both applications.

NOTE:

- Before you set up the soft phone on your client computer, ensure your network administrator has configured your soft phone as a 5020 IP phone on the telephone system.
- Users who are upgrading to Contact Center Solutions Version 6.0 or greater must uninstall MiAUDIO Desktop Edition before they use Contact Center Softphone. MiAUDIO is now bundled in the Contact Center Solutions software and no longer runs as the IP Phone Emulation Service.
- Although Inter-Tel users can log in to multiple extensions simultaneously, this functionality is not currently supported by Contact Center Solutions applications.

To set up a client computer to use the soft phone

1. Consult your network administrator to confirm your soft phone extension number.
2. Ensure your headphone is connected.
3. Configure sound and audio device properties.
See "Configuring sound and audio device properties" on page 423.
4. Run Client Component Pack.
See "Installing the latest version of Client Component Pack" on page 48.

CONFIGURING SOUND AND AUDIO DEVICE PROPERTIES

To configure sound and audio device properties for Windows operating systems, you must set the PC speakers as the default audio device and adjust the volume of the PC speakers, headset speakers, and headset microphone.

OPENING THE SOFT PHONE

To open the soft phone

1. In the **Contact Center Client** ribbon, click **Soft Phone**
2. Click the **Soft Phone** icon in the toolbar ribbon.
The Soft phone configuration window opens.
See Figure 97.

Figure 97: Soft phone configuration window

3. Click **Add Extensions** to search and select from all internal standard extensions, hot desk extensions, and external hot desk user extensions.
4. Click **Add External Agents** to search and select from all external hot desk agent extensions.
5. Select your phone extension from the list of extensions.
NOTE: Although Inter-Tel users can log in to multiple extensions simultaneously, this functionality is not currently supported by Contact Center Solutions applications.
6. If you have Contact Center PhoneSet Manager, click **Desk phone**. If you have Contact Center Softphone, click **Soft phone**.
7. If you want to log on automatically to the soft phone with your phone extension the next time you open the current profile, select the **Remember my extension** check box.

You must save the current profile before you quit the soft phone for this option to work.

If you are a hot desk user who participates in the use of PINs, the PIN login dialog box opens. If you are a hot desk user who does not participate in the use of PINs, go to step 10.

NOTE: When logging in as an external hot desking agent or a hot desking user who is not set up to use a PIN login, if the PIN entry window displays, do not enter a PIN; just click **Login**.

8. Type your Login PIN.

If you want Contact Center Client to remember your Login PIN, select the Remember your credentials check box. This option is not available if your Contact Center Client profile is shared.

9. Click Login.

NOTE:

- If the Login PIN you entered is invalid the login will fail and you will be asked to enter a valid Login PIN.

By default, users can attempt to log in 3 times before their PIN locks, requiring it be reset with a new PIN. It is recommended that the default number of failed attempts before the PIN is locked is increased on your telephone system to prevent locking. For information on changing this setting, see the following Knowledge Base article:
<http://micc.mitel.com/kb/KnowledgebaseArticle52108.aspx>.

- Advanced supervisor or System Administrator will not be prompted to enter a PIN provided third party call control is configured under security in CCMWeb and on the telephone switch.

- 10.** If you want Contact Center Client to be the top-most window on ringing, select the **Bring to front on ringing** check box.
- 11.** If you want Contact Center Client to not display the screen pop window when calls are ringing on the desktop, enable the **Disable toaster on ringing** check box.
- 12.** If you selected Soft phone in step 6, under **Soft phone settings**, configure soft phone options.
NOTE: For the relevant configuration information, contact your supervisor or system administrator.
- 13.** After **Address book source for contacts**, select **YourSite contacts** or **Outlook contacts**. Contact Center PhoneSet Manager and Contact Center Softphone users can access YourSite database phone extensions or Outlook Personal Contact or Global Address List phone numbers when they handle calls.
- 14.** To automatically log off the agent from the telephone system when closing the soft phone, select the **Automatically log off this ACD agent when closing the soft phone** check box.
- 15.** To automatically launch Ignite when logging into Contact Center Softphone or PhoneSet Manager, select **Automatically launch the Ignite Client on ACD login** check box.
NOTE: This option only applies to voice agents who use Ignite to handle multimedia contacts.
- 16.** If you want to synchronize online presence indicators with ACD agent states in real-time monitors, select the **Synchronize my Lync presence with my ACD state** check box.
- 17.** If you want to display call notes on the soft phone display and on the Call Notes monitor, ensure the **Display call notes** check box is selected.
- 18.** Click **OK**.
The Contact Center Client window displays the soft phone, Phone and Functions toolbars. See Figure 98.

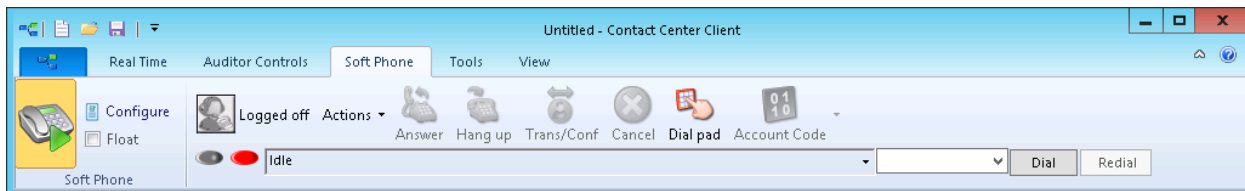


Figure 98: Soft phone toolbars

19. If you want to be able to position the soft phone toolbar elsewhere on your desktop, enable the **Float** check box.
20. To move the soft phone toolbar, hover the mouse over the perforated line on the left-side of the toolbar until the four-headed arrow displays. Then click, drag, and drop it to the desired position on your desktop. To reanchor the toolbar to the ribbon, drag and drop it into position under the ribbon.
21. If you want to modify the soft phone configuration, click the **Configuration** icon in the toolbar to reopen the Soft phone configuration window.

Changing soft phone IP addresses

If you are required to change the IP address for your soft phone, consult the following procedure.

1. In the **Contact Center Client** ribbon, click **Soft Phone**.
2. Click the **Soft Phone** icon in the toolbar ribbon.
3. In the **Soft phone configuration** window, click **Soft phone settings**.
4. After **Use IP address**: select the new IP address from the drop-down list and click **OK**.
NOTE: For information on what address to select, contact your supervisor or system administrator.
5. In the **Soft Phone configuration** window, under 'This extension is a', click **Desk phone** and then click **Soft phone**.
NOTE: Clicking 'Desk phone' is required to unbind your soft phone from the previous IP address.
6. Click **OK**.
7. On the ribbon, click **Save**.

THUMBNAIL SOFT PHONE TOOLBAR

The thumbnail soft phone toolbar enables agents to quickly perform soft phone actions when other applications are open on the desktop. The thumbnail toolbar gives agents access to Answer, Hang up, Cancel, and Dial functions and is particularly helpful when the Contact Center Client application is minimized and you want to perform a quick soft phone action. To see the toolbar options, hover over it with your mouse. (Figure 99.)

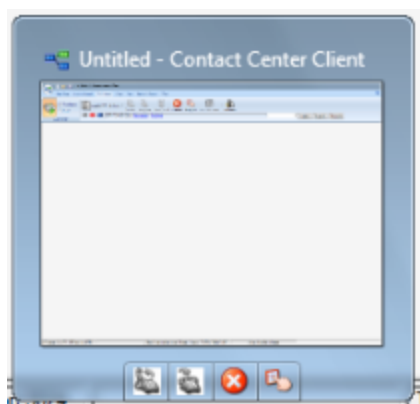


Figure 99: Thumbnail soft phone toolbar

NOTE:

- The thumbnail soft phone toolbar is supported with Windows 7 or Windows 2008 operating systems only.
- Because of Windows limitations, this toolbar may not always display when Contact Center Client has focus on the desktop.

LOGGING ON TO THE ACD

Agents can log on to the ACD a number of ways, such as selecting the Superkey button in Contact Center Softphone, or using the agent control function in Interactive Contact Center. See "Contact Center PhoneSet Manager and Contact Center Softphone" on page 420.

We recommend that soft phone users who are hot desking agents log on to the ACD using the soft phone Actions menu. This enables the soft phone to identify agents.

NOTE: If you are an external hot desking agent or a hot desking user who logged in internally, logged out, and then chose to log back in externally, you will not be able to log on with the soft phone Actions menu. In order to access this functionality, you must first close and reopen the soft phone toolbar (View=>Deselect and reselect the soft phone option).

To log a standard agent onto ACD

- On the soft phone Functions toolbar, click **Actions=>Log on=>Agents** and select an agent ID.

To log an external hot desking user onto ACD

- On the soft phone Functions toolbar, click **Actions=>Log on=>Hot Desking Users**.

To log an external hot desking agent on to ACD

- On the soft phone Functions toolbar, click **Actions=>Log on=>Agent ID**.

NOTE: When a hot desk agent logs in to the ACD a 3300 ICP user license is taken from the available licensing pool and when the agent logs out the license is released back to the licensing pool. Agents are notified upon login attempt if the number of concurrent logins exceeds the number of available user licenses. If there are no available user licenses the login attempt will fail.

PHONE AND FUNCTIONS TOOLBARS

The Phone toolbar displays your

- Extensions (gray oval buttons)
- Hold button (red oval button)
- Superkey button (blue oval button, for Contact Center Softphone only)
- Current phone state (Idle, Dialing, Talking) box with a down arrow that displays a call details window
- Dial box (field for dialing extensions or phone numbers)
- Dial button (Contact Center PhoneSet Manager only)
- Redial button (Contact Center Softphone only)
- Cancel button (Contact Center Softphone only)
- Message button (for retrieving voice mail messages, Contact Center Softphone only)

The Functions toolbar displays

- Your current ACD state (Logged On/Off, in Make Busy, in Do Not Disturb)
- The ACD actions currently available
- Telephony buttons
See "Displaying, hiding, and retiring toolbar buttons" on page 431.

PHONE FUNCTIONS

You can readily answer calls or forward them to extensions or phone numbers using the soft phone. You can select people from contact and speed dial lists, and perform the following actions: Redial (Contact Center Soft phone only), Transfer, Conference, Mute, Forward, Request help, Hold, Retrieve, Split, Swap, Camp on, Leave a message, Retrieve a message, Call me back, Hang up, and Cancel.

NOTE: External hot desk agents access the 'Answer' and 'Hang up' functions using their external device and not the soft phone toolbar.

Table 37 lists the soft phone telephony options and their corresponding meanings.

Table 37: Agent actions






















ICON		MEANING
	Account Code	tags a call with an Account Code
	Answer	answers a ringing call
	Auto answer	if enabled, answers a ringing call without you having to click Answer
	Call me back	notifies you as soon as the extension number you are trying to call is available
	Camp on	notifies an employee you are attempting to call with a series of audible beeps
	Cancel	terminates your connection to a caller
	Conference	connects three or more people together for a conversation
	Dial pad	enables you to dial a number using a keypad
	Forward	forwards a call to a phone number or extension
	Hang up	terminates a call
	Hold	places the current call on hold

Table 37: Agent actions (continued)

ICON		MEANING
	Leave a message	leaves a message waiting notification on an employee's extension
	Mute	if you have Contact Center Softphone, disables your microphone so you can consult privately with another employee while on a call
	Request help	calls an employee who can click Answer and listen to an in-progress call without the caller knowing
	Retrieve	picks up a call that is held or camped on to your extension
	Speed dial	enables you to make a call to a specified number with one mouse click
	Split	disconnects one person from a conference call
	Swap	swaps between the current and the held party
	Transfer	forwards an in-progress call to another answer point
	Transfer/Conference	places a caller on hold and makes a consultation call
	Volume	if you have Contact Center Softphone, adjusts the volume of your speakers and/or microphone
	Call Notes	enables you to view the notes associated with the current call and add notes

CUSTOMIZING THE SOFT PHONE

You can enhance productivity by configuring the following time-saving options in the soft phone:

- Toolbar customization
- Sounds and notifications
- Call forward destinations
- Speed dial contacts
- Shortcut keys
- Pre-announcement messages

Configuring soft phone settings

To specify soft phone settings

1. Right-click the Phone toolbar and click **Configure**.
2. After **Input audio device**, select an audio device for your microphone.
3. After **Output audio device**, select an audio device for your speakers or headset.
4. Click **OK**.

Specifying the address book source for contacts

To specify the address book the soft phone uses for contacts (Microsoft Outlook or the YourSite database)

1. Right-click the Phone toolbar and click **Configure**.
2. After **Address book source for contacts**, select **YourSite contacts** or **Outlook contacts**.
3. Click **OK**.

Resizing toolbar buttons

To resize toolbar buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. After **Functions toolbar**, select a size for displaying the Functions toolbar buttons.
4. After **Phone toolbar**, select a size for displaying the Phone toolbar buttons.
5. Click **OK**.

Displaying, hiding, and retiring toolbar buttons

You can display telephony buttons, hide them so they appear on the Functions toolbar only when required, and retire them for actions you rarely perform, such as Camp on and Request help.

To display telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, select the check boxes of the telephony buttons you want to display.
4. Click **OK**.

To hide telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, clear the check boxes of the telephony buttons you want to hide from view.
4. Click **OK**.

To retire telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, select the telephony buttons you want to retire and click the left arrow to add these buttons to the Available buttons list.
4. Click **OK**.

To restore telephony buttons

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Available buttons**, select the telephony buttons you want to restore and click the right arrow to add these buttons to the Selected buttons list.
4. Click **OK**.

Repositioning toolbar buttons

To specify the order in which telephony buttons appear

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Toolbars** tab.
3. Under **Selected buttons**, select a telephony button.
4. Click the up or down arrow to change the position of the button relative to other buttons on the Functions toolbar.
5. Click **OK**.

Configuring sounds and notifications

You can configure sounds for individual phone events for incoming calls, secondary incoming calls, and/or the digits dialed on your primary extension, or on all extensions. A primary incoming call is a call you receive while you are in the idle state and are available to take the call. A secondary incoming call is a call you receive while you are on a call on another extension and are not available to take the call.

Every time you receive a call a pop-up window notifies you the call has arrived. You can disable the pop-up notification.

To configure a sound for a phone event

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Select the **Incoming calls**, **Secondary incoming calls**, and/or **Play sounds when dialing digits** check boxes.

4. After **Phone events**, select a phone event.
5. After **Sound file name**, click **Browse** and select a sound file.
6. If you want to play the sound file when the phone event occurs on any of your extensions, click **Apply to all lines**.
7. Click **OK**.

To disable the call arrival pop-up notification

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Under **Phone events**, click a phone line.
4. Clear the **Display pop-up notification for incoming calls** check box.
5. Click **OK**.

Making calls ring through your computer speakers

You can make calls ring through your computer speakers instead of your headset.

To make calls ring through your computer speakers

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. After **Play the rings sounds on** select the sound output device for your computer speakers.

Adjusting the volume of your speakers and microphone

If you have Contact Center Softphone, you can adjust the volume of your speakers and microphone.

To adjust the volume of your speakers

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Adjust the volume by moving the speaker slider.

To adjust the volume of your microphone

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Sounds** tab.
3. Adjust the volume by moving the microphone slider.

Configuring call forward destinations

You can forward calls manually to pre-configured call forward destinations. In addition, you can configure and enable call forwarding so the telephone system forwards calls to other answer points when you are temporarily unavailable or away from the office. For example, you could specify all External call busy calls you receive be forwarded to a co-worker's extension. Rather than directing these call to voice mail, the telephone system would forward these calls to your co-worker.

To configure call forward destinations for calls you will forward manually

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Call forward** tab.
3. Under **Name**, type the name of the person to whom you will forward calls.
4. Under **Number**, type an extension or phone number (preceded by a number you dial to access an outside line).
5. Click **OK**.

To configure and enable call forward destinations for calls the telephone system will forward

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Call forward** tab.
3. Specify the source for call forwarding.
4. Specify destinations for the following call types:
 - All calls (all calls you receive)
 - External call busy (external calls to your extension when you are unavailable)
 - External call no answer (external calls to your extension that you do not answer)
 - Internal call busy (internal calls to your extension when you are unavailable)
 - Internal call no answer (internal calls to your extension that you do not answer)
5. If you want to activate the call forwarding rules immediately, select the **Enabled** check boxes of the call forwarding types to be activated.
6. Click **OK**.

Configuring speed dial numbers

When you pre-configure speed dial numbers in Contact Center Softphone, these contacts are available in drop-down lists adjacent to the Speed dial, Trans/Conf, and Request help buttons on the Functions toolbar.

You can display a button for each speed dial number or display one button with a down arrow that lists all of the speed dial numbers you have configured. You can speed dial calls manually to pre-configured extensions and phone numbers.

To configure a speed dial number

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Speed dial** tab.
3. Under **Name**, type the name of the person to whom you will speed dial calls.
4. Under **Number**, type an extension or phone number (preceded by a number you dial to access an outside line).
5. Click **OK**.

Configuring shortcut keys

You can assign a shortcut key to a telephony function to perform it with a simple keystroke. This enables you to perform telephony functions while the soft phone is minimized or another application is currently selected.

To configure a shortcut key for a telephony function

1. Right-click the Phone toolbar and click **Configure**.
2. Click the **Shortcut keys** tab.
3. Under **Shortcut key**, select a telephony function.
4. Click the down arrow, select **Ctrl**, **Alt**, **Shift**, or **Win**, and select a keyboard number, letter, or function from the list.
5. Click **OK**.

Configuring pre-announcement messages

NOTE: For hardware and software specifications related to pre-announcement messages, see the *Contact Center Solutions and Business Reporter System Engineering Guide*.

Agents who have Contact Center PhoneSet Manager or Contact Center Softphone can record introductions that are played to callers (for example, 'Hi. This is Paul Jones in Customer Support. Could you please tell me your customer site key?') The introduction that is played is based on the queue the call arrives on and the time of day it is received. The recorded introduction provides customers with a consistent greeting and gives the agent extra time to retrieve customer information. You can stop pre-announcement messages at any time.

You can configure more than one pre-announcement rule. For each rule, you specify the conditions in which the soft phone will play a particular pre-announcement message. If one or more conditions is satisfied for a particular rule, the soft phone will play the associated pre-announcement message. You can order the rules on the Pre-announcement rules table to establish their priority. Pre-announcement rules are evaluated in the order shown in the table. If one pre-announcement rule is satisfied, the associated sound file is played and no other rules are evaluated.

NOTE: To use pre-announcement messages with Contact Center PhoneSet Manager, you must have a Mitel ACD desk phone (for example, 5212) and a PCTI adaptor. The PCTI adaptor enables the audio being played from the agent PC and the audio from the agent desk phone to be mixed.

To connect a PCTI adapter to your computer for use with Contact Center PhoneSet Manager

1. Set the PCTI switch to **Both**.
2. Set the PCTI switch to **HeadSet**.
3. Plug the Mic/Audio cable of the headset into the appropriate Mic/Audio inputs on the PCTI adapter.
4. Unplug the handset from the deskphone and plug it into the handset plug on the PCTI adapter.
5. Plug the telephone input cable of the PCTI adapter into the telephone base.
6. Plug the computer input of the PCTI adapter into the appropriate Mic/Speaker inputs on the PC.

NOTE: Ensure the headset is turned on, on the deskphone base.

To configure a pre-announcement rule for Contact Center PhoneSet Manager

1. Right-click the Phone toolbar and click **Configure**.
2. Under **This extension is a**, select **Desk phone**.
3. To use audio devices for pre-announcements, select **Use audio devices for pre-announcements** and specify the input and output audio device.
4. Click the **Pre-announcement** tab.

5. Click **Add rule**.
The Add / Edit pre-announcement rule window opens.
6. Select the conditions that determine when the pre-announcement message will play.
7. Specify parameters for each condition.
8. Select or record a wave file to play when the above conditions are met.
9. Type a name for the pre-announcement rule.
10. If you want to hear ringing on your desk phone, select Enable ringing sound in desk phone.
11. Click **OK**.

To configure a pre-announcement rule for Contact Center Softphone

1. Right-click the Phone toolbar and click **Configure**.
2. Under **This extension is a**, select **Soft phone**.
3. Click the **Pre-announcement** tab.
4. Click **Add rule**.
The Add / Edit pre-announcement rule window opens.
5. Select the conditions that determine when the pre-announcement message will play.
6. Specify parameters for each condition.
7. Select or record a wave file to play when the above conditions are met.
8. Type a name for the pre-announcement rule.
9. Click **OK**.

To re-order pre-announcement rules

1. Select a rule.
2. Click the up or down arrow to change the priority of the rule.
3. Click **OK**.

MAKING AND TERMINATING CALLS USING CONTACT CENTER PHONESET MANAGER

When you make calls, on the Functions toolbar you can readily select contacts you pre-configure in Microsoft Outlook, or speed dial numbers you configure in Contact Center PhoneSet Manager. See "Configuring speed dial numbers" on page 434 and "Displaying, hiding, and retiring toolbar buttons" on page 431.

You can dial any extension number or phone number. Contact Center PhoneSet Manager typically uses your primary extension to make calls. You can optionally select a different extension on the Phone toolbar to make calls.

Making calls

To dial by phone number or extension number using Contact Center PhoneSet Manager

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the dial box and type a number or extension on the dial pad.
2. Click **Dial**.
3. If you want to view the call details window, click the down arrow adjacent to the box that displays your current phone state.
See Figure 100.

To dial internally from a real-time monitor using Contact Center PhoneSet Manager

- From any real-time monitor, right-click an agent, employee, or extension cell and click **Call**.

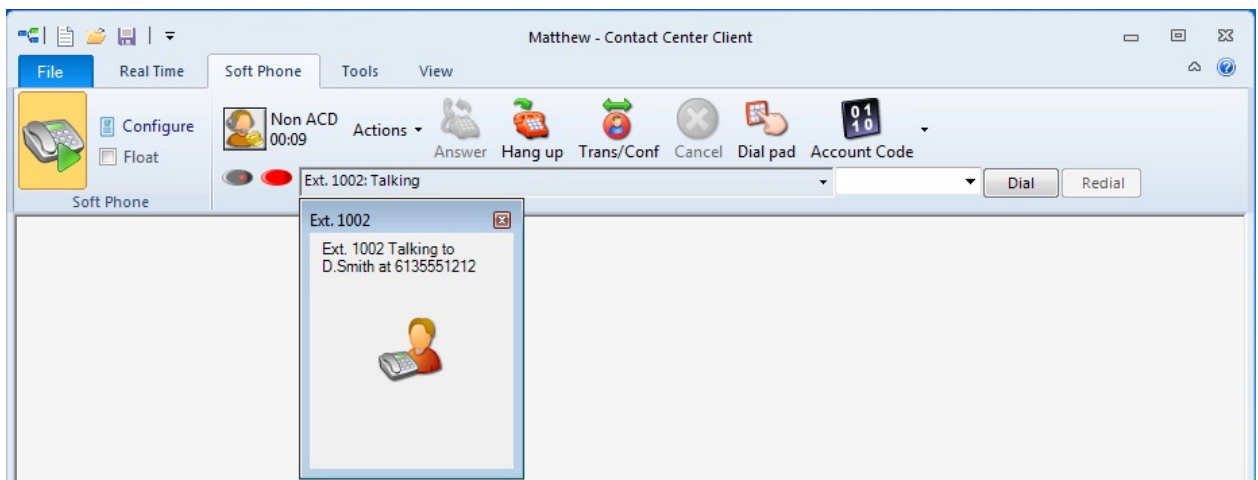


Figure 100: Making a call

Making calls to your contacts

To make a call to an extension in your contact list

1. Click the arrow adjacent to the dial box and click the **Contacts** tab.
2. Select a contact in the list.
3. Click **Dial**.

Making calls using speed dial

To dial using speed dial

- Click **Speed dial** and select a name in the list.

Terminating calls

To terminate a call

- Click **Hang up**.

FORWARDING AND ANSWERING CALLS USING CONTACT CENTER PHONESET MANAGER

You can forward calls manually to pre-configured call forward destinations without having to speak to the caller first. In addition, you can configure and enable call forwarding so the telephone system forwards calls to other answer points when you are temporarily unavailable or away from the office. See "Configuring call forward destinations" on page 433.

If a call is ringing on your extension and you click the Forward button, the call will be forwarded to the default call forward destination configured in the telephone system. If you click the down arrow adjacent to the Forward button, you can select an extension or phone number for call forwarding.

Forwarding calls

When a call is ringing on your extension, to forward the call using Contact Center PhoneSet Manager

1. Click **Forward**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Forward button and select a contact.
3. Click **Dial**.

Answering calls

When an agent receives a call with Contact Center PhoneSet Manager detailed caller information is displayed on the desktop. (See Figure 101.) Agents can choose to answer the call or forward it to another agent. Additionally, the display can provide access to call notes, which are notes an agent adds to the call before transferring it. See "Adding call notes to a call" on page 440.

If configured and available the following information is provided in the soft phone display

- **Caller name**—name of the caller
- **ANI**—telephone number of the caller
- **DNIS**—telephone number the caller dials
- **DNIS name**—the name associated to the DNIS number in YourSite database
- **Agent ID**—agent who transferred the call
- **Extension**—extension from which the call was transferred
- **Queue**—queue from which the call originated
- **Collect Caller Entered Digits**—digits the caller enters for identification purposes, such as a customer site key
- **Customer Collected Information**—information collected from a third party ODBC database. Customer Collected Information requires and Verified Collected Digits, and optionally, Remote Database Verification or CTI Developer Toolkit
- **Call notes**—notes added by an agent

You can answer calls by right-clicking the Contact Center PhoneSet Manager system tray icon and selecting Answer, or by clicking the Answer toolbar button.

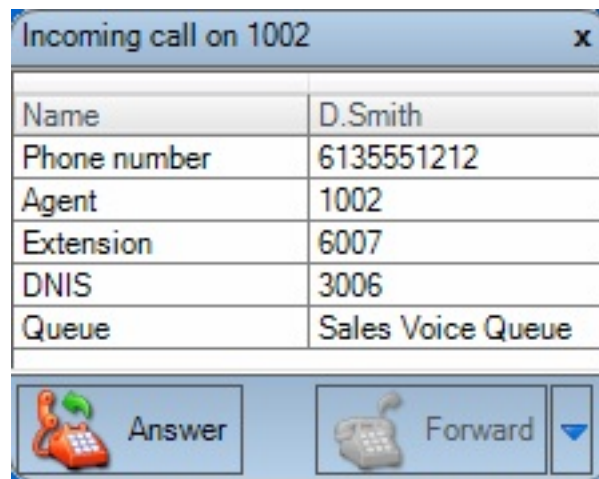


Figure 101: Contact Center PhoneSet Manager display

To answer a call using Contact Center PhoneSet Manager

- Click **Answer**.

HANDLING CALLS USING CONTACT CENTER PHONESET MANAGER

You can handle calls by right-clicking the Contact Center PhoneSet Manager system tray icon and selecting telephony functions, or by selecting telephony buttons on the Functions toolbar. The telephony buttons available depend on the action you last performed. You can configure the toolbar buttons so they are always visible, or visible only when required. See "Displaying, hiding, and retiring toolbar buttons" on page 431.

When you pre-configure speed dial numbers in Contact Center PhoneSet Manager, these contacts are available in drop-down lists adjacent to the Speed dial, Trans/Conf, and Request help buttons on the Functions toolbar. See "Configuring speed dial numbers" on page 434.

Placing calls on hold

To place a call on hold

- Click **Hold** (red oval button).

Retrieving calls

You can retrieve a held call, or retrieve a call when a call is camped on to your extension.

When an agent is on a call and another caller camps on to their extension, the Retrieve button is enabled. When the agent presses the Retrieve button, they can talk to the held party. From that point on, the agent uses the Swap button to switch back and forth between the two callers (current and held parties).

To retrieve a call

- Click **Retrieve**.

Adding call notes to a call

When agents are speaking with customers, they can add notes to calls to share with other contact center employees involved in the call. This ensures agents and supervisors have context on calls and know what information has been provided to customers upon call transfer.

When a call is being transferred to an agent or supervisor, the soft phone display shows the most recent note associated with the call. When the agent answers the call, Contact Center Client appears on top of all other open applications and displays the Call Notes monitor. The monitor includes all of the call notes associated with the current call.

Agents can add notes each time a call is transferred, and agents on conference calls can add notes simultaneously. Each set of notes includes the agent's name and a date/time stamp. When an agent completes a call and answers a new call or closes the Call Notes monitor, all call note information is saved and appended to the Lifecycle reports. Call notes are not preserved when a call is parked.

NOTE:

- On the Soft phone configuration window, you can clear the Enable call notes check box to hide the Call Notes monitor and prevent call notes from being displayed. Optionally, you can enable the Bring to front check box to ensure call notes display on top of all other windows when calls are received.
- You must have Contact Center PhoneSet Manager or Contact Center Softphone open in order to view or add call notes.
- Time stamps are based on the 3300 ICP telephone system clock.

To add a call note

1. As a call is ringing on your extension, on the soft phone display click **Answer** to answer the call.
Contact Center Client appears on top of all open applications and displays the Call Notes monitor.
2. After **Enter a new call note**, type a note.
Call notes can include a maximum of 100 characters.
3. Click **Add**.
The call note is added to the Call notes text box and is included in the soft phone display upon call transfer.

Transferring calls

You can perform a blind transfer or a supervised transfer.

To perform a blind transfer using Contact Center PhoneSet Manager

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line if required). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Dial**.
4. Click **Hang up**.

To perform a supervised transfer

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Dial**.
The system places the caller on Hold.
4. Wait for the called party to answer. If you receive a busy signal or a voice mail greeting, click **Cancel** to return to the initial party. Otherwise, speak to the agent and identify the caller.
5. Click **Transfer** to transfer the call.

Conferencing calls

You can include up to eight people in a conference call. The following example illustrates a three-way conference call.

To set up a conference call

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line).
2. Click **Dial**.
3. After you speak with the person who answers, click **Trans/Conf** to add a person to an in-progress call.
The system places the person on Hold.
4. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
5. Click **Dial**.
6. Speak to the person who answers.
7. Click **Conference** to initiate a three-way conference call.

To split a conference call

- Click **Split**.
The last person you added to the conference call is placed on hold, and you can speak privately with the first person.

Consulting with people while on calls

To consult with a person while on a call using Contact Center PhoneSet Manager

1. Click **Trans/Conf** to conference in the person.
The system places the initial party on Hold.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Dial**.
4. After you consult with the person, either click **Conference** to conference in the person, click **Cancel** to hang up on the person, click **Transfer** to transfer the call to the person, or click **Swap** to talk to the initial party.

Requesting help while on calls

To request help while on a call using Contact Center PhoneSet Manager

1. Click **Request help**.
2. On the dial pad, type the extension number of the employee you want to call. Otherwise, click the down arrow adjacent to the Request help button and select a contact.
3. Click **Dial**.
The system calls the employee. The employee can click Answer and listen in on the call without the caller knowing and can click Conference to join the conversation at any time.

Using Camp on

The Camp on feature is available when you make a call to an extension and receive a busy signal because the employee is already on a call. Camp on notifies the employee you are attempting to call with a series of audible beeps.

NOTE:

- Callers cannot camp on to your extension if you have call forwarding or voice mail configured on the extension.
- You cannot camp on to an extension that is in Make Busy or Do Not Disturb.

To camp on to an extension

1. In the dial box, type an extension number.
2. Click **Dial**.
3. If you receive a busy signal, click **Camp on**.
The employee you called will hear a series of beeps and can click Retrieve to place the caller on hold and speak with you. After speaking with you, the employee can click Swap to return to the caller.

Leaving and retrieving messages

The Leave a message feature is available when you make a call to an extension that is idle or on a call. You must use the dial pad to type a number when you are retrieving a message.

To leave a message

1. In the dial box, type an extension number.
2. Click **Dial**.
3. If the employee does not answer, click **Leave a message**.
The telephone system leaves a message waiting notification on the employee's extension and the Contact Center Client icon flashes red and white in the employee's system tray.

To retrieve a message

1. Click **Dial pad** and type the number configured in the telephone system for message retrieval.
2. Press **Enter**.
The automated attendant will ask you for your password.
3. Type your password on the dial pad.
4. Follow the instructions provided by the automated attendant to retrieve the message.

NOTE: If agents leave Call me back messages you must use your physical phone set to retrieve the messages.

Using Call me back

The Call me back feature is available when you make a call to an extension that is idle or on a call. When you select the Call me back button, the telephone system monitors the called employee's other extension. When the employee's other extension returns to idle, your phone rings. If you pick up the call, the employee's phone will ring. If you do not pick up the call, the callback will expire.

To leave a callback message

1. In the dial box, type an extension number.
2. Click **Dial**.
3. If the employee does not answer, click **Call me back**.
The telephone system monitors the called employee's extension. Your phone will ring when the called employee's other extension returns to the idle state.
4. When your phone rings, click **Answer** to pick up the call and speak with the employee.

Tagging calls with Account Codes

You can tag calls with Account Codes you pre-configure in Contact Center Client.

To tag an in-progress call with an Account Code or a Classification Account Code

- Click the down arrow adjacent to the Account Code button and select a traditional Account Code or a Classification Account Code.

After hanging up, while in Work Timer mode, you can tag calls with Classification Account Codes.

To tag a call, after hanging up, with a Classification Account Code

1. Click the down arrow adjacent to the **Account Code** button.
2. Select **After Call Classification** and select the appropriate Classification Account Code from the drop-down list.

MAKING AND TERMINATING CALLS USING CONTACT CENTER SOFTPHONE

When you make calls, on the Functions toolbar you can readily select from contacts you pre-configure in Microsoft Outlook, or speed dial numbers you configure in Contact Center Softphone. See "Configuring speed dial numbers" on page 434 and "Displaying, hiding, and retiring toolbar buttons" on page 431.

You can dial any extension number or phone number. Contact Center Softphone typically uses your primary extension to make calls. You can optionally select a different extension on the Phone toolbar to make calls.

For information on how to use the superkey and phone book functionality of Contact Center Softphone, refer to the *5220 IP Phone User Guide* at <http://edocs.mitel.com/UG/Index.html>.

Making calls

To dial by phone number or extension number using Contact Center Softphone

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the dial box and type a number or extension on the dial pad.
2. If you want to view the call details window, click the down arrow adjacent to the box that displays your current phone state. See Figure 102.

To dial internally from a real-time monitor using Contact Center Softphone

- From any real-time monitor, right-click an agent, employee, or extension cell and click **Call**.

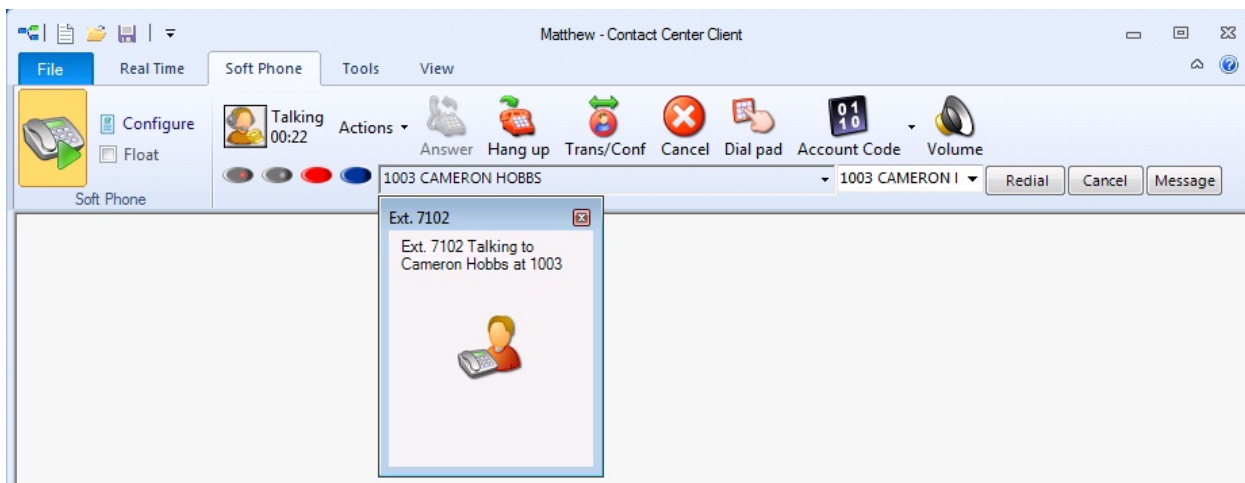


Figure 102: Making a call

Making calls to your contacts

To make a call to an extension in your contact list

1. Click the arrow adjacent to the dial box and click the **Contacts** tab.
2. Double-click a contact in the list.

Making calls to contacts who have called you recently

To make a call to a contact who has called you recently

1. Click the arrow adjacent to the dial box and click the **Recent** tab.
2. Double-click a contact in the list.

Making calls using speed dial

To dial using speed dial

- Click **Speed dial** and select a name in the list.

Redialing numbers

To dial the contact who last called you

- Click **Speed dial** and select a name in the list.

Terminating calls

To terminate a call

- Click **Hang up**.
Alternatively, on the Phone toolbar, click **Cancel**.

FORWARDING AND ANSWERING CALLS USING CONTACT CENTER SOFTPHONE

You can forward calls manually to pre-configured call forward destinations without having to speak to the caller first. In addition, you can configure and enable call forwarding so the telephone system forwards calls to other answer points when you are temporarily unavailable or away from the office. See "Configuring call forward destinations" on page 433.

If a call is ringing on your extension and you click the Forward button, the call will be forwarded to the default call forward destination configured in the telephone system. If you click the down arrow adjacent to the Forward button, you can select an extension or phone number for call forwarding.

Forwarding calls

When a call is ringing on your extension, to forward the call using Contact Center Softphone

1. Click **Forward**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Forward button and select a contact.

Answering calls

When an agent receives a call with Contact Center Softphone detailed caller information is displayed on the desktop. (See Figure 103.) Agents can choose to answer the call or forward it to another agent. Additionally, the display can provide access to call notes, which are notes an employee adds to the call before transferring it. See "Adding call notes to a call" on page 440.

If configured and available the following information is provided in the soft phone display

- **Caller name**—name of the caller
- **ANI**—telephone number of the caller
- **DNIS**—telephone number the caller dials
- **DNIS name**—the name associated to the DNIS number in YourSite database
- **Agent ID**—agent who transferred the call

- **Extension**—extension from which the call was transferred
- **Queue**—queue from which the call originated
- **Collect Caller Entered Digits**—digits the caller enters for identification purposes, such as a customer site key
- **Customer Collected Information**—information collected from a third party ODBC database. Customer Collected Information requires and Verified Collected Digits, and optionally, Remote Database Verification or CTI Developer Toolkit
- **Call notes**—notes added by an agent

You can answer calls by right-clicking the Contact Center Softphone system tray icon and selecting Answer, or by clicking the Answer toolbar button.

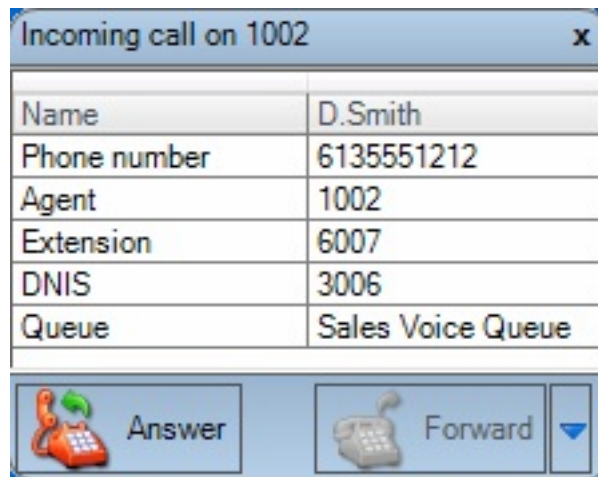


Figure 103: Contact Center Softphone display

To answer a call using Contact Center Softphone

- Click **Answer**.

HANDLING CALLS USING CONTACT CENTER SOFTPHONE

You can handle calls by right-clicking the Contact Center Softphone system tray icon and selecting telephony functions, or by selecting telephony buttons on the Functions toolbar. The telephony buttons available depend on the action you last performed. You can configure the toolbar buttons so they are always visible, or visible only when required. See "Displaying, hiding, and retiring toolbar buttons" on page 431.

When you pre-configure speed dial numbers in Contact Center Softphone, these contacts are available in drop-down lists adjacent to the Speed dial, Trans/Conf, and Request help buttons on the Functions toolbar. See "Configuring speed dial numbers" on page 434.

Placing calls on hold

To place a call on hold

- Click **Hold** (red oval button).

Retrieving calls

You can retrieve a held call, or retrieve a call when a call is camped on to your extension.

When an agent is on a call and another caller camps on to their extension, the Retrieve button is enabled. When the agent presses the Retrieve button, they can talk to the held party. From that point on, the agent uses the Swap button to switch back and forth between the two callers (current and held parties).

To retrieve a call

- Click **Retrieve**.

Using Mute

To use Mute

1. Click **Mute**.
The system disables your microphone so you can consult privately with another employee.
2. To restore your microphone, click **Resume**.

Transferring calls

You can perform a blind transfer or a supervised transfer.

To perform a blind transfer using Contact Center Softphone

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. Click **Hang up**.

To perform a supervised transfer

1. While on a call, click **Trans/Conf**.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
The system places the caller on Hold.
3. Wait for the called party to answer. If you receive a busy signal or a voice mail greeting, click **Cancel** to return to the initial party. Otherwise, speak to the agent and identify the caller.
4. Click **Transfer** to transfer the call.

Conferencing calls

You can include up to eight people in a conference call. The following example illustrates a three-way conference call.

To set up a conference call

1. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line).
2. After you speak with the person who answers, click **Trans/Conf** to add a person to an in-progress call.
The system places the person on Hold.
3. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
4. Speak to the person who answers.
5. Click **Conference** to initiate a three-way conference call.

To split a conference call

- Click **Split**.
The last person you added to the conference call is placed on hold, and you can speak privately with the first person.

Consulting with people while on calls

To consult with a person while on a call using Contact Center Softphone

1. Click **Trans/Conf** to conference in the person.
The system places the initial party on Hold.
2. In the dial box, type an extension or phone number (preceded by a number you dial to access an outside line). Otherwise, click the down arrow adjacent to the Trans/Conf button and select a contact.
3. After you consult with the person, either click **Conference** to conference in the person, click **Cancel** to hang up on the person, click **Transfer** to transfer the call to the person, or click **Swap** to talk to the initial party.

Requesting help while on calls

To request help while on a call using Contact Center Softphone

1. Click **Request help**.
2. On the dial pad, type the extension number of the employee you want to call. Otherwise, click the down arrow adjacent to the Request Help button and select an employee.
The system calls the employee. The employee can click Answer and listen in on the call without the caller knowing and can click Conference to join the conversation at any time.

Using Camp on

The Camp on feature is available when you make a call to an extension and receive a busy signal because the employee is already on a call. Camp on notifies the employee you are attempting to call with a series of audible beeps.

NOTE:

- Callers cannot camp on to your extension if you have call forwarding or voice mail configured on the extension.
- You cannot camp on to an extension that is in Make Busy or Do Not Disturb.

To camp on to an extension

1. In the dial box, type an extension number.
2. If you receive a busy signal, click **Camp on**.
The employee you called will hear a series of beeps and can click Retrieve to place the caller on hold and speak with you. After speaking with you, the employee can click Swap to return to the caller.

Leaving and retrieving messages

The Leave a message feature is available when you make a call to an extension that is idle or on a call.

To leave a message

1. In the dial box, type an extension number.
2. If the employee does not answer, click **Leave a message**.
The telephone system leaves a message waiting notification on the employee's extension and the Contact Center Client icon flashes red and white in the employee's system tray

To retrieve a message

1. In the dial box, type your voice mail access number.
The automated attendant will ask you for your password.
2. In the dial box, type your password.
3. Follow the instructions provided by the automated attendant to retrieve the message.
NOTE: If agents leave Call me back messages for you to check your messages, your Contact Center Client tray icon will not clear the messages once you have checked your messages.

To clear a message

1. On the Phone toolbar, click **Message**.
2. After **CALL ME BACK?**, click **Yes**.
3. Click **Erase**.
The telephone image displays **NO MORE MESSAGES**.

Using Call me back

The Call me back feature is available when you make a call to an extension that is idle or on a call. When you select the Call me back button, the telephone system monitors the called employee's other extension. When the employee's other extension returns to idle, your phone rings. If you pick up the call, the employee's phone will ring. If you do not pick up the call, the callback will expire.

To leave a callback message

1. In the dial box, type an extension number.
2. If the employee does not answer, click **Call me back**.
The telephone system monitors the called employee's extension. Your phone will ring when the called employee's other extension returns to the idle state.
3. When your phone rings, click **Answer** to pick up the call and speak with the employee.

Tagging calls with Account Codes

You can tag calls with Account Codes you pre-configure in Contact Center Client.

To tag an in-progress call with an Account Code or a Classification Account Code

- Click the down arrow adjacent to the Account Code button and select a traditional Account Code or a Classification Account Code.

After hanging up, while in Work Timer mode, you can tag calls with Classification Account Codes.

To tag a call, after hanging up, with a Classification Account Code

1. Click the down arrow adjacent to the **Account Code** button.
2. Select **After Call Classification** and select the appropriate Classification Account Code from the drop-down list.

CONTROLLING YOUR AVAILABILITY

You can log yourself on or off, cancel Work Timer, cancel Resize Timer, and place yourself in or remove yourself from Make Busy with reason or Do Not Disturb with reason using the soft phone.

To log on to the ACD

- Click **Actions=>Log on** and select an agent ID.

To log off of the ACD

- Click **Actions=>Log off**.

To set Make Busy with reason

- Click **Actions=>Set Make Busy** and select a Make Busy Reason Code.

To remove Make Busy with reason

- Click **Actions=>Remove Make Busy**.

To set Do Not Disturb with reason

- Click **Actions=>Set Do Not Disturb** and select a Do Not Disturb Reason Code.

To remove Do Not Disturb

- Click **Actions=>Remove Do Not Disturb**.

To cancel Work Timer

- Click **Actions=>Cancel Work Timer**.

To cancel Reseize Timer

- Click **Actions=>Cancel Reseize Timer**.

MAKING AND HANDLING CALLS USING CONTACT CENTER CLIENT

You can open an agent, employee or extension monitor, or the Queue Now monitor and either right-click an agent and select telephony functions or access telephony functions by selecting an agent and accessing the options in the Contact Center Client ribbon. For example, when you are on a call you can consult with an idle employee by right-clicking the employee's cell and clicking Transfer/Conference, or by sending the employee an instant message. (See Figure 104.)

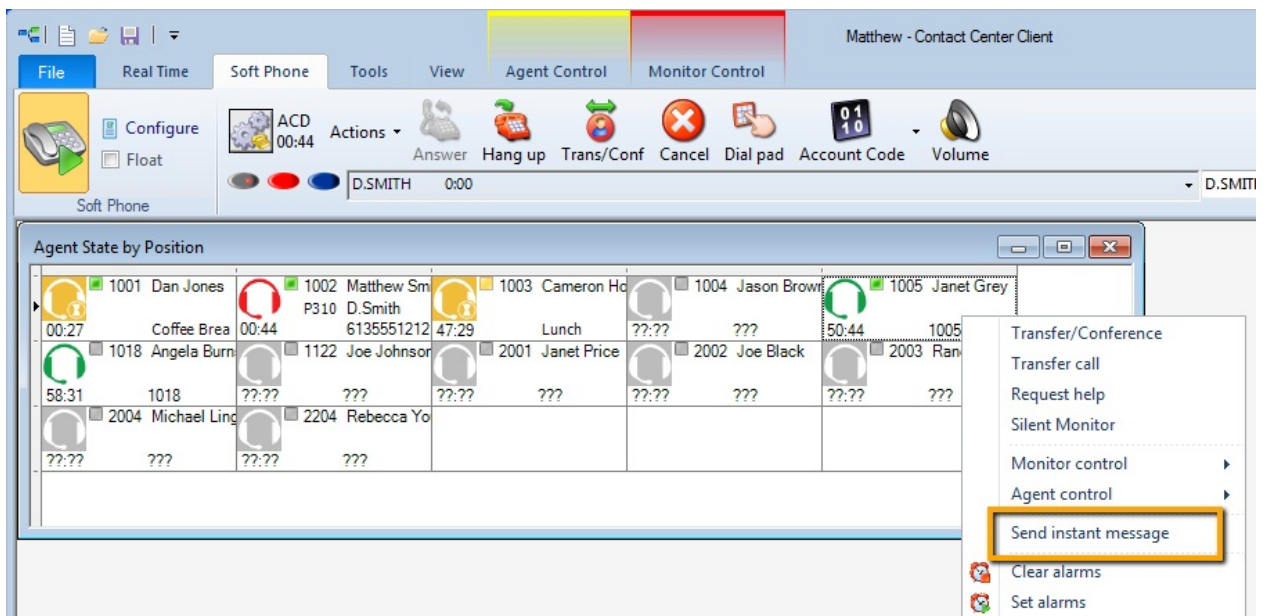


Figure 104: Consulting with a person while on call

Making calls

To call an agent using Contact Center Client

- Right-click the cell of an idle agent and click **Call**.

Alternatively:

1. Select an idle agent in an open monitor.
2. Click the **Softphone** button under the **Agent Control** tab in the Contact Center Client **Real Time** ribbon.
3. Choose the **Call** menu item.

Forwarding calls

If a call is ringing on your extension, to forward the call using Contact Center Client

- Right-click the cell of an idle agent and click **Forward**.

Answering calls

If a call is ringing on another agent's extension, to pick up the call using Contact Center Client

- Right-click the cell of the agent and click **Pick up**.

Adding call notes

When agents are speaking with customers, they can add notes to calls to share with other contact center employees involved in the call. This ensures agents and supervisors have context on calls and know what information has been provided to customers upon call transfer. If the call is transferred, call notes are preserved. Call notes are not preserved when calls are parked. See "Adding call notes to a call" on page 440.

NOTE: Before adding call notes, ensure the 'Display call notes' option is enabled in the Softphone configuration window. This option is disabled by default.

To add a call note

1. As a call is ringing on your extension, on the soft phone display click **Answer** to answer the call.
Contact Center Client appears on top of all open applications and displays the Call Notes monitor.
2. After **Enter a new call note**, type a note.
Call notes can include a maximum of 100 characters.
3. Click **Add**.
The call note is added to the Call notes text box and is included in the soft phone display upon call transfer.

Recording calls

There are occasions when a user wants to temporarily stop recording a call for confidentiality reasons, or, if the call is not currently being recorded, the user may want to start recording if the conversation becomes hostile or sensitive in nature and a call record may be required. On the Agent State by Time, Agent State by Position, Agent State by Queue by Time, and Extension Now monitors, the Call recording option enables you to start, stop, and restart call recording at any time during a call, using OAISYS call recording functionality. Requirements for this on-demand call recording feature are Contact Center Management, Contact Center PhoneSet Manager or Contact Center Softphone, and the OAISYS call recording connector.

To record a call

- Right-click the associated cell of an agent or extension and select **Call Recording=>Start Recording**.

To stop recording a call

- To stop recording, right-click the cell and select **Call Recording=>Stop Recording**.

Alternatively:

1. Select the cell of an agent or extension in a monitor whose call you want to record.
 2. In the Contact Center Client **Real Time** ribbon, under the **Agent Control** tab, select **Start Recording** from the drop-down list in the **Call Recording** column.
 3. To stop recording, select **Stop Recording** from the drop-down list in the **Call Recording** column.
- See Figure 105.

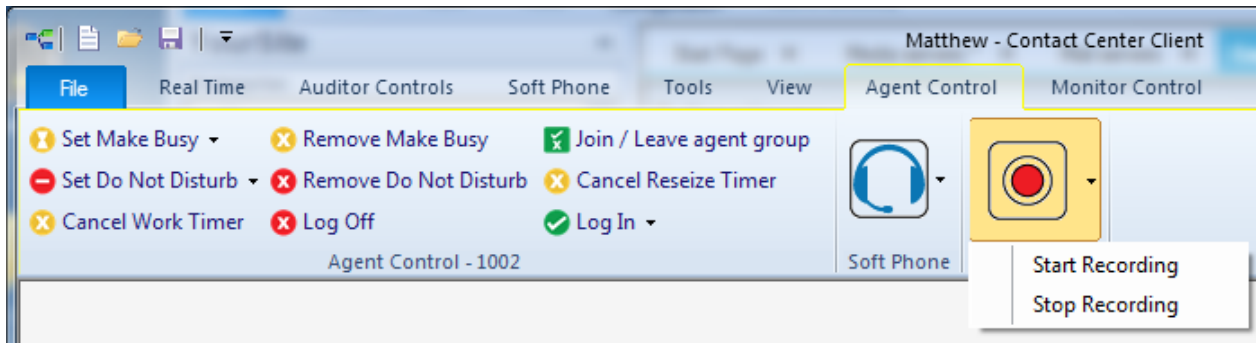


Figure 105: Call recording

Silent monitoring calls

Silent monitoring is the process of listening to the voice conversations of internal or external calls between agents or extensions and callers. Silent monitoring enables you to track call handling techniques and determine where improvements can be made in individual performance. If required, supervisors can conference into the call they are silently monitoring to talk to the customer. For more information, see "Conferencing calls" on page 441 for Contact Center Softphone and see "Conferencing calls" on page 448 for Contact Center PhoneSet Manager.

Silent monitoring is an MCD feature leveraged by Contact Center Solutions. With MCD 7.0+, supervisors can select an agent or extension for silent monitoring at any time, but the monitoring does not begin until the agent or extension answers or makes a call. The monitoring is maintained so long as the agent or extension remains on call. The supervisor hears everything the agent hears during the course of the call, including conferences and voicemail. If the agent moves to a call on another line, silent monitoring will follow the agent over to that line. Up to six supervisors can silently monitor an agent or extension. MCD 7.0+ also enables supervisors to coach agents on call. For more information, see "Coaching agents and extensions on a call with customers" on page 454.

Silent Monitor can be accessed through Contact Center Client or, if programmed on your 3300 media server, through entering a Feature Access Code (FAC) on your phone. For more information about silent monitor and its features and enhancements, consult your Mitel MiVoice Business documentation.

Silent monitoring is supported for the 3300 ICP telephone system and requires Contact Center Management, Contact Center PhoneSet Manager or Contact Center Softphone, and Interactive Contact Center.

NOTE:

- The monitoring extension and the extension being monitored must coexist on the same telephone system.
- The monitoring extension must be permitted by security role to interactively control other agents.
- The monitoring extension's soft phone tool bar must be open.
- For instructions on activating Silent Monitor outside of Contact Center Solutions, as well as how to use silent monitor with agent groups, hunt groups, and ACDX groups outside of Contact Center Solutions, consult your Mitel MiVoice Business documentation.

The following procedures explain how to

- Silently monitor a call using Contact Center Client
- Silently monitor a call using Contact Center Client and a Feature Access Code

The following procedures take place in an open real-time agent or extension monitor

To silently monitor a call using Contact Center Client

- Right-click the cell of an agent or extension and select **Silent Monitor**.

Alternatively:

1. Select the cell of an agent or extension in a monitor whose call you want to silent monitor.
2. In the Contact Center Client **Real Time** ribbon, under the **Agent Control** or **Extension Control** tab, click the **Softphone** button and click **Silent Monitor**.

NOTE: If the telephone system settings are incorrect or the monitoring extension and the extension being monitored are on separate telephone systems, you will be unable to Silent monitor and will instead see 'Not Allowed' when you right-click the cell. See the *Contact Center Management Installation Guide* for more information. If the extension you want to monitor is not currently on a call, you will see 'Waiting' when you right-click the cell.

To silently monitor a call using Contact Center Client and a Feature Access Code

1. In the **dial box**, type the **Feature Access Code** followed by the agent or extension number.
2. Click **Dial**.

Coaching agents and extensions on a call with customers

Supervisors can communicate with agents or extensions they are silently monitoring while they are on a call with a customer through Whisper Coach. Whisper Coach is a feature of silent monitor, enabling supervisors monitoring agents to talk to the agent and coach them through their call, without letting the customer hear what the supervisor is saying. Supervisors can also coach agents who are not actively handling a call. If required, supervisors can conference into an active call while coaching to talk to the customer. For more information, see "Conferencing calls" on page 441 for Contact Center Softphone and see "Conferencing calls" on page 448 for Contact Center PhoneSet Manager.

NOTE: Whisper Coach requires MCD 7.0+ on a MiVoice Business for ISS platform, a Multi Instance Platform, or VMWare for Virtual Appliance. Whisper Coach is not supported on Mxe platforms

Once a supervisor starts silent monitoring an agent, they have the option of toggling coaching on and off through their IP hardset or the Contact Center Softphone toolbar. Whisper Coach is not

automatically disabled when the agent completes the call or switches to a different call. If the supervisor does not stop coaching, the Whisper Coach feature automatically activates the next time the agent makes or answers a call. Only one supervisor can whisper coach an agent at a time. A supervisor can also whisper coach another supervisor, including supervisors actively whisper coaching an agent. If a supervisor whisper coaches another supervisor who is coaching an agent, the supervisor will hear the coached supervisor and the agent, but only the coached supervisor will hear you.

If you want the Coach On display in the Contact Center Softphone toolbar to appear in another language, you must configure the device on the telephone system to the display language. The translation is driven by the telephone system rather than Contact Center Solutions.

For more information on Whisper Coach, consult your Mitel documentation.

NOTE:

- Whisper Coach requires specific Class of Service options enabled for agents and supervisors
 - Agent COS
 - ACD Silent Monitor Accept
 - ACD Silent Monitor Accept Monitoring Non-Prime Line
 - ACD Silent Monitor Notification
 - HCI/CTI/TAPI Call Control Allowed
 - HCI/CTI/TAPI Call Monitor Allowed
 - Supervisor COS
 - ACD Silent Monitor Allowed
 - HCI/CTI/TAPI Call Control Allowed
 - HCI/CTI/TAPI Call Monitor Allowed
- Whisper Coach is supported with External Hot Desking Agents, Hot Desking Agents, and External Hot Desking Users
- Only certain IP phones are supported with Whisper Coach. Consult your Mitel documentation for supported IP phones.

The following procedures explain how to

- Whisper to an agent or extension that you are silent monitoring with Contact Center PhoneSet Manager
- Stop whispering to an agent or extension that you are silent monitoring with Contact Center PhoneSet Manager
- Whisper to an agent or extension that you are silent monitoring with Contact Center Softphone
- Stop whispering to an agent or extension that you are silent monitoring with Contact Center Softphone

To whisper to an agent or extension that you are silent monitoring with Contact Center PhoneSet Manager

- On your hardset, press **Coach On**.

To stop whispering to an agent or extension that you are silent monitoring with Contact Center PhoneSet Manager

- On your hardset, press **Coach Off**.

To whisper to an agent or extension that you are silent monitoring with Contact Center Softphone

- In the **Softphone** toolbar, click **Coach On**.
See Figure 106.

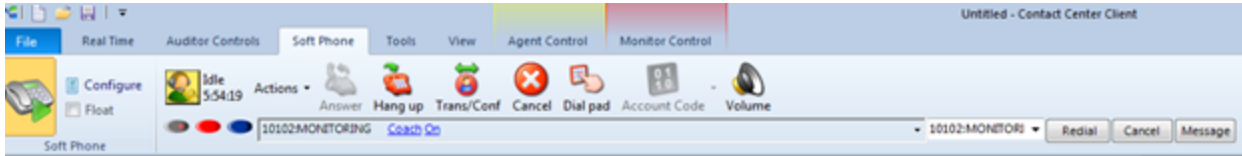


Figure 106: Softphone coach on

To stop whispering to an agent or extension that you are silent monitoring with Contact Center Softphone

- In the **Softphone** toolbar, click **Coach Off**.

Transferring calls

To perform a blind transfer using Contact Center Client

- While on a call, right-click the cell of an idle agent and click **Transfer call**.

Alternatively:

1. Select the cell of an idle agent in a monitor.
2. In the Contact Center Client **Real Time** ribbon, under the **Agent Control** tab, click the **Softphone** button and click **Transfer call**.

Consulting with employees while on calls

To consult with an employee while on a call using Contact Center Client

1. Right-click the cell of an idle agent and click **Transfer/Conference**.
The system places the initial party on hold.
2. In the dial box, type an extension or phone number. Otherwise, click the down arrow adjacent to the Transfer/Conference button and select a contact.
3. Click **Dial**.
4. After you consult with the employee, either click **Conference** to conference in that person, click **Transfer** to transfer the call to the employee, click **Swap** to talk to the other party, or click **Cancel** to end the consultation call.

Requesting help while on calls

To request help while on a call using Contact Center Client

- Right-click the cell of an idle agent and click **Request help**.
The system calls the employee. The employee can click **Answer** in the soft phone and listen in on the call without the caller knowing. The employee can click **Conference** in the soft phone to join the conversation at any time.

Chapter 15

CONTACT CENTER SCREEN POP

Using Contact Center Screen Pop

CONTACT CENTER SCREEN POP

Contact Center Screen Pop is an optional application that requires Contact Center Management, and Contact Center Softphone or Contact Center PhoneSet Manager. Optionally, if you want to screen pop based on caller entered digits, you require IVR Routing with the Collect Digits activity.

Contact Center Screen Pop launches applications or webpages. In addition, it enables agents to automatically receive caller and account information via pop-ups on their computer monitors every time they receive calls. Contact Center Screen Pop provides agents with the caller name, caller phone number (ANI), called number (DNIS), and the queue used in the call.

NOTE: Users must configure IVR ports and queues on the same telephone system for Contact Center Screen Pop to function.

USING CONTACT CENTER SCREEN POP

When an agent receives a call, Contact Center Screen Pop can launch an application or webpage. For example, when integrated with a Customer Relationship Management (CRM) database, Contact Center Screen Pop can launch a customer account page from the CRM database based on call information.

For contact centers that have Contact Center Screen Pop, the pop-up provides

- **Caller name**—name of the caller
- **ANI**—telephone number of the caller
- **DNIS**—telephone number the caller dials
- **DNIS name**—the name associated to the DNIS number in YourSite database
- **Agent ID**—agent who transferred the call
- **Extension**—extension from which the call was transferred
- **Queue**—queue from which the call originated
- **Collect Caller Entered Digits**—digits the caller enters for identification purposes, such as a customer site key (IVR Routing required)
- **Customer Collected Information**—information collected from a third party ODBC database. Customer Collected Information requires IVR Routing and the Collect Digits activity, and, optionally, Remote Database Verification or CTI Developer Toolkit.
- **Call notes**—notes added by an agent

CONFIGURING OPTIONS IN YOURSITE EXPLORER

You configure Contact Center Screen Pop options in YourSite Explorer. You can specify which information fields the pop-up displays and whether an application or Web page is launched when an agent receives a call. See "Configuring Contact Center Screen Pop options" on page 459.

Enabling Contact Center Screen Pop

To enable Contact Center Screen Pop

1. Start Contact Center Client.
See "Starting Contact Center Client" on page 204.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Select the **Display Contact Center Screen Pop** check box.
5. Click **OK**.

Configuring Contact Center Screen Pop options

If you are licensed for ANI, DNIS, and/or Collect Caller Entered Digits and want to display these in the pop-up you must configure the options for Contact Center Screen Pop.

To configure Contact Center Screen Pop options

1. Click **YourSite=>Enterprise**.
2. Click the **Screen Pop** tab.
3. To launch an application or webpage when calls are answered, select the **Launch an application or Web page when agents answer ACD calls** check box. This option displays the caller-specific Inbound trace report webpage, which lists the number of times the caller has called in the last seven days and provides additional call details. (See Figure 107.) To specify a different path or URL, see step 5, below. To specify an integrated custom screen pop, see step 6, below.
NOTE: The 'Contact Center Screen Pop will launch this application or Web page' field is automatically populated with the URL of the Inbound Trace report.
4. To launch a specific Web page or an application when calls are answered, ensure **Display a specific application or Web page** is selected and, under **Contact Center Screen Pop will launch this application or Web page**, type the path for the executable file or the URL of the webpage and indicate any variables that the screen pop will contain.
NOTE: For important information on how to configure this field, click the ? button. For information on variables used by Contact Center Screen Pop, see "Configuring Contact Center Screen Pop display variables" on page 460.
5. If Mitel Professional Services has provided you with an integrated custom screen pop, select **Display this Professional Services custom executable file or Web page**. Click **Manage** to review the Professional Services custom screen pop options.
6. To enable screen pop on non-ACD calls select the **Screen pop on non-ACD calls** check box.
7. Click **Save**.

Inbound Customer Trace	Call start time7/27/2007 9:20:50 AM
------------------------	-------------------------------------

Patrick M has called our company **43** times in the last 7 days
Phone Number:6135990045

Call Start time (date and time)	Call duration	DNIS name	Agent name	Extension	Account Code
7/23/2007 4:15:24 PM	00:00:06	7777	2068	1278	
7/23/2007 4:14:59 PM	00:00:20	7777		6165	
7/23/2007 4:06:40 PM	00:00:19	7777	2030	1261	

Figure 107: Inbound Customer Trace Report

Configuring Contact Center Screen Pop display variables

The variables described in Table 38 are used by Contact Center Screen Pop to determine the application area or Web page that launches when an agent answers an ACD call. Ensure the required IVR Routing activities are available in workflows to use these variables.

NOTE: The variable names are case-sensitive. For an application, variables must be in quotes and separated by a space.

Table 38: Contact Center Screen Pop display variables

VARIABLE	IVR ROUTING ACTIVITY REQUIRED	DESCRIPTION
%PFCALLERNAME%	ANI activity	Caller name as provided by the telephone carrier. For example, 'John Smith'
%PFANI%	ANI activity	Caller number (ANI), the telephone number of the calling party. For example, '6135990045'
%PFDNIS%	DNIS activity	Dialed Number Identification Service (DNIS), numbers passed from the public telephone network to identify what phone number the caller dialed. This is typically used to identify different 1-800 or 1-900 numbers. For example, '9875'
%PFVERIFIEDCOLLECTEDDIGITS%	Collect Digits activity	The digits entered by the user during the call. For example, account number '78831'

Table 38: Contact Center Screen Pop display variables (continued)

VARIABLE	IVR ROUTING ACTIVITY REQUIRED	DESCRIPTION
%Queue%	ANI and DNIS activities	Name of the queue from which the call is answered. For example, 'Sales'
%ReceivingAgent%	N/A	Contains the Agent ID for the agent receiving the current call
%ReceivingExtension%	N/A	Contains the Extension ID for the extension receiving the current call
%SendingAgent%	N/A	Contains the Agent ID for the agent sending or transferring the call to the current recipient
%SendingExtension%	N/A	Contains the Extension ID for the extension sending or transferring the call to the current recipient

To launch an application

- Type the URL of the executable file followed by the required variables.
For example, C:\MyProgram\CustomerManagement.exe "%PFCALLERNAME%" "%PFANI%" "%PFDNIS%" "%PFVERIFIEDCOLLECTEDDIGITS%" "%Queue%"

NOTE: Variables must be in quotes and be separated by a space.

If John Smith calls 1-800-266-9875 from 613-599-0045, is prompted to enter his account number (78831), and is then routed to the Sales queue, the executable file will use the actual values of the call, for example, C:\MyProgram\CustomerManagement.exe "John Smith""6135990045""9875""78831""Sales".

To launch a Web page

- Type the URL of the Web page followed by the required variables, as per standard HTTP protocol.
For example,
http://myintranetsite.business.com?CALLERNAME=%PFCALLERNAME%&ANI=%PFANI%&DNIS=%PFDNIS%&COLLECTEDDIGITS=%PFVERIFIEDCOLLECTEDDIGIT S%=%PFVERIFIEDCOLLECTEDDIGITS%&QUEUE=%Queue%

If John Smith calls 1-800-266-9875 from 613-599-0045, is prompted to enter his account number (78831), and is then routed to the Sales queue, the Web page will use the actual values of the call,

for example,

<http://myintranetsite.business.com?CALLERNAME=John%20Smith&ANI=6135990045&DNIS=9875&COLLECTEDDIGITS=78831&QUEUE=Sales>.

Enabling MiTAI event logging

The prairieFyre Enterprise service receives MiTAI events from the Collector Service and stores these events in a log file located in the DataDirectory\ CallControlEventLog sub-folder under the main installation directory. The Enterprise service logs all events across all nodes in one file and time stamps events based on arrival time, providing insight when troubleshooting MiTAI linking issues. Additionally, ANI, DNIS, collected digits, and other custom variables arriving from IVR Routing are logged.

Incorrectly configured devices and monitors will result in missing MiTAI events and IVR Routing port events, causing lost data and screen pop failures.

To enable MiTAI event logging

1. Browse to <drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\Services\EnterpriseServer.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter **LogCallTrackingMiTAIEvents** and click **Find Next**.
NOTE: If the LogCallTrackingMiTAIEvents key does not exist, you must create one. Enter <add key=" LogCallTrackingMiTAIEvents " value="true" />
5. Save the file.
6. Browse to the **DataDirectory\CallControlEventLog** folder.
7. Verify that **MiTAIEvents*.txt** is present in the folder.
8. Open **MiTAIEvents*.txt** and verify that the file contains MiTAI events. (See Figure 108.)

```
Node 1 | 09:23:28.991 | 09:23:29 | IQ_CallDetails | --u092329537 2243 <?xml version="1.0" encoding=
Node 1 | 09:23:28.991 | 09:23:29 | IQ_CallDetails | --u092329537 2243 <?xml version="1.0" encoding=
Node 1 | 09:23:28.991 | 09:23:29 | IQ_CallDetails | --u092329537 2243 <?xml version="1.0" encoding=
Node 1 | 09:23:45.241 | 09:23:45 | IQ_CallDetails | --u092345537 2243 <?xml version="1.0" encoding=
Node 1 | 09:23:45.741 | 09:23:44 | PathRequestEvent | --y092344|36|4|50|1297-[266293164|3030|357|10|539|0|
Node 1 | 09:23:45.991 | 09:23:44 | PathCallDelivered | --y092344|37|4|53|1297-[266293164|3030|293|6|539|0|7
Node 7 | 09:23:46.991 | 09:23:45 | CallReceivedEvent | --y092345|02|1|49|1303-[291656852|3010|197|10|128|10
Node 7 | 09:23:47.741 | 09:23:45 | CallReceivedEvent | --y092345|03|1|49|1303-[291656852|3010|217|10|128|10
Node 7 | 09:23:53.741 | 09:23:52 | CallEstablishedEvent | --y092352|04|1|49|1303-[291656852|3005|78|2|128|10|9
```

Figure 108: MiTAI events example

Additionally, you must ensure that

- All relevant devices including queues and extensions (or hot desking agents in a hot desking resilient environment) have been synchronized or manually programmed successfully.
- The Advanced Real time option is turned on.
- The prairieFyre Collector Service log monitors were correctly set and there are no MiTAI errors (MiTAI errors will be shown as SXERR_*).

- IVR Routing ports are configured and monitored correctly.
IVR Routing monitoring problems are demonstrated by call flow failure.
- IVR Routing ports are not programmed as 5020 IP ports.
The IVR Routing messaging service automatically writes IVR Routing ports into the Contact Center Solutions database. If the IVR Routing ports have been manually programmed and enabled for real-time and advanced real-time monitoring, screen pop will not display correct results.

Ignoring MiTAI events on UPiQ and callback capture ports

MiTAI events arriving on UPiQ ports and callback capture ports should be ignored to reduce MiTAI linking overhead.

To ignore MiTAI events on UPiQ and callback capture ports

1. Browse to <drive>:\Program Files\prairieFyre Software Inc\CCM\Services\EnterpriseServer.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter **MitaiLinkerPortIgnoreList** and click **Find Next**.
NOTE: If the MitaiLinkerPortIgnoreList key does not exist, you must create one. Enter <add key="MitaiLinkerPortIgnoreList" value="2230 , 2250-2260, 2270" />
5. Save the file.

Configuring DNIS linkage

We recommend you configure the DNIS in YourSite Explorer. In many situations, for example, in a Network ACD environment, MiTAI events that arrive on the path and on the end device may not contain the originally dialed digits. Capturing dialed digits at the IVR Routing port allows the system to preserve them for use in the screen pop DNIS field.

Configuring time spent in IVR

We recommend you configure the MiTAI linker to dispose of old (stale) calls immediately. In a high load environment where the system processes thousands of calls per hour, MiTAI call IDs can recycle in minutes. To dispose of stale calls, we recommend you configure the time a call spends in IVR Routing before it gets transferred to a path or end device. For example, if callers typically spend two minutes or less in the IVR workflow before they are transferred, the MiTAI linker should be configured to dispose of stale calls within three minutes.

To dispose of stale calls

1. Browse to <drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\Services\EnterpriseServer.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter **MitaiLinkerMaxTimeInSecsInIVRBeforeRouting** and click **Find Next**.
NOTE: If the MitaiLinkerMaxTimeInSecsInIVRBeforeRouting key does not exist, you must create one. Enter <add key=" MitaiLinkerMaxTimeInSecsInIVRBeforeRouting " value="180" /> and replace 180 with the time threshold (in seconds) to dispose of stale calls.
5. Save the file.

Deleting completed calls from memory

Configuring the MiTAI linker to delete completed calls from memory allows the system to recycle calls faster. If no special components tap into the call after it finishes, there is no need for the system to track calls for longer than 15 seconds after they have completed.

To delete completed calls from memory

1. Browse to <drive>:\Program Files (x86)\prairieFyre Software Inc\CCM\Services\EnterpriseServer.
2. Open **prairieFyre.Services.EnterpriseServer.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter **MitaiLinkerMaxTimeInSecsToRecycleAfterCallCleared** and click **Find Next**.
NOTE: If the MitaiLinkerMaxTimeInSecsToRecycleAfterCallCleared key does not exist, you must create one. Enter <add key=" MitaiLinkerMaxTimeInSecsToRecycleAfterCallCleared" value="15" />.
5. Save the file.

Preventing blank or duplicate pop-ups

In a scenario where screen pop is configured to display on more than one field, for example, in a clustered network environment, the client may invoke screen pop with incomplete or blank pop-ups. In this case, the client receives the data in more than one batch due to

- The speed that the telephone switch delivers events.
Agent controllers are typically faster than queuing gateways.
- The order that the events arrive.
The MiTAI linker may not have received and linked all required events at the time when a call rings at an end device.

You must configure a list of required fields in the ContactCenterClient.exe.config file to prevent blank or duplicate pop-ups.

To prevent blank or duplicate pop-ups

1. On the client computer, browse to Client Installation directory Applications\ContactCenterClient.
2. Open **ContactCenterClient.exe.config** in Notepad.
3. Click **Edit=>Find**.
4. In the **Find what** field, enter WebPopRequires and click **Find Next**.
NOTE: If the WebPopRequires key does not exist, you must create one. Enter <add key="WebPopRequires" value="PFDNIS, PFVERIFIEDCOLLECTEDDIGITS"/>
5. Save the file.

Testing Contact Center Screen Pop search functions

This test will confirm that Contact Center Screen Pop will function with the software you selected.

To test the search function in Contact Center Screen Pop

1. Start Contact Center Client.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Click **Test**.
5. Type the variables using the described format.
PFCALLERNAME—first name followed by last name, separated by a space (for example, John Smith)
PFANI—phone number (including area code if relevant) with no spaces, dashes, or brackets (for example, 6135558769)
PFDNIS—phone number (including area code if relevant) with no spaces, dashes, or brackets (for example, 8005556598)
PFVERIFIEDCOLLECTEDDIGITS—all digits the caller has entered since entering the telephone system, with no spaces, dashes or brackets (for example, 1113)
Queue—queue that the caller first entered (for example, P500)
6. Click **OK**.
A screen pop that contains the test parameters you specified will display. The outcome of the Contact Center Screen Pop test will change depending on the type of screen pop you have configured and the test parameters you entered.

Disabling Contact Center Screen Pop

If you prefer some client computers do not use Contact Center Screen Pop, you can disable it on one or more computers. This procedure affects one agent profile only.

To disable Contact Center Screen Pop on a client computer

1. Start Contact Center Client.
2. Right-click the Phone toolbar and click **Configure**.
3. Click the **Screen pop** tab.
4. Clear the **Display Contact Center Screen Pop** check box.
5. Click **OK**.

Chapter 16

MICOLLAB CLIENT AND IGNITE INTEGRATION

*Basic MiCollab Client and Ignite
integration*

*MiCollab Client and Ignite integration user
interface*

*Before handling voice contact with
MiCollab Client and Ignite integration*

*Handling voice contacts with the MiCollab
Client and Ignite integration*

MiCollab Client

Ignite

MICOLLAB AND IGNITE INTEGRATION

Ignite is a flexible, intuitive, and efficient tool for handling email and chat contacts and for performing basic ACD call handling. Ignite enables agents to handle multiple contacts simultaneously, see the agent groups of which they are members, receive screen pop notifications of incoming contacts, set Account Codes and Classification Codes, view personal performance statistics and those of the queues and queue groups for which they answer, affect personal state indicators, and be advised of the presence of other agents in their agent group(s).

In this integration, Ignite can be used for basic call handling (answer, hold, hang up, blind transfer). See "Handling calls in Ignite" on page 484. More sophisticated scenarios, such as supervised transfers and conferencing, require MiCollab Client. For instructions related to the voice handling abilities of the MiCollab Client application, refer to the Unified Communicator Advanced documentation available on Mitel Online or via the Webhelp within the MiCollab Client.

The MiCollab Client and Ignite integration offers Enterprise presence (non-ACD), extended ACD presence, and Enterprise Instant Messaging (IM) presence indicators, informing co-workers of your real-time availability.

Contact Center Client is used as a supervisory tool in this integration, enabling real-time monitoring and alarming, forecasting, data mining, agent and ACD queue control, abandoned caller callbacks, and efficient call handling by moving items from busy to less active queues.

This chapter describes voice handling using Ignite and MiCollab Client. For information regarding handling email and chat contacts using Ignite, see the *Multimedia Contact Center Installation and Deployment Guide*.

BASIC MICOLLAB CLIENT AND IGNITE INTEGRATION

There are some features described in this chapter that do not apply for customers running the Basic MiCollab Client application. Refer to the following list of exceptions:

- Agents must use their deskphone for hot desking and cannot hot desk log in from MiCollab Client.
- Instant messaging is not supported.
- Extended ACD presence is not supported.

MICOLLAB CLIENT AND IGNITE USER INTERFACE

Ignite, when started, automatically docks to the MiCollab Client application, creating one client interface for voice and multimedia. See Figure 109.

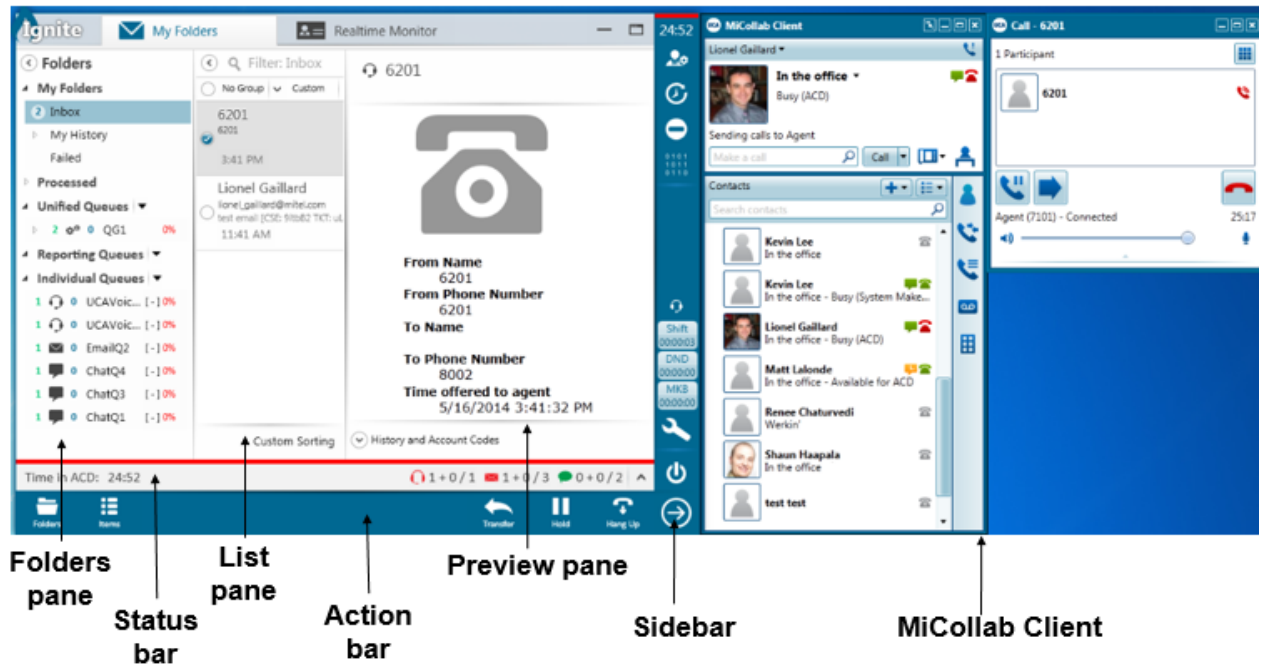


Figure 109: MiCollab Client and Ignite integration

The MiCollab and Ignite integration offers you the flexibility to access as much or as little of the interface as needed in order to optimize desktop real estate.

For example, you can choose to collapse the main Ignite window and only access the Ignite Sidebar and MiCollab Client (recommended for voice-only agents) or expand the Ignite panes if you will also handle non-voice media. If you are transferring a call, it is beneficial to expand the Ignite Preview pane to check recipient agent instant messaging availability before transferring. This enables you to send an instant message advising them of the incoming transfer. (See Figure 110).

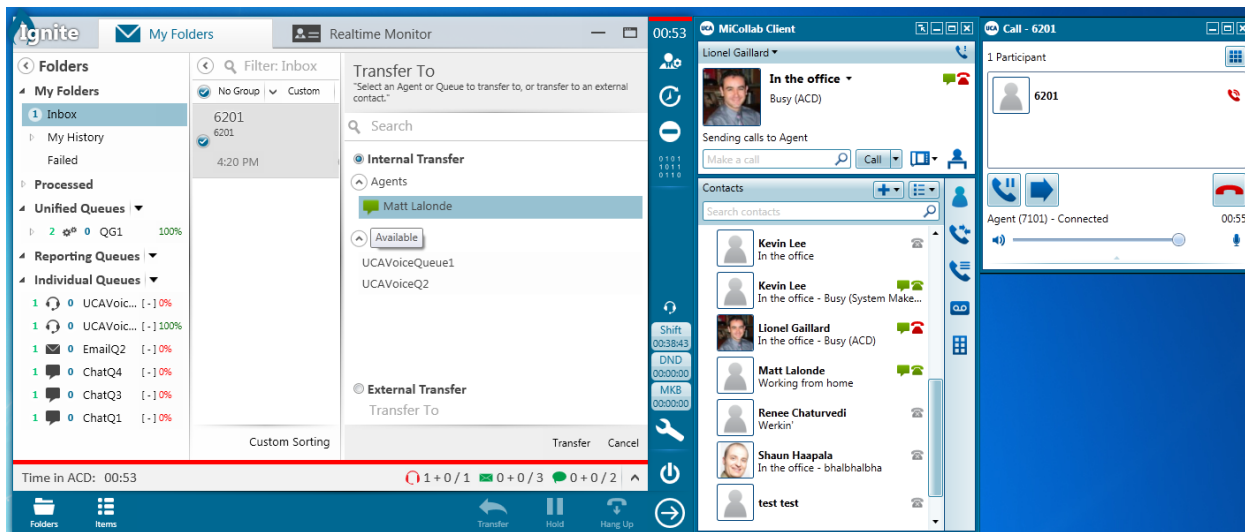


Figure 110: Accessing agent availability in the Ignite Preview pane when transferring a call

BEFORE HANDLING VOICE CONTACTS WITH THE MICOLLAB CLIENT AND IGNITE INTEGRATION

Please read the following notes and recommendations before installing and running the MiCollab Client and Ignite integration.

To enable MiCollab Client and Ignite integration functionality:

- When setting up the 'Feature Profile Details' in MiCollab Client Service, you must select the 'Desktop Client SDK' and 'Presence' check boxes.
- Choose 'Custom Install' and then select 'MiCollab Client SDK' in the Custom Setup window during the MiCollab Client installation process. You must be licensed for the MiCollab Client Desktop/Softphone. Basic MiCollab Client does not support full MiCollab Client and Ignite functionality and does not require the installation of the MiCollab Client SDK. See "Basic MiCollab Client and Ignite integration" on page 467.
- Agents' first and last names must match between YourSite Explorer and MiCollab Client. If there are two agents with identical first and last names, ensure they have unique email addresses in both YourSite Explorer and MiCollab Client.
- MiCollab Client must be Version 6.0 SP3 or greater to support this integration.
- When running this integration in a Windows 8 environment, ensure the UCA process always runs as an administrator by selecting the 'Run this program as an administrator' option in the MiCollab Client properties settings.
- When running this integration, the MiCollab Client toaster notification ('Show Call Popup Window' setting) should be manually disabled, to prevent duplicate toasters from displaying on the desktop. If, at any point, Ignite is shut down and MiCollab Client is running as a standalone application, its toaster notification must be manually re-enabled. Refer to MiCollab Client documentation for Call Notification configuration instructions.

- Ignite includes a toaster with basic call information but a more advanced screen pop can be configured using the workflow variable 'ScreenPopOnRinging' (available when licensed for IVR Routing or Multimedia Contact Center). See "Populating screen pops with workflow variables" on page 626.

HANDLING VOICE CONTACTS WITH THE MICOLLAB CLIENT AND IGNITE INTEGRATION

The following table lists agent actions and the application in which they are performed.

Table 39: Agent actions by application

AGENT ACTION	MICOLLAB CLIENT	IGNITE	MICOLLAB CLIENT OR IGNITE
Log on and Log off	x	x	
Set or remove Make Busy with Reason Code		x	
Set or remove Do Not Disturb with Reason Code		x	
Cancel Work Timer		x	
Chat (IM)	x		
Join/Leave Agent Group		x	
Answer			x
Hang Up			x
Conference	x		
Cancel	x		
Account Code		x	
Classification Code		x	
Call me back	x		
Call forwarding	x		
Camp on	x		
Forward	x		
Leave a message	x		

Table 39: Agent actions by application (continued)

AGENT ACTION	MICOLLAB CLIENT	IGNITE	MICOLLAB CLIENT OR IGNITE
Mute	x		
Retrieve	x		
Split	x		
Transfer (blind)			x
Transfer (supervised)	x		
Transfer/Conf	x		
Volume	x		
Dial Pad	x		
Dial Contacts	x		
ACD Hot desk login	x		
	(with MCD 6.0 SP3+)		

The following features continue to be available in Contact Center Client (Contact Center Softphone or Contact Center PhoneSet Manager) but are not currently supported in the MiCollab Client and Ignite integration:

- Pre-announce
- Custom ring tones
- Request help
- Speed Dial
- Call notes
- External hot desking agents

If these features are necessary to your business, you can continue to use Contact Center Softphone or Contact Center PhoneSet Manager but these applications do not support an integration with Ignite.

AGENT PRESENCE INDICATORS

MiCollab Client displays Enterprise presence (non-ACD), extended ACD presence, and Enterprise Instant Messaging (IM) presence indicators.

Extended ACD presence displays in MiCollab Client for all agents who are members of the same agent group(s) as the logged in employee. These states are:

- Logged out
- Not available for ACD (not present in any agent groups)
- Available for ACD (logged in and idle)
- Busy <reason> (logged in and busy)
 - Busy – Outbound (making an outbound call)
 - Busy – ACD (receiving an ACD call)
 - Busy <Make Busy reason code name> (in MKB, including system MKB)
 - Busy – Non-ACD (receiving a non-ACD call, such as a consultation call (pre-transfer) or a direct call to their agent DN)
- Do Not Disturb - <DND reason code name> (logged in and in DND)
- Unknown – this indicator may display following an Enterprise service restart

Enterprise IM presence indicators are available in MiCollab Client and in Ignite (in the Preview pane when transferring a call). Knowing agent IM availability is beneficial when transferring calls as it enables the transferring agent to notify the receiving agent before completing the transfer. IM presence indicators include:

- Online – green
- Offline – red
- Away - orange

Ignite displays the agent's overriding state (indicated by a bar of color at the top of the Ignite Sidebar) and the time spent in that state, directly below the colored bar indicator. If the time spent in a state exceeds 24 hours, it displays by days:hours. See "Getting started with Ignite" on page 473 for an example of the Ignite Sidebar interface.

Overriding state information also displays in the Status bar. See "Viewing agent state and statistics in the Status bar" on page 483.

Overriding states and their associated colors are:

- Idle – Green
- Make Busy – Yellow
- DND – Yellow
- Work Timer – Yellow
- Not present in any agent group – Yellow
- ACD – Red
- ACD Hold – Red
- Ringing – Red
- Non-ACD/Outbound - Blue

MICOLLAB CLIENT

Voice handling instructions for MiCollab Client are described in the Unified Communicator Advanced documentation available on Mitel Online or via the Webhelp within the MiCollab Client.

LOGGING INTO MICOLLAB CLIENT

MiCollab Client, if installed, will automatically launch, by default, when Ignite is started. You can alter this configuration in Ignite if desired. See "Configuring profiles" on page 482.

If you start Ignite before logging into MiCollab Client, you will be prompted to register and log in your voice agents in MiCollab Client before signing into Ignite. We recommend you start and log into MiCollab Client before starting and logging into Ignite.

To log into MiCollab Client as a hot desking agent

1. Right click on the **Agent** in the **Active Calls** window.
2. Select **Hot-Desk In**.
A new dialog window opens.
3. In the **Base DN** text box, enter your base extension.
4. If your business uses PINs, enter your PIN.
5. Click **Hot-Desk In**. Your hot desk agent is now logged in and your base extension is out of service.
NOTE: By default, Ignite is configured to detect voice agent logout. If you are running Ignite and you exit MiCollab Client the employee is signed out of Ignite. The following text displays: 'One of your agents was logged out outside of Ignite. Your remaining agents are now being logged out'. If you click 'Continue', Ignite will close immediately.

IGNITE

Ignite is used by agents to handle all types of media, including voice, email, chats, and fax. In this chapter we discuss Ignite as a voice handling system in conjunction with MiCollab Client and, as such, suggest you refer to the *Multimedia Contact Center Installation and Deployment Guide* if you want to access detailed Ignite instructions related to media other than voice.

GETTING STARTED WITH IGNITE

The following sections describe the Ignite interface from the perspective of a voice agent using MiCollab Client for handling all voice calls. Ignite provides the MiCollab Client agent with the ability to:

- View and adjust Agent Group Presence
- Set and remove Make Busy and Do Not Disturb
- Tag calls with Account Codes and Classification Codes
- Remove Work Timer
- Access agent handling statistics

- Configure personal Ignite profiles
- Perform call handling actions (as an alternative to using MiCollab Client for the same actions)
- Access caller information via screen pop
- View agent status

See "MiCollab Client and Ignite user interface" on page 468 for a view of the overall Ignite user interface for voice agents and refer to Figure 111 for a detailed view of the Ignite Sidebar, where the majority of voice agent actions take place.



Figure 111: Ignite sidebar

OPENING AND CLOSING IGNITE

To open Ignite

- Ignite can be opened from Windows' Start menu, Programs menu, Taskbar, or from a Desktop shortcut.
- NOTE:** If Contact Center Solutions applications are configured to use Windows Authentication, opening Ignite also logs agents into the program.

To close Ignite

- In the **Sidebar**, click the **Sign Out or Exit** button and select **Exit Application**.
NOTE: You can also close Ignite from the Sign In screen by clicking the **Exit Application** button.

LOGGING INTO AND OUT OF IGNITE

We recommend that agents using Ignite in conjunction with MiCollab Client log into their voice agent in MiCollab Client before logging into Ignite. If you choose to log into Ignite prior to logging into MiCollab Client, you will be prompted during the Ignite login process to register your voice agent in MiCollab Client.

Agents may find that, after logging into their phone and into Ignite, they are placed in Make Busy across all agent capabilities. This is an administrative configuration on the PBX that is recommended for Version 7.1. After logging into Ignite the agent can remove Make Busy and become available to receive ACD calls.

To log into Ignite

1. Start **Ignite**.
2. Enter your **Username** and password.
NOTE: If your system uses Windows Authentication, you will be logged in automatically.
3. To have the system remember your login credentials, click **Remember Me**.
4. Click **Sign In**.

To log out of Ignite and restart the program to the login screen

- In the **Sidebar**, click the **Sign Out or Exit** button and select **Sign Out**.
The agent is logged out of Ignite, and Ignite restarts to the login screen.

To log out Ignite and close the application

- In the **Sidebar**, click the **Sign Out or Exit** button and select **Exit Application**.
NOTE: You can also close Ignite from the Sign In screen by clicking the **Exit Application** button.
The agent is logged out of Ignite, and the application closes.

PERFORMING AGENT ACTIONS IN THE SIDEBAR AND THE ACTION BAR

Ignite's Sidebar displays the following:

- **Agent Group Presence** - viewing and adjusting Agent Group Presence
- **Make Busy** - adding and removing Make Busy
- **Do Not Disturb** - adding and removing Do Not Disturb
- **Account Code** - setting Account Code(s) (displays during active call)
- **Classification Code** - setting Classification Code(s) (displays after call ends, until Work Timer is removed)

- **Remove Work Timer** - removing Work Timer (displays only when Work Timer is active)
- **Agent handling statistics** - viewing statistics by selected media type
- **Settings** - configuring Ignite profile options
- **Collapse Ignite or Expand Ignite** - expanding or collapsing the main Ignite window

Viewing and adjusting Agent Group Presence

Agents can view the agent groups of which they are members. Viewing Agent Group Presence helps agents verify that they are able to handle contacts for the appropriate queues.

Agents can view Agent Group Presence on a group-by-group basis across media types. If administrative configurations permit, agents may also make themselves present to and absent from agent groups and the media types that the group handles.

If agents are present to an agent group, a check mark displays beside the group. If agents are present to handle media types in the group, these icons display a blue background.

If agents have the required permissions, they can make themselves present to, or absent from, select agent groups or they can make themselves available or unavailable to all agent groups of which they are members, in one motion.

When agents are not present to any of their agent groups, Ignite's Status bar displays a 'Time Logged in Not Present' status.

NOTE: Agents may be made automatically present to their agent groups upon logging into Ignite. This is an administrative configuration and is not controlled by the agent. However, without this administrative configuration, agents must make themselves present to agent groups in order to be offered contacts.

To view Agent Group Presence

- In the **Sidebar**, click the **Agent Group Presence** button.

To become present to an agent group

1. In the **Sidebar**, click the **Agent Group Presence** button.
2. Select the group or groups from the **Agent Group Presence** screen and click **Apply**.

To become absent from an agent group

1. In the **Sidebar**, click the **Agent Group Presence** button.
2. Deselect the group or groups from the **Agent Group Presence** screen and click **Apply**.

To become either present or absent from all agent groups

1. In the **Sidebar**, click the **Agent Group Presence** button.
2. To become present to all agent groups, click **Select All**.
3. Click **Apply**.
You become present to all agent groups and media types within the group.
4. To become absent from all agent groups, click **Clear All**.
5. Click **Apply**.
You become absent from all agent groups and media types within the group.

To apply default Agent Group Presence settings

1. On the **Agent Group Presence** screen, click **Defaults**.
2. Click **Apply**.

Setting and removing Make Busy

When agents must become temporarily unavailable for inbound ACD contacts, they can put themselves into Make Busy (MKB) and choose a code indicating why they are unavailable. MKB is used, for example, when agents take breaks or go on lunch.

Setting MKB for one agent capability applies a MKB status across all of the employee's media capabilities. However, agents in MKB can receive transferred contacts and non-ACD voice contacts.

Agents can enter MKB while handling contacts to ensure that, once they are finished, they are not offered another contact. Existing voice contacts continue until one of the parties ends the conversation.

Agents also enter Make Busy when they decline a contact, fail to answer a ringing contact within the allotted time, and place an item on hold for longer than is permitted. In each instance, the contact is requeued as the longest waiting (depending on 'Requeue on Logout' settings configured in YourSite Explorer). The agent is automatically put into MKB across all media capabilities, and a System Make Busy is registered for the employee.

To set MKB and change MKB codes

1. In the **Sidebar**, click the **Make Busy** button.
2. Select either a MKB code or **No Make Busy Code**, and click **Apply**.
NOTE: Agents cannot program MKB codes and can only select from the list provided.
3. To change a MKB code assigned to you, follow steps 1 and 2.

To remove MKB

NOTE: Agents must remove MKB to become available to receive inbound contacts.

1. In the **Sidebar**, click the **Make Busy** button.
2. Click **Remove: <active MKB code>**.
If you have the main Ignite window open, you can alternatively click the **X** button in the **Status** bar.

To change to a DND state while in MKB

NOTE: DND and MKB states layer. If an agent in MKB changes their state to DND, the agent will remain in MKB once DND is removed. This prevents agents from receiving contacts when switching states between MKB and DND.

1. While in MKB, in the **Sidebar**, click the **Do Not Disturb** button.
2. Select either a DND code or **No DND Reason Code**, and click **Apply**.
NOTE: Agents cannot program DND codes and can only select from the list provided.
3. To remove DND and revert to MKB, in the **Sidebar**, click the **Do Not Disturb** button.
4. Click **Remove: <active DND code>**.
If you have the main Ignite window open, you can alternatively click the **X** button in the **Status** bar.

Setting and removing Do Not Disturb

When agents must become temporarily unavailable for inbound calls, they can put themselves into Do Not Disturb (DND) and choose a code indicating why they are unavailable.

Setting DND for one agent capability applies a DND status across all of the employee's media capabilities. While in DND, agents cannot receive inbound contacts or internal transfers but can receive external non-ACD voice contacts. They are also unable to pick and reply from queues while in DND. Existing voice contacts continue until one of the parties ends the conversation.

To set DND and change DND codes

1. In the **Sidebar**, click the **Do Not Disturb** button.
2. Select either a DND code or **No DND Reason Code**, and click **Apply**.
NOTE: Agents cannot program DND codes and can only select from the list provided.
3. To change a DND code, follow steps 1 and 2.

To remove DND

NOTE: Agents must remove DND to become available to receive inbound or internal voice contacts.

1. In the **Sidebar**, click the **Do Not Disturb** button.
2. Click **Remove: <active DND code>**.
If you have the main Ignite window open, you can alternatively click the **X** button in the **Status** bar.

To change to a MKB state while in DND

NOTE: If an agent changes their DND state to MKB, the agent remains in DND until this state is removed.

1. While in DND, in the **Sidebar**, click the **Make Busy** button.
2. Select either a MKB code or **No Make Busy Code**, and click **Apply**.
3. In the **Sidebar**, click the **Do Not Disturb** button.
4. Click **Remove: <active DND code>**.
If you have the main Ignite window open, you can alternatively click the **X** button in the **Status** bar to remove yourself from DND and enter MKB.

Tagging calls with Account Codes

Account Codes are used for reporting purposes. They are numbers identifying services, departments, or other elements of the contact center. Agents can tag calls with Account Codes in Ignite to indicate in reports what the conversation was about.

For example, an agent handling calls for three catalog companies enters an Account Code of '01' to indicate the customer is inquiring about Company A. Later in the conversation, the agent enters an Account Code of '06' to indicate that the customer is now inquiring about Company A's mail-out services.

Agents can tag calls with multiple Account Codes. Account Codes must be entered during the call and cannot be entered after the call has ended.

NOTE: Account Codes can also be tagged using the 'History and Account Codes' button found in the Preview pane. Account Code group configuration is not supported in the 'Set Account Code' rolling panel but is supported in the Account Code list accessible via the History and Account Codes button.

To tag a call with an Account Code

1. In the **Sidebar**, click the **Account Code** icon to open the **Set Account Code** rolling panel. When a call is offered to an agent, indicated by the toaster displaying on the agent desktop, the Account Code icon will display in the Ignite Sidebar. You must apply Account Codes during the call. They cannot be applied after the call has completed.
2. Select the applicable Account Code from the list that displays and click **Apply**.
NOTE: If you are handling more than one item in the Inbox, for example, one email and one call, and you apply an Account Code, it is applied to the item that is currently selected in the Ignite Inbox.

Tagging calls with Classification Codes

Classification Codes are a type of Account Code, but differ in the following ways:

- You can apply multiple Classification Codes to different, applicable sections of a call. All Classification Codes applied to a call are pegged with the full call duration, from the time the call arrives until the call ends. This includes transfer time, time calls were handled at other extensions, and Work Timer durations if configured for the queue. If the same code is entered twice, it is not double pegged in reporting statistics.
- Classification Codes can be configured as 'forced', meaning the agent must enter a Classification Code either during the call or when in Work Timer, after the call ends, to remain within compliance.
- Account Codes can only be entered during a call but Classification Codes can be entered during or after a call (while in Work Timer). During a call, you enter Classification Codes via the Account Code icon (the Classification Codes will display with other Account Codes in the 'Set Account Code' rolling panel list or in the 'History and Account Code' section of the Preview pane). There are often scenarios within which an agent sets single or multiple Account Codes during a call and then sets a Classification Code when the call terminates.

Work Timer must be enabled on the queue and Classification Codes must be configured in YourSite Explorer for calls to be tagged with Classification Codes. If you require forced Classification Codes, you must configure this as a setting in YourSite Explorer. See "Adding voice queues (ACD path)" on page 142 and "Adding Account Codes" on page 163 for more information regarding Work Timer and Classification Code configuration.

NOTE:

- Classification Code group configuration is not supported.
- Classification Codes are supported when handling voice contacts only. Multimedia support will be added in a future release.

The following instructions describe tagging calls with Classification Codes after a call ends. You can also apply Classification Codes during a call in the same way you apply Account Codes. Classification Codes are included in the list of Account Codes in the 'Set Account Code' rolling panel. See "Tagging calls with Account Codes" on page 478.

To tag a call with a Classification Code

1. In the **Sidebar**, click the **Classification Code** icon to open the **Classify** rolling panel. When the call ends, the Classification Code displays (and flashes if forced Classification Codes are enabled) and Work Timer is activated.
2. Select the applicable Classification Code from the list that displays and click **Apply**.
NOTE: If you are handling more than one item in the Inbox, for example, one email and one call, and you apply a Classification Code during the call, it is applied to the item that is currently selected in the Inbox. If you apply a Classification Code after the call, when in Work Timer, the voice contact is no longer in your inbox and you will need to use the 'Classify' icon in the Sidebar to apply a Classification Code to the voice contact.
3. If Work Timer has not been configured to automatically cancel after entering a Classification Code, cancel Work Timer by clicking the **Remove Work Timer** button in the **Sidebar**.
NOTE: If you use forced Classification Codes, you cannot cancel Work Timer until you have entered a Classification Code. If you do not enter a Classification Code before the Work Timer expires, a default Classification Code of '-1 Non-Compliant' is entered automatically.

Removing Work Timer

Agents use the time spent in Work Timer to complete post-call work, such as consulting with a supervisor, without having this downtime affect their performance statistics.

When Work Timer is the overriding state in Ignite, agents can remove Work Timer and put themselves back into an overriding state across all media capabilities. Once agents have removed Work Timer, they cannot put themselves back into this state.

According to queue configuration settings, agents can be placed in a Work Timer state for a set period of time after completing a call. The Work Timer can optionally be configured to cancel automatically after a Classification Code has been entered. If the Work Timer is not set to cancel automatically, you must cancel it manually after entering a Classification Code.

If Work Timer is not configured to cancel automatically when a Classification Code has been entered and you end the call and do not manually cancel it you will be unable to receive calls until the Work Timer duration, as configured on the queue, has expired.

If you are handling other media contacts and calls simultaneously and Work Timer is not configured to cancel after entering a Classification Code and the call ends, you must either wait for Work Timer to expire or finish handling your other active media types, for example, an active email, before you will be able to receive another call.

To remove Work Timer

- In the **Sidebar**, click the **Remove Work Timer** button.
NOTE: If you are handling non-voice contacts and the Sidebar is collapsed, you can remove the Work Timer via the Action bar instead.

Accessing agent handling statistics by media type

Agents can access statistics related to their performance via the Sidebar. If you are enabled for media types other than voice, you can toggle between media-specific statistics using the icon directly above the statistical displays. Select the headphone icon for voice, the envelope icon for email, or the conversation icon for chat statistics.

By default, the Sidebar displays Shift Time, DND Time, and MKB Time. However, using the Settings button in the Sidebar, you can select any three agent shift statistics from the following list for display:

- Shift Time
- ACD Time
- ACD Hold Time
- Non ACD Time
- Non ACD Hold Time
- Out Time
- Out Hold Time
- DND Time
- MKB Time
- Wrap Up Time
- DND Cnt
- MKB Cnt
- ACD Cnt
- Shrt ACD Cnt
- Non ACD Cnt
- Hold ACD Cnt
- Non ACD Hold Cnt
- Out Cnt
- Out Hold Cnt
- On failover
- Logged In Not Present Time
- Avg Hndl
- Occp

If the statistical name is too long to fully display, you can either hover over the statistic and read the tooltip or left-click the statistic and the fly-out menu will display the full name.

Configuring profiles

When you make manual adjustments to Ignite, they are remembered as part of your profile. When you close Ignite, your profile is automatically saved. When you reopen Ignite with your username, Ignite loads your most recent profile settings. If Ignite shuts down suddenly, for example, due to a power outage and subsequent computer restart, Ignite will use your last saved profile when restarted.

In addition to auto-settings, Ignite offers the following configuration options via the Settings button in the Sidebar.

General settings

By clicking the Settings icon in the Sidebar and then clicking the General settings tab, you can customize Ignite display and behavior.

- **Launch MiCollab Client if installed but not running when signing into Ignite:** This setting is selected by default and automatically opens MiCollab Client, if not currently running, when an agent signs into Ignite.
NOTE: You will be prompted to log in your voice agents in MiCollab Client before signing into Ignite.
- **Always show Sidebar:** This setting is checked by default. If unchecked, you will not have access to the options listed below and you will need to use the arrow icon to show or hide the Sidebar.
- **Expand Ignite when a multimedia item is accepted:** This setting is checked by default. When selected, if the main Ignite window is collapsed and an email or chat is accepted via the toaster, the main Ignite window automatically expands. If not selected, Ignite will not automatically expand when an email or chat is accepted and the agent must expand it manually by clicking the arrow at the bottom of the Sidebar.
- **Expand Ignite when a voice item is accepted:** This setting is not checked by default and if the main Ignite window is collapsed and a call is accepted via the toaster, Ignite does not automatically expand. We recommend you do not check this setting as the main Ignite window is not essential for handling voice contacts. If selected, if the main Ignite window is collapsed and a call is accepted via the toaster, Ignite automatically expands.
- **Collapse Ignite on startup:** This setting is not checked by default. When you start Ignite, the main window will not collapse. If this check box is selected, only the Ignite Sidebar displays at startup. You can use the arrow icon at the bottom of the Sidebar to expand the main Ignite window. If this setting is not selected, when you start Ignite the main window and the Sidebar will display.
- **Collapse Ignite when inbox is emptied:** This setting is checked by default. When selected, and your inbox empties, the main Ignite window collapses. If not selected, the main Ignite window does not collapse when your inbox has been emptied.

Sidebar Stats settings

By clicking the Settings icon in the Sidebar and then clicking the Sidebar Stats settings tab, you can select which three agent handling statistics you want to display in the Ignite Sidebar. See "Accessing agent handling statistics by media type" on page 481 for a list of available statistics.

Call handling using the Action bar

Agents can optionally perform call handling activities, such as transferring a call, placing a call on hold, and hanging up a call, from the Ignite Action bar instead of using the MiCollab Client call control window. They can also remove Work Timer from the Action bar instead of the Sidebar, which may be preferable for multimedia agents who do not use voice and, as a result, benefit more from the Ignite main window than from the Sidebar. Multimedia agents may choose to collapse the Sidebar and expand Ignite's main window to more efficiently handle emails and chats.

VIEWING AGENT STATE AND STATISTICS IN THE STATUS BAR

The Status bar displays the employee's overriding state, including:

- **Time in Ringing** – Displays when an employee has contacts ringing in the Inbox
- **Time in ACD** – Displays when an employee has placed ACD contacts in reply mode
- **Time in ACD Hold** – Displays when an employee has placed ACD contacts on hold
- **Time in Non ACD** – Displays when an employee is handling non-ACD contacts
- **Time in Non ACD Hold** – Displays when an employee has placed non-ACD contacts on hold
- **Time in Work Timer** – Displays after the employee has handled a contact, provided none of the employee's agents are in an ACD, Make Busy, or Do Not Disturb state
- **Time in Do Not Disturb** – Displays when the employee is in a Do Not Disturb state
- **Time in Make Busy** – Displays when an employee is in a Make Busy state
- **Time Logged in Not Present** – Displays when an employee is not present to any of their agent groups
- **Time in Idle** – Displays when the employee does not have contacts in the Inbox

An overriding state is one that 'trumps' another state. States higher in the list override the states appearing lower in the list. Note that all of the employee's agents are considered when the system calculates overriding state.

The oldest state for a state 'trumps' other times for the same state if an agent is handling multiple contacts. For example, if an employee had two emails in ACD, the displayed value in the status bar would be the time of the oldest email. When the oldest email is completed, the displayed value in the status bar would switch to the other email's Time in ACD.

Ignite's Status bar also contains statistics on agent performance as it relates to handling multimedia contacts. See the *Multimedia Contact Center Installation and Deployment Guide* for more information.

Agent handling statistics can be displayed by clicking the ^ button on the right-hand side of the Status bar.

NOTE: The Status bar is only visible to employees with associated voice, email, or chat agents.

HANDLING CALLS IN IGNITE

Agents can perform basic call handling in Ignite.

The following procedures explain how to

- View call information
- Answer and end calls in Ignite
- Pick calls out of queue
- Blind transfer calls to internal and external destinations
- Put calls on hold and retrieve calls from hold

MiCollab Client is recommended for performing more advanced call handling functions such as conferencing and supervised transfers.

NOTE:

- Ignite's phone functionality does not support multiple lines and is used to handle inbound voice contacts only.
- Ignite's phone controls are not supported for External Hot Desking Agents.

Viewing call information

Agents can view basic call information in the Preview Pane before picking a call out of queue or handling it from the Inbox. Note that information displaying may vary based on administrative configuration.

Agents can view

- From Name: Caller ID (if supported by the caller)
- From Phone Number: The caller's ANI
- To Phone Number: The call's DNIS. This is the number the caller dialed
- To Name: The name associated to the call's DNIS
- Queue Name: The name of the queue from which the call originated
- Queue Dialable: The dialable number of the queue from which the call originated
- Queue Reporting: The reporting number of the queue from which the call originated
- Time Offered to Agent: The time at which the call reached the agent's Inbox
- **NOTE:** Applies only to ACD conversations
- Collected Information: Digits collected from the caller, for example an account number

The following explains how to

- View information for calls in queue
- View information for calls in the Inbox

To view information for calls in queue

1. In the **Folders** pane, select a queue.
2. In the **List** pane, select a call.
Call information displays in the Preview pane.

To view information for calls in the Inbox

1. In the **Folders** pane, click **Inbox**.
2. In the **List** pane, select a call.
Call information displays in the Preview pane.

Answering and ending calls

Agents can answer calls ringing in the Inbox. Note that agents cannot decline a ringing call.

The following explains how to

- Answer a call
- End a call

To answer a call

1. In the **Folders** pane, click **Inbox**.
2. In the **List** pane, select a call and, in the **Action** bar, click **Reply**.

To end a call

- In the **Action** bar, click **Hang Up**.

Picking calls out of queue

Agents can pick calls out of queue and send them to the Inbox. Once ringing in the Inbox, the call can be answered.

NOTE:

- Agents cannot pick or pick and reply to contacts from the queue if they are in Do Not Disturb. Your Pick and Pick & Reply buttons are disabled when you are in Do Not Disturb.
- Agents may only pick or pick and reply to contacts from the queue if they have the appropriate permissions. This is an administrative configuration and is not controlled by the agent. If your Pick and Pick & Reply buttons are disabled, you do not have permission to pick contacts from the queue

The following procedures explain how to pick a call from the queue.

To pick a call from the queue

1. From the **Folders** pane, select the queue from which a call will be picked.
2. From the **List** pane, select a call from the queue and, from the **Action** bar, click the **Pick** button.
The call is transferred to your Inbox.
3. To answer the call, select **Inbox** and, in the **List** pane, select the call and click **Reply**.
NOTE: Additional handling options display in the Action bar. For more information, see the appropriate procedures in this section.

Blind transferring calls to internal and external destinations

Agents can transfer calls to internal and external destinations. Internal transfer destinations include destinations programmed in the 3300 ICP media server or in a cluster of 3300 ICP media servers. External transfer destinations include dialable numbers not programmed in the 3300 ICP media server or in the cluster of 3300 ICP media servers. For example, agents in the Support queue receiving calls concerning account renewals can transfer these calls internally to the Sales queue, or agents can transfer calls externally to a supervisor's cell phone.

Agents who are logged out, in Do Not Disturb, or whose presence is unknown cannot receive transferred calls and do not display in the transfer list. Agents who are either in Make Busy or at their call Workload limit can receive transferred calls and will display in the transfer list.

At this time, agents are only able to perform blind transfers in Ignite. In blind transfers, there is no communicating with transfer destinations before sending calls. Calls are transferred immediately and the system does not monitor the outcome

NOTE:

- Calls on hold may not be transferred until hold is removed.
- Agents may only transfer contacts if they have the appropriate permissions. This is an administrative configuration and is not controlled by the agent. If your Transfer button is disabled, you do not have permission to transfer contacts. You may request that a supervisor transfer the contact to you instead.

The following explains how to

- Transfer calls to an agent or queue
- Transfer calls to a dialable number

To transfer a call to an agent or queue

1. In the **Folders** pane, click **Inbox**.
NOTE: To transfer directly from the queue, select the call from the queue and, in the Action bar, click 'Transfer'. Follow steps 4 onward.
2. In the **List** pane, select a call and, in the **Action** bar, click **Reply**.
3. In the **Action** bar, click **Transfer**.
4. Select the **Internal Transfer** radio button and select an agent or queue. Expand the device list if necessary. You can search for an internal transfer destination by typing the name of an agent or queue in the 'Search' field.
5. Click **Transfer**.

To transfer a call to a dialable number

1. In the **Folders** pane, click **Inbox**.
NOTE: To transfer directly from the queue, select the call from the queue and, in the Action bar, click 'Transfer'. Follow steps 4 onward.
2. In the **List** pane, select a call and, in the **Action** bar, click **Reply**.

3. In the **Action** bar, click **Transfer**.
4. Select the **External Transfer** radio button and, in the **Transfer To:** field, type a dialable number. Enter this number as you would on a phone, including any digits required for outbound dialing.
NOTE: Invalid entries return an error message. Re-type a valid entry and click 'Transfer'.
5. Click **Transfer**.

Putting calls on hold and retrieving calls from hold

At times, agents may have to put a call on hold. When on hold, the List pane displays a paused icon over the voice contact.

NOTE: Calls on hold may not be transferred until hold is removed.

The following explains how to

- Put a call on hold
- Retrieve a call from hold

To put a call on hold

1. In the **Folders** pane, click **Inbox**.
2. In the **List** pane, select the active call.
3. In the **Action** bar, click the **Hold** button.

To retrieve a call from hold

1. In the **Folders** pane, click **Inbox**.
2. In the **List** pane, select the call on hold.
3. In the **Action** bar, click **Remove Hold**.

Chapter 17

FLEXIBLE REPORTING

Using Flexible Reporting

FLEXIBLE REPORTING

Flexible Reporting is an application that works with Contact Center Management Enterprise Edition. In addition to the over 425 reports provided by Contact Center Solutions and Business Reporter, Flexible Reporting enables you to design your own reports.

To install Flexible Reporting on a client computer, select the Flexible Reporting option in the Client Role Selector.

To access Flexible Reporting, employees must be associated with a security role that allows them to manage reporting (the May manage reporting check box must be selected).

With Flexible Reporting you can:

- Use a wizard interface to create customized reports with existing statistics (column headings)
- Create custom calculations using expressions
- Select column headings to build custom reports
- Select only the columns you want to view
- Select like data for two or more device types and combine them in one report
- Arrange the columns in the order in which you want to view them
- Customize the names of statistics (column headings) so they are meaningful to your department, business, and industry
- Save the reports in Excel and .pdf formats

USING FLEXIBLE REPORTING

In Flexible Reporting you can

- Create new reports
- Modify standard Contact Center Management report templates
- Modify existing Flexible Reporting report templates
- Design reports
- Manage your Flexible Reporting reports
- Run reports

STARTING FLEXIBLE REPORTING

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

To start Flexible Reporting

1. Open **Flexible Reporting**.
2. If prompted, type your user name and password and verify the Enterprise Server IP address.
3. If you use Secure Socket Layer, select the **SSL** check box.
4. Optionally, select the **Remember my credentials** check box.
The Welcome to Flexible Reporting dialog box opens.

5. Select from: **Run a report**, **Create a new report**, **Redesign a standard report**, **Modify an existing report**, or **Do not show this dialog box again**.

NOTE: The Created Language column for existing reports displays your current language preference.

6. If you want to initiate a procedure, click **OK** and see the associated section in this chapter. Otherwise, close the dialog box.

VIEWING THE FLEXIBLE REPORTING USER INTERFACE

The Flexible Reporting user interface comprises the following. (See Figure 112.):

- Report Designer wizard
- Layout designer window
- Flexible Reporting button
- Ribbon
- Toolbox window

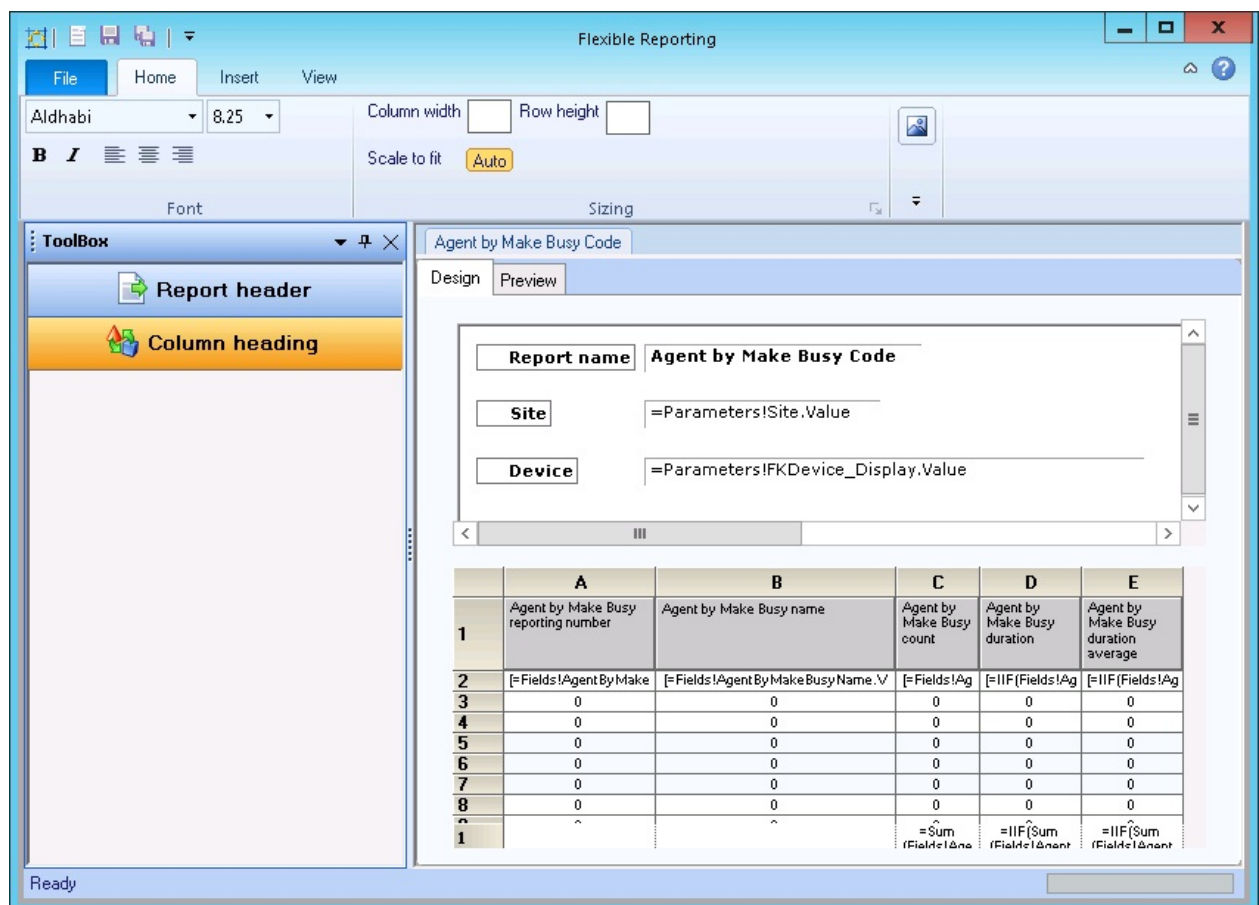


Figure 112: Flexible Reporting user interface

You can customize the position of the windows in the following ways:

- Dock to the left, right, top, or bottom of the user interface
- Float
- Hide
- Auto-hide

Report Designer wizard

Whether you are building a new report or modifying an existing Contact Center Management report, the Report Designer wizard leads you through the following steps to select data for the report:

- Create a new report based on an existing one, or design a new report
- Select a report type (Performance reports, Answering points, Make Busy, and Account Code reports, or Summarized/Detailed Agent Event reports)
- Select the device types
- Select the statistics (column headings), and the order in which you want them displayed
- Specify the time frame options

Layout designer window

The layout designer window comprises two tabs: design and preview. The window displays the report header and data grid. You can perform the following functions in the layout designer window.

On the Design tab you can

- Add images to report headers
- Edit the report header titles
- Adjust the placement of the report header titles and values
- Remove report header titles and values
- Add existing or custom columns
- Move columns
- Delete columns
- Edit column heading names
- Specify column width and row height
- Specify row colors
- Freeze and unfreeze columns
- Save report templates

On the Preview tab you can

- Run and preview reports
- Save reports
- Export reports
- Print reports

The File tab

The File tab is a tab located in the upper left corner of the window. The following options are available from the Flexible Reporting button: New, Open, Save, Save As, Close, Feedback, About, Log Out, Exit, and Exit and Log Out.

Ribbon

The ribbon provides the same functionality as traditional toolbars. Use the tools on the ribbon to help you design your reports. The ribbon comprises the Home, Insert, and View tabs.

On the Home tab of the ribbon, you will find the tools to help you

- Change the font type, size, and style
- Select text justification
- Specify column width, auto-fit column width, and row height
- Change row colors

On the Insert tab of the ribbon, you will find the tools to help you

- Insert and remove images from the report header
- Select the report header titles to open in the report header
- Add existing or custom columns
- Remove columns
- Freeze and unfreeze columns
- View or modify expressions

On the View tab of the ribbon, you will find the tools to help you

- Show and hide the Toolbox window
- Manage reports

Toolbox window

The Toolbox window contains the following:

- **Report header**
Report header is a list of report header titles that are currently not included in the report header. If the Report Header list is empty, all of the report header titles will be applied to the report. When report header titles are removed from a report they are shown in the Report headers list.
- **Column heading**
Column heading displays a list of all of the column headings (for only those devices selected for the report) that are not currently included in the report grid. When you add a column heading to the report, it is removed from the list. Similarly, if you remove a column heading from the report, it displays in the Column headings list.

CREATING NEW REPORTS

Using the Report Designer wizard you can build new reports with existing column headings. Use the Report Designer wizard to select the data for the report.

NOTE: Reports generate in the language they were created in, regardless of the current employee language setting.

The Report Designer wizard guides you through the following steps:

- Select how you want to display the report data
 - Performance reports display data for agents, queues, trunks, DNIS, or extensions by interval. Each row in the report represents a specific period. The supported periods are: 15 minutes, 30 minutes, 60 minutes, day of week, day of month, and month.
 - Answering points, Make Busy, and Account Code reports display data for a single device per row (including employee, agent, queue, ANI, DNIS, Account Code, Make Busy code, Trunk busy minutes, agent ID, and devices associated with device groups). Each row in the report represents a device. Examples of by device reports are Employee Group by Employee, Queue Group by Queue, Queue by Agent, or Queue ANI by Area Code.
 - Summarized/Detailed Agent Event reports display ACD-based agent activity data. The data can be grouped by login/logout pair or can be viewed as a trace of all login/logout pairs. For example, Detailed Agent Event Data reports show the agent state activity for each login/logout pair performed by the agent. Summarized Agent Event Data reports group the data and show one line representing the agent's total activity.
- Select the device(s) on which you want to report
- Select the statistics (column headers) that will be shown in the report
- Select the time frames over which you want to run the report

To create a new report

1. Click **File=>New** to launch the Report Designer wizard.
2. Click **Next**.
3. Click **Create a new report** and follow the steps in the wizard.
At the end of the Report Designer wizard, the new report opens automatically on the Design tab.
4. Design the report.
See "Designing reports" on page 496.
5. Click **File=>Save**.

MODIFYING STANDARD CONTACT CENTER MANAGEMENT REPORT TEMPLATES

Using the Report Designer wizard you can modify standard Contact Center Management voice report templates. In the wizard, you can remove data (column headings) and add new data (additional devices and column headings).

The Report Designer wizard guides you through the following steps:

- Select the report you want to modify from a list of standard Contact Center Management reports
- Select the time frames over which you want to be able to run the report
Choosing options on this page enables you to select time frames when submitting or previewing reports. The start and end times enable you to run the report for a specific time frame for each day in the report. For example, you can run the report for your hours of operation only, 8 A.M. to 6 P.M.

The days of the week time frame enables you to run the report for specific days. For example, every Friday over the last two months.

Table 40 lists the standard Contact Center Management report templates.

Table 40: Standard Contact Center Management report templates

Agent report templates

- Agent by Make Busy Code
- Agent Group by Make Busy Code
- Agent Group Performance by Period
- Agent Performance by Account Code
- Agent Performance by Period
- Agent Shift by Period

DNIS report templates

- DNIS Group Performance by Period
- DNIS Performance by Period
- Employee report templates
- Employee Group Performance by Employee
- Employee Performance by Agent ID

Extension report templates

- Extension Group Performance by Period
- Extension Performance by Period

Queue report templates

- Queue ANI by Area Code
- Queue Group Performance by Queue
- Queue Performance by Account Code
- Queue Performance by Member
- Queue Performance by Period

Trunk report templates

- Trunk Group Performance by Period
- Trunk Performance by Period

To modify a standard Contact Center Management report template

1. Click **File=>New**.
2. Click **Next**.
3. Select the **Redesign a standard report** option and follow the steps in the wizard.
At the end of the Report Designer wizard, the new report template opens automatically on the Design tab.
NOTE: On the Select an existing report template page of the wizard, under Filter by device type, select All devices if you want to see all available reports for all devices.
4. Design the report.
See "Designing reports" on page 496.
5. Click **File=>Save**.

MODIFYING EXISTING FLEXIBLE REPORTING REPORT TEMPLATES

To modify an existing Flexible Reporting report template

1. Click **File=>Open**.
The Reports List window opens, giving you access to all personal and shared Flexible Reporting reports.
2. Select the report you want to modify.
3. Click **Open**.
NOTE: If 'Do not show this dialog box again' was selected on the Welcome to Flexible Reporting dialog box, the report will open to whichever tab, Design or Preview, was open last.
4. Modify the report.
See "Designing reports" on page 496.
5. Click **File=>Save** to save the changes to the report template.
Click **File=>Save As** to save the report as a new template.
6. If you want to run the report, click the **Preview** tab.

DESIGNING REPORTS

Using the options available on the ribbon, design the report by modifying the report header, columns, and rows.

NOTE:

- You can open and edit report templates you previously created in Flexible Reporting.
- When right-clicking a column to bring up the column's context menu, do not right-click the column header cell. This is an editable field and will not bring up the column context menu.

Adding images to report headers

To add an image to a report header

1. On the **Insert** tab of the ribbon, click the **Insert** button.
2. Select an image file and click **Open**.
The image displays on the report header.
3. Drag the image to where you want it to be shown on the report header.

Deleting images on report headers

To delete an image

1. Select an image on the report header.
2. On the **Insert** tab of the ribbon, click the **Remove** button.

Editing report header titles

Report headers comprise titles and values. Edit the report header titles to customize the look of your reports.

You can edit the font type, size, and style of report header titles.

You can edit the titles of the following report headers:

- Report
- Site
- Device
- Date range
- Date created
- Created by

NOTE: You cannot edit the report header values as these are driven by the options selected when the report is submitted.

To edit a report header title

1. Click a report header title.
2. Edit the text in the box.

Moving report header titles and values

You can drag and drop report header titles and values independently.

To move a report header title or value

- Drag and drop the report header title or value to where you want it to be shown on the report header.

Removing report header titles and values

All report header titles and values are shown on a report when it is first created. If you remove a report header title, the corresponding value will also be removed from the header. For example, if you remove the Date range title, the date range will not be shown on the report.

To remove a report header title and value

- On the **Insert** tab of the ribbon, click the **Header** button and deselect the check box of the report header title you want to remove. You can optionally drag and drop the report header title from the report to the Report header list.
- Report header titles removed from the report are shown in the Report header list in the Toolbox window.

Adding report header titles and values

To add a report header title and value to a report

- On the **Insert** tab of the ribbon, click the **Header** button and select the check box of the report header title you want to add. You can optionally drag and drop the report header title from the Report header list to the report.

Adding existing columns

To add an existing column

1. On the **Insert** tab of the ribbon, click **Add=>Existing**.
Optionally, right-click the report and select Insert column=>Existing from the drop-down list.
The Add columns window opens.
NOTE: You can also drag and drop items from the Column heading list in the Toolbox window to add existing columns to your report.
2. Select the columns you want to add to the report.
3. Click **OK**.

Adding custom columns

You can add custom columns to create custom calculations using expressions or blank columns. The ability to create custom calculations using expressions enables you to further customize report data to suit your specific business needs. Blank columns can be used as spacers to make reports easier to read, or as placeholders for importing third-party data after a Flexible Reporting report has been generated.

NOTE:

- Adding columns containing custom calculations requires a thorough understanding of Microsoft Excel and regular expressions.
- We recommend you preview reports containing custom calculations in Flexible Reporting before saving the changes and generating the report in CCMWeb.

To add a column containing custom calculations

1. On the **Insert** tab of the ribbon, click **Add=>Custom**.
Optionally, right-click the report and select Insert column=>Custom from the drop-down list.
A blank column displays in the report.
2. Right-click a cell in the blank column and select **Expression**.
The Edit expression window opens.
NOTE: You cannot create calculations using expressions in a header cell.
3. Select an option in the **Options** list to view the associated **Item** list.
4. Select an item in the **Item** list to view the associated item **Description** and expression **Example**.
5. Double-click the item in the **Item** list to insert its expression into the **Expression** box.

6. Repeat steps 3 to 5 until the complete calculation is entered in the **Expression** box and click **OK**.
The expression displays in row two of the blank column in the report.
7. If you want to edit the expression you created, right-click the cell and select **Expression** to return to the Edit expression window.

After adding a column containing custom calculations you can choose to view or modify the expression.

To view or modify an expression

1. Select the cell in the report, for which you want to view or modify the expression.
2. On the **Insert** tab of the ribbon, click **Expression**.
Optionally, right-click the column and select Expression from the drop-down list.
The Edit expression window opens.
3. Select an option in the **Options** list to view the associated **Item** list.
4. Select an item in the **Item** list to view the associated item **Description** and **Expression** example.
5. Double-click the item in the **Item** list to insert its expression into the **Expression** box.
6. Repeat steps 3 to 5 until the complete calculation is entered in the **Expression** box and click **OK**.
The expression displays in row two of the blank column in the report.

You can restrict the number of decimal places that will display for results. As an example, setting the number of decimal places that will display for the Average Manned Agent statistic is described below.

To set the number of decimal places that display for results

1. In the **Design** view, right-click the **Average Manned Agent** column in the report and select **Expression** from the drop-down list.
2. Change the current value of **=Fields!AgentGroupEventAvgMannedAgents.Value** to **=FormatNumber(Fields!AgentGroupEventAvgMannedAgents.Value,1)**.
3. Click **OK**.
4. Click **Save**.
The column is formatted to display one decimal place. To alter the number of decimal places displayed, enter the appropriate number in place of 1.

To add a blank column

1. On the **Insert** tab of the ribbon, click **Add=>Custom**.
Optionally, right-click the report and select Insert column=>Custom from the drop-down list.
A blank column displays in the report.
2. Optionally, click the header cell of the blank column and type a name for the column.

Moving columns

To move a column

- On the report grid, drag and drop the column to where you want it on the grid.

Deleting columns

NOTE: Some statistics require specific columns to ensure a report is meaningful. These statistics are associated with the required columns and cannot be deleted on their own. For example, in by period reports, you cannot delete the interval; in by device reports, the reporting number cannot be deleted.

To delete a column

1. Click a column on the report grid.
2. On the **Insert** tab of the ribbon, click the **Remove** button.
Optionally, right-click the column and select Delete column from the drop-down list.

Editing column heading names

You can edit the names of column headings so they are meaningful to your department, business, and industry. You can change the font type, size, and style as well as edit the text.

To edit a column heading name

1. Click a column heading on the report grid.
2. On the **Home** tab of the ribbon, use the font options to change
 - the font type, size, and style
 - the justification
3. Optionally, edit the name of the column heading.
If, after renaming a column heading, you want to see the original column heading name, hover over the column heading. The original column heading name displays after Name.

Specifying column width

To specify the column width

1. Click a column.
2. On the **Home** tab of the ribbon, after **Column width**, type the width (in pixels).
Optionally, right-click the column and select Column width from the drop-down list.

To auto-fit the column width

1. Click a column.
2. On the **Home** tab of the ribbon, after **Scale to fit**, click **Auto**.
Optionally, right-click the column and select Auto-fit Column width from the drop-down list.

Specifying row height

You can specify a different row height for the header row than the body rows.

To specify the header row height

1. Click the header row.
2. On the **Home** tab of the ribbon, after **Row height**, type the height (in pixels).

To specify the body row height

1. Click a body row.
2. On the **Home** tab of the ribbon, after **Row height**, type the height (in pixels).
Optionally, right-click the body row and select Row height from the drop-down list.
All of the body rows will be the same height.

Specifying row colors

You can alternate row colors to make report data easier to read.

1. On the **Home** tab of the ribbon, select the primary and alternate colors.
2. After **Alt row count**, type the number of rows for each color.

Freezing columns

Frozen columns remain stationary when you scroll to view columns to the right.

To freeze a column heading

1. On the report grid, click the column to the right of the ones you want to freeze.
2. On the **Insert** tab of the ribbon, click the **Freeze column** button.
Optionally, right-click the column and select Freeze column from the drop-down list.

Unfreezing columns

To unfreeze a column heading

1. On the report grid, click the column to the left of the frozen column.
2. On the **Insert** tab of the ribbon, click the **Unfreeze column** button.
Optionally, right-click the column and select Unfreeze column from the drop-down list.

MANAGING YOUR FLEXIBLE REPORTING REPORTS

You manage your Flexible Reporting reports on the My Reports window. My Reports gives you access to all of the reports you have created.

NOTE: You can access all the reports you have created and all shared reports created by others, by clicking the File=>Open.

In the My Reports window you can

- Change access properties: Shared or not Shared
- Rename reports
- Delete reports

Changing access properties

To change the access properties of a report

1. On the **View** tab of the ribbon, click **My reports**.
2. Select the report(s).
3. If you want to share the report(s), under **Shared**, select the check box. Otherwise, clear the check box and the report(s) will be available to you only.
4. Click **OK**.

Renaming reports

To rename a report

1. On the **View** tab of the ribbon, click **My reports**.
2. Select a report and click **Rename**.
3. Edit the name.
4. Click **OK**.

Deleting reports

You can only delete the reports you create.

To delete a report

1. On the **View** tab of the ribbon, click **My reports**.
NOTE: You cannot delete a report that is open in Flexible Reporting.
2. Select the report(s) you want to delete and click **Delete**.
3. Click **Yes** to delete the selected report(s).
4. Click **OK**.

RUNNING FLEXIBLE REPORTS

You can run Flexible Reporting reports in CCMWeb or in Flexible Reporting. However, you can schedule reports in CCMWeb only.

From CCMWeb, you can run Flexible Reporting reports on demand, or schedule them, the same way you run standard reports. See "Reporter" on page 308 and "Scheduled Reports" on page 315.

In Flexible Reporting you can run, save, and print reports on the Preview tab. After you run a report, printing options enable you to view the print layout, and configure page setup and printer properties.

NOTE:

- Flexible Reporting will run reports only when there is data to generate the report.
- If you run a report on the Preview tab and the report data is all zeros, ensure you selected a device on which to run the report. If you selected a device, ensure the selected time period is one that would have incurred activity.
- Custom reports created in Flexible Reporting can only be generated in the language that was used when they were created and saved.

Running reports in the Contact Center Management website

To run an on-demand report in the Contact Center Management website

- Click **Reporter=>Flexible Reporting** and select and run the report.
You will have access to all Flexible Reporting reports created by you and shared Flexible Reporting reports created by others.

NOTE: When a report supports more than one device type, click on each tab to select the devices on which you want to report.

To schedule a report on the Contact Center Management website

1. On the Contact Center Management website, click **Reporter=>Scheduled reports**.
2. If you want to create a new schedule, click **Next**. Otherwise, select an existing schedule and click **Manage schedule properties**.
3. Configure the schedule properties and distribution attributes.
For more information, see "Creating Contact Center Management Report schedules" on page 316.
4. Click **Add a report**.
5. Click **Flexible Reporting** and select a report to add to the schedule.

Running reports in Flexible Reporting

To run reports in Flexible Reporting

1. On the **Preview** tab, under **Devices**, select the device(s).
2. Specify the date and time parameters.
3. Click **Run report**.
Flexible Reporting generates the report and displays it in the preview pane.

Saving templates and reports

In Flexible Reporting you can save

- **Templates**
The report templates you create in Flexible Reporting are saved on the Enterprise Server so you can run them from Flexible Reporting and CCMWeb.
NOTE: Report templates are not saved automatically. You must save your report template before you exit Flexible Reporting if you want to use it to run reports or modify the template later.
- **Reports**
After you run a report in Flexible Reporting, you can save the output (report) on your computer or elsewhere on your network. Reports can be saved or, optionally, exported in Excel (.xsl and .xlsx), Word (.doc), or .pdf formats.

To save a report template as a new document

1. Click the **File=>Save As**.
2. After **File name**, type the name of the new template.
NOTE: Only you can run and view reports you have created and designated as not shared. Shared reports can be run and viewed by others.
3. If you want to allow others to run the report, select the **Shared** check box.
4. Click **Save**.

To save modifications to a report template

- Click **File=>Save**.

To export a report in Excel (.xsl or .xlsx) format

- In the Preview window, above the generated report, click the **Save** button, select **Excel**, and specify the location to save the report in Excel (.xsl) format.
Optionally, in the **View** tab of the ribbon, click the **Export report** button, select **Excel** (.xsl) or **Excel 2007** (.xlsx) and specify the location to save the report in an Excel format.

To export a report in Word (.doc) format

- In the Preview window, above the generated report, click the **Save** button, select **Word**, and specify the location to save the report in Word (.doc) format.

To export a report in .pdf format

- In the Preview window, above the generated report, click the **Save** button, select **PDF**, and specify the location to save the report in .pdf format.
Optionally, click the **Export report** button on the View tab of the ribbon, and select **PDF**, and specify the location to save the report in .pdf format.

Printing reports

To print a report you ran on the Preview tab

- On the Preview window toolbar, click the **Print** button.

Chapter 18

IVR ROUTING

IVR Routing enhancements

Configuring IVR Routing

IVR Routing default workflows and subroutines

IVR Routing workflow samples

IVR Routing complex workflow configuration

Synchronizing IVR Routing servers

IVR ROUTING

An IVR Routing license includes IVR Routing ports and IVR Routing. Mitel IVR Routing is an all-in-one, scalable, integrated voice processing solution that works in conjunction with Contact Center Management.

IVR Routing enables you to rapidly and intuitively

- Build workflows in a drag-and-drop graphical interface
- Create and relay static, dynamic, and custom recorded prompts to callers in queue
- Provide callers with Updated Position in Queue (UPiQ) messaging
- Guide callers to the destination that best meets their needs
- Allow customers to request a queued callback by leaving a voice message or using the Web
- Provide workflow branching based off multiple conditions including ANI, DNIS, schedules, and queue conditions
- Report on IVR activity

IVR Routing is activated during the Contact Center Management installation process. For information on installing Contact Center Management, see the *Contact Center Management Installation Guide*. For information on installing IVR Routing on a Remote Server, see the *Contact Center Management Installation Guide*.

IVR Routing is supported with Microsoft Lync and MiContact Center for Lync. For information about integrating with Microsoft Lync or MiContact Center for Lync, consult the *MiContact Center for Microsoft Lync User Guide*.

NOTE:

- To support IVR Routing resiliency and redundancy, you must have at least one non-resilient extension programmed on the queuing gateway and configured in the Contact Center Management database (either manually or via synchronization). In addition, there must be a MiTAI monitor set on this extension. This is done in YourSite Explorer by ensuring the 'Disable real-time monitoring, data collection and call handling on this device' check box is not selected. (Note: This check box is deselected by default.) Having the MiTAI monitor set on the extension enables our software to recognize when the connection to the queuing gateway is restored following a network outage.
- As a limitation of the telephone system, dual-tone multi-frequency signaling (DTMF) digits are only detected if the SIP trunks are configured to send via DTMF 2833. If your SIP trunks are configured to send DTMF digits in-band, IVR Routing will not detect any DTMF digits.
- Call record data generated on remote instances of IVR Routing when the main IVR Routing server is offline will not be reported on.

IVR ROUTING ENHANCEMENTS

IVR Routing offers enhancements to navigation, workspace customizing, and existing functionality including

- An Outline pane
See "Viewing workflows at a glance: The Outline pane" on page 507.
- Focusing and breadcrumbs
See "Viewing specific portions of a workflow: Focusing and the Breadcrumb view" on page 508.
- A MiniMap window and a Pan mode
See "Navigating the Workflows Canvas: The MiniMap window and the Pan mode" on page 509.
- A Zoom feature
See "Resizing workflows: The Zoom feature" on page 509.
- Expand All, Collapse All, and Restore buttons
See "Manipulating all activities in a workflow: The Expand All, Collapse All, and Restore buttons" on page 509.
- The ability to save and copy workflows as images
See "Saving and copying workflows as images" on page 528.
- The ability to annotate activities and workflows
See "Annotating activities in workflows and subroutines" on page 568.
- Expanded troubleshooting for workflow configuration
See "Troubleshooting workflow configuration with the Validation button" on page 568.

WORKFLOW NAVIGATION IN IVR ROUTING

IVR Routing now makes it easier to view and navigate large workflows through several functionality enhancements, including

- The Outline pane
- Focusing and breadcrumbs
- The MiniMap window and Pan mode
- The Zoom feature
- The Expand All, Collapse All, and Restore buttons

Viewing workflows at a glance: The Outline pane

The Outline pane displays your workflow in a binary search tree format. You can selectively view the workflow and the parent-child relationships of activities and conditions by expanding or minimizing individual items in the tree. By providing an overview of the workflow in a compact space, the Outline pane enables you to efficiently view complex workflows and the relationships between activities.

You can configure activities or branches directly from the Outline pane by right-clicking in the search tree. Right-clicking also highlights the activity in the workflow, providing a clear means of referencing the specific activity you are configuring. If, for example, you have several similar activities in your workflow, highlighting minimizes errors by helping you confirm you are configuring the correct activity.

Double-clicking an item in the Outline pane brings that item into focus, enabling you to quickly identify and update nested activities in complex workflows.

Viewing specific portions of a workflow: Focusing and the Breadcrumb view

You can devote the entire Workflows Canvas to viewing specific portions of a workflow by double-clicking activities or branches on the Canvas. This feature enables you to focus on precise elements of complicated workflows and minimizes the need to use subroutines to conserve viewing space.

When you focus on an activity or branch, the Canvas opens in breadcrumb view. Breadcrumbs at the top of the Canvas indicate the portion of the workflow you are viewing and the parent elements of those portions. After focusing on a specific portion of the workflow, you can incrementally expand your view of the workflow by tracing back through parent relationships using breadcrumbs. You can also right-click an activity and select 'Go To Parent'. The Breadcrumb view provides an ordered way of redirecting your focus in the workflow from precise elements to the bigger picture.

Note that when working in the Breadcrumb view, only the items in focus can be configured. In order to configure other items in the workflow, select the breadcrumb that brings the item into focus. (See Figure 113.)

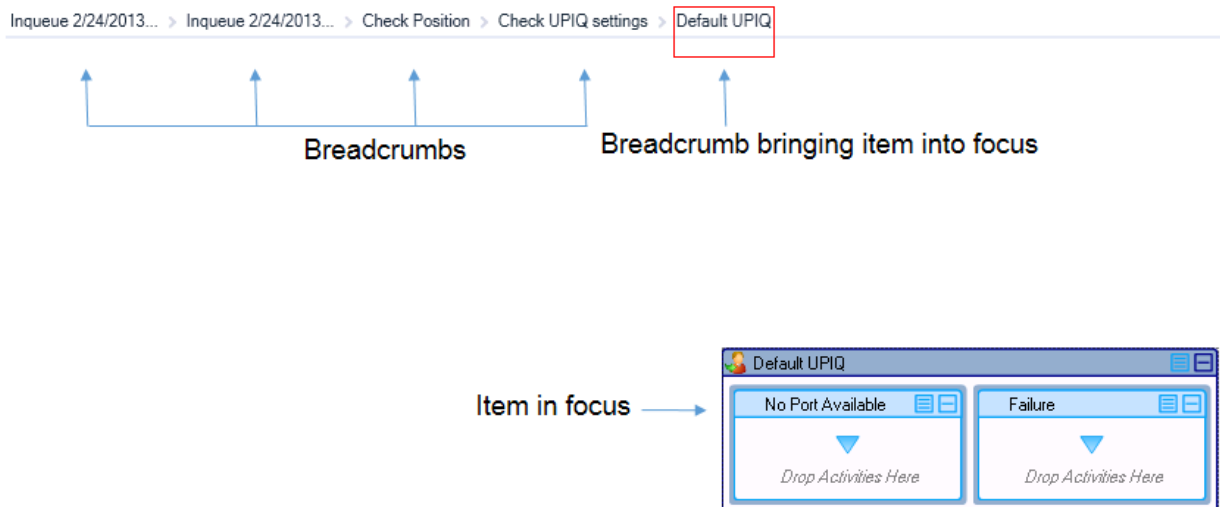


Figure 113: Focusing and the Breadcrumb view

Navigating the Workflows Canvas: The MiniMap window and the Pan mode

The MiniMap window and the Pan mode enable you to navigate to sections of a workflow without manipulating the horizontal and vertical scroll bars. The MiniMap window displays the workflow in a pop out that you can use to navigate the Workflows Canvas. The Pan mode enables you to 'grab' the Canvas and, using the mouse, choose what portion of the workflow is centered on the Canvas.

This feature enables you to navigate to specific sections of the workflow without manipulating the horizontal and vertical scroll bars.

The following procedures explain how to

- Navigate the Workflows Canvas using the MiniMap window
- Navigate the Workflows Canvas using the Pan mode

To navigate the Workflows Canvas using the MiniMap window

1. Click **IVR Routing=>Workflows**, and select a workflow.
2. Click the **MiniMap** button, located to the right of the plus sign at the bottom of the workflow.
3. Click and drag the highlighted section over the workflow, as it appears in the MiniMap window.
4. To exit out of the MiniMap window, click the **MiniMap** button.

To navigate the Workflows Canvas using the Pan mode

1. Click **IVR Routing=>Workflows**, and select a workflow.
2. Click the **Toggle Pan Mode** button, located to the left of the '100%' at the bottom of the workflow.
The cursor displays as a hand icon.
3. Click anywhere on the Canvas to 'grab', and move the mouse to re-center the workflow.
4. To exit out of Pan mode, click the **Toggle Pan Mode** button.

Resizing workflows: The Zoom feature

You can adjust how large or small your workflow appears in the Workflows Canvas by manipulating the slider bar or the plus/minus buttons at the bottom of the Canvas. Using these features, you can zoom in to focus on precise elements of your workflow, or zoom out to get a bird's eye view.

Expressed as a percentage, the Zoom feature also determines the size of the highlighted section of the Overview window. For more information, see "Navigating the Workflows Canvas: The MiniMap window and the Pan mode" on page 509.

Manipulating all activities in a workflow: The Expand All, Collapse All, and Restore buttons

You can expand or collapse every activity and its corresponding branches in a single operation by clicking the Expand All or Collapse All buttons. Clicking the Restore button will return your workflow to the condition it was in before you expanded or collapsed the activities, enabling you to resume your work efficiently.

CUSTOMIZING YOUR IVR ROUTING WORKSPACE

Several enhancements in IVR Routing offer additional options for customizing your workspace. New workflows open as separate tabs in IVR Routing, freeing up visual space and showcasing individual workflows on screen. You can open an existing workflow in a tab by double-clicking the workflow, by right-clicking the workflow and selecting 'Open', or by selecting a workflow and clicking 'Edit'.

The Toolbar, Properties, and Outline panes can be minimized, expanded, or pinned to the workspace. This enables you to choose how much of your screen is comprised of the workflow versus configuration panes. These enhancements enable you to customize your workspace and manage your screen space to better facilitate your work.

CONFIGURING IVR ROUTING

You configure all aspects of IVR Routing in YourSite Explorer.

We recommend you provision your IVR Routing environment in the following order:

1. **Media servers** - select the media server type and set the media server settings and options.
See "Configuring media servers for IVR Routing" on page 511.
2. **Ports and extensions** - select the extension type and set extension settings and options.
See "Configuring extensions" on page 512.
3. **Hunt groups** - select the phone lines associated to each hunt group and configure the destination point for each hunt group.
See "Configuring hunt groups" on page 516.
4. **Workflows** - add various activities and configure their properties and order of execution for incoming calls.
See "Building workflows" on page 522.

VIEWING IVR ROUTING

You can view IVR Routing in two formats: Horizontal and Vertical.

To select a view type

1. Click **IVR Routing**.
2. In the ribbon, click **View**.
3. In the **Page layout** pane, select **Horizontal** or **Vertical**.

USING THE IMPORT WIZARD

The Import Wizard enables you to import a .csv file containing ANI, DNIS, Redirect, or Hunt Group conditions. The .csv file must have individual pieces of information separated by commas or by tabs. You can prepare a .csv file using Microsoft Notepad or Excel.

For information on importing .csv files using the Import tool, see "Importing a range of devices using a .csv file" on page 119.

CHANGING MULTIPLE IVR ROUTING ITEMS AT A TIME

You can change multiple IVR Routing items at a time using the multi-select feature. This feature saves you from having to make the same change to multiple devices of the same type. If items do not support the multi-select feature, a notification displays in the UI.

NOTE: Only information common across devices of the same type can be changed in one action.

To change multiple IVR Routing items at a time

1. Click **IVR Routing** and select an item.
For example, 'Queues'.
2. Select multiple items by holding **Ctrl** or **Shift** and clicking the individual items. Clicking 'Ctrl' enables you to select items one at a time and omit items from selection. Clicking 'Shift' selects a span of items.
3. Make any changes.
4. Click **Save**.

Viewing IVR Routing devices by category or type

You can selectively view IVR Routing devices by category or type by applying filters to the device page. For example, you can view only the contact center's RAD hunt groups by applying the RAD filter to the Hunt Groups page.

Multiple filters can be applied at a time, enabling you to selectively view devices by multiple categories or types. For example, you can view only RAD and Outbound rules by applying these filters to the Rules page.

The following devices may be viewed by category or type

- Extensions
- Hunt Groups
- Queues
- Rules
- Subroutines
- Variables
- Workflows

To view variables by category or type

1. Click **IVR Routing** and select the device.
2. After **Filter**, select a device category or type from the drop-down list.
NOTE: Filters remain in place until a category is deselected. Selecting 'None' removes all filters.

CONFIGURING MEDIA SERVERS FOR IVR ROUTING

IVR Routing supports 3300 ICP media servers. For more information, see "Adding 3300 ICP media servers" on page 85.

CONFIGURING EXTENSIONS

An extension is a telephone system answer point that handles calls. Each extension has a specific extension number. A caller to your contact center is presented with options to dial various answering points. The caller can dial an individual agent at an extension through a queue number.

Following is a list of the four extension types specific to IVR Routing and their functions:

- **RAD port 5020 IP:** is used to play RAD (Recorded Announcement Device) messages for queue announcements.
- **Messaging port 5020 IP:** is used to process inbound workflows
- **Outbound port 5020 IP:** is used to process Outbound workflows, including Callbacks
- **UPIQ port 5020 IP:** is used to process UPIQ (Updated Position in Queue) messages

NOTE:

- Any extensions configured on the telephone switch are retrieved during synchronization and are shown in the extensions list.
- IVR Routing uses 5020 IP port as its port type. APPSERVER ports that were used with Intelligent Queue cannot be transitioned over to IVR Routing. When you install IVR Routing, you need to create new ports. You cannot reuse ports that were previously used for Intelligent Queue, but you can delete these ports and reuse the dialable numbers. You can also reuse existing hunt groups.
- The Outbound extension option is only available to clients with IVR Routing Advanced licensing.

Adding extensions for IVR Routing

To add an extension

1. Click **IVR Routing=>Extensions**, and click **Add**.
2. Complete the following fields:
 - **Name**—type a name for the extension.
 - **Reporting/Dialable number**—enter a dialable number for the extension.
 - **Extension type**—select the extension use type from the drop-down list.
NOTE: Ensure you select the correct extension type for the port. For example, if you want the extension to be a messaging port, select Messaging port 5020 IP.
 - **Media server**—select a media server from the media server list.
NOTE:
 - RAD 5020 IP ports and UPIQ 5020 IP ports must be assigned to the same media server as the queues receiving the RAD and UPIQ messages, respectively.
 - We recommend you assign Outbound ports to the same media server(s) as the queues to which callbacks are directed, if the queues are enabled for RAD.
 - **Failover media server**—select a failover media server to handle the call load in the event the primary media server goes offline.
 - **Class of Service**—automatically populated based on the Class of Service set earlier in the Media servers section, if there is a default Class of Service selected for the type of port you are creating.

3. Optionally, select **Disable real-time monitoring, data collection and call handling on this device**.
NOTE: This option is only used to unlicense the port and discontinue its use. Unlicensed extensions can be assigned to a workflow but will not go into service or be visible in Contact Center Client.
4. Configure the **Port Options** as follows:
 - After **Workflow**, click the **Browse** button and select the workflow to associate to the extension.
NOTE: UPiQ ports do not allow you to select a workflow. Instead, you engage UPiQ ports by assigning an UPiQ subroutine to the Connect to Caller activity. See "Configuring the Connect to Caller activity" on page 579.
 - After **Port State**, select either **Normal** or **Emergency** from the drop-down list. Select 'Emergency' as the port state only if this port is associated to a workflow that is configured to have an emergency path. You can configure a port state as 'Emergency' when applicable either within YourSite Explorer directly or by using a Management Plan remotely.
 - Select the **Trusted Service Level** check box to set the service level for the 5020 IP port to 'trusted'. This step is necessary if you are using MCD 5.0 or greater; otherwise, do not select this check box.
NOTE: In order to set the trusted service level in YourSite Explorer, you must have already enabled write-back functionality on the media server. (See "Enabling write-back functionality" on page 89). If you do not have write-back enabled, you must set the trusted service level on the telephone system, instead of in YourSite Explorer, by logging in to the 3300 ICP, navigating to 'User and Device Configuration', clicking the extension for which you want to set the service level, and, on the Profile tab, selecting 'Trusted' from the drop-down list beside Service Level.
 - Select the **This is a remote port** check box if applicable.
 - After **Remote Server**, if this is a remote port, click the **Browse** button and select the remote media server on which IVR Routing is configured.
 - After **MiTAI / MiAudio Local Binding IP Address**, select the appropriate IP address from the drop-down list.
NOTE: This option is used if you have more than one NIC and want to specify which one is used for MiTAI/MiAudio, for example, if you have a voice and data network split.
 - The **Port License** area details how many IVR Routing port licenses remain and the total number of primary and redundant ports for which you are licensed.
5. Click **Save**.
NOTE: If, after you configure and save the extension, it does not come in to service, check to see if the appropriate services are installed and running. For Inbound and RAD ports, the appropriate service is the prairieFyre Routing Inbound Service. For UPiQ ports, the appropriate service is the prairieFyre UPiQ Routing Service. For Outbound ports, the appropriate service is the prairieFyre Routing Outbound Service. If you discover the service is not installed, it may be that you were not licensed for IVR Routing at the time of installation. If that is the case, re-run the Mitel Contact Center Configuration Wizard to reinstall the required Routing services.

Deleting extensions

NOTE: You cannot delete an extension if it is associated to a hunt group.

To delete an extension

1. Click **IVR Routing=>Extensions**.
2. Select the extension and click **Delete**.
3. When prompted, click **OK**.

Using Extension Quick Setup

The Extension Quick Setup enables you to import extensions into YourSite Explorer from the telephone switch. If Read/Write is enabled in 'YourSite=>Media servers=>Telephone system', the extensions are written back to the 3300 ICP.

To use quick setup to create extensions

1. Click **IVR Routing=>Extensions**, and click **Quick Setup**.
2. After **Active number from**, specify the first dialable number of the extension range.
3. After **Active number to**, specify the last dialable number of the extension range.
4. After **Name prefix**, enter the text you want prefixed to the name of the port.
5. After **Name postfix**, enter the text you want postfixed to the name of the port.
6. On the **General** tab, configure the **Media server options** as follows:
 - **Extension type:** Select the extension type from the drop-down list.
NOTE: Ensure you select the correct extension type for the port. For example, if you want the extension to be a messaging port, select Messaging port 5020 IP.
 - **Associate the devices to this media server:** If you want to configure your ports to be resilient, click the **Browse** button, select a failover media server from the list, and click **OK**.
 - **Associate the devices to this failover media server:** Click the **Browse** button, select a failover media server from the list, and click **OK**.
NOTE: The failover media server will be used to handle the call load in the event the primary media server goes offline (only for voice extensions).
 - **Class of service:** This field is automatically populated based on the Class of Service set during media server configuration, if there is a default Class of Service selected for the type of port you are creating.
 - **Disable real-time monitoring, data collection and call handling on this device:** If you want to disable real-time monitoring, data collection, and call handling for this extension, select this check box.
NOTE:
 - Selecting this option unlicenses the port and discontinues its use. Unlicensed extensions can be assigned to a workflow but will not go into service or be visible in Contact Center Client.
 - Any ports created after you become overlicensed will have this option enabled
7. Configure the **Port Options** as follows:
 - After **Workflow**, click the **Browse** button and select the workflow to associate to the extension.

NOTE: UPiQ ports do not allow you to select a workflow. Instead, you engage UPiQ ports by assigning an UPiQ subroutine to the Connect to Caller activity. See "Configuring the Connect to Caller activity" on page 579.

- After **Port State**, select either **Normal** or **Emergency** from the drop-down list. Select 'Emergency' as the port state only if this port is associated to a workflow that is configured to have an emergency path. You can configure a port state as 'Emergency' when applicable either within YourSite Explorer directly or by using a Management Plan remotely.

- Select the **Trusted Service Level** check box to set the service level for the 5020 IP port to 'trusted'. This step is necessary if you are using MCD 5.0 or greater; otherwise, do not select this check box.

NOTE: In order to set the trusted service level in YourSite Explorer, you must have already enabled write-back functionality on the media server. (See "Enabling write-back functionality" on page 89). If you do not have write-back enabled, you must set the trusted service level on the telephone system, instead of in YourSite Explorer, by logging in to the 3300 ICP, navigating to 'User and Device Configuration', clicking the extension for which you want to set the service level, and, on the Profile tab, selecting 'Trusted' from the drop-down list beside Service Level.

- Select the **This is a remote port** check box, if applicable.
- After **Remote Server**, if this is a remote port, click the **Browse** button and select the remote media server on which IVR Routing is configured.
- After **MiTAI / MiAudio Local Binding IP Address**, select the appropriate IP address.
NOTE: This option is used if you have more than one NIC and want to specify which one is used for MiTAI/MiAudio, for example, if you have a voice and data network split.
- The **Port License** area details how many IVR Routing port licenses remain and the total number of primary and redundant ports for which you are licensed.

8. To create an employee for each extension, on the **Employee associations** tab, select the **Create an employee ID for each extension** check box.
9. After **Start the employee IDs at**, type the first employee ID to associate to this extension.
10. After **Increment the employee IDs by**, type the increment by which the employee IDs will increase.
11. Click **Run**.

CONFIGURING HUNT GROUPS

A hunt group is a collection of extensions. When a call enters the system and is routed to a hunt group, the hunt group searches its members for an available extension and directs the call to that number. Calls are rotated through the hunt group until an available extension is found and the caller can be connected. Hunt groups can be configured to be resilient, using a failover media server if the primary server fails.

NOTE:

- Any hunt groups configured on the telephone switch are retrieved during synchronization and are shown in the hunt group list.
- IVR Routing does not support the configuration of Network Hunt Groups. To use Network Hunt Groups, create the hunt group on your telephone system and synchronize YourSite Explorer. The Network Hunt Group will be available in YourSite Explorer after synchronization. The Network Hunt Group can then be associated to a workflow. Support for configuring Network Hunt Groups is scheduled to be added in a later release.
- For information on enabling ports shared by hunt groups to play different messages to different queues, see "Dynamic RAD messages" on page 530.

Adding hunt groups

To add a hunt group

1. Click **IVR Routing=>Hunt Groups=>Add**.
 2. Complete the following fields:
 - **Name**—Type a name for the hunt group.
 - **Dialable**—Type a dialable number for the hunt group.
 - **Media Server**—Click the **Browse** button, select a media server from the list, and click **OK**.
 - **Failover media server**—Click the **Browse** button, select a failover media server from the list, and click **OK**.
 - **Class of Service**—This field is not mandatory. However, the field may be automatically populated based on the class of service for the selected media server.
 - **Hunt Group Type**—Select the type of extensions for this hunt group:
 - Voice— handles messaging type extensions
 - RAD – handles RAD type extensions
 - Phantom – performs modified DND rerouting
 - Voice Mail – handles voice mail type ports
 - HCI Reroute – enables external applications to tell the system how to route calls
 - Recorder – handles groups of devices using the Record-A-Call feature
 - Emergency – identifies the group as an Emergency Call notification hunt group
 - Name Tag – identifies the group as using destination-based name tags for display on the ringing sets
 - **Hunt Group Mode**—Select **Terminal** if you want the first line in the hunt group list to always be used, Select **Circular** if you want the next line in the hunt group to be used.
- NOTE:** RAD hunt groups must be terminal.

- **Priority**—Specify the hunt group priority level. The priority level ranges from 1 (highest) to 64 (lowest).
- **Phase timer ring**— This option is only configured if you are using a RAD hunt group type and determines the delay required between successive recorded announcements. If no delay is required, select '0'.
- Optionally, select **Disable real-time monitoring, data collection and call handling on this device**.
NOTE: If selected, this option disables the hunt group. Deselecting the check box enables the hunt group.

3. Click **Save**.

Adding extensions to hunt groups

Hunt group members are extensions. To be a member of a hunt group, the extension and the hunt group must be of the same type. For example, you can only add RAD extensions to RAD hunt groups.

To add an extension to a hunt group

1. Click **IVR Routing=>Hunt Groups**, and select a hunt group.
2. On the **Membership** tab, under **Available members**, select the extension to add to the hunt group.
NOTE: The Available members pane only displays extensions belonging to the same media server as the hunt group. Available members are also filtered by hunt group type.
3. Click the > button.
 The extension displays in the Selected members window and is now part of the hunt group.
NOTE:
 - If you have assigned the hunt group a Terminal Mode, extensions are searched in chronological order and the first available extension is selected first. See "Adding hunt groups" on page 516. If you have assigned the hunt group a Circular Mode, extensions are searched in the order in which they appear in the Selected members pane.
 - If your workflow uses Dynamic RAD messages, configure each hunt group to begin its search starting on different extensions. You do this by changing the order in which extensions appear in the Selected members pane for each hunt group. For more information on Dynamic RAD messages, see "Dynamic RAD messages" on page 530.
4. Repeat these steps for all additional extensions you want to add to the hunt group.
5. If your contact center uses a remote configuration, click the **Interleave** button to distribute the hunt group members equally throughout your servers.
6. Click **Save**.

Configuring hunt group IVR settings

Configuring hunt group IVR settings enables you to associate hunt groups to workflows and set the state of ports associated to the hunt group.

To configure hunt group IVR settings

1. Click **IVR Routing=>Hunt Groups**, and select a hunt group.
2. Click the **Options** tab.
3. To associate the hunt group to a workflow, after **Workflow** click the **Browse** button, select a workflow, and click **OK**.
4. To set the state of the port associated to the hunt group, after **Port State**, select either **Normal** or **Emergency** from the drop-down list.
NOTE: If ports are dialed directly, the port's state (Normal or Emergency) is executed. If the port is associated to a hunt group and the hunt groups is dialed directly, the port takes on the state configured here.

Deleting hunt groups

To delete a hunt group

1. Click **IVR Routing=>Hunt Groups**.
2. Select the hunt group and click **Delete**.
3. When prompted, click **OK**.

CONFIGURING QUEUES

A queue consists of a group of agents or extensions responsible for answering calls pertaining to a specific product, service, department, or functional area within your organization. Agents and extensions can be members of multiple queues, handling calls for multiple departments, services etc., depending on agent or extension availability. For information on adding queues, see "Adding queues" on page 142.

IVR Routing adds the ability to configure callbacks, associate UPiQ workflows, and configure RAD messages for queues. For information, see "Configuring callbacks" on page 535, "Configuring UPiQ options" on page 520, and "Configuring RAD messages for queues" on page 520.

NOTE: Any queues configured on the telephone switch are retrieved during synchronization and are shown in the queues list.

Configuring Inqueue routing

You can select Inqueue workflows, such as the Default UPiQ Inqueue workflow, to run when a call enters into a queue. You can build your own workflow in the Workflows Canvas or you can associate an Inqueue workflow to the queue. For information on building workflows, see "Building workflows" on page 522.

Inqueue workflows containing Connect to Caller activities require UPiQ ports provisioned for the system. Associating these workflows to queues without having UPiQ ports returns a validation error when saving the workflow or queue. To provision UPiQ ports for the system, see "Adding extensions for IVR Routing" on page 512.

For information on the Default Inqueue and Callback workflows, see "IVR Routing default workflows and subroutines" on page 627.

NOTE: Inqueue workflows cannot be associated to ring groups.

The following procedures explain how to:

- Add and associate a new Inqueue workflow to a new queue
- Add and associate a new Inqueue workflow to an existing queue
- Associate an existing Inqueue workflow
- Remove an association to an Inqueue workflow

To add and associate a new Inqueue workflow to a new queue

1. Select a voice queue and click **Routing**.
2. Click the **Add** button.
The default Inqueue workflow is added to the queue.
3. Configure the Inqueue workflow.
For procedures, see "Building workflows" on page 522.
4. Click **Save**.

To add and associate a new Inqueue workflow to an existing queue

1. Select a voice queue and click **Routing**.
2. Click the **Browse** button and click **Add**.
3. Configure the Inqueue workflow.
For procedures, see "Building workflows" on page 522.
4. Click **Save**.

To associate an existing Inqueue workflow

1. Select a voice queue and click **Routing**.
2. Click the **Browse** button.
3. Select a workflow and click **OK**.
4. Click **Save**.

To remove an association to an Inqueue workflow

1. Select a voice queue and click **Routing**.
2. Click the **Clear** button.
3. Click **Save**.

Configuring UPIQ options

Updated Position in Queue (UPIQ) messages inform customers of their initial queue position and dynamically continue to inform them of their position in queue and estimated wait time.

NOTE: UPIQ is not available for ring groups.

In Version 7.1, UPIQ messages are configured via the default UPIQ subroutine and a default Inqueue workflow. We recommend you configure UPIQ messages by reconfiguring the default workflow and subroutine. See "IVR Routing default workflows and subroutines" on page 627. For information on adding Expected Wait Time announcements to UPIQ subroutines, see "Playing Expected Wait Time announcements" on page 520

Playing Expected Wait Time announcements

By default, the Default UPIQ subroutine only provides Updated Position in Queue announcements. Expected Wait Time announcements can be added to UPIQ subroutines through the addition of a Play activity with the Expected Wait Time prompt to an UPIQ subroutine.

The following procedures take place in an open UPIQ subroutine.

To add an Expected Wait Time announcement to a UPIQ subroutine

1. Add a **Play** activity to the subroutine.
2. Select the **Play** activity and click **Properties**.
3. After **Greeting Prompts**, click the ▼ button and select **Select from an existing prompt**.
4. Select **Expected wait time** and click **OK**.
5. Click **Save**.

Configuring RAD messages for queues

RAD messages are associated to queues and can broadcast to up to 50 callers in the queue. After a call is received and has traveled through a workflow to a queue, RAD messages can be configured to play at programmed intervals for all callers in that queue. Up to four RAD messages can be associated to each queue. A typical RAD message may greet the caller and thank them for holding.

RADs have been optimized in Contact Center Solutions to minimize the number of RAD devices that IVR Routing requires. Previously, RADs were mapped to a specific queue and its position. RAD optimization enables you to reduce the number of ports your system uses by configuring one port to play a message simultaneously to multiple queues.

Note that UPIQ and RAD messages are both played to callers in queue. If an UPIQ message plays, the RAD timers reset to prevent both types of messages playing at once.

NOTE:

- A minimum of MCD 5.0 is required for RAD optimization to function.
- Ring groups cannot have RAD messages configured through IVR Routing.

To configure RAD messages for a queue

1. Click **IVR Routing=>Queues**, and select a queue from the list.
2. Click the **3300 ICP options** tab.

3. Under **Recording announcement options**, specify the following RAD messaging options:
 - **Dialable**—click the **Browse** button and enter the dialable number of the port or hunt group you want to use to play the RAD message
 - **Start delay**—specify the time that must pass after a caller enters the queue or from when the last message finished playing before playing the RAD message
 - **Interflow dialing list**—select the interflow dialing list you have configured on the telephone system
 - **Release digit receiver after recording**—select to limit callers to entering digits only while the RAD message is playing. If this option is not selected, the caller may still enter digits as prompted by the RAD after the RAD completes.
 - **Embedded music source**—select the in-queue music list you have configured on the telephone system
 - **Alternative dialable**—enter a secondary port or hunt group you want to use to play the RAD message
4. If you want to repeatedly play the RAD message, select **Repeat recording enabled** and specify the repetition interval.
5. After **Repeat recording interval**, specify the intervals at which the RAD message repeats.
6. After **DTMF Receiver Unavailable Action**, specify the action when a dial out from a RAD is programmed but no DTMF receiver can be seized to enable that functionality.
 - **Play recording**—plays a RAD message. The caller may be prompted with the option to dial out
 - **Skip**—does not play a RAD message but leaves the caller in the queue
 - **Divert**—transfers the caller to the number programmed in the DTMF Receiver Unavailable Answer Point Directory Number field
7. After **DTMF Receiver Unavailable Answer Point Dialable**, enter the desired directory number. For numbers longer than seven digits, program this field as a speed call.
NOTE: To use the DTMF Receiver Unavailable Answer Point Dialable option, the DTMF Receiver Unavailable Action field must be set to 'Divert'.
8. Click **Save**.

CONFIGURING QUEUE GROUPS

IVR Routing can use virtual queue groups to provide resiliency to destinations within workflows. For activities with queue destinations such as Transfer, virtual queue groups can be used as well. When a virtual queue group is used with an activity, any time IVR Routing attempts to route to the virtual queue group, it will route to the queue located on the same media server as IVR Routing. In the event that queue is unavailable, the least busy queue in the virtual queue group is used.

For IVR Routing devices or activities that use queue conditions, both reporting queue groups and virtual queue groups can be used. For queue conditions, a virtual queue group will be treated as a single queue. Reporting queue groups will use a sum of their stats when used for queue conditions. For more information on how each type of queue group handles real-time queue statistics, see "Real-time queue conditions and queue groups" on page 607.

For more information on configuring queue groups, see "Adding queue groups" on page 155.

BUILDING WORKFLOWS

Workflows are the pathways callers use to reach areas and individuals in your organization. Workflows dictate the prompts callers hear, the inputs requested by the system, and the available routing options. Workflows can identify customers and determine their service needs by phone number, numbers dialed, and the digits entered to reach specific areas of your organization. Proper workflow configuration is necessary to direct callers to the agents, departments, and employees best qualified to handle their requests.

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

NOTE:

- The functions performed when a caller contacts your organization depend on the activities included in the workflow and how the activities are configured. For more information, see "Activities" on page 555.
- If your contact center routinely handles a high volume of calls, for optimal traffic handling, we recommend using subroutines in your workflows or increasing the number of available ports for your workflows. For more information on subroutines, see "Building subroutines" on page 534.
- Workflows must be associated to an extension, hunt group, or queue in order to go live in the system. For more information, see "Associating workflows to devices" on page 529.

Workflow types

Workflows are categorized into four types.

- **Inbound**—directs incoming calls to the agents, departments, and employees best qualified to handle their requests.
- **Outbound**—makes outgoing calls to external and internal numbers. Once connected, an Outbound workflow can play the connected party a greeting or ask them to enter information into IVR Routing. Outbound workflows can also transfer a connected party to a queue, agent, or extension automatically or based on responses to an option menu.
NOTE: Outbound workflow and extension options in YourSite Explorer are only available with IVR Routing Advanced licensing.
- **RAD**—plays RAD messages to all callers in their associated queues
- **Inqueue**—determines the conditions for routing calls in queue to agents. Examples include when to overflow calls to different queues, when to requeue a call, when to interflow calls to different agent groups, and when to transfer calls to available agents. Inqueue workflows are executed once calls have been delivered from the Inbound workflow to their queue destinations.

Each workflow type offers a specific selection of IVR Routing activities with which to build the workflow. For more information, see "Activities" on page 555.

Workflow examples

The following workflow examples illustrate common call routing scenarios.

Example 1 — ANI routing

The ANI routing example shows a workflow that routes calls based on the phone number of the customer contacting your company. Incoming calls are answered and, based on configured telephone routing rules, routed to the Sales department in the incoming call's country of origin. (See Figure 114.)

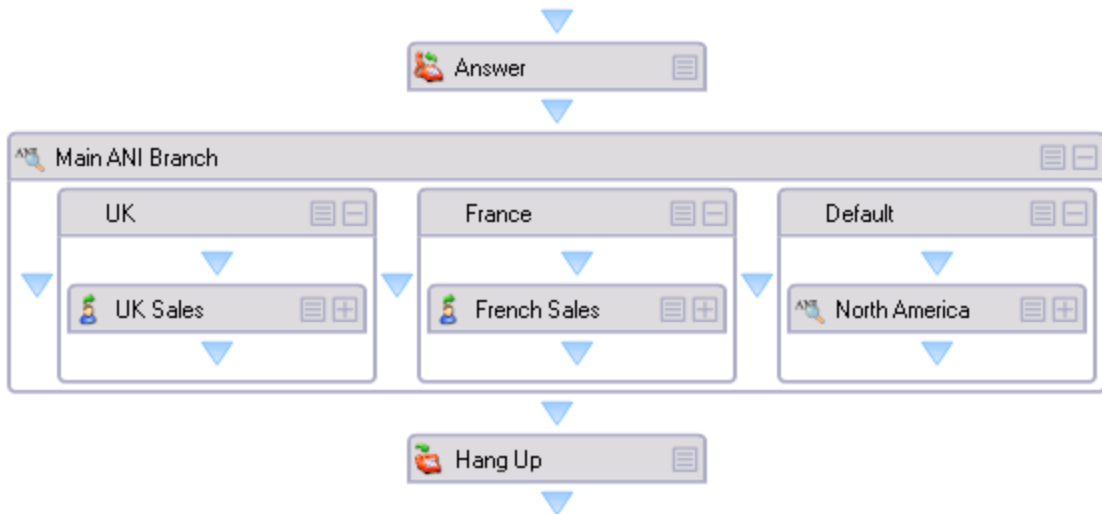


Figure 114: ANI routing workflow example

Example 2 — DNIS routing

The DNIS routing example shows a workflow that routes calls to separate product lines based on the toll-free line dialed by the customer. Incoming calls are answered and, based on the toll-free number dialed, routed to the queue responsible for handling call requests for that product line. (See Figure 115.)

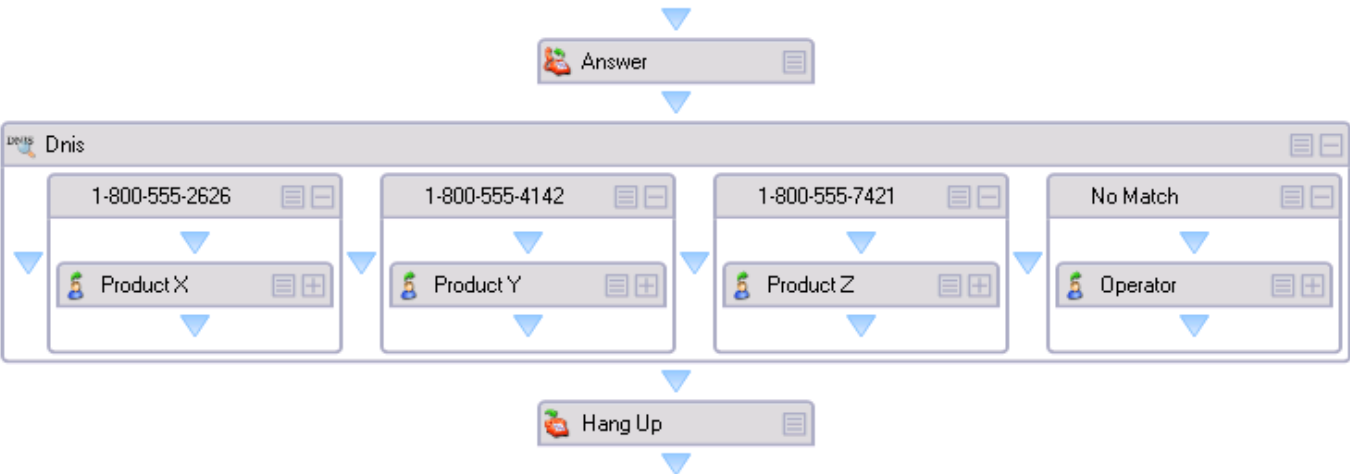


Figure 115: DNIS routing workflow example

Example 3 — Schedules and Menus

The schedules and menus routing example shows a workflow that first routes calls through a schedule. This determines the system's action based on the date and time that the call arrived. If within business hours, the workflow provides a user menu to the caller. If outside business hours, the caller hears an after hours greeting, after which the system terminates the call. (See Figure 116.)

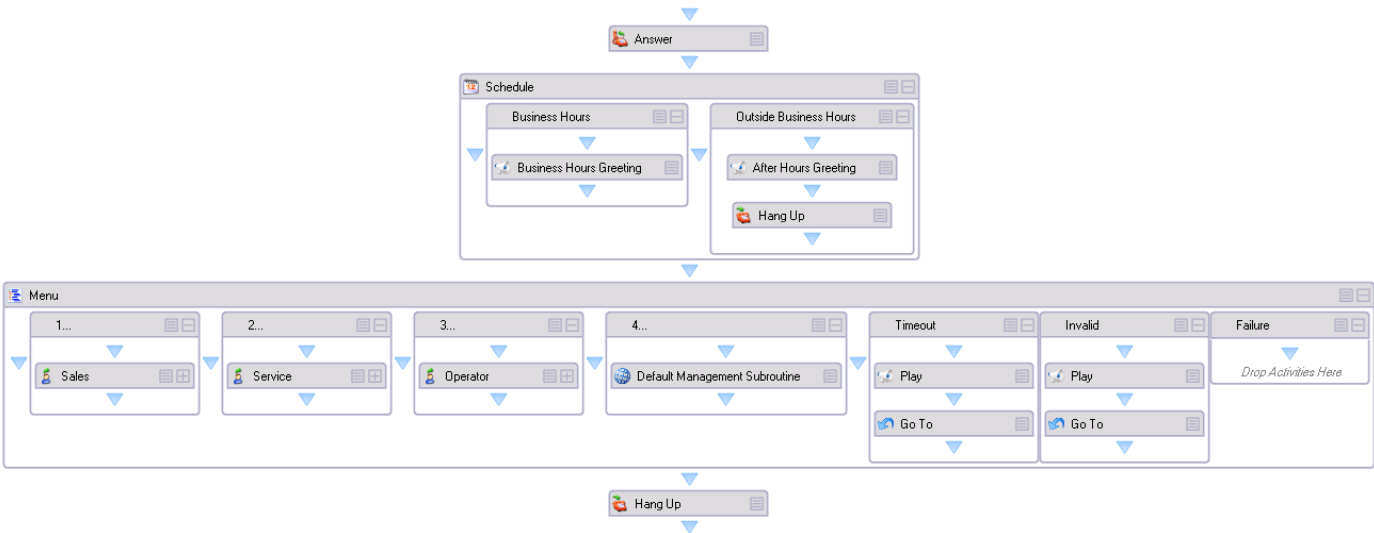


Figure 116: Schedules and menus workflow example

Example 4 — Collected Digits

The premium collected digits workflow example shows a workflow that routes calls based on the extension number inputted by the caller. The call is answered and the caller is prompted to enter the extension number of the party they want to reach. The call is routed based on the digits collected. (See Figure 117.)

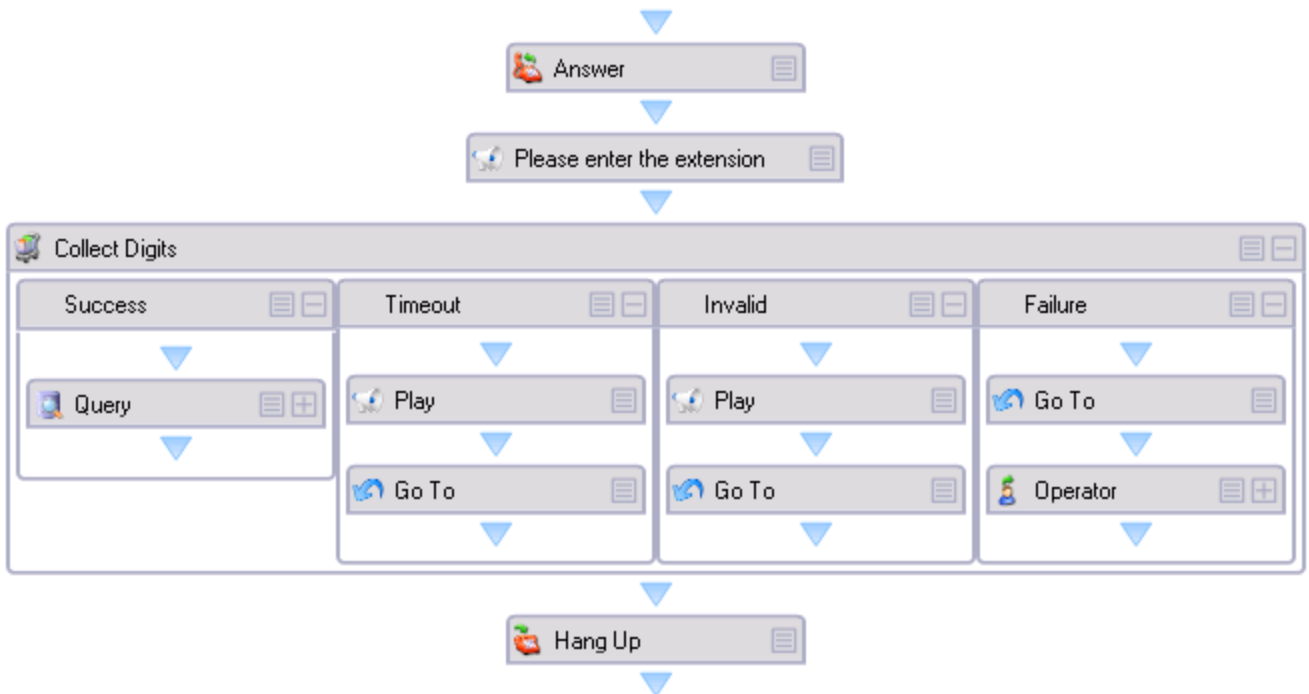


Figure 117: Collected digits workflow example

Adding new Inbound, Outbound, RAD, and Inqueue workflows

The following explains the procedure for adding new workflows to IVR Routing. For examples of workflows that ship with IVR Routing, see "IVR Routing workflow samples" on page 639, and "IVR Routing default workflows and subroutines" on page 627.

For information on using Dynamic RAD messages in workflows, see "Dynamic RAD messages" on page 530.

To create a workflow

1. Click **IVR Routing=>Workflows**.
2. Click **Add=>Mitel Voice**, and select either **Inbound**, **Outbound**, **RAD**, or **Inqueue**.
3. In the **Properties** pane, type a **Name** for the workflow. The Name must be unique.
4. Type a **System Name** for the workflow. The System Name must be unique.
5. To disable validation, enabling you to save a workflow with configuration errors, deselect the **Validate workflow** check box.

6. Select the **Designer** tab and, from the **Toolbox**, drag and drop activities to the Workflows Canvas.
NOTE: Inbound and RAD workflows must begin with an Answer activity if you intend to play a message or collect digits. Inbound, Outbound, and RAD workflows must end with a Hang Up activity if they do not end with a Transfer activity.
7. To assign the workflow to an extension, hunt group, or queue, see "Associating workflows to devices" on page 529.
NOTE: All workflow configuration errors must be corrected before workflows can be assigned to devices. For more information, see "Troubleshooting workflow configuration with the Validation button" on page 568.
8. Click **Save**.

Naming workflows

For administrative and reporting purposes, you must give workflows unique names and system names. A system name is used by IVR Routing to identify the workflow and is used in reporting. A name labels the workflow for the user.

To name a workflow

1. Click **IVR Routing=>Workflows**.
2. Select the workflow and click **Properties**.
3. Type a **Name** for the workflow. The Name must be unique.
4. Type a **System Name** for the workflow. The System Name must be unique.
5. Click **Save**.

Copying workflows

You can reuse existing workflows as templates by copying them. A copied workflow retains all of the actions, menus, and conditions of the original workflow, but is not assigned to any device.

To copy a workflow

1. Click **IVR Routing=>Workflows**.
2. Right-click the workflow and select **Copy**.
3. Right-click anywhere in the workflow list and select **Paste**.
4. Click **Save**.

Cutting, pasting, and copying workflow items

You can cut, paste, and copy activities and branches via the right-click menu, within and between workflows. This functionality enables you to create and edit workflows efficiently by duplicating, or removing, activities and branches and their configuration.

NOTE: Some activities are specific to workflow types. For example, an ANI activity is used in Inbound workflows but not Inqueue workflows. Some branches are specific to activity types. For example, the Record activity has a Discard branch, but the ANI activity does not. Only cut and paste activities and branches into the appropriate workflow and activity types.

To cut an activity or branch from a workflow

- Right-click the activity or branch and select **Cut**.

To paste an activity inside a workflow

1. Right-click the activity and select either **Copy** or **Cut**.
2. Right-click the activity that will precede the pasted activity, and select **Paste**.

To paste a branch inside an activity

1. Right-click the branch and select either **Copy** or **Cut**.
2. Right click a different branch inside the activity and select **Paste**.
The copied branch is inserted to the right.

Deleting workflows

To delete a workflow

1. Click **IVR Routing=>Workflows**.
2. Select the workflow and click **Delete**.
3. When prompted, click **OK**.

Importing and exporting subroutines and workflows

IVR Routing enables you to import and export subroutines and workflows from, and to, machines and networks. Imported subroutines and workflows are automatically converted to IVR Routing's latest version. Exported subroutines and workflows can be saved to local hard drives and copied to computers and networks.

After importing a subroutine or workflow, please note the following

- Subroutines and workflows must be validated and any configuration errors corrected in order to go live
See "Troubleshooting workflow configuration with the Validation button" on page 568.
- Workflows must be connected to devices specific to your system in order to go live
See "Associating workflows to devices" on page 529.

In addition, please see "Recommended practices for importing workflows and subroutines" on page 528.

To import a workflow

1. Click **IVR Routing=>Workflows**.
2. Click the **Import** button, browse to the workflow .xaml file and click **Open**.
3. Click **Save**.

To export a workflow

1. Click **IVR Routing=>Workflows**.
2. Click the **Export** button, browse to the workflow .xaml file and select it.
3. Browse to the workflow save location and click **Save**.

Recommended practices for importing workflows and subroutines

Activity availability varies by workflow and subroutine type. However, YourSite Explorer does not currently restrict where users import workflows and subroutines.

To ensure workflows and subroutines execute as expected, users should adhere to the following guidelines.

- Only import IVR Routing subroutines into 'IVR Routing=>Subroutines'. Do not import subroutines into 'IVR Routing=>Workflows'.
- If your contact center uses IVR Routing and Multimedia Contact Center, only import IVR Routing workflows and subroutines into 'IVR Routing=>Workflows' and 'IVR Routing=>Subroutines', respectively. Do not import IVR Routing workflows into 'Multimedia=>Workflows', and do not import IVR Routing subroutines into 'Multimedia=>Subroutines'.

Please review the list of workflows in IVR Routing to ensure subroutines are not listed. Please review the list of workflows in 'IVR Routing' in YourSite Explorer and, if applicable, 'Multimedia' to ensure each pane displays application-appropriate workflows.

Saving and copying workflows as images

You can save snapshots of workflows as images in JPG, PNG, GIF, and XPS formats. You can also copy and paste workflow images onto the clipboard, to paste into other programs. Saving or copying workflows enables you to easily reference, share, and print your workflow designs.

Once saved, some portions of large workflows may not display clearly in the image

To save and copy a workflow as an image

1. To save a workflow as an image, right-click on the active portion of the Workflows Canvas and select **Save As Image...**
2. Select a location and a format for saving the image.
3. To copy a workflow as an image, right-click on the active portion of the Workflows Canvas and select **Copy as Image**.
4. You can paste this image into a word-processing or image editing program.

Locating workflow items with the Search field

You can locate specific activities and branches in workflows using the Outline pane's Search field. The Search field returns results based on workflow items' names and system names.

Searches can be performed based on complete or partial search terms. For example, searching 'sched' will return results for all workflow items containing 'Schedule' in the name or system name.

After locating an item in the Search field, you can edit the item either by right-clicking it, toggling to the Properties pane, or right-clicking the item on the Canvas.

To locate workflow items using the Search field

1. Click **IVR Routing=>Workflows**.
2. Select a workflow and click **Outline**.
3. In **Search Outline**, type the search term and click the **Search** icon.

Associating workflows to devices

Workflows must be associated to a device in order to go live in the system. Workflows can, depending on their type, be associated to extensions, hunt groups, or queues.

You can only associate workflows to extensions or hunt groups that are of the same type as the workflow. For example, you cannot associate a RAD workflow to an Outbound extension type.

After associating Outbound and Inqueue workflows to a device, the 'Always run' check box in the Workflows and Properties pane enables and disables workflow execution.

The following workflow types may be associated to the following devices. (See Table 41.)

Table 41: Workflows and associated devices, by type

WORKFLOW TYPE	DEVICE TYPE
Inbound	Extension or Hunt Group
Outbound	Extension
RAD	Extension or Hunt Group
Inqueue	Queue

NOTE: Inbound and RAD workflows may be assigned to an extension and a hunt group. We recommend you use one or the other.

The following procedures explain how to

- Associate a workflow to an extension
- Associate a workflow to a hunt group
- Associate a workflow to one or more queues

To associate a workflow to an extension

1. Click **IVR Routing=>Extensions**, and select an extension to associate to the workflow.
NOTE: For IVR Routing sample workflows, you must select an extension with a Messaging port 5020 IP extension type.
2. Under **Port Options**, after **Workflow**, click the **Browse** button.
3. Select the workflow to associate to the extension and click **OK**.
NOTE: The 'Select a workflow' window displays workflows of the same type as the extension, without validation errors.
4. After **Port State**, select either **Normal** or **Emergency** from the drop-down list. Select **Emergency** only if this port is associated to a workflow that is configured to have an emergency path.
5. Click **Save**.

To associate a workflow to a hunt group

1. Click **IVR Routing=>Hunt Groups**, and select a hunt group to associate to the workflow.
2. Select the **Options** tab.
3. Under **IVR Settings**, after **Workflow**, click the **Browse** button.

4. Select a workflow and click **OK**.
5. After **Port State**, select either **Normal** or **Emergency** from the drop-down list. Select **Emergency** only if this port is associated to a workflow that is configured to have an emergency path.
6. Click **Save**.

To associate a workflow to one or more queues

NOTE: Inqueue workflows containing Connect to Caller activities require UPiQ ports provisioned for the system. Associating these workflows to queues without having UPiQ ports returns a validation error when saving the workflow or queue. To provision UPiQ ports for the system, see "Adding extensions for IVR Routing" on page 512.

1. Select **IVR Routing=>Workflows**, and select an Inqueue workflow.
2. Select the **Queue Membership** tab.
3. Under **Available members**, select the queue to associate the workflow to and click **>**. You can associate multiple queues to a single workflow.
4. To associate all queues to the workflow, click **>>**.
5. Click **Save**.

Dynamic RAD messages

Dynamic RAD messages enable a group of IVR Routing ports, shared by multiple hunt groups, to play different RAD messages to callers waiting in queue. For example, if hunt groups for a Sales queue and a Customer Service queue share a port, a workflow using Dynamic RAD messages enables the shared port to play a Sales greeting to the Sales queue and a Customer Service greeting to the Customer Service queue. Because Dynamic RAD messaging reduces the number of ports required to play messages, it is a cost-effective means of tailoring greetings to queues. For more information on configuring RAD messages for playback, see "Configuring RAD messages for queues" on page 520.

NOTE:

- To ensure the expected Dynamic RAD functionality, we recommend that you configure each hunt group to begin its search starting on different extensions. See "Adding extensions to hunt groups" on page 517.
- Dynamic RAD messages can only be used within RAD workflows.

To use Dynamic RAD messages in workflows, you must ensure that

- Media server configuration is complete. Dynamic RADs require that all hunt groups, extensions, and Class of Service options are populated with data from the 3300 ICP. For more information on configuring media servers, see "Adding 3300 ICP media servers" on page 85.
- The Class of Service provisioned in the PBX for Dynamic RADs must have Do Not Disturb set to Yes. See "Editing Class of Service options" on page 110.
- Full Synchronization is completed. For information, see "Performing synchronization" on page 105.
- Extension configuration is complete. Dynamic RAD messages require that each IVR Routing port playing the messages is set to RAD port 5020 IP. You must also enable Trusted Service Level for the relevant extensions. See "Configuring extensions" on page 512.

- Hunt group configuration is complete. Dynamic RADs require hunt groups to be configured as RAD hunt group types and that the appropriate RAD extensions have been added to the hunt groups you will use in your workflow. See "Configuring hunt groups" on page 516.
- If you are using an IVR Routing instance on a Remote Server, ensure that remote configuration is complete. Dynamic RAD messages require that the relevant ports are specified as remote ports and assigned to the Remote Server. See "Configuring extensions" on page 512.
- You have configured the necessary prompts for your RAD messages. See "Configuring prompts" on page 532.
- You have associated the workflow to the ports (extensions) that will play the RAD messages and to the appropriate hunt groups. See "Associating workflows to devices" on page 529.
- If you are using multiple, un-teamed NICs, you have selected the appropriate MiTAI Binding IP address. See "Configuring extensions" on page 512.

For a demonstration on how to build a workflow that uses Dynamic RAD messages, please see the following Mitel Knowledge Base article:
<http://micc.mitel.com/kb/KnowledgebaseArticle51476.aspx>.

Building resilient workflows

Many of IVR Routing's workflow activities and configurations are dynamic, relying upon statistics and information from the Enterprise Server. In situations where the Enterprise Server is unavailable, such as during a reboot, the functionality of dynamic workflows is affected. IVR Routing enables contact centers to build resilient workflows that respond to disruptions in service to the Enterprise Server, routing calls to alternate branches that are not reliant upon statistics from the Enterprise Server. Resilient workflows rely on the queue condition statistic Last Queue Update Received and the system variable CCMOnlineStatus.

The Last Queue Update Received queue condition statistic is available in the Queue Condition builder for the Queue activity and Rules. In the Queue Condition builder, Last Queue Update Received is assigned a duration of time (with a minimum duration limit of 30 seconds) that defines the time that may pass between updates from the Enterprise Server before the statistics are considered to be stale. This real-time statistic is particularly useful for contact centers that consider a limited amount of stale statistic data to be acceptable, such as during the length of time it takes the Enterprise Server to reboot, but may want calls to be routed using the Queue activity to different workflow paths if the real-time data from the Enterprise Server remains unavailable beyond that timeframe. For information on configuring rules and Queue activity, see "Configuring rules" on page 546 and "Configuring the Queue activity" on page 604.

The CCMOnlineStatus is a system variable that detects whether or not any real-time data is coming from the Enterprise Server to the Routing services for IVR Routing. If data is available from the Enterprise Server, it is set to True. If the Enterprise Server's real-time data is unavailable, it is set to False. In conjunction with the Variable Compare activity, calls can be routed down the appropriate True and False branches immediately if the availability of data from the Enterprise Server changes. For information on the Variable Compare activity, see "Configuring the Variable Compare activity" on page 624.

CONFIGURING PROMPTS

Prompts are audio clips that provide callers with information during a call. Associated with activities, prompts play messages when callers reach the associated activity in a workflow. Prompts can be individual wave files or multiple wave files joined together to form custom messages. To see a list of pre-configured prompts, go to 'IVR Routing=>Prompts'.

The default language for prompts will be taken from the site language and workflows will be executed in that language unless a Language activity has been included in the workflow. Individual prompts can be configured to handle multiple languages, working with the Language activity to support multiple languages in a single workflow. This reduces the number of prompts that must be created and allows for the same set of ports to be used for multiple languages. For more information on the Language activity, see "Configuring the Language Activity" on page 591.

If you want to use your own custom prompts with a callback, you must add your wave files by importing the files or recording wave files using a microphone on your computer or your telephone using a Record activity in a workflow. You must then associate your custom wave files to your callback workflow. See "Configuring callbacks" on page 535 for more information.

NOTE: Agent prompts cannot be configured to play in a language that is different than the language selected as a preference in Contact Center Management. Agent language preference settings override agent prompt language choices as IVR Routing aligns with agent language settings.

Adding prompts

NOTE: If you are adding prompts in a new language, you must add audio files that correspond to the existing audio files in IVR Routing's default language. Otherwise, the caller will not hear anything when the prompts are supposed to be playing.

To add a prompt

1. Click **IVR Routing=>Prompts=>Add**.
2. After **Language**, select the primary language from the drop-down list.
NOTE: By default, the language is set to your default site language.
3. Type a **Name** for the prompt.
4. Type a **Description** for the prompt.
5. After **Category**, select one of the following categories from the drop-down list:
 - Callback
 - Management
 - Samples
 - UPiQ
 - Custom

Prompt categories are an organizational tool to help keep your prompts sorted and easily accessible. To create your own category, after **Category**, type a name for the new category.

6. Click one of the following tabs:
 - **System wave files**—lists the system wave files callers hear while in the system or while waiting on hold. This pane displays the wave files that are available in your selected language.
 - **Custom wave files**—lists imported and wave files you have recorded. To import or record a custom wave file, click **Add**. Select **Existing wave file** to import the file, or **Record wave file** to use your computer's microphone to record the file.
NOTE: Wave files must be 8khz, Mono, or ULAW format.
 - **Queue stats**—lists up-to-date queue statistics that can be used in prompts
 - **Variables**—lists variables that can be used in prompts
NOTE: Read back on variables is based on the type of variable. Number variables read back the whole number, while digit variables read back individual numbers. For example, number variables would read 123 as 'one hundred and twenty-three', while digit variables would read 123 as 'one, two, three'.
 - **Prompts used in workflows and subroutines**—lists all prompts used in workflows and subroutines
7. In the **All system wave files**, **All custom wave files**, **All queue stats**, **All variables**, or **Prompts used in workflows and subroutines** pane, select the file(s) you want to add to the prompt.
8. Click **>** to add the file to the prompt.
NOTE: The wave files play in the order they are added to the prompt. To change the order in which the wave files are played, select the wave file and click the up or down arrow buttons on the right-hand side of the dialog box.
9. Click **Save**.

Adding files, queue statistics, or variables to prompts

NOTE: Variable readback is only available for numerical variables.

To add files, queue statistics, or variables to a prompt

1. Click **IVR Routing=>Prompts**, and select the prompt.
2. Click either the **System wave files**, **Custom wave files**, **Queue stats**, or **Variables** tab.
3. Select either the file, queue stat, or variable to add to the prompt and click **>**.
4. Click **Save**.

Deleting prompts

To delete a prompt

1. Click **IVR Routing=>Prompts**.
2. Select the prompt and click **Delete**.
3. When prompted, click **OK**.

Playing prompts

The following explains how to

- Play a prompt
- Play an individual or selection of wave file in a prompt

To play a prompt

1. Click **IVR Routing=>Prompts**, and select the prompt to play.
2. Click **Play**.

To play an individual or selection of wave file in a prompt

1. Select the prompt you want to play from the prompt list.
2. Select the **System save files** or **Custom wave files** tab.
3. Select the wave file(s) to play.
4. Click **Play**.

Using Prompts Quick Setup

Quick setup enables you to import previously created wave files.

To use quick setup to import prompts

1. Click **IVR Routing=>Prompts=>Quick Setup**.
2. After **Folder Path**, click **Browse....**
3. Browse to the folder containing the wave files and click **OK**.
4. After **Language**, select the primary language from the drop-down list.
NOTE: By default, the language is set to your default site language.
5. Click **Run**.

BUILDING SUBROUTINES

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

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

While all workflows are associated to ports or hunt groups, however, subroutines are contained within workflows and are not associated to ports or hunt groups.

To build a subroutine

1. Click **IVR Routing=>Subroutines**.
2. Click **Add=>Mitel Voice**, and select either **Inbound**, **Outbound**, **RAD**, **Management**, **UPiQ** or **Callback Inbound**.
3. In the **Properties** pane, type a **Name** for the subroutine. The Name must be unique.
4. Type a **System Name** for the subroutine. The System Name must be unique.
5. Select the **Designer** tab and, from the **Toolbox**, drag and drop activities to the Workflows Canvas.
6. Click **Save**.

Adding subroutines to workflows

You can add subroutines you have built or default subroutines to Inbound, Outbound, RAD, and Inqueue workflows. For more information on the default subroutines that ship with IVR Routing, see "IVR Routing default workflows and subroutines" on page 627.

To add a subroutine to a workflow

1. Click **IVR Routing=>Workflows**, and select the workflow to which you want to add a subroutine.
2. Click **Toolbox**, and drag and drop a **Subroutine** activity onto the Workflows Canvas.
3. Right-click the Subroutine and select **Assign Subroutine**.
4. Select a subroutine from the list and click **OK**.
5. Click **Save**.

Deleting subroutines

NOTE: You cannot delete a subroutine that is added to a workflow. Remove the subroutine from any workflow to which it is added, then delete the subroutine.

To delete a subroutine

1. Click **IVR Routing=>Subroutines**.
2. Select the subroutine and click **Delete**.
3. When prompted, click **OK**.

CONFIGURING CALLBACKS

Callbacks are specialized workflows and subroutines that enable customers to leave a request for a return call (callback) from the contact center. These requests sit in queue like a call and offer the agents the ability to call back the customer. For more information about the workflows and subroutines that enable your contact center to offer callbacks, see "Default callback workflow and subroutines" on page 631.

For callbacks to function correctly, you must have configured location settings for your media server. If location settings are not configured, your callbacks will not be able to contact your customers. See "Configuring location settings for 3300 ICP media servers" on page 87.

Three kinds of callbacks are available with IVR Routing.

- **Abandon**—Abandon callbacks are automatically generated when a customer hangs up while still in a queue, enabling contact centers to contact callers who might have otherwise been missed. Abandon callback subroutine workflows are enabled system-wide. For information about adding abandon callbacks to queues, see "Enabling abandon callbacks" on page 537.
- **Voice**—Voice callbacks are initiated by the customer. The customer's call is removed from the queue and a callback request is resubmitted to the queue. This option can be provided by including a Callback Request in a workflow. For an overview of the default inbound voice subroutine workflow, see "Default Inbound Voice Callback subroutine" on page 636.
- **Web**—Web callbacks enable customers to submit callback requests using a website, removing the need for customers to call the contact center in order to be placed in queue to speak to an agent. For information about enabling web callbacks, see "Enabling web callbacks" on page 539.

Supervisors can monitor and requeue, reject, or delete callbacks using the Global callback monitor in Contact Center Client and the Callbacks to be processed grid in Interactive Visual Queue. For more information, see "Viewing callback lists with the Global callback monitor" on page 249 and "Viewing callback information in Interactive Visual Queue" on page 416.

NOTE: Ring groups do not support handling callbacks. Ring group queues will not be available when configuring callbacks or their associated workflows. Any callback that is routed to a ring group will fail.

Enabling callbacks

Voice, Abandon, and Web callbacks are enabled in different ways. Voice callbacks are enabled by placing a Callback Request activity into a workflow and configuring the activity's inbound and outbound workflows and then making the workflow available to a queue through a dial out option. For more information on the Callback Request activity, see "Configuring the Callback Request activity" on page 573. For more information about the Default Inbound Voice Callback subroutine, see "Default Inbound Voice Callback subroutine" on page 636. For more information about the Default Outbound Callback workflow and the Default Outbound Voice callback subroutine, see "Default Outbound Callback workflow" on page 631 and "Default Outbound Callback subroutines" on page 632.

Abandon callbacks are disabled by default and must be enabled. Once they are enabled, the abandon callback settings are applied to all workflows. Individual queues may be configured to use different abandon callback workflows and queues. For more information on enabling abandon callbacks, see "Enabling abandon callbacks" on page 537. For more information about the Default Outbound Callback workflow and the Default Outbound Abandon callback subroutine, see "Default Outbound Callback workflow" on page 631 and "Default Outbound Callback subroutines" on page 632.

Web callbacks require a webpage to be set up to submit callbacks. IVR Routing includes a template to use as your web callback submission page. For details of the template and configuring the template for use, see "Configuring the web callback template" on page 540. After configuring your web callback submission pages, queues must be enabled to receive web callbacks. "Enabling web callbacks" on page 539. For more information about the Default Outbound Callback workflow and the Default Outbound Web callback subroutine, see "Default Outbound Callback workflow" on page 631 and "Default Outbound Callback subroutines" on page 632.

Enabling abandon callbacks

Abandon callbacks are applied to all queues when enabled. Unless configured with different abandon callback workflows and destination queues, all queues will use the default abandon callback options. If no default queue is selected when abandon callbacks is enabled, abandon callbacks will only be generated for queues that have queue destinations set for their abandon callbacks. By default, abandon callback requests are only applied to calls that abandon with a time greater than the 'Short abandon less than' time specified in individual queues, but short abandon callbacks can be enabled for all queues.

NOTE:

- To duplicate the functionality of the Version 6.0 queue condition builder, place a Queue activity into your Outbound abandon callback workflow before the Make Call activity, with a Save Callback activity placed in the No Match branch to requeue the callback request. See "Default Outbound Callback subroutines" on page 632.
- Ring groups do not support abandon callbacks and are not available to be selected for abandon callback default queues.

The following procedures explain how to:

- Enable abandon callbacks
- Change the default Outbound abandon callback workflow
- Select the default queue
- Clear the default queue
- Change the default Outbound abandon callback workflow for a queue
- Change the abandon callback destination for a queue
- Clear the abandon callback destination for a queue
- Disable abandon callbacks

To enable abandon callbacks

1. Click **IVR Routing=>Workflows**.
2. In the **Abandon Callbacks** section of the ribbon's **Configuration** tab, click the **Disabled** button.
3. If there is no default workflow selected, after **Default Workflow**, click ..., select an Outbound subroutine, and click **OK**.
4. If there is no default queue enabled, after **Default Queue**, click ..., select a queue to be the default queue, and click **OK**.
5. If you want to enable Short Abandon Callbacks, select **Allow Short Abandon Callbacks**.

To change the default Outbound abandon callback workflow

1. Click **IVR Routing=>Workflows**.
2. In the **Abandon Callbacks** section of the ribbon's **Configuration** tab, after **Default Workflow**, click the ... button.
3. Select a subroutine and click **OK**.

To change the default queue

1. Click **IVR Routing=>Workflows**.
2. In the **Abandon Callbacks** section of the ribbon's **Configuration** tab, after **Default Queue**, click the ... button.
3. Select a queue and click **OK**.

To clear the default queue

1. Click **IVR Routing=>Workflows**.
2. In the **Abandon Callbacks** section of the ribbon's **Configuration** tab, after **Default Queue**, click the **Clear** button.

To change the default Outbound abandon callback workflow for a queue

1. Click **IVR Routing=>Queues**.
2. Select a queue and click the **General** tab.
3. Under **Abandon Callback Options**, after **Workflow Plan**, click the **Browse** button.
4. Select a subroutine and click **OK**.
5. Click **Save**.

To change the abandon callback destination for a queue

1. Click **IVR Routing=>Queues**.
2. Select a queue and click the **General** tab.
3. Under **Abandon Callback Options**, after **Queue Destination**, click the **Browse** button.
4. Select a queue and click **OK**.
5. Click **Save**.

To clear the abandon callback destination for a queue

1. Click **IVR Routing=>Queues**.
2. Select a queue and click the **General** tab.
3. Under **Abandon Callback Options**, after **Queue Destination**, click the **Clear** button.
4. Click **Save**.

To disable abandon callbacks

1. Click **IVR Routing=>Workflows**.
2. In the **Abandon Callbacks** section of the ribbon's **Configuration** tab, click the **Enabled** button.

Enabling web callbacks

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

1. Enable queues to handle web callbacks and set the maximum number of web callbacks an IP address can submit per hour.
See "Enabling queues for web callbacks" on page 539.
2. Configure an Outbound Web Callback subroutine
3. IVR Routing includes the Default Outbound Web Callback subroutine. You can configure your own if you so choose. For more information on the Default Outbound Web Callback subroutine, see "Default Outbound Callback subroutines" on page 632.
4. Configure a web callback request page for your contact center.
See "Configuring the web callback template" on page 540.
5. Enable the web callback page for callbacks
See "Enabling the web callback template for callbacks" on page 543.

If you are running Windows 8, you must ensure that certain .NET Framework 4.5 Advanced Services are running. For more information, see "Enabling web callbacks for Windows 8 and Windows 8.1 users" on page 540.

Enabling queues for web callbacks

You must enable queues to handle web callbacks and specify the maximum number of web callback requests that can be generated by a single IP address per hour. Ring groups do not support handling web callbacks.

To enable a queue to handle web callbacks

1. Click **IVR Routing=>Queues**.
2. Select a queue and click the **General** tab.
3. Select **Enable queue for web callbacks**.
4. Click **Save**.

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

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

Enabling web callbacks for Windows 8 and Windows 8.1 users

If you are running IVR Routing on Windows 8 or Windows 8.1, you must have certain .NET Framework 4.5 Advanced Services enabled for web callbacks to function.

To enable web callbacks for Windows 8 and 8.1 users

1. In Windows, navigate to the **Control Panel**.
2. Click **Programs and Features=>Turn Windows features on or off**.
3. Select the following check boxes:
 - .NET Framework 4.5 Advanced Services
 - WCF Services
 - HTTP Activation
4. Click **OK**.

Configuring the web callback template

Web callback enables callers to submit callback requests using a callback request page accessed through a contact center's website. Callers submit a telephone number, name, and time frame within which their call should be returned, as well as other optional information, which is then routed to the contact center.

IVR Routing includes a web callback template for use as the callback request page for your contact center. Figure 118 shows the web callback template. The web callback template must be manually configured as a part of your contact center's corporate website. Experienced web developers can also use the template to construct their own web callback page.

The form is titled "Get in touch with us" and is designed for web callbacks. It contains the following fields and controls:

- Name:** A text input field with the placeholder "First and last name".
- Country:** A dropdown menu currently showing "Canada".
- Phone:** A text input field with the placeholder "Eg. 6135990045".
- Destination:** A dropdown menu currently showing "Customer Service".
- Message:** A large text area with the placeholder "Your message (optional)".
- When would you like us to call you?:** A dropdown menu currently showing "Immediate".
- Call Me:** A blue button located at the bottom right of the form.

Figure 118: Template - Default.html

Viewing the web callback template

The web callback template is stored in a zip file in <installation drive>\Program Files (x86)\prairieFyre Software Inc\CCM\Websites\CCMWa\WebCallbackTemplate.zip.

Customizing the web callback templates

You can edit elements of the web callback template to meet your contact center's needs, changing headers, customizing Cascading Style Sheets (CSS), customizing the available countries for the template, or even customizing the web callback template content.

Customizing the header

In the templates, Default.html has a header consisting of the text 'Get in touch with us' where you may insert a company logo or change the text. You can customize these headers for your contact center.

To customize the header

1. Open **Default.html** in a text editor.
2. Replace the text with your own text or an image.
NOTE: If you are using Notepad with Default.html, press CTRL+F and type <h1> to locate the header in the HTML.
3. Save and close the HTML editor.

Customizing the Cascading Style Sheet

The Cascading Style Sheet (CSS) defines how HTML elements are displayed. CSS enables you to control the style and layout of multiple Web pages all at once.

To customize the CSS

1. Open **main.css** in a text editor.
2. Edit the heading and body font sizes and styles, or spacing.
3. Click **Save**.

Customizing the content of the web callback template

You can change the content of the web callback template to reflect your business, however, we do not recommend changing fields as improper changes will result in a non-functioning webpage. If you have the experience, expertise, and resources to edit HTML, you can use the templates to build the webpage you desire, however

Customizing the available countries in the template

By default, the web callback template imports available countries from a web service and populates them in the web callback template. Contact centers can customize their web callback page to include only the countries they intend to support callbacks from. To do this, you must obtain the country GUIDs of the relevant countries from SQL and then add them to Config.js

To obtain country GUIDs from SQL

1. Open **SQL Server Management Studio** or another SQL Management program.
2. Query the following select statement:
`SELECT [Pkey], [Name] FROM [CCMData].[dbo].[tblConfig_Country]`
3. Record the country GUIDs you require.

To customize the available countries in the template

1. Open **Config.js** in a text editor.
2. Locate the following line of text:
`var AutoPopulateCountries = true;`
3. Replace **true** with **false**
4. To add a country, add the country GUID from the SQL database and the Country name you want to appear in the drop down in the following format:
`<option value="countryGUID" selected>Country Name in Dropdown</option>`
5. If you do not intend to offer web callbacks to Canada, delete `<option value="A0A5E01E-1304-4893-840B-CFC30B65983F" selected>Canada</option>`
6. Save and close the text editor.

Customizing the available queues in the template

By default, the web callback template is auto-populated with all the voice queues available for web callbacks. Contact centers can limit which queues enabled for web callbacks appear in may want to limit customers to accessing certain queues from a given callback webpage. To do this, you must obtain the queues' GUIDs and add them to Config.js.

To obtain a queue GUID from YourSite Explorer

1. In **YourSite Explorer**, click **IVR Routing=>Queues**.
2. Select a queue.
3. In the ribbon, click **Queue Tools**.
4. Click **Copy queue ID**.
The queue GUID is copied to your clipboard.

To obtain queue GUIDs from SQL

1. Open **SQL Server Management Studio** or another SQL Management program.
2. Query the following select statement:
`SELECT [Pkey], [Name] FROM [CCMData].[dbo].[tblConfig_Queue]`
3. Record the country GUIDs you require.

To customize the available queues in the template

1. Open **config.js** in a text editor.
2. Locate the following line of text: `var AutoPopulateQueues = true;`
3. Replace **true** with **false**.
4. To add a queue, add the queue GUID and the queue name you want to appear in the drop down in the following format:

```
<select name="queue" class="form-control" id="queue">
    <option value="queue guid" selected>queue name</option>
</select>
```
5. Save and close the text editor.

Enabling the web callback template for callbacks

After you create a web callback request page, you need to enable your web callback page to generate callback requests for your queues. This is done by adding an application pool for web callbacks and adding web callbacks as an application for your website in IIS and specifying in `config.js` which web callback workflow to use. Optionally, the default messages contact receive after successfully submitting a callback or if their callback request fails to submit can be changed.

Before the procedure, you must have

- Configured a web callback request page using the template
- Added the web callback template files into the desired directory

To enable the web callback template for callbacks

1. Add the web callback application pool and configure the application settings
2. Add the web callback as an application to your website
3. Set the Enterprise Server for callbacks
4. (Optional) Change the default web callback subroutine
5. (Optional) Change the default success and failure messages

To add the web callback application pool and configure the application settings

1. Start **IIS Manager**.
2. Under **Connections**, select **Application Pools**.
3. In the **Actions** pane, select **Add Application Pool....**
4. Under **Name**, add a name for the pool.
5. Under **.NET Framework version**, select the most recent version of .NET Framework 4.5.
6. Under **Managed pipeline mode**, select **Classic**.
7. Click **OK**.
8. Select the **Application Pool** and in the **Actions** pane, select **Advanced Settings....**
9. Configure the settings to match the figure below.

Advanced Settings	
(General)	
.NET Framework Version	v4.0
Enable 32-Bit Applications	True
Managed Pipeline Mode	Classic
Name	Web Callback
Queue Length	4000
Start Automatically	True
CPU	
Limit	0
Limit Action	NoAction
Limit Interval (minutes)	0
Processor Affinity Enabled	False
Processor Affinity Mask	4294967295
Process Model	
Identity	LocalSystem
Idle Time-out (minutes)	20
Load User Profile	False
Maximum Worker Processes	1
Ping Enabled	True
Ping Maximum Response Time (seconds)	90
Ping Period (seconds)	30
Shutdown Time Limit (seconds)	90
Startup Time Limit (seconds)	90
Process Orphaning	
Enabled	False
Executable	
Executable Parameters	
Rapid-Fail Protection	
"Service Unavailable" Response Type	HttpLevel
Enabled	True
Failure Interval (minutes)	5
Maximum Failures	5
Shutdown Executable	
Shutdown Executable Parameters	
Recycling	
Disable Overlapped Recycle	False
Disable Recycling for Configuration Changes	False
Generate Recycle Event Log Entry	
Private Memory Limit (KB)	0
Regular Time Interval (minutes)	1740
Request Limit	0
Specific Times	TimeSpan[] Array
Virtual Memory Limit (KB)	0
Processor Affinity Enabled [smpAffinitized] If true, the Processor Affinity Mask property forces the worker process(es) serving this application pool to run on specific CPUs. This enables efficient use of CPU caches on multiprocessor servers.	
<div>OK</div> <div>Cancel</div>	

Figure 119: Web callback Application Pools Advanced Settings

10. Click **OK**.

To add the web callback as an application to your website

1. Start **IIS Manager**.
2. In the **Connections** pane, navigate to **Default Web Site**.
3. In the **Actions** pane, click **View Applications**.
4. In the **Actions** pane, click **Add Application....**
5. Under **Alias**, provide an alias.
6. Click **Select....**
7. Select the web callback application pool and click **OK**.
8. Under **Physical path**, click ... and navigate to the folder containing **web.config** and click **OK**.
9. Click **OK**.

To set the Enterprise Server IP address for callbacks

1. Navigate to **config.js** and open in a text editor.
2. Locate the following line of text:
var Config.EnterpriseServerAddress = "localhost";
3. Replace **localhost** with your Enterprise Server's IP address.
4. If the Enterprise Server was configured to use SSL during installation, locate the following line of text:
var Config.EnterpriseUsingSSL = false;
5. Replace **false** with **true**.
6. Save and close the text editor.

To change the default web callback subroutine

1. Navigate to **config.js** and open in a text editor.
2. Locate the following line of text:
var Config.OutboundCallbackSubroutineID = "B0AA4E0E-A97D-461E-A7F9-E32026C1FA40";
3. Replace the value with the GUID of the subroutine from SQL.
The GUID can be obtained from tblConfig_VWM_Subroutine in SQL. See the procedure below for instructions on how to obtain this information.
4. Save and close the text editor.

To obtain web callback subroutine information from SQL

1. Open **SQL Server Management Studio** or another SQL Management program.
2. Query the following select statement:
select Pkey,Name from tblConfig_VWM_Subroutine
3. Find your value for your web callback subroutine.

To change the default success and failure message for the web callbacks

1. Navigate to **config.js** and open in a text editor.
2. Locate the following lines of text:
var Config.SuccessMessage = "Thanks, we will get in touch with you shortly.";
var Config.FailureMessage = "Sorry, we are having difficulties right now. Please try again.";

3. Replace **"Thanks, we will get in touch with your shortly."** with the desired message for a successful callback submission.
4. Replace **"Sorry, we are having difficulties right now. Please try again."** with the desired message for a failed callback submission.
5. Save and close the text editor.

CONFIGURING RULES

Rules provide call conditions that are evaluated at the runtime of the workflow. They enable you to compare against a broad range of conditions in a single workflow activity, reducing workflow clutter and enabling more precise routing.

In a workflow, rules are assigned to a Rules activity. When an incoming call enters a workflow and encounters a Rules activity, the call is evaluated against the activity's associated rules and is branched based on whether or not the call meets the rule's routing rules' conditions. Routing rules can be based on a number of different conditions:

- ANI (Inbound, Inqueue)
- DNIS (Inbound, Outbound, Inqueue)
- Emergency (Inbound, RAD, Outbound, Inqueue)
- Hunt Group (Inbound, RAD, Outbound, Inqueue)
- Queue (Inbound, RAD, Outbound, Inqueue)
NOTE: Ring groups are supported for queue routing rules
- Redirect (Inbound, Outbound, Inqueue)
- Schedule (Inbound, RAD, Outbound, Inqueue)

If the call meets the routing rules' conditions, then it is routed through the Success branch and has variables set to specific values based on the pre-configured variable options in the rule. If it does not meet the rule's routing conditions, then the call is routed through the Failure branch. If the call is comparing against many routing rules in a single Rules activity, the variables will only be set once, by the first routing rule matched.

Rules are best used when you want to route calls based on multiple conditions. A site that has a Monday to Friday, 9 am to 5 pm French language queue and a 24-hour English queue could, using ANI and Schedule routing rules in a single rule, route calls from French area codes that are calling within business hours to the French queues and all other calls to the 24-hour English queue.

For more information on the Rules activity for workflows, see "Configuring the Rules activity" on page 613.

Adding rules

Routing rules' conditions vary by rules type. See "Configuring rules" on page 546. Note that you cannot save routing rules until after you add variables to your rules. See "Adding variables to rules" on page 550.

To add a rule

1. Click **IVR Routing=>Rules=>Add**.
2. Select either **Voice**, **RAD**, or **Outbound**.
3. Type a **Name** for the rule.
NOTE: The Expression field is automatically populated when routing rules have been configured. See "Adding routing conditions to rules" on page 547.

Adding routing conditions to rules

NOTE:

- You cannot save routing rules until after you add variables to your rules. See "Adding variables to rules" on page 550.
- For instructions on grouping rule conditions, see "Grouping expressions" on page 570.

The following procedures explain how to

- Add an ANI, DNIS, Hunt Group, or Redirect routing condition to a rule
- Add a Schedule routing condition to a rule
- Add a Queue routing condition to a rule
- Add an Emergency routing condition to a rule

To add an ANI, DNIS, Hunt Group, or Redirect routing condition to a rule

1. Under **Routing Rules**, click **Add**.
2. From the second column, select one of the following routing rule types from the drop-down list:
 - ANI
 - DNIS
 - Hunt Group
 - Redirect
3. From the third column, click the - button.
4. To add a value, click **Add** and enter a value for the routing rule.
5. Click the **Add** button.
6. Repeat the above steps to add additional values to the routing rule.
7. To test values, after **Test**, type the values. 'Pass' or 'Fail' displays depending on whether the test is successful.
8. Click **OK**.

To add a Schedule routing condition to a rule

1. Under **Routing Rules**, click **Add**.
2. From the second column, select **Schedule** from the drop-down list.
3. From the third column, click the - button.
4. Click **Add**.
5. Select one of the following conditions from the drop-down list:
 - Date
 - DOW (Day of Week)
 - Holiday
 - Schedule
 - Time
6. Select a value for the condition and click **OK**.
7. To add more schedule conditions, click **Add** and repeat the above steps.
8. To test the conditions, under **Utilities**, enter time and date information and click **Test**. 'Pass' or 'Fail' displays depending on whether the test is successful.
9. Click **OK**.

To add a Queue routing condition to a rule

1. Under **Routing Rules**, click **Add**.
2. From the second column, select **Queue** from the drop-down list.
3. From the third column, click the - button.
4. After **Queue**, click the ... button.
5. Select either the **Queue** or the **Queue Group** tab.
NOTE: For information on how queue groups use queue real-time statistics, see "Real-time queue conditions and queue groups" on page 607.
6. Select a queue or queue group to add to the condition and click **OK**.
7. To add a new queue, see "Configuring queues" on page 518.
NOTE: To configure a new queue for web callbacks, see "Enabling web callbacks" on page 539.
8. To add a new queue group, select the **Queue Group** pane and click **Add**.
 - After **Name**, type a name for the queue group.
 - After **Reporting number**, type a reporting number for the queue group.
 - In the **Available members** pane, select a queue group and click the > button.
9. Click **Save**.
10. To add conditions, at the top of the Queue Conditions dialog box, click **Add**.
11. From second the column, select one of the following real-time statistics from the drop-down list:
 - Agents Idle
 - Agents Available
 - Agent Unavailable
 - Avg Time To Abandon

- Avg Time To Answer
- Avg Waiting Contacts per Agent
- Expected Wait Time
- Last Queue Update Received
- Longest Wait Time
- Number of Contacts Waiting
- Queue DND
- Service Level

NOTE: Expected Wait Time requires at least one call waiting in queue for IVR Routing to calculate an Expected Wait Time value.

12. From the third column, select one of the following operators from the drop-down list. Options vary according to the realtime statistic selected:
 - != Not Equal to
 - < Less than
 - <= Equal to or less than
 - = Equal to
 - > Greater than
 - >= Equal to or greater than
 13. In the third column, from the drop-down list select either the **Value**, **Queue Stats**, or the **Variable** tab.
 14. Under **Value**, type in a numeric value or enable the check box for the value.
 15. Under **Queue Stats**, select a queue stat from the drop-down list.
 16. Under **Variable**, select a variable from the drop-down list.
 17. Click **OK**.
 18. If you want to add another condition, at the top of the dialog box, click **Add**.
 19. Repeat the above steps for each additional condition to add to the Queue Condition builder.
 20. To import queue conditions, click the **Import** button and navigate to a *.csv file.
 21. To export queue conditions, click the **Export** button and navigate to a *.csv file.
- NOTE:**
- Conditions on a single line and separated by a comma will be added to a single branch.
 - Conditions on multiple lines and separated by a comma will be added to multiple branches.
22. To test the conditions, under **Test Parameters**, enter a value in the relevant fields and click **Test**. 'Pass' or 'Fail' displays depending on whether the test is successful.
 23. To delete a queue condition, from the drop-down list to the left of the condition select **Delete**.
 24. Click **OK**.

To add an Emergency routing condition to a rule

1. Under **Routing Rules**, click **Add**.
2. From the second column, select **Emergency**.
3. From the third column, select **Yes** or **No**.

Adding variables to rules

To add a variable to a rule

1. Under **Variables**, click **Add**.
2. From the second column, select a variable from the drop-down list and click **OK**.
3. In the third column, select either **Value** or **Variable**.
4. If you selected 'Value', type the value.
5. If you selected 'Variable', select a variable from the list.
6. Click **OK**.
7. Click **Save**.

Deleting rules

To delete a rule

1. Under **IVR Routing=>Rules**, select the rule from the list provided.
2. Click **Delete**.
3. When prompted, click **OK**.

CONFIGURING HOLIDAYS

Holidays can be configured for dates that affect your contact center functionality. For information on configuring holidays, see "Configuring holidays" on page 173.

CONFIGURING DATA PROVIDERS

You can create a connection to a data provider located on a local or an external server to access information about incoming callers. For example, the data providers query can be configured to retrieve customer information based on ANI, DNIS, collected digits, or variables. IVR Routing can add Microsoft Excel worksheets, Microsoft SQL servers, and Lightweight Directory Access Protocol (LDAP) as data providers to query for data. IVR Routing can also import ODBC connections configured using the Windows ODBC Data Source Administrator.

IVR Routing supports the following reference platforms for ODBC connections:

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

Adding a Microsoft SQL server as a data provider

To add a Microsoft SQL server as a data provider

1. Click **IVR Routing=>Data providers**.
2. Click **Add** and select **Microsoft SQL Server** from the drop down list.
3. Type a **Name** for the data provider.
4. Type the **Server Name**.

5. Under **Log on credentials**, select **Windows Authentication** or **SQL Server Authentication**.
6. If you select SQL Server Authentication, enter a **Username** and **Password**.
7. Click **Test Connection**.
8. After **Database Name**, select a database name from the drop down list.
9. Click **Save**.

Adding a Microsoft Excel worksheet as a data provider

To add a Microsoft Excel worksheet as a data provider

1. Click **IVR Routing=>Data providers**.
2. Click **Add** and select **Excel** from the drop-down list.
3. Type a **Name** for the data provider.
4. After **Workbook**, click **Select File** and browse to the Excel worksheet you want to use as a data provider.
NOTE: The Excel worksheet must be shared as a workbook and located on a UNC (Universal Naming Convention) path, also known as a shared network path. The syntax for a UNC path is \\ComputerName\SharedFolder\Resource. The IVR folder in <installation drive>\Program Files (x86)\prairiefire Software Inc\CCM is set up to be shared during the installation process and is called ivrdirectory. An example of the syntax format is \\IVRMACHINE\IVRDIRECTORY\WORKSHEET.xls. Locating the worksheet on a UNC enables IVR Routing to access the data provider remotely.
5. Click **Open**.
6. Click **Test Connection**.
7. Click **Save**.

Adding a LDAP as a data provider

To add a LDAP as a data provider

1. Click **IVR Routing=>Data providers**.
2. Click **Add** and select **LDAP** from the drop down list.
3. Type a **Name** for the data provider.
4. Type the **Domain** of the LDAP.
5. Type the **Username** for the LDAP.
6. Type the **Password** for the LDAP.
7. Click **Test Connection**.
8. Click **Save**.

Adding an ODBC as a data provider

ODBC connections can be added as a data provider through the Windows ODBC Data Source Administrator. After adding an ODBC using ODBC Data Source Administrator, the ODBC will automatically appear in data source providers and will be made available for the Query activity.

You cannot edit an ODBC data provider in IVR Routing.

NOTE: When adding an ODBC connection for IVR Routing, you must use the 32-bit Windows Server tool. For more information, see the following Mitel Knowledge Base article:

<http://micc.mitel.com/kb/KnowledgebaseArticle52125.aspx>

Deleting data providers

NOTE: You cannot delete ODBC data providers from the data providers list.

To delete a data providers

1. Click **IVR Routing=>Data providers**.
2. Select the data provider and click **Delete**.
3. When prompted, click **OK**.

CONFIGURING VARIABLES

Variables are used in multiple activities and to perform various tasks, including

- Storing information for later use
- Collecting user data
- Performing database queries
- Building simple or complex conditions

Variables can be used for different activities such as:

- Transferring a call to a different queue based on customer class
- Playing different prompts based on account balance
- Holding collected digits for use later in a database query

Some variables can also be passed to agents in the form of a desk top screen pop, providing agents with call information generated in the workflow. For more information, see "Passing agents call information in screen pops" on page 626, and "Populating screen pops with workflow variables" on page 626.

Variables may be configured to mask their contents, enabling variables to be delivered either entirely masked or partially masked with a user-specified number of characters left unmasked. This limits the exposure of potentially sensitive information, such as credit card or SIN numbers, in logs, call notes, databases, and screen pops. Masked variables cannot be used with the Set Variable activity, but can be used with the Variable Compare and Collect Digits activities. Variables that contain file paths to .wav files will also mask the .wav file. System variables cannot be masked. Masking is available to the following types of variables:

- Unspecified
- Digits
- Number
- Dollars
- Euros
- Pounds
- DateTime

Masked variables are a component of building workflows in support of PCI compliant systems. For an example of a PCI compliant workflow, see "Workflow for PCI Compliant systems" on page 652.

IVR Routing includes built-in variables that you can use in your workflows. To view these variables and to see a description of each, open YourSite Explorer and select IVR Routing=>Variables.

Custom variables can be populated through queries and activities such as Set Variable and Execute. See "Configuring the Query activity" on page 600, "Configuring the Set Variables activity" on page 620, and "Configuring the Execute activity" on page 584.

Adding variables

To add a variable

1. Click **IVR Routing=>Variables=>Add**.
2. Type a **Name** for the new variable.
NOTE:
 - The Name must be unique and cannot contain any spaces.
 - A variable's name cannot be changed after you save.
3. After **Description**, provide a brief explanation of the variable function.
4. After **Variable Type**, select the type of variable from the drop-down list.
NOTE: A variable's type cannot be changed after you save.
5. If **Mask Type** is available to this type of variable, select the variable's mask from the drop-down list.
 - **NoMask**– The variable will not be masked within IVR Routing and associated screen pops, databases, etc
 - **FullMask**– The entire variable will be masked within IVR Routing and associated screen pops, databases, etc
 - **MaskAllExceptLastX**– The variable will be masked except for the specified number of final characters
 - **MaskAllExceptFirstX**– The variable will be masked except for the specified number of first characters

6. If you selected **MaskAllExceptLastX** or **MaskAllExceptFirstX**, specify the number of characters to be left unmasked.
7. To enable this variable to display in a toaster notification or screen pop select the **Send to agent desktop** check box.
8. After **Display Name**, type the name this variable has when it appears in a toaster notification or screen pop.
9. If you selected Dollars, Euros, or Pounds as the variable type, after **Currency Format**, select the format from the drop-down list.
10. If you selected Date Time as the variable type, after **Date Format**, select the date format from the drop-down list. After **Time Format**, select the time format from the drop-down list.
11. Click **Save**.

Deleting variables

NOTE: Default variables are grayed out and cannot be deleted.

To delete a variable

1. Click **IVR Routing=>Variables**.
2. Select the variable and click **Delete**.
3. When prompted, click **OK**.

CONFIGURING MUSIC ON HOLD

IVR Routing provides music on hold for your telephone system using a PC sound card with a connection to your telephone system. IVR Routing plays music through the sound card using a rotating (loop) playlist.

Music sources for playlists include any or all of the following: audio CD, stored .wma, stored .wav file, and stored .mp3 file. Playlists can include music or prerecorded information messages.

You can start or stop the music engine from the user interface. Once started, the music engine loops through the playlist, playing continuously until stopped.

Adding music on hold

To add a music on hold playlist

1. Click **IVR Routing=>Music on hold=>Add**.
2. Type a **Name** and **Description** for the playlist.
3. Click the **Songs** tab.
4. To add a song to the list of songs available to IVR Routing, under **Available songs**, click **Add**.
5. Browse to the song you want to add and click **Open**.
6. To add a song to a playlist, select the song you want to add and click **>**.
7. Click **Associate Servers**.
8. Under **Available members**, select the computer that the playlist will be played from and click **>**.
9. Click **Save**.

Deleting music on hold

To delete a music on hold playlist

1. Click **IVR Routing=>Music on hold**.
2. Select the playlist and click **Delete**.
3. When prompted, click **OK**.

CONFIGURING SECURITY

You can configure IVR Routing security settings in YourSite Explorer to allow or prevent users from making changes to workflows, devices, and prompts, and to the runtime operations of your business. See "Configuring security roles" on page 193.

ACTIVITIES

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

This section on Activities begins with Table 42, which lists IVR Routing's activities, displays the activities' icons, and lists activity availability by workflow and subroutine types. The section then explains how different activities are categorized based on the functions they perform and how they instruct IVR Routing to manage call routing. This Activities section concludes by explaining how to configure activities in order to build workflows, subroutines, and ultimately routing conditions. It provides procedures for configurations that are common to many activities and concludes with procedures for configuring individual activities.

NOTE: The following sections explain activities and their configuration, but do not explain how to use activities to create an entire workflow or subroutine. For information on how activities can be used to create workflows and subroutines, see "Workflow examples" on page 523, "IVR Routing workflow samples" on page 639, "IVR Routing complex workflow configuration" on page 655, and "IVR Routing default workflows and subroutines" on page 627.

Activities available in IVR Routing

Table 42 lists the activities used to create IVR Routing workflows and subroutines. The table lists the activity, shows the activity's icon, and lists the activities' availability according to workflow and subroutine type. The table also contains links to the configuration procedures for each activity.

Activity availability may vary by IVR Routing licensing level. For information, see the *Contact Center Solutions and Business Reporter System Engineering Guide*.

Table 42: Activities available in IVR Routing








ACTIVITY NAME	ICON	DETAILS
ANI	 Ani	Available in Inbound and Inqueue workflows Available in Inbound, Management, and Callback Inbound subroutines For configuration procedures, see "Configuring the ANI activity" on page 571.
Answer	 Answer	Available in Inbound and RAD workflows Available in Inbound, RAD, Management, UPiQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Answer activity" on page 572.
Callback Request	 Callback Request	Available in Inbound workflows Available in Inbound and UPiQ subroutines For configuration procedures, see "Configuring the Callback Request activity" on page 573.
Collect Digits	 Collect Digits	Available in Inbound and Outbound workflows Available in Inbound, Outbound, Management, UPiQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Collect Digits activity" on page 575.
Conference	 Conference	Available in Outbound workflows Available in Outbound subroutines For configuration procedures, see "Configuring the Conference activity" on page 577.
Connect to Caller	 Connect To Caller	Available in Inqueue workflows For configuration procedures, see "Configuring the Connect to Caller activity" on page 579.
Date Time Validation	 Date Time Validation	Available in Callback Inbound subroutines For configuration procedures, see "Configuring the Date Time Validation activity" on page 580.

Table 42: Activities available in IVR Routing (continued)






ACTIVITY NAME	ICON	DETAILS
Delay		<p>Available in Inbound, Outbound, RAD, and Inqueue workflows</p> <p>Available in Inbound, Outbound, RAD, Management, and UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Delay activity" on page 580.</p>
DNIS		<p>Available in Inbound, Outbound, and Inqueue workflows</p> <p>Available in Inbound, Outbound, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the DNIS activity" on page 580.</p>
Email		<p>Available in Inbound, Outbound, RAD, and Inqueue workflows</p> <p>Available in Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Email activity" on page 582.</p>
Execute		<p>Available in Inbound, Outbound, RAD, and Inqueue workflows</p> <p>Available in Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Execute activity" on page 584.</p>
Go To		<p>Available in Inbound, Outbound, and Inqueue workflows</p> <p>Available in Inbound, Outbound, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Go To activity" on page 588.</p>

Table 42: Activities available in IVR Routing (continued)







ACTIVITY NAME	ICON	DETAILS
Hang Up	 Hang Up	Available in Inbound, Outbound, and RAD workflows Available in Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Hang Up activity" on page 588.
Hold State	 Hold State	Available in Inbound workflows Available in Inbound subroutines For configuration information, see "Configuring the Hold State activity" on page 589.
Hunt Group	 Hunt Group	Available in Inbound, RAD, and Inqueue workflows Available in Inbound, RAD, and Callback Inbound subroutines For configuration procedures, see "Configuring the Hunt Group activity" on page 589.
Language	 Language	Available in Inbound, Outbound, and RAD workflows Available in Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Language Activity" on page 591.
Make Call	 Make Call	Available in Outbound workflows. Available in Outbound subroutines For configuration procedures, see "Configuring the Make Call activity" on page 592.
Management	 Management	Available in Inbound workflows Available in Inbound, Management, and Callback Inbound subroutines For configuration procedures, see "Configuring the Management activity" on page 594.

Table 42: Activities available in IVR Routing (continued)




ACTIVITY NAME	ICON	DETAILS
Menu	 Menu	<p>Available in Inbound and Outbound workflows</p> <p>Available in Inbound, Outbound, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Menu activity" on page 595.</p>
Mode of Operation	 Mode of Operation	<p>Available in Inbound workflows</p> <p>Available in Inbound and Management subroutines</p> <p>For configuration procedures, see "Configuring the Mode of Operation activity" on page 597.</p>
Play	 Play	<p>Available in Inbound, Outbound, and RAD workflows</p> <p>Available in Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Play activity" on page 598.</p>
Query	 Query	<p>Available in Inbound, Outbound, RAD, and Inqueue workflows</p> <p>Available in Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Query activity" on page 600.</p>
Queue	 Queue	<p>Available in Inbound, Outbound, RAD, and Inqueue workflows</p> <p>Available in Inbound, Outbound, RAD, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Queue activity" on page 604.</p>
Record	 Record	<p>Available in Inbound workflows</p> <p>Available in Inbound, Management, UPIQ, and Callback Inbound subroutines</p> <p>For configuration procedures, see "Configuring the Record activity" on page 609.</p>

Table 42: Activities available in IVR Routing (continued)













ACTIVITY NAME	ICON	DETAILS
Redirect	 Redirect	Available in Inbound and Inqueue workflows Available in Inbound, Management, and Callback Inbound subroutines For configuration procedures, see "Configuring the Redirect activity" on page 612.
Retrieve Callback	 Retrieve Callback	Available in Outbound workflows Available in Outbound subroutines For configuration procedures, see "Configuring the Retrieve Callback activity" on page 613.
Rules	 Rules	Available in Inbound, Outbound, RAD, and Inqueue workflows Available in Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Rules activity" on page 613.
Save Callback	 Save Callback	Available in Outbound workflows Available in Outbound and Callback Inbound subroutines For configuration procedures, see "Configuring the Save Callback activity" on page 614.
Schedule	 Schedule	Available in Inbound, Outbound, RAD, and Inqueue workflows Available in Inbound, Outbound, RAD, UPIQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Schedule activity" on page 615.
Set Device Mode of Operation	 Set Device Mode of Operation	Available in Management subroutines For configuration procedures, see "Configuring the Set Device Mode of Operation activity" on page 618.

Table 42: Activities available in IVR Routing (continued)

ACTIVITY NAME	ICON	DETAILS
Set System Mode of Operation	 Set System Mode of Operation	Available in Management subroutines For configuration procedures, see "Configuring the Set System Mode of Operation activity" on page 619.
Set Variables	 Set Variables	Available in Inbound, Outbound, RAD, and Inqueue workflows Available in Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Set Variables activity" on page 620.
Subroutine	 Subroutine	Available in Inbound, Outbound, and RAD workflows Available in Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Subroutine activity" on page 620.
Swap Prompt	 Swap Prompt	Available in Management subroutines For configuration procedures, see "Configuring the Swap Prompt activity" on page 621.
Transfer	 Transfer	Available in Inbound, Outbound, and Inqueue workflows Available in Inbound, Outbound, Management, and Callback Inbound subroutines For configuration procedures, see "Configuring the Transfer activity" on page 622.
Variable Compare	 Variable Compare	Available in Inbound, Outbound, and Inqueue workflows Available in Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines For configuration procedures, see "Configuring the Variable Compare activity" on page 624.

Understanding activity categories

Activities fall into three categories: conditional, action, and conditional action. Conditional activities check a condition and branch calls based on that condition. For example, an ANI activity will check the number from which a customer is calling and branch the call accordingly. Action activities perform actions within a workflow or subroutine, but do not branch calls. For example, the Play activity plays callers a prompt. Conditional action activities perform actions and branch the call based on the result. For example, a Query activity can retrieve a caller's account balance and then branch the call to a Play activity that will recount that information.

Conditions include the following Activities:

- ANI
- Variable Compare
- DNIS
- Hunt Groups
- Queue
- Redirect
- Rules
- Schedule

Actions include the following Activities:

- Answer
- Callback Request
- Delay
- Email
- Go To
- Hang up
- Hold State
- Language
- Management
- Play
- Set Variables
- Subroutine
- Swap Prompt

Conditional actions include the following Activities:

- Collect Digits
- Conference
- Connect to Caller
- Date Time Validation
- Execute
- Make Call
- Menu

- Mode of Operation
- Record
- Retrieve Callback
- Query
- Save Callback
- Set Device Mode of Operation
- Set System Mode of Operation
- Transfer

Configuring common activity options

Several of IVR Routing's activities share configuration procedures. This section explains procedures for configurations that are common to many activities, branches, and branching conditions.

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

Adding activities to workflows or subroutines

NOTE: The availability of activities varies depending on

- The workflow or subroutine type you select. For example, you cannot use a Menu Activity in a RAD workflow. However, you can use subroutines to access activities from other workflow types. Table 42 lists the workflows and subroutines to which different activities are available.
- Your licensing level. See the *Contact Center Solutions and Business Reporter System Engineering Guide* for more information regarding licensing and activity availability.

To add an activity to a workflow or subroutine

1. Click either **IVR Routing=>Workflows** or **IVR Routing=>Subroutines**, and select the workflow or subroutine.
2. Select the **Designer** tab and, from the **Toolbox**, drag and drop activities to the Workflows Canvas.
3. Click **Save**.
NOTE: A red exclamation mark icon shown in the top right corner of an activity signals a configuration error or missing information. You must correct any errors and add all required information before the workflow can be associated to a device and go live in the system. For more information, see "Troubleshooting workflow configuration with the Validation button" on page 568.

Deleting activities or branches from workflows

To delete an activity or branch from a workflow

1. Right-click the activity or branch and select **Delete**.
2. Click **Save**.

Naming activities, activity configurations, and branches

For administrative and reporting purposes, we recommend you give activities, configuration settings within an activity, and branches unique names and system names. A system name is used by IVR Routing to identify an activity, activity condition, or branch and is used in reporting. A name labels an activity, activity condition, or branch for the user to see.

To name an activity, activity configuration, or branches

1. Select the activity, activity configuration or branch and click **Properties**.
2. Type a **Name** for the activity, activity configuration, or branch.
3. Type a **System Name** for the activity, activity configuration, or branching condition.
4. Click **Save**.

Configuring activities and branches for reporting

By configuring activities or branches for reporting, you can run reports on them. This enables you to analyze workflow traffic and see how callers are moving through your workflows.

NOTE: You must select 'Child Reporting Enabled' for any branches and conditions on which you want to run Workflow Condition reports. For more information on Workflow Condition reports, see the reports guide appropriate to your Edition of Contact Center Solutions.

To configure an activity and branch for reporting

1. Select the activity or branch to configure for reporting and click **Properties**.
2. Select the **Reportable** or the **Child Reporting Enabled** check box.
NOTE: Selecting 'Child Reporting Enabled' on parent activities selects all child activities.
3. Click **Save**.

Configuring an activity's prompts

Many IVR Routing activities use prompts to play messages at specified points in the workflow or subroutine. Some activities are pre-configured with prompts, while others require prompts to be specified. If an activity has configurable prompts, it will have a prompt section in its Properties pane.

Prompts can be configured in a number of different ways for activities. You can:

- Add a new prompt
- Add a variable to a prompt
- Add a new variable to a prompt
- Clear a prompt
- Add a prompt using Quick Add Prompt
- Change a prompt to an existing prompt

To add a new prompt

1. Select the activity in the workflow or subroutine.
2. In the **Properties** pane, after the prompt you want to change, click the ▼ button and select **Add a new prompt**.
3. After **Language**, select the primary language from the drop-down list.
NOTE:
 - The language you select determines the system wave files available to you.
 - By default, the language is set to the default site language.
4. Type a **Name** for the prompt.
5. Type a **Description** for the prompt.
6. Select a **Category** for the prompt from the drop-down list:
 - Callback
 - Custom
 - Management
 - Samples
 - UPiQ
7. To create your own category, after **Category**, type a name for the new category.
NOTE: Prompt categories are an organizational tool to help keep prompts sorted and easily accessible.
8. Select one of the following tabs:
 - **System wave files**—lists the system wave files callers hear while in the IVR system or while waiting on hold. This pane will only show the wave files that are available in the language you have selected.
 - **Custom wave files**—lists imported and recorded wave files. To import or record a custom wave file, click 'Add' and select 'Existing wave file' to import the file or 'Record wave file' to use the microphone on your computer to record the file.
NOTE: Wave files must be 8khz, Mono, or ULAW format.
 - **Queue stats**—lists up-to-date queue statistics for use in prompts
 - **Variables**—lists all variables available for use in prompts
NOTE: Read back on variables is based on the type of variable. Number variables read back the whole number, while digit variables read back individual numbers. For example, number variables would read 123 as 'one hundred and twenty-three', while digit variables would read 123 as 'one, two, three'.
 - **Prompts used in workflows and subroutines**—lists all prompts used in workflows and subroutines
9. In the **All system wave files**, **All custom wave files**, **All queue stats**, **All variables**, or **Prompts used in workflows and subroutines** pane, select the files to add to the prompt.
10. Click > to add the file to the prompt.
NOTE: The wave files play in the order they are added to the prompt. To change the order in which the wave files will be played, select the wave file and click the up or down arrow buttons on the right-hand side of the dialog box.

11. Click **Save**.

NOTE: If you are adding prompts in a new language, you must add audio files that correspond to the existing audio files in IVR Routing's default language. Otherwise, the caller will not hear anything when the prompts are supposed to be playing.

To add a variable to a prompt

1. Select an activity in the workflow.
2. In the **Properties** pane, after the prompt you want to change, click the ▼ button and select **Add a variable to a prompt**.
3. Select the variable and click **OK**.
4. Click **Save**.

To add a new variable to a prompt

1. In the **Properties** pane, after the prompt you want to change, click the ▼ button and select **Add a variable to a prompt**.
2. Click the **Add** button.
3. Type a **Name** for the variable. The name must be unique and cannot contain spaces.
4. Type a **Description** for the variable.
5. After **Variable Type**, select a type from the drop-down list.
NOTE: A variable's type cannot be changed after you save.
6. If **Mask Type** is available to this type of variable, select the variable's mask from the drop-down list.
 - **NoMask**— The variable will not be masked within IVR Routing and associated screen pops, databases, etc
 - **FullMask**— The entire variable will be masked within IVR Routing and associated screen pops, databases, etc
 - **MaskAllExceptLastX**— The variable will be masked except for the specified number of final characters
 - **MaskAllExceptFirstX**— The variable will be masked except for the specified number of first characters
7. If you selected **MaskAllExceptLastX** or **MaskAllExceptFirstX**, specify the number of characters to be left unmasked.
8. To enable this variable to display in a toaster notification or screen pop, select the **Send to agent desktop** check box.
9. Type the **Display Name** that this variable has when it appears in a toaster notification or screen pop.
10. If you selected Dollars, Euros, or Pounds as the variable type, after **Currency Format**, select the format from the drop-down list.
11. If you selected Date Time as the variable type, after **Date Format**, select the date format from the drop-down list. After **Time Format**, select the time format from the drop-down list.
12. Click **Save**.

To clear a prompt

1. Select an activity in the workflow or subroutine.
2. In the **Properties** pane, after the prompt you want to change, click the ▼ button and select **Clear Prompt**.
3. Click **Save**.

To add a prompt using Quick Add Prompt

1. Select an activity in the workflow or subroutine.
2. In the **Properties** pane, after the prompt you want to change, click the ▼ button and select **Quick Add Prompt**.
3. Navigate to the .wav file and click **Open**.
4. Click **Save**.

To change a prompt to an existing prompt

1. Select an activity in the workflow or subroutine.
2. In the **Properties** pane, after the prompt you want to change, click the ▼ button and select **Select from an existing prompt**.
3. Select a prompt and click **OK**.
4. Click **Save**.

Finding activities in a workflow or subroutine

IVR Routing enables you to search for specific activities and branches within a workflow or subroutine using Find Activity. Located in the ribbon, this tool searches the active workflow or subroutine for all instances of the term entered in the Find Activity search field and displays each result within the workflow or subroutine. Find Activity is only available in the ribbon when working with workflows or subroutines.

To find an activity in a workflow or subroutine

1. Select the workflow or subroutine in which you want to search for an activity or branch.
2. In the **Find Activity** section of the ribbon, type the name of the activity or branch.
3. Click the **Search** button. The total number of results displays beneath the search field.
4. Use the **Next Result** and **Previous Result** buttons to navigate the results.

Editing branches

You can edit branches by editing the conditions determining when calls follow the branch.

NOTE: You cannot add branches to the workflow from the edit menu. However, you can use the edit menu to add multiple conditions to an existing branch.

To edit a branch

1. Expand the relevant activity.
2. Right-click the branch to edit and select **Edit Condition**.
3. Select the value to edit and type the new value.
4. Click **Add**.

5. To add another value to the condition, at the top of the pane, click **Add** and type the value or range of values.
6. To delete a value, select the value and click **Delete**.
7. Click **OK**.
8. Click **Save**.

Annotating activities in workflows and subroutines

You can tag activities and branches with visible notes using the annotation field. Similar to a sticky note, annotations enable you to mark workflows and subroutines with descriptive information. For example, you can annotate a Timeout branch to indicate, at a glance, how long before the system times out and where customers are directed in the workflow or subroutine once a timeout occurs.

You annotate an activity and open annotations by clicking the notepad icon on an activity or branch. To hide an individual, open annotation, click the notepad icon. You can right-click an activity to edit, delete, show all, and hide all annotations to provide custom descriptions of your workflow or subroutine.

To add an annotation

- Click the notepad icon on the activity or branch and type text in the annotation field.

To delete an annotation

- Right-click the activity or branch and select **Annotations...=>Delete**.

To expand an individual annotation

- Click the notepad icon on the activity or branch.

To hide an individual annotation

- On an open annotation, click the notepad icon.

To expand all annotations

- Right-click the workflow and select **Annotations...=>Show All**.

To hide all annotations

- Right-click the workflow and select **Annotations...=>Hide All**.

Troubleshooting workflow configuration with the Validation button

IVR Routing validates workflows to ensure they do not contain programming or configuration errors before going live in your system. IVR Routing also warns you of configurations that are not recommended.

Red exclamation marks on activities indicate configuration errors to be corrected. Yellow exclamation marks on activities indicate warnings. Clicking the 'Validation' button opens a pane explaining your workflow's Errors and Warnings.

The pane lists the number of Errors and Warnings, the activity to which the Error or Warning is associated, and what is required to fix the problem. Double-clicking the Error and Warning information in the Validation pane brings the specific activity into focus, for ease of identification. For more information on focusing, see "Viewing specific portions of a workflow: Focusing and the Breadcrumb view" on page 508.

You can disable the validation function by deselecting the 'Validate workflow' check box in the Workflows pane

NOTE:

- Workflows containing validation errors, or that have validation disabled, cannot be assigned to a device. This prevents improperly configured workflows from going live.
- Workflows that are already assigned to a device but become invalidated cannot be saved until the error is corrected.

Changing the order in which branches are evaluated

Administrators change the order in which the system evaluates branches by placing the branches in sequence. The highest priority branch should be in the left-most position, as IVR Routing evaluates branches in the order of left to right.

To change the order in which branches are evaluated

1. Expand the relevant activity.
2. Drag and drop the branches into the desired position.
3. Click **Save**.

Building conditions in IVR Routing

Several features in IVR Routing, including activities, require users to build conditions. For example, users may build schedule conditions, queue conditions, and variable compare conditions. These conditions help determine how calls are routed through a workflow.

While the individual types of expressions that can be added to conditions may vary, the interface for adding, deleting, and grouping expressions remains consistent throughout IVR Routing.

Adding and removing expressions

To add an expression

- When in a condition designer window, click the **Add** button.
NOTE: Expressions highlighted in red require additional configuration.

To remove an expression

- When in a condition designer window, select the expression you want to delete and click the **Delete** button.

Understanding operators

IVR Routing offers a number of different operators to use when building conditions. Table 43 outlines the operators available with IVR Routing.

Table 43: Operators

OPERATOR	USE
!=	With this operator the expression will only look for value that do not match the exact value entered. This operator is case-sensitive.
=	With this operator the expression will look only for the exact value entered in the expression. This operator is case-sensitive. If this operator is being used in a comparison, then the expression will look for an exact string match between the 2 items being compared.
Contains	With this operator, the expression matches values that contain the entered string. It is not case-sensitive.
Length	With this operator the expression will look for a value with the specified number of characters.
Starts With	With this operator, the expression will look for any value that starts with the entered value.

Selecting expressions

To select an expression

1. Click the expression's drop-down menu button.
2. Choose **Select/Deselect Row**.

Alternatively,

- Click the expression's selector column on the left side of the expression's row.

Grouping expressions

IVR Routing enables users to group expressions, facilitating the easy construction of detailed and specific conditions. Expressions within a group may also be grouped together to create nested levels of sub-groups within a single group. While grouping is associated with a number of different activities, configurations, and dialogs, the grouping clauses are consistent throughout IVR Routing.

NOTE: We recommend you do not exceed eight levels of grouping within a group of expressions even though IVR Routing is capable of handling greater than eight levels of grouping.

Expressions may be grouped by one of two clauses:

- **AND:** Expressions grouped by the AND clause require that all the expressions in a group be met to successfully meet the condition.
NOTE: If no grouping is selected, the AND clause is applied by default.
- **OR:** Expressions grouped by the OR clause require that only one of the expressions in a group be met to successfully meet the condition.

To group expressions

1. Press the **Ctrl** or **Shift** key and select the expressions you want to group. Clicking 'Ctrl' enables you to select items one at a time and omit items from selection. Clicking 'Shift' selects a span of items.
2. Click either the **Group AND** or **Group OR** buttons.
NOTE: You can change the grouping clause by selecting the drop-down beside 'And' or 'Or', and changing your selection.

To ungroup grouped expressions

1. Click the group's drop-down menu button.
2. Select **Ungroup**.

To add a new expression to a group

1. Click the group's drop-down menu button.
2. Select **Add**.
NOTE: If you cannot add an expression to an existing group, ungroup the expression and then regroup it with the expression you want to add.

To remove a single expression from a group

1. Click the expression's drop-down menu button.
2. Select **Ungroup**.

Configuring the ANI activity

The ANI activity branches workflows based on all or part of a customer's ANI. For example, you can configure an ANI activity to identify the area codes for callers from French-speaking locations and route all applicable calls to queues with French-speaking agents. The ANI activity enables customers to be efficiently routed to the agents best suited to serve them.

You can add branching conditions to ANI activities to determine how IVR Routing directs callers through the workflow. You can also import and export ANI conditions in .csv files.

The ANI activity is available in

- Inbound and Inqueue workflows
- Inbound, Management, and Callback Inbound subroutines

Adding branching conditions to ANI activities

Branching conditions represent the criteria by which IVR Routing directs calls.

To add a branching condition to an ANI activity

1. Right-click the **ANI** activity and select **Add Condition**.
2. Click **Add** and type a value or range of values for the ANI condition.
NOTE:
 - To branch all calls from a specified area code, city exchange, or other number identification, include an 'x' at the end of the numeric value. 'x' indicates multiple wildcard characters.
 - To indicate individual digits or to set branching conditions to match any ANI, include question marks instead of numeric values.

3. Click the **Add** icon.
4. To add more ANI conditions, at the top of the ANI dialog box, click **Add**.
5. If you want all ANI conditions in the same branch, deselect the **Add each row in a separate branch** check box.
6. Optionally, select the **Enable reporting for the Branch** check box.
7. To test the ANI conditions, under **Utilities**, enter a value.
If the test is successful, 'Pass' displays.
If the test is unsuccessful, 'Fail' displays.
NOTE: You cannot test a range of values.
8. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
9. Click **Save**.

To import and export ANI conditions

1. Right-click the **ANI** activity and select **Add Condition**.
2. To import ANI conditions in *.csv format, click **Import** and navigate to the file name you want to import.
3. To export ANI conditions in *.csv format, click **Export** and navigate to the file name you want to export.
NOTE:
 - Conditions on a single line and separated by a comma will be added to a single branch.
 - Conditions on multiple lines and separated by a comma will be added to multiple branches.
4. Optionally, select the **Enable reporting for the Branch** check box.
5. To test the ANI conditions, under **Utilities**, enter a value.
If the test is successful, 'Pass' displays.
If the test is unsuccessful, 'Fail' displays.
NOTE: You cannot test a range of values.
6. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
7. Click **Save**.

Configuring the Answer activity

The Answer activity prompts a port to answer a ringing line and begin the workflow.

An internal timeout of 10 seconds determines how long the Answer activity has to answer the line. Once the timeout is reached, the workflow is terminated.

NOTE: Inbound and RAD workflows must begin with an Answer activity if you intend to play a message or collect digits.

The Answer activity is available in

- Inbound and RAD workflows
- Inbound, RAD, Management, UPiQ, and Callback Inbound subroutines

Configuring the Callback Request activity

The Callback Request activity offers customers the ability to leave a callback request. For example, you can use the Callback Request activity to enable callers experiencing longer than average wait times to request a callback from an agent. Callback Request helps you meet your service level goals by reducing abandoned calls.

You can assign callback subroutines and destinations to Callback Request activities. You can also add devices to Callback Request destinations.

The Callback Request activity is available in

- Inbound workflows
- Inbound and UPiQ subroutines

NOTE: For callbacks to function correctly, you must have configured location settings for your media server. If location settings are not configured, your callbacks will not be able to contact your customers. See "Configuring location settings for 3300 ICP media servers" on page 87.

Assigning callback subroutines to Callback Request activities

The subroutines assigned to Callback Request activities tells the system which Callback Inbound subroutine to offer the caller and which Outbound subroutine offers callback requests to agents.

NOTE:

- IVR Routing provides a default callback subroutines. For information on these default subroutines, see "Default Inbound Voice Callback subroutine" on page 636 and "Default Outbound Callback subroutines" on page 632.
- You must assign both Inbound and Outbound subroutines to Callback Request activities.
- You can only save Callback Request activities once you have assigned them both subroutines and destinations.

The following procedures explain how to

- Assign a Callback Inbound subroutine
- Assign a Callback Outbound subroutine
- View associated Callback Inbound subroutine
- View associated callback Outbound subroutine

To assign a Callback Inbound subroutine

1. Right-click the **Callback Request** activity and select **Inbound Callback Workflow...**
2. Select a subroutine and click **OK**.

To assign a Callback Outbound subroutine

1. Right-click the **Callback Request** activity and select **Outbound Callback Workflow...**
2. Select a subroutine and click **OK**.

To view the associated Callback Inbound subroutine

- Right-click the **Callback Request** activity and select **Open Inbound Workflow**.

To view the associated Callback Outbound subroutine

- Right-click the **Callback Request** activity and select **Open Outbound Workflow**.

Assigning destinations to Callback Request activities

The callback destination represents the agent groups responsible for answering callbacks.

NOTE: Ring groups are not supported for handling callback requests.

To assign a destination to a Callback Request activity

1. Right-click the **Callback Request** activity and select **Destination....**
2. Select a destination from one of the following devices:
 - Queue
 - Queue group
 - Variable
 - Extensions
 - Agent
3. Click **OK**.
4. Click **Save**.

Adding new devices to Callback Request destinations

The following procedures explain how to

- Add a new queue, queue group, extension, variable, or agent device to a Callback Request destination

To add a new queue, queue group, variable, extension, or agent device to a Callback Request destination

1. Right-click the **Callback Request** activity and select **Destination....**
2. Select one of the following tabs:
 - Queue
 - Queue Group
 - Variable
 - Extensions
 - Agent
3. In the **Queue**, **Queue Group**, **Extension**, or **Agent** tabs, at the top of the dialog box, click **Add**.

4. To add a new queue, in the Queue pane, follow the steps under "Adding queues" on page 142.
- NOTE:**

- To configure a new queue for web callbacks, see "Enabling web callbacks" on page 539.
- To configure a new queue for abandon callbacks, see "Enabling abandon callbacks" on page 537.
- To associate a queue to an UPiQ workflow, see "Configuring Inqueue routing" on page 518. For information on setting up UPiQ workflows, see "Default Inqueue UPiQ workflow and subroutine" on page 629.

5. To add a new queue group, follow the corresponding steps in "Adding queue groups" on page 155.
6. To add a new variable, follow the corresponding steps in "Adding variables" on page 553.
7. To add a new extension, see "Adding extensions for IVR Routing" on page 512.
8. To add a new agent, follow the corresponding steps in "Adding agents" on page 136.
9. When you have configured the new device, click **Save**.
10. Click **Save**.

Configuring the Collect Digits activity

The Collect Digits activity prompts callers to enter, through their dial pad, information that can then be stored in a variable. For example, Collect Digits could enable a caller to enter their membership number when they enter the workflow. If stored in a custom variable, this information can be sent to an agent to provide additional information about the customer.

You can configure options and collection settings for Collect Digits activities to determine how IVR Routing directs callers through the workflow.

The Collect Digits activity is available in

- Inbound and Outbound workflows
- Inbound, Outbound, Management, UPiQ, and Callback Inbound subroutines

NOTE: Information acquired by a Collect Digits activity is stored within the <<LastCollectedDigits>> system variable. Subsequent Collect Digits actions overwrite this system variable. You can also select a variable to in which to store customer-entered digits.

Configuring options for Collect Digits activities

To configure options for a Collect Digits activity

1. Select the **Collect Digits** activity and click **Properties**.
2. After **Confirm Digit**, select a confirmation digit from the drop-down list. This is the digit a caller presses to confirm that their input is correct.
3. After **Confirm Input**, click the ▼ button and follow the applicable steps under "Configuring an activity's prompts" on page 564. This sets the prompts callers hear asking them to confirm the digits they have entered.
4. To enable callers to skip the system's readback of the collected digits, select the **Barge In** check box.
5. To enable reporting, select the **Child Reporting Enabled** check box.
6. After **Invalid Attempts**, type the number of times a caller can try to enter information.

7. After **Multi Digit Delay**, type how long a caller has to enter another digit.
NOTE: Callers who take longer to enter a digit will be prompted again to enter their digits. After the maximum number of attempts is reached, the call follows the Failure branch.
8. After **No digit timeout (sec)**, type how long the system waits for the caller to enter a digit before timing out.
9. Click **Save**.

Configuring collection settings for Collect Digit activities

Collection settings assign

- The variable in which collected digits are stored, if you do not want to use <<Last Collected Digits>>
- The greeting callers hear when prompted to input digits
- The digit callers enter when finished inputting digits
- The maximum and minimum number of digits a caller can input

To configure a collection setting for a Collect Digits activity

1. Select the **Collect Digits** activity and select **Properties**.
2. After **Collection Settings**, click the ... button.
3. To store customer-entered digits in a variable other than <<Last Collected Digits>>, after **Variable**, click the ... button.
4. Under **Variable**, click the ... button, select a variable and click **OK**.
5. To add a new variable, click **Add** and follow the applicable steps under "Adding variables" on page 553.
NOTE: The following variables are available to Collect Digits: Dollars, Euros, Pounds, Digits, Number, and Date and Time.
6. Under **Greeting**, click the ... button and select the greeting callers hear.
7. Click **OK**.
8. To add a new greeting, click **Add** and follow the corresponding steps in "Configuring prompts" on page 532.
9. Under **Terminating Digit**, type the digit that callers enter when they are finished inputting digits.
10. Under **Min. digits to collect**, type the minimum number of digits a caller can input.
11. Under **Max digits to collect**, type the maximum number of digits a caller can input.
NOTE: When a caller reaches the maximum number of digits, IVR Routing will not wait for the terminating digit.
12. To configure another collection setting, click **Add**.
13. To delete a collection setting, select the setting and click **Delete**.
14. Click **OK**.
15. Click **Save**.

Configuring the Conference activity

The Conference activity connects a call already in progress to a specified destination. For example, you can use the Conference activity as part of an outbound workflow to enable an agent, who has been offered a callback request from the queue, to connect to the customer who left the contact request. The Conference activity's destination can be retrieved from a data source, including a SQL database, an Excel file, a Web Service call, or a custom variable.

The Conference activity has seven branches: Success, Client Disconnected, Agent Disconnected, No Answer, Destination Busy, Invalid Destination, and Failure. Client Disconnected and Agent Disconnected enable workflow behavior to be configured when the client (the party called by the Conference activity) or the agent (the party who initiated the Conference) disconnects while the Conference activity is playing its prompts to both conference parties.

The Conference activity uses three prompts:

- **Pre connect**—This prompt plays to the conference initiator, informing them that the call is being established. The default prompt is PromptName_Callback Agent Pre-Connect.
- **Connecting to customer**—This message indicates that the conference is being connected. The default prompt is PromptName_Callback Agent Connecting.
- **Greeting message to customer**—This prompt plays to the destination (typically a customer) before the agent connects indicating that they are being connected to an agent. The default prompt is PromptName_Callback Agent Callers Message.

Administrators can change the prompts if they want to use a Conference activity for something other than callbacks. For instructions on changing an activity's prompts, see "Configuring an activity's prompts" on page 564.

The Conference activity is available in

- Outbound workflows
- Outbound subroutines

NOTE: As part of Outbound workflows, the Conference activity is only available with IVR Routing Premium Licensing.

Setting the Conference activity's destination and call behavior

You must set the Conference activity's destination. This destination can be internal or external, and may be set from an extension, a queue, a queue group, or a variable. A new extension, queue, queue group, or variable may be created to serve as the destination.

By default, the Conference activity's call to the destination is defined as an external call using the outbound digits defined on the media server. This option can be disabled if the Conference activity is used to reach internal destinations.

The Conference activity will ring for a designated time (configurable but one minute by default) before routing down the No Answer branch.

The following procedures explain how to:

- Specify a destination for the Conference activity
- Specify a new extension, queue, or queue group as a destination
- Specify a new variable as a destination
- Configure the Conference activity for internal calls
- Set how long the Conference activity will ring a destination

To specify a destination for a Conference activity

1. Select the **Conference** activity and click **Properties**.
2. After **Destination**, click the ... button.
3. Select one of the following from the drop-down list:
 - Extension
 - Queue
 - Queue group
 - Variable
4. Click **OK**.
5. If the call to the destination will use the outbound digits defined on the media server, ensure **External Call** is selected.
6. Click **Save**.

To specify a new extension, queue, or queue group as a Conference activity's destination

1. Select the **Conference** activity and click **Properties**.
2. After **Destination**, click the ... button.
3. Select one of the following from the drop-down list:
 - Extension
 - Queue
 - Queue group
 - Variable
4. In the **Extension**, **Queue**, **Queue Group**, **Variable** tabs, at the top of the dialog box, click **Add**.
5. To add a new extension, see "Adding extensions for IVR Routing" on page 512.
6. To add a new queue, in the Queue pane, follow the steps under "Adding queues" on page 142.
NOTE:
 - To configure a new queue for web callbacks, see "Enabling web callbacks" on page 539.
 - To configure a new queue for abandon callbacks, see "Enabling abandon callbacks" on page 537.
 - To associate a queue to an UPiQ workflow, see "Configuring Inqueue routing" on page 518. For information on setting up UPiQ workflows, see "Default Inqueue UPiQ workflow and subroutine" on page 629.
7. To add a new queue group, follow the corresponding steps in "Adding queue groups" on page 155.
8. To add a new variable, follow the corresponding steps in "Adding variables" on page 553.

9. Click **Save**.
10. If the call to the destination will use the outbound digits defined on the media server, ensure **External Call** is selected.
11. Click **Save**.

To configure the Conference activity for internal calls

1. Select the **Conference** activity and click **Properties**.
2. Clear the **External Call** check box.
3. Click **Save**.

To set the amount of time the Conference activity will ring a destination

1. Select the **Conference** activity and click **Properties**.
2. After **Timeout Duration**, set the number of seconds the Conference will ring a destination.
3. Click **Save**.

Configuring the Connect to Caller activity

When a caller is waiting in queue, the Connect to Caller activity finds an available UPiQ port and enables the port to connect to the caller. The activity then executes a subroutine that plays UPiQ messages to callers waiting in queue, based on criteria you specify.

To specify this criteria, you can assign the Connect to Caller activity the default UPiQ subroutine, or a reconfigured version of the default UPiQ subroutine. If the caller hangs up or if the activity is not able to connect to the caller, the Failure branch is followed. If no available UPiQ port is found, the No Port Available branch is followed.

For information on configuring the Connect to Caller activity in UPiQ workflows, including the Failure and No Port Available branches, see "Default Inqueue UPiQ workflow and subroutine" on page 629.

The Connect to Caller activity is available in Inqueue workflows.

NOTE: Inqueue workflows containing Connect to Caller activities require UPiQ ports provisioned for the system. Associating these workflows to queues without having UPiQ ports returns a validation error when saving the workflow or queue. To provision UPiQ ports for the system, see "Adding extensions for IVR Routing" on page 512.

Assigning subroutines to the Connect to Caller activity

Assigning subroutines to the Connect to Caller activity enables callers to hear UPiQ messages while waiting in queue. You can only assign an UPiQ subroutine to the Connect to Caller activity.

NOTE: If you want to create a subroutine for the Connect to Caller activity, we recommend you do so by reconfiguring the default subroutine shipped with IVR Routing. To access the subroutine, select IVR Routing=>Subroutines=>Default UPiQ.

To assign a subroutine to the Connect to Caller activity

1. Right-click the **Connect to Caller** activity and select **Assign**.
2. Select a subroutine and click **OK**.
3. Click **Save**.

Configuring the Date Time Validation activity

The Date Time Validation activity is used in Callback Inbound subroutines to validate date and time information stored in the <<CallbackPreferredDateTime>>. The activity checks that the date and time entered in a previous Collect Digits activity (and collected in the <<CallbackPreferredDateTime>> variable) is accurate and displays in the day/month/year/time of day format of DDMMYYYYTTTTXX, where XX is either '26' for AM or '76' for PM.

The Date Time Validation activity is available in:

- Callback Inbound subroutines

Configuring the Delay activity

The Delay activity suspends a workflow for a predetermined time. For example, a customer calling the system will hear a welcome menu that lasts a certain number of seconds. To test your workflow and simulate the customer's experience, you can insert a Delay activity suspending the workflow for a duration that matches the length of the prompt. The Delay activity also enables third-party applications to process a command before continuing to a step that requires the processing be complete.

You can set the duration of a Delay activity to determine for how long the IVR Routing will suspend the workflow.

The Delay activity is available in

- Inbound, Outbound, RAD, and Inqueue workflows
- Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines

Setting the duration of Delay activities

To set the duration of a Delay activity

1. Select the **Delay** activity and click **Properties**.
2. Set the **Duration** of the delay.
3. Click **Save**.

Configuring the DNIS activity

The DNIS activity branches workflows based on the number a customer has dialed. For example, you can configure DNIS activities to branch calls to a 'Service' section of the workflow as opposed to a 'Sales' section of the workflow. DNIS activities enable the use of a single workflow and port set for calls to multiple business lines.

You can add branching conditions to DNIS activities to determine how IVR Routing directs callers through the workflow. You can also import DNIS conditions from a .csv file or from a DNIS table.

The DNIS activity is available in

- Inbound, Outbound, and Inqueue workflows
- Inbound, Outbound, Management, UPiQ, and Callback Inbound subroutines

Adding branching conditions to DNIS activities

To add a branching condition to a DNIS activity

1. Right-click the **DNIS** activity and select **Add Condition**.
2. Click **Add** and type a value or range of values for the DNIS condition.
3. Click the **Add** icon.
4. To add more DNIS conditions, at the top of the dialog box, click **Add**.
5. If you want all DNIS conditions in the same branch, deselect the **Add each row in a separate branch** check box.
6. Optionally, select the **Enable reporting for the Branch** check box.
7. To test the DNIS conditions, under **Utilities**, enter a value or range of values.
If the test is successful, 'Pass' displays.
If the test is unsuccessful, 'Fail' displays.
NOTE: You cannot test a range of values.
8. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
9. Click **Save**.

To import and export DNIS conditions

1. Right-click the **DNIS** activity and select **Add Condition**.
2. To import DNIS conditions in .csv format click **Import =>Import from file** and navigate to the file name.
NOTE:
 - Conditions on a single line and separated by a comma will be added to a single branch.
 - Conditions on multiple lines and separated by a comma will be added to multiple branches.
3. To import DNIS conditions from a DNIS table, click **Import =>Import from DNIS table**.
4. Select the DNIS conditions to import and click **OK**.
5. If you want all DNIS conditions in the same branch, deselect the **Add each row in a separate branch** check box.
6. To export DNIS conditions, click **Export** and navigate to the file name.
7. Optionally, select the **Enable reporting for the Branch** check box.
8. To test the DNIS conditions, under **Utilities**, enter a value.
If the test is successful, 'Pass' displays.
If the test is unsuccessful, 'Fail' displays.
NOTE: You cannot test a range of values.
9. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
10. Click **Save**.

Configuring the Email activity

The Email activity enables IVR Routing to send emails, with or without attachments, to recipients via the SMTP connection configured in YourSite Explorer. You can populate Email fields with variables, and you can populate email attachments with variables or files. For example, you can use the Email activity to enable automated emailing of purchase orders and reports from within a workflow. The Email activity allows electronic information to be sent from within a workflow efficiently and accurately.

Email activity templates support HTML and text-based content. Template fields can be populated with variables, and attachments can be populated with variables or files.

You can configure Email activity templates and add and edit SMTP mail server connections to the Email activity.

You can set email properties to avoid sending multiple auto-response emails when an incoming email is requeued or transferred.

The Email activity is available in

- Inbound, Outbound, RAD, and Inqueue workflows
- Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines

NOTE: To configure the SMTP connection in YourSite Explorer, see "Configuring SMTP connections to Contact Center Solutions" on page 83. To configure email recipients, see "Configuring email contacts" on page 58.

Configuring Email activity templates

The following explains how to

- Populate Email templates with text or variables
- Populate Email templates with images and other web-based media

NOTE:

- You can populate fields in an Email activity template with a variable by typing the name of the variable between double-angle brackets. The text between the angle brackets will be replaced with the value of the variable currently executing in the workflow. For example, <<ANI>>. In this variable, ANI will be replaced with the number from which the caller is phoning.

You can also right-click any field in the email template and select a variable from the drop-down list.

- Variables must be either populated with a value that points to a file path or populated by an activity within the workflow.

To populate an Email template with text or variables

1. Right-click the **Email** activity and select **Edit Email Template**.
2. Configure all email fields as applicable.
NOTE: In the To:, Cc:, and Bcc: fields, separate multiple addresses with a semi-colon.
3. In the body of the email, type the template's text.

4. To populate fields and attachments with variables, right-click the field and select the variable from the drop-down list. You can also type the name of the variable between double angle brackets. For example, <<ANI>>.
5. Click **OK**.
6. Click **Save**.

To populate Email templates with images and other web-based media

1. Right-click the **Email** activity and select **Edit Email Template**.
2. After **Format**, select **HTML** from the drop-down list and click **OK**.
3. Configure all email fields as applicable.
4. Click **Save**.

Adding and editing SMTP mail server connections to Email activities

To add and edit SMTP mail server connections to an Email activity

1. Right-click the **Email** activity and select **Edit SMTP Server**.
2. Select an SMTP mail server connection and click **OK**.
3. To add a new SMTP mail server, click the **Add** button and follow the steps in "Configuring SMTP connections to Contact Center Solutions" on page 83.
4. To edit an SMTP mail server, select the mail server connection and click the **Edit** button.
5. Follow the steps in "Configuring SMTP connections to Contact Center Solutions" on page 83.
6. Click **OK**.
7. Click **Save**.

Configuring auto-response email settings

The following procedure explains how to configure auto-response email settings.

To configure auto-response email settings

1. Select the **Email** activity and click **Properties**.
2. Select the **Only Send One Auto Response** check box to avoid sending more than one auto-response.
NOTE: Customers will continue to receive an auto-response for each new email they send but will not receive multiple, identical auto-responses for emails that are requeued or transferred.
3. Click **Save**.

Configuring the Execute activity

The Execute activity enables IVR Routing to interact with external systems by running the following four processes:

- **Executable/Script** – Runs an *.EXE file or *.BAT script on the server and delivers return values or parameters if the script executes successfully.
NOTE: The Execute activity requires *.EXE files and *.BAT scripts to be on a UNC path.
- **PowerShell** – Runs a PowerShell script on the server and delivers return values or parameters if the script executes successfully.
NOTE:
 - The Execute activity requires PowerShell scripts to be on a UNC path.
 - The Execution Policy for PowerShell scripts must be set in the command prompt window of PowerShell to Set-ExecutionPolicy RemoteSigned.
- **Web Service** – Enables the Execute activity to retrieve a JSON or XML response from an external web service using SOAP or REST and delivers return values if the script executes successfully.
NOTE: The data being returned must be valid XML characters. Any invalid characters (such as &, <, or >) will not return successfully and the workflow will route down the Failure branch. The XmlNode object type is not supported.
- **CRM Service** – Sends user-defined queries to a Microsoft CRM 2011, Microsoft CRM 2013, or Microsoft CRM Online system and delivers return values if the script executes successfully.

For example, you can use the Execute activity to retrieve customer information from a Web Service database and store this information in a custom variable for use within the workflow or to pass on to agents in a screen pop for enhanced customer service. You could also use the Execute activity to run a PowerShell script enabling an authorized caller to run remote maintenance on the IVR Routing server. You can configure the options and the process types for Execute activities.

For an example of an IVR Routing workflow that uses the Execute activity to execute PowerShell and perform a web service SOAP call to a publicly accessible web service, see the following Mitel Knowledge Base article: <http://micc.mitel.com/kb/KnowledgebaseArticle52022.aspx>.

The Execute activity is available in

- Inbound, Outbound, RAD, and Inqueue workflows
- Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines

NOTE: A success return value indicates the process executed without errors, and the Success branch is followed. A failure return value indicates the process exited with errors and did not complete as expected, and the Failure branch is followed.

Configuring options for Execute activities

To configure the options for an Execute activity

1. Select the **Execute** activity and click **Properties**.
2. To set waiting prompts to always play to completion before allowing the workflow to proceed, regardless of whether the process has completed executing, deselect the **Barge Prompt** check box.
NOTE: The waiting prompt is what callers hear while they wait for the Execute activity process to complete. Barge Prompt signifies that the prompt will stop playing once the process has completed executing.
3. To set the Execute activity to route to the Success branch without waiting for a process to complete, deselect the **Wait for completion** check box.
NOTE:
 - We recommend you deselect 'Wait for completion' only if you do not require the Execute activity to retrieve information and return a result. For example, deselect Wait for completion if you are using the Execute activity to run maintenance.
 - If the process fails to start, the activity will route to the Failure branch regardless of whether 'Wait for completion' is deselected.
4. After **Waiting Prompt**, click the ▼ button and follow the steps under "Adding prompts to Play activities" on page 598.
NOTE:
 - Waiting prompts help keep callers engaged on the line during processes that take longer than usual to complete.
 - If the Wait for completion check box is deselected, it is not necessary to configure a waiting prompt.
5. Optionally, select the **Child Reporting Enabled** check box.
6. After **Timeout (sec)**, specify how long an associated process has to complete successfully before executing to the Failure branch.
7. Click **Save**.

Specifying the external processes to execute in workflows

The following procedures explain how to instruct the Execute activity to run

- Executable/Script processes
- PowerShell processes
- Web Service processes
- CRM Service processes

To set an Executable/Script or PowerShell process

1. Right-click the **Execute** activity and select **New Process=>Executable/Script or PowerShell script**.
2. For Executable/Script processes, after **Path**, click the **Browse** button and navigate to the *.EXE or *.BAT script. The script must be on a UNC path.
3. For Executable/Script processes, select the **Separator** required by the .exe file. The separator is the character separating the parameters in the process' command line statement.
4. For PowerShell processes, navigate to the PowerShell script.

5. To add a set of **Input Parameters**, click **Add** and select the **Parameter** the process uses to execute.
NOTE: If batch files or Executable/Script processes require delimiters, they must be entered manually in the Parameter column.
6. Under **Value**, select a variable or type a static value.
NOTE:
 - The variable is replaced when a call progresses through the workflow.
 - To configure the process to use a value not linked to a parameter, select a variable from the Value field and leave the Parameter field blank.
7. Repeat steps 5 and 6 for each set of input parameters the process uses. To delete a set of parameters, click the arrow to the left of **Parameter** and click **Remove**.
8. Under **Test Value**, enter values to test the process and click **Execute**.
NOTE: For Executable/Script processes, the Results dialog box lists return values and output pipeline values.
 - For Executable/Script processes, the Results dialog box lists return values and output pipeline values.
 - For PowerShell processes, the Results dialog box lists return values and PSObject[X] values.
9. Click **OK** to auto-populate the Output Mappings pane with Output values.
10. Leave the Process Setup window open and complete the steps under "Storing retrieved data as variables" on page 588.

To set a SOAP Web Service process

1. Right-click the **Execute** activity and select **New Process=>Web Service**.
2. Type the Web Service **URI** and, for the **Web Service Type**, select **SOAP**.
CAUTION: If you are using the Execute activity with a web service as a part of a PCI compliant workflow, ensure that you
 - Use an HTTP Secure (https) address.
 - If the return or input fields of the SOAP call contain sensitive information, use masked variables in the Input and Output parameters of the Execute activity.Failure to do so could invalidate your PCI compliance.
3. If using a SOAP Web Service, click the **Scan** button to verify the Web Service.
4. Select a **Web Method** from the drop-down list. The Web Method populates the Parameters field.
NOTE: SOAP Web Services populate the Web Methods field with a drop-down list of available functions.
5. Under **Value**, select a variable or type a static value.
6. Under **Test Value**, enter values to test the process and click **Execute**.
7. On the results dialog box, click **OK**.
8. Click **OK** to auto-populate the Output Mappings pane with Output values.
9. Leave the Process Setup window open and complete the steps under "Storing retrieved data as variables" on page 588.

To set a REST Web Service process

1. Right-click the **Execute** activity and select **New Process=>Web Service**.
2. Type the Web Service **URI** and, for the **Web Service Type**, select **REST**.
CAUTION: If you are using the Execute activity with a web service as a part of a PCI compliant workflow, ensure that you
 - Use an HTTP Secure (https) address.
 - If the return or input fields of the REST call contain sensitive information, use masked variables in the Input and Output parameters of the Execute activity.
 Failure to do so could invalidate your PCI compliance.
3. Type the **Username** and **Password** for the Web Service. Login credentials might not be necessary depending on the Web Service used.
4. To add a set of **Input Parameters**, click **Add** and select the **Parameter** the process uses to execute.
5. Under **Value**, select a variable or type a static **Value**.
6. Repeat steps 4 and 5 for each set of input parameters the REST Web Service process uses. To delete a set of parameters, click the arrow to the left of **Parameter** and click **Remove**.
7. Under **Test Value**, enter values to test the process and click **Execute**.
8. In the **XML Output** pane of the **Results** dialog box, select the node containing the information the Execute activity retrieves.
9. After **Selected Node**, click the **Show Results** button.
10. Click **OK** to auto-populate the Output Mappings pane with Output values.
11. Leave the Process Setup window open and complete the steps under "Storing retrieved data as variables" on page 588.

To set a CRM Service process

1. Right-click the **Execute** activity and select **New Process=>Microsoft CRM**.
2. Type the **CRM URI** used to communicate with the CRM system.
3. Select the **CRM Version**.
4. Complete the following fields:
 - **Domain** – Type the domain name of the CRM site
NOTE: Domain name is only required for CRM 2011 or 2013
 - **Username** – Type the username for the CRM site login
 - **Password** – Type the password for the CRM site login
 - **Entity Name** – Select the name of the CRM entity that the Execute activity queries
5. To add a set of **Input Parameters**, click **Add** and select the **Parameter** the process uses to execute.
 The parameters depend on the Entity Name selected.
6. Under **Value**, select a variable or type a static **Value**.
7. Repeat steps 5 and 6 for each set of input parameters the CRM Service process uses. To delete a set of parameters, click the arrow to the left of **Parameter** and click **Remove**.
8. Under **Test Value**, enter values to test the process and click **Execute**.
 The results dialog shows mappings of the parameters to values.

9. Click **OK**.
10. Click **Mapping** to assign the output to variables, and click **OK** to store the data as variables.
11. Click **Save**.

Storing retrieved data as variables

The following procedure explains how to store data retrieved by the Execute activity as a variable. These variables can be used later in the workflow.

To store retrieved data as a variable

1. In the **Process Setup** window, under **Mapping**, select a variable from the drop-down list to correspond to each Output value.
2. Click **OK**.
When a call progresses through the workflow, each variable in the Mapping field is assigned the value indicated in the Output field.
3. Click **Save**.

Configuring the Go To activity

The Go To activity sends calls to an alternate point in the workflow.

For example, if a customer enters an invalid account number, the Go To activity sends them back through the workflow so they can enter their digits again. The Go To activity helps minimize the number of customers routed to the failure branch and helps callers route to the queues best able to help them.

You can configure destinations for Go To activities, determining the activities to which the Go To sends callers.

The Go To activity is available in

- Inbound, Outbound, and Inqueue workflows
- Inbound, Outbound, Management, UPIQ, and Callback Inbound subroutines

Configuring destinations for Go To activities

To configure a destination for a Go To activity

1. Right-click the **Go To** activity and select **Target...**
2. Select the activity to which the Go To returns callers and click **OK**.
3. If you do not want to increase the repeat count of your workflow, for example if your workflow uses embedded menus or the Collect Digits activity, in the **Properties** pane, select the **Reset Repeat Count** check box to give callers an unlimited number of attempts to enter information.
4. Click **Save**.

Configuring the Hang Up activity

The Hang Up activity instructs IVR Routing to end the workflow, preventing callers from waiting on a dead line and freeing up ports to take new calls. Hang Up activities are inserted at the end of a workflow or branch. For example, you can insert a Hang Up activity at the end of a 'Closed' branch in a Schedule activity to terminate the call after a customer hears that the contact center is closed.

The Hang Up activity is available in

- Inbound, Outbound, and RAD workflows
- Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines

NOTE: We recommend you insert a Hang Up activity any place where the call could potentially end. This ensures the call is terminated correctly and the port is freed to accept a new call. Inbound, Outbound, and RAD workflows must end with a Hang Up activity if they do not end with a Transfer activity. UPiQ subroutines should end with a Hang Up activity to free the UPiQ port.

Configuring the Hold State activity

The Hold State activity places an agent on hold. In interactions between caller and agent, caller privacy can be ensured for private or sensitive activities, such as entering credit card information, without the agent monitoring them. The activity searches for the Agent ID and then places the corresponding extension on hold. While Hold State activity's enforced Hold state is active, agents cannot remove themselves from hold. Hold is only removed when the call finishes routing through the Success branch of the Hold State activity. The Hold State activity requires no configuration.

Only agents configured in your contact center can be affected by the Hold State activity. Other callers in your workflows will not be affected.

For an example of how to use the Hold State activity in a workflow in support of PCI compliant systems, see "Workflow for PCI Compliant systems" on page 652.

The Hold State activity is available in

- Inbound workflows
- Inbound subroutines

Configuring the Hunt Group activity

The Hunt Group activity branches workflows based on the hunt group to which a call has been directed. For example, you can configure a Hunt Group activity to route a call towards 'Technical Assistance' telephone lines and the queues that use these lines to provide technical support. The workflow will search the Technical Assistance hunt groups for the first available line and switch the call onto the line when one is found. The Hunt Group activity enables customers to be efficiently routed to the services they need. You can add branching conditions to Hunt Group activities to determine how IVR Routing directs callers through the workflow.

The Hunt Group activity is available in

- Inbound, RAD, and Inqueue workflows
- Inbound, RAD, and Callback Inbound subroutines

Adding branching conditions to Hunt Group activities

Branching conditions represent the criteria by which IVR Routing directs calls.

The following procedures explain how to

- Add a branching conditions to a Hunt Group activity
- Import branching conditions from a .csv file
- Export branching conditions into a .csv file

To add a branching condition to a Hunt Group activity

1. Right-click the Hunt Group activity and select **Add condition**.
The Hunt Group dialog box opens.
2. To add a hunt group value, click **Add** and type a value or range of values for the hunt group condition.
3. Click the **Add** icon.
 - To branch all calls from a specified area code, city exchange, or other number identification, include an 'x' at the end of the numeric value. 'x' indicates multiple wildcard characters.
 - To indicate individual digits or to set branching conditions to match any Hunt Group, include question marks instead of numeric values.
4. To import hunt group conditions in .csv format, click **Import**, navigate to the file name, and click **Open**.
5. To export the hunt group conditions in .csv format, click **Export**, select a file location and file name and click **Save**.
NOTE:
 - Conditions on a single line and separated by a comma will be added to a single branch.
 - Conditions on multiple lines and separated by a comma will be added to multiple branches.
6. To add more hunt group conditions, at the top of the Hunt Group dialog box, click **Add**.
7. If you want all Hunt Group conditions in the same branch, clear the **Add each row in a separate branch** check box.
By default, separate branches are added for each condition.
8. To enable reporting for the branch, select the **Enable reporting for this Branch** check box.
9. To test the hunt group conditions, under **Utilities**, enter a value or range of values.
If the test is successful, 'Pass' displays.
If the test is unsuccessful, 'Fail' displays.
NOTE: You cannot test a range of values.
10. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
11. Click **Save**.

To import branching conditions from a .csv file

1. Right-click the Hunt Group activity and select **Import Conditions**.
2. Navigate to the .csv file and click **Open**.
3. Click **Save**.

To export branching conditions into a .csv file

1. Right-click the Hunt Group activity and select **Export Conditions**.
2. Navigate to the .csv file and click **Save**.

Configuring the Language Activity

The Language activity changes IVR Routing's system language, enabling the IVR to provide an identical workflow in different languages. When the Language activity is reached in the workflow, all subsequent prompts play in the set language. For example, you can insert a Language activity into a menu to allow customers to choose the language in which they receive service. By supporting multiple languages in a single workflow, the Language activity reduces the number of prompts you must create and the number of duplicate activities in your workflow. The Language activity also reduces the number of ports that IVR Routing uses by allowing the same set of ports to be used for multiple languages. You can set and edit the languages for Language activities.

The Language activity is available in

- Inbound, Outbound, and RAD workflows
- Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines

NOTE: The language value is stored within the <<Language>> system variable. Each subsequent Language action overwrites the value in the system variable.

Setting and editing languages for Language activities

The following procedures explain how to:

- Set the language for a Language activity
- Edit the language for a Language Activity

To set the language for a Language activity

1. Right-click the **Language** activity and select **Select Language**.
2. Select one of the following languages for the workflow
 - Chinese Simplified
 - Dutch
 - English United Kingdom
 - English United States
 - French Canada
 - French France
 - German
 - Italian
 - Portuguese Brazil
 - Russian
 - Spanish Latin America
 - Spanish Spain
3. Click **Save**.

To edit the language

1. Right-click the Language activity and select **Select Language**.
2. Select a different language for the workflow.
3. Click **Save**.

Configuring the Make Call activity

The Make Call activity prompts an associated port to process an outbound call to a specified destination. This destination can be retrieved from a data source including a SQL database, an Excel file, a Web Service call, or custom variable. For example, you can use the Make Call activity as part of an outbound workflow designed to contact customers during an advertising campaign. You can assign the Make Call activity a destination, set the amount of time the port has to make the call before IVR Routing terminates the action, and add new devices to Make Call activity destinations.

Calls route through the Success branch of Make Call if the activity calls the destination and the destination answers. Calls route through the No Answer branch if the Make Call activity calls the destination, but the call to the destination times out. Calls route through the Destination Busy branch if the Make Call activity calls the destination, but the destination is busy. Calls route through the Invalid Destination ranch if the Make Call activity calls the destination, but the destination does not correspond to an existing phone number. Calls route through the Failure branch if the destination fails and the Make Call activity does not make a call.

The Make Call activity is available in

- Outbound workflows
- Outbound subroutines

NOTE: As part of Outbound workflows, the Make Call activity is only available with IVR Routing Premium Licensing.

Configuring options for Make Call activities

The following procedures explain how to:

- Specify a destination for a Make Call activity
- Configure the Make Call activity for internal calls
- Set how long a Make Call activity will ring a destination

To specify a destination for a Make Call activity

1. Select the Make Call activity.
2. In the Properties pane, after **Destination** click the ... button.
3. Select one of the following from the drop-down list:
 - Extension
 - Queue
 - Queue group
 - Variable
4. Click **OK**.

5. If the call to the destination will use the outbound digits defined on the media server, ensure **External Call** is selected.
6. Click **Save**.

To configure the Make Call activity for internal calls

1. Select the **Make Call** activity.
2. Clear the **External Call** checkbox.
3. Click **Save**.

To set how long a Make Call activity will ring a destination

1. Select the **Make Call** activity.
2. After **Timeout Duration**, set the number of seconds the Make Call will ring a destination.
3. Click **Save**.

Adding new devices to Make Call destinations

To specify a new extension, queue, or queue group as a destination

1. Select the Make Call activity.
2. In the Properties pane, after **Destination** click the ... button.
3. Select one of the following from the drop-down list:
 - Extension
 - Queue
 - Queue group
 - Variable
4. At the top of the dialog box, click **Add**.
5. To add a new extension, see "Adding extensions for IVR Routing" on page 512.
6. To add a new queue, in the Queue pane, follow the steps under "Adding queues" on page 142.

NOTE:

- To configure a new queue for web callbacks, see "Enabling web callbacks" on page 539.
 - To configure a new queue for abandon callbacks, see "Enabling abandon callbacks" on page 537.
 - To associate a queue to an UPiQ workflow, see "Configuring Inqueue routing" on page 518. For information on setting up UPiQ workflows, see "Default Inqueue UPiQ workflow and subroutine" on page 629.
7. To add a new queue group, follow the applicable steps in "Adding queue groups" on page 155.
 8. Click **Save**.
 9. If the call to the destination will use the outbound digits defined on the media server, ensure **External Call** is selected.
 10. Click **Save**.

Configuring the Management activity

The Management activity represents a management plan that is available to authorized callers, enabling them to manage the state of IVR Routing and its prompts over the phone. For example, if the contact center is unexpectedly closed due to severe weather, a manager working from home can use the Management activity to set the IVR to Emergency mode and record a prompt informing callers of the center's closure. You assign subroutines to Management activities and if you are using the Default Management Subroutine, configure remote access options for authorized callers.

The Management activity is available in

- Inbound workflows
- Inbound, Management, and Callback Inbound subroutines

Assigning subroutines to Management activities

IVR Routing provides a default Management subroutine. For information on building subroutines to assign to Management activities, see "Building subroutines" on page 534.

To assign a subroutine to a Management activity

1. Select the **Management** activity.
2. In the **Properties** pane, after **Management Subroutine**, click the ...button.
3. Click either the **Subroutines** or **Variables** tab and select a subroutine or a variable to assign to the activity.
4. If you want to assign a new variable, under the **Variables** tab, click **Add** and follow the corresponding steps in "Configuring variables" on page 552.
5. Click **OK**.
6. Click **Save**.

To view the assigned subroutine or variable

- Right-click the **Management** activity and click **Open**.
The assigned subroutine or variable opens.

Configuring properties for remote access to the Default Management Subroutine

To configure properties for remote access to the Default Management Subroutine

1. Right-click on the **Management** activity and select **Open**.
2. Select the 'Enter Management Password' **Menu** activity.
3. To enable callers to skip instructions using a digit entry, select the **Barge In** check box.
4. After **In Between Digit Delay**, set time taken to reset each digit after it is pressed.
NOTE: Between 1 to 5 seconds is recommended.
5. After **Invalid Attempts**, set the number of times a caller can enter incorrect digits before being routed down the Failure branch.
6. After **No digit timeout (sec)**, set the amount of time that IVR Routing will wait for a caller to enter digits before routing the call to the Timeout branch.
NOTE: If this time elapses, IVR Routing will send the caller back through the workflow.

7. After **Timeout Attempts**, set the number of times the No digit timeout (sec) can expire before routing the call through the Failure branch.
8. After **Instructions**, click the ▼ button and follow the steps under "Configuring an activity's prompts" on page 564.
NOTE: Instructions play prompts and menu options to an authorized caller.
9. To enable reporting, select the **Child Reporting Enabled** check box.
10. Right-click the Menu condition branch '1234' and click **Edit Condition**.
11. Click the condition '1234' and enter the new management password.
12. Click the **Add** icon.
13. Click **OK**.
14. Click **Save**.

Configuring the Menu activity

The Menu activity prompts callers with messages and manages routing based on caller input. For example, you can configure the Menu activity to ask customers to press '1' on their dial pad to reach Technical Support and '2' if they want to reach Sales. IVR Routing then directs callers to the appropriate queue based on the number they pressed. The Menu activity enables efficient routing to the appropriate queue. You can configure the prompts callers hear, input options, and digit options for Menu activities.

The Menu activity is available in

- Inbound and Outbound workflows
- Inbound, Outbound, Management, UPiQ, and Callback Inbound subroutines

NOTE: Due to the inability to use Set Variable for specifying a masked variables value, the Menu activity cannot be used with a wildcard branch and a Set Variable activity with masked variables as the masked variables will be exposed in the LastMenuCollectedDigits variable in the query string.

Configuring options for Menu activities

The following procedures explain how to:

- Configure options for the Menu activity
- Configure instructions for the Menu activity
- Configure reporting for the Menu activity

To configure options for the Menu activity

1. Select the **Menu** activity.
2. To enable callers to skip instructions using a digit entry, select the **Barge In** check box.
3. After **In Between Digit Delay**, set the time taken to reset each digit after it is pressed
NOTE: Between 1 to 5 seconds is recommended.
4. After **Invalid Attempts**, set the number of times callers can try to enter information.
NOTE: If this number is exceeded, IVR Routing sends the call to the Failure branch.
5. After **No digit timeout (sec)**, set the time to wait if the user does not enter any digits.
NOTE: If this time elapses, IVR Routing will send the call to the Timeout branch
6. After **Timeout Attempts**, set the number of times users can timeout before being routed down the Failure branch.

To configure instructions for the Menu activity

1. Select the **Menu** activity.
2. After **Instructions**, click the ▼ button and follow the steps under "Configuring an activity's prompts" on page 564.
NOTE: Instructions play prompts and menu options to callers.
3. Click **Save**.

To configure reporting for the Menu activity

1. Select the **Menu** activity.
2. To enable reporting for this branch, select the **Child Reporting Enabled** check box.
3. Click **Save**.

Configuring Menu activity branches

Menu branches are the numbers callers select to navigate the IVR Routing menu.

To configure digit options

1. Right-click the Menu activity and select **Add branch**.
The Menu dialog box opens.
2. To add a digit option, at the top of the dialog box, click **Add** and type a value or range of values.
NOTE:
 - Adding question marks to a digit option enables callers to enter customer-specific information, of a set length, into IVR Routing. For example, you may have a menu asking callers who are members to enter their 10-digit membership number. Adding a digit option of '?????????' will route all callers entering a 10-digit number to the appropriate queue.
 - Adding the letter 'x' to a digit option enables callers to enter customer-specific information of an unspecified length. For example, you may have a menu asking callers to enter their telephone number, including extensions. Adding a digit option of '613x' will route all callers phoning from a 613 area code to the appropriate queue.
3. Click the **Add** icon.
4. To import hunt group conditions in .csv format, click **Import**, navigate to the file name, and click **Open**.
5. To export the hunt group conditions in .csv format, click **Export**, select a file location and file name and click **Save**.
NOTE:
 - Digit options on a single line and separated by a comma will be added to a single branch.
 - Digit options on multiple lines and separated by a comma will be added to multiple branches.
6. To add more digit options, at the top of the Menu dialog box, click **Add**.
7. If you want all digit option conditions in the same branch, clear the **Add each row in a separate branch** check box.
By default, separate branches are added for each condition.
8. To enable reporting, select the **Enable reporting for this Branch** check box.

9. To test the digit options, under **Utilities**, enter a value or range of values.
If the test is successful, 'Pass' displays.
If the test is unsuccessful, 'Fail' displays.
10. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
11. Click **Save**.

Configuring the Mode of Operation activity

The Mode of Operation activity branches workflows to a secondary type of operation when the contact center is temporarily out of service. It can also change IVR Routing back to the Normal mode. For example, you can use the Mode of Operation activity to route calls to an Emergency branch if the contact center is closed due to severe weather. You can add activities to the Mode of Operation activity's branches to determine how IVR Routing directs callers through the workflow in the event of an Emergency or in the case of Normal operations.

The Mode of Operation activity is available in

- Inbound workflows
- Inbound and Management subroutines

NOTE: For more information on setting IVR Routing to Emergency mode, see "Configuring the Set Device Mode of Operation activity" on page 618 and "Configuring the Set System Mode of Operation activity" on page 619.

Configuring Mode of Operation activities for Emergency and Normal modes

Configure the Mode of Operation activity by specifying the actions a workflow will take in Emergency and Normal modes.

To configure a Mode of Operation activity for Emergency and Normal modes

1. In the Workflow Canvas, expand the **Mode of Operation** activity.
2. From the Toolbox pane, drag activities to the **Emergency** or **Normal** branch.
3. To enable reporting on the activity's branches, select the **Child Reporting Enabled** check box.
4. To enable reporting on a single branch, select the branch and select the **Reportable** check box.
5. Click **Save**.

Configuring the Play activity

The Play activity enables IVR Routing to play messages or read back the contents of variables to callers. The Play activity can play a prompt or a single wave file to customers. For example, you can use a Play activity to greet callers and ask them to hold for the next available agent. You can add a new prompt to a Play activity, add a prompt that you have previously recorded, or add a variable to a prompt. For more information on configuring prompts in workflows, see "Configuring prompts" on page 532.

The Play activity is available in

- Inbound, Outbound, and RAD workflows
- Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines

NOTE: The duration of a prompt is stored within the <<LastWavePlayedDuration>> system variable. This value will be overwritten any time a wave file is played in the workflow.

Adding prompts to Play activities

Prompts are the messages callers hear at specified points in the workflow.

To enable callers to skip prompts using a digit entry

1. Select the **Play** activity and click **Properties**.
2. Select the **Barge Enable** check box.
3. Click **Save**.

To add an existing prompt to a Play activity

1. Select the **Play** activity and click **Properties**.
2. After **Greeting Prompts**, click the ▼ button and select **Select from an existing prompt**.
3. Select a prompt and click **OK**.
4. Click **Save**.

To add a new prompt

1. Select the **Play** activity and click **Properties**.
2. After **Greeting Prompts**, click the ▼ button and select **Add a new prompt**.
3. After **Language**, select the primary language from the drop-down list.

NOTE:

- The language you select determines the system wave files available to you.
 - By default, the language is set to the default site language.
4. Type a **Name** for the prompt.
 5. Type a **Description** for the prompt.
 6. Select a **Category** for the prompt from the drop-down list:
 - Callback
 - Custom
 - Management
 - Samples
 - UPiQ

7. To create your own category, after **Category**, type a name for the new category.
NOTE: Prompt categories are an organizational tool to help keep prompts sorted and easily accessible.
8. Select one of the following tabs:
 - **System wave files**—lists the system wave files callers hear while in the IVR or while waiting on hold. This pane will only show the wave files that are available in the language you have selected.
 - **Custom wave files**—lists imported and recorded wave files. To import or record a custom wave file, click 'Add' and select 'Existing wave file' to import the file or 'Record wave file' to use the microphone on your computer to record the file.
NOTE: Wave files must be 8khz, Mono, or ULAW format.
 - **Queue stats**—lists up-to-date queue statistics for use in prompts
 - **Variables**—lists all variables available for use in prompts
NOTE: Read back on variables is based on the type of variable. Number variables read back the whole number, while digit variables read back individual numbers. For example, number variables would read 123 as 'one hundred and twenty-three', while digit variables would read 123 as 'one, two, three'.
 - **Prompts used in workflows and subroutines**—lists all prompts used in workflows and subroutines
9. In the **All system wave files**, **All custom wave files**, **All queue stats**, **All variables**, or **Prompts used in workflows and subroutines pane**, select the files to add to the prompt.
10. Click > to add the file to the prompt.
NOTE: The wave files play in the order they are added to the prompt. To change the order in which the wave files will be played, select the wave file and click the up or down arrow buttons on the right-hand side of the dialog box.
11. Click **Save**.
NOTE: If you are adding prompts in a new language, you must add audio files that correspond to the existing audio files in IVR Routing's default language. Otherwise, the caller will not hear anything when the prompts are supposed to be playing.

To add a variable to a prompt

1. Select the **Play** activity and click **Properties**.
2. After **Greeting Prompts**, click the ▼ button and select **Add a variable to a prompt**.
3. Select the variable and click **OK**.
4. Click **Save**.

To add a new variable to a prompt

1. Select the **Play** activity and click **Properties**.
2. After **Greeting Prompts**, click the ▼ button and select **Add a variable to a prompt**.
3. Click the **Add** button.
4. Type a **Name** for the variable. The name must be unique and cannot contain spaces.
5. Type a **Description** for the variable.
6. After **Variable Type**, select a type from the drop-down list.
NOTE: A variable's type cannot be changed after you save.

7. If **Mask Type** is available to this type of variable, select the variable's mask from the drop-down list.
 - **NoMask**– The variable will not be masked within IVR Routing and associated screen pops, databases, etc
 - **FullMask**– The entire variable will be masked within IVR Routing and associated screen pops, databases, etc
 - **MaskAllExceptLastX**– The variable will be masked except for the specified number of final characters
 - **MaskAllExceptFirstX**– The variable will be masked except for the specified number of first characters
8. If you selected **MaskAllExceptLastX** or **MaskAllExceptFirstX**, specify the number of characters to be left unmasked.
9. To enable this variable to display in a toaster notification or screen pop, select the **Send to agent desktop** check box.
10. Type the **Display Name** that this variable has when it appears in a toaster notification or screen pop.
11. If you selected Dollars, Euros, or Pounds as the variable type, after **Currency Format**, select the format from the drop-down list.
12. If you selected Date Time as the variable type, after **Date Format**, select the date format from the drop-down list. After **Time Format**, select the time format from the drop-down list.
13. Click **Save**.

To clear a prompt

1. Select the **Play** activity and click **Properties**.
2. After **Greeting Prompts**, click the ▼ button and select **Clear Prompt**.
3. Click **Save**.

To add a prompt to a Play activity using Quick Add Prompt

1. Select the **Play** activity and click **Properties**.
2. After **Greeting Prompts**, click the ▼ button and select **Quick Add Prompt**.
3. Navigate to the .wav file and click **Open**.
4. Click **Save**.

Configuring the Query activity

The Query activity reads and writes information through an MS SQL connection, ODBC connection, Excel sheet, or LDAP provider. Administrators can use the Query activity to retrieve information and store it in custom variables for use within workflows. Advanced queries return multiple records of information that can be stored in multiple variables.

For example, you can use the Query activity to retrieve customer account balances for the past year. Callers can then have their account history read back to them from within the workflow. You can configure the data providers for Query activities, configure simple or advanced queries, and define simple or advanced write statements for Query activities.

The Query activity is available in

- Inbound, Outbound, RAD, and Inqueue workflow
- Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines

CAUTION: IVR Routing can mask variables to protect information used in queries but customers are responsible for implementing appropriate network security to encrypt information passing between IVR Routing and data providers.

NOTE:

- By default, the query result is stored within the <<LastQueryResult>> system variable. Each subsequent Query action overwrites this variable. It is not recommended to use the LastQueryResult variable when expecting protected information to be contained within this variable.
- For more information on configuring data providers, see "Configuring data providers" on page 550.

Connecting Query activities to data providers

Connecting Query activities to data providers enables the Query activity to access data and use this information to route contacts. For more information on creating data providers, "Configuring data providers" on page 550.

To assign a data provider to a Query activity

1. Select the **Query** activity.
2. In the Properties pane, after **Data Provider**, click the ... button. The Select Connection window opens.
3. Select the data provider for the query and click **OK**.
NOTE: The Query activity cannot be saved without a query or write statement configured.

Running simple queries in workflows

Running simple queries enables administrators to retrieve information from a database and store it in a variable.

To run a simple query in a workflow

1. Select the **Query** activity and click **Properties**.
2. After **Query statement**, click the **Browse** button and, under **Query Type**, select **Simple Query**.
3. After **Database Table Name**, from the drop-down list, select the table to query. 'Database table names' refer to the tables in the data source from which the Query activity retrieves information.
4. After **Column Return Name**, from the drop-down list, select the column of data to query. 'Column return names' refer to the columns in the selected table, from which the Query activity retrieves information.
5. After **Variable Return Name**, from the drop-down list, select the variable to populate with the return value. 'Variable return names' refer to the variables populated as a result of the query.

6. After **Column Where Name**, from the drop-down list, select the name of the column of data to compare against.
'Column where names' refer to the columns in the data source against which the Query activity compares information.
7. After **Variable Where Name**, from the drop-down list, select the variable to use for comparison.
'Variable where names' refer to the variables against which the Query activity compares.
8. To enable the activity to convert digits into text values, select the **Dialpad Compare** checkbox.
For example, if a caller is trying to reach an employee's telephone extension, dialpad compare enables the caller to enter the letters of the employee's name into their dialpad instead of entering an extension number.
9. To test the query, after **Test with a value equal to**, enter an existing value from the data provider and click **Test Query**.
The Raw SQL window displays the SQL statement based on the selections from the drop-down lists.
10. To clear all fields and return to the Canvas, click **Clear**. To accept the query, click **OK**.
11. Click **Save**.

Configuring Query activities with advanced queries

Advanced queries enable administrators with knowledge of SQL to write SQL statements retrieving information from a database provider. Advanced queries also support LDAP syntax for LDAP providers, and advanced queries for MS SQL Server and ODBC data providers support stored procedures.

To run an advanced query in a workflow

1. Select the **Query** activity and click **Properties**.
2. After **Query** statement, click the **Browse** button, and under **Query Type**, select **Advanced Query**.
3. Under **Query**, type the SQL statements to be run directly against the data provider and click **Execute**.
The Execute window opens displaying a list of detected input and output parameters.
4. Under **Value**, type the numbers corresponding to the values contained in the data provider.
5. To enable the activity to convert digits into text values, select the **Use Dialpad Compare** check box.
6. Click **Run**.
7. To assign variables to store information returned by the SQL statements, click the **Variable Assignment** tab.
Return Column will be populated with the column names in the data provider.
8. Under **Variable Name**, select the variables to store information returned by the SQL statements.
9. To assign values to the parameters filled by the SQL statements, click the **Parameter Assignment** tab.
Parameter Name will be populated with the SQL parameters used to query the data provider.

10. After **Variable Name**, select a variable from the drop-down list to store the information retrieved by the SQL parameter.
11. To translate parameters from a dial-pad digit, select the **Dialpad** checkbox.
12. To view the values returned from the query, click the **Test Results** tab.
13. To clear the variables and their parameters, click **Clear**. To accept the query, click **OK**.
14. Click **Save**.

Defining write statements

Write statements define a delete, insert, or update statement against a specified data provider. Write statements enable administrators to delete, insert, or update column values in a data provider from within a workflow.

The following procedures explain how to configure simple and advanced write statements

NOTE: Advanced write statements enable users with knowledge of SQL to write insert, update, or delete SQL statements.

To define a simple write statement

1. Select the **Query** activity, click **Properties** and, after **Write** statement, click the **Browse** button.
2. Select **Simple Write** and select a **Write Type** from the drop-down list. Options vary by data provider.
3. After **Table Name**, select the table in the data provider against which the write statement is defined.
4. Under **Column Name**, select a column in the data provider against which the write statement is defined.
5. Under **Value**, select the data to be inserted into Excel or SQL data provider.
6. Under **Where**, select a column name.

NOTE:

 - 'Where' statements display only if Delete or Update is selected
 - The column names displaying in the list derive from the Table Name selected.
7. Select an operator from the drop-down list
 - =
 - <>
 - >
 - <
 - >=
 - <=
8. From the third drop-down list, select or type the variables used to evaluate the information selected from the first column
9. To test the write statement, click **Test Syntax**.
10. To empty column values, click **Clear**. To accept the write statement, click **OK**.
11. Click **Save**.

To define an advanced write statement

1. Select the **Query** activity, click **Properties**.
2. After **Write** statement, click the **Browse** button and select the **Advanced Write** button.
3. Under **Query**, type the insert, update, or delete SQL statements to be run against the data provider and click **Execute**.
4. The Parameter name column will be populated with the column names in the data provider.
5. Under **Variable Name**, from the drop-down list, select the variables used to evaluate the information you selected from the first column.
6. To test the write statement, click **Test Syntax**.
7. To empty column values, click **Clear**. To accept the write statement, click **OK**.
8. Click **Save**.

Returning multiple results with queries

The Query activity supports returning multiple results from a query. When a Query activity returns multiple results from a query, the call is looped through the Success branch for each result unless it is interrupted by a caller-activated activity, such as Go To or Transfer. When there are no more results for the Success branch to loop, the call exits the Success branch of the Query activity and continues along the workflow.

Multiple result returning Query activities enable contact centers to build more complex workflow functions, such as providing callers access to an employee directory.

For more information on returning multiple results with queries, see the following Mitel Knowledge Base article: <http://micc.mitel.com/kb/KnowledgebaseArticle51935.aspx>.

Configuring the Queue activity

The Queue activity branches workflows based on real-time queue conditions, enabling you to route calls based on emerging queue conditions. The Queue activity supports ring group queue conditions.

For example, you can configure a Queue activity to check queue conditions and offer a Callback Request activity to callers experiencing long wait times. The Queue activity can help to lessen abandoned calls and manage Service Level objectives by routing calls based on emerging queue conditions.

You can add and edit branching conditions for queue activities and group queue conditions to determine how IVR Routing directs callers through the workflow. Queue group real-time condition definitions vary depending on the type of queue group. For more information, see "Real-time queue conditions and queue groups" on page 607.

The Queue activity is available in

- Inbound, Outbound, RAD, and Inqueue workflows.
- Inbound, Outbound, RAD, UPiQ, and Callback Inbound subroutines

Applying queue conditions to the Queue activity

The following explains how to

- Associate queue conditions to a queue, queue group, or variable
- Associate queue conditions to a variable
- Edit and delete queue conditions
- Import and export queue conditions
- Group queue conditions

NOTE:

- The actions that IVR Routing takes when queue conditions are met are determined by activities you insert into the **Drop Activities Here** section of the Workflows Canvas for that Queue condition.
- The workflow evaluates Queue conditions from left to right. For information on how to change the order of Queue conditions, see "Changing the order in which branches are evaluated" on page 569.

To associate queue conditions to a queue or queue group

1. Right-click the **Queue** activity and select **Add**.
2. Type a **Name** for the queue condition and, after **Queue**, click the ...button.
3. Select either **Queue** or **Queue Group**, select the queue or queue group; and click **OK**.
NOTE: For information on how queue groups use queue real-time statistics, see "Real-time queue conditions and queue groups" on page 607.
4. Click **Add** and, from the second column, select a real-time statistic from the drop-down list.
NOTE: Expected Wait Time requires at least one call waiting in queue for IVR Routing to calculate an Expected Wait Time value.
5. In the third column, select an operator from the drop-down list. Options vary according to the variable chosen.
6. Click the fourth column and select either **Value**, **Queue Stats**, or **Variable**.
7. For **Value**, type in a numeric value or enable the check box for the value.
8. For **Queue Stats**, select a queue stat from the drop-down list.
9. For **Variable**, select a variable from the drop-down list.
10. To test the conditions, click **Test Parameters**, enter a value in the relevant fields and click **Test**.
11. Click **OK**.
12. To add another condition, click **Add** and repeat steps 4-11.
13. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
14. Click **Save**

Associate queue conditions to a variable

NOTE: Associating queue conditions to a variable requires first inserting and configuring an activity on the Canvas capable of populating the Queue activity's destination variable.

1. Right-click the **Queue** activity and select **Add**.
2. Type a **Name** for the queue condition and, after **Queue**, click the ...button.
3. Select the **Variable** tab, select a variable, and click **OK**.
Only Numbers, Digits, Queue, and Unspecified variable types are available.
4. Click **Add** and, from the second column, select a real-time statistic from the drop-down list.
5. In the third column, select an operator from the drop-down list. Options vary according to the variable chosen.
6. Click the fourth column and select either **Value**, **Queue Stats**, or **Variable**.
7. For **Value**, type in a numeric value or enable the check box for the value.
8. For **Queue Stats**, select a queue stat from the drop-down list.
9. For **Variable**, select a variable from the drop-down list.
10. To test the conditions, click **Test Parameters**, enter a value in the relevant fields and click **Test**.
11. Click **OK**.
12. To add another condition, click **Add** and repeat steps 4-11.
13. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
14. Click **Save**

To edit and delete queue conditions

1. To edit queue conditions, right-click the relevant branch in the Queue activity and select **Edit Condition**.
2. To delete a queue condition, select the row for the condition and click **Delete**.

To import and export queue conditions

1. To import queue conditions, click the Import button and navigate to a *.csv file.
NOTE:
 - Conditions on a single line and separated by a comma will be added to a single branch.
 - Conditions on multiple lines and separated by a comma will be added to multiple branches.
2. To export queue conditions, click the **Export** button and navigate to a *.csv file.
3. To test the conditions, click **Test Parameters**, enter a value in the relevant fields and click **Test**.

To group conditions being compared

- See "Grouping expressions" on page 570.

Real-time queue conditions and queue groups

IVR Routing supports both queue conditions with queue group conditions. Queue group queue conditions are defined differently than queue conditions. Between reporting queue groups and virtual queue groups, however, there are some differences between how the queue conditions stats are calculated. Table 44 outlines how queue condition statistics are applied to reporting and virtual queue groups.

Table 44: Queue Groups Queue Condition statistics definitions

QUEUE CONDITION STATISTIC	REPORTING QUEUE GROUP DEFINITION	VIRTUAL QUEUE GROUP DEFINITION
Agents Available	The sum of the available agents in all member queues	The number of available agents found in the first Online queue
Agents Idle	The sum of the idle agents in all member queues	The number of idle agents found in the first Online queue
Agents Unavailable	The sum of the unavailable agents in all member queues	The number of unavailable agents found in the first Online queue
Average Time to Abandon	The sum of the duration of the abandons divided by the sum of the abandons from all queues in the group	
Average Time to Answer	The sum of the answer duration of the calls divided by the sum of the calls answered from all queues in the group	
Call Load	The sum of Calls Waiting in all queues in the group divided by the sum of Agents Available in all queues in the group	The sum of the Calls Waiting in all queues in the group divided by the number of Agents Available in the first Online queue
Expected Wait Time	<p>If there are agents available, the Expected Wait Time is the Average Talk Time for the queues in the group multiplied by Calls Waiting in all Queues in the group, divided by all Available Agents in the group</p> <p>If there are no agents available, the Expected Wait Time is the sum of the answer duration of the calls divided by the sum of the calls answered from all queues in the group</p>	<p>If there are agents available, the Expected Wait Time is the Average Talk Time for the queues in the group multiplied by Calls Waiting in all queues in the group, divided by the Available Agents in the first Online queue in the group</p> <p>If there are no agents available, the Expected Wait Time is the sum of the answer duration of the calls divided by the sum of the calls answered from all queues in the group</p>
Last Queue Update Received	The last queue update received from any queue in the queue group	
Longest Wait Time	The longest time that a call has been waiting in all of the queues in the queue group	
Number of Calls Waiting	The sum of the number of calls waiting in each member queue of the queue group	
Path DND	Checks if any member of the group is in Do Not Disturb	
Service Level	The service level of the queue group	

Configuring the Record activity

The Record activity enables authorized callers to record a wave file over the phone as opposed to using a microphone in a computer. For example, a manager can call into IVR Routing from home and use the Record activity to record a wave file to populate a custom prompt for Play activities. The Default Management Subroutine that ships with IVR Routing includes a Record activity for this purpose. You can use the Default Management Subroutine to record prompts for Play activities in your workflow. The Record activity is also used by callers to record a message to accompany their callback request in the Default Inbound Voice Callback subroutine. The Record activity increases the flexibility with which you can create custom prompts for your workflow and respond to after-hours conditions affecting the call center's operations.

You can configure Record activities with prompts to determine the message authorized callers hear when they dial the IVR Routing system, and configure recording options for authorized users phoning into the system. You can also set the options by which an authorized caller reviews, accepts, or rejects a message they recorded.

The Record activity is available in

- Inbound workflows
- Inbound, Management, UPiQ, and Callback Inbound subroutines

Configuring Record activities with prompts

By default, the Record activity is automatically assigned an instruction prompt. This prompt can be changed to another prompt, but the Record activity must have an instruction prompt assigned to it. Optionally, a confirmation prompt can be assigned to the Record activity to inform callers that their recording is complete. If no confirmation prompt is assigned to a Record activity, users are directed to the Save branch.

To change the Record activity's Instruction prompt

1. Select the **Record** activity and click **Properties**.
2. To configure recording instructions for authorized callers, after **Instructions**, click the drop-down list and select from the following:
 - **Add a new prompt**
 - **Quick Add Prompt**
 - **Clear prompt**
 - **Select from an existing prompt**
3. If you are adding a new prompt, follow the appropriate steps under "Configuring an activity's prompts" on page 564.

NOTE: Adding a prompt requires you to select a wave file in IVR Routing, which will be added to the system as a prompt.
4. If you are Quick Adding a prompt, follow the appropriate steps under "Configuring an activity's prompts" on page 564.

NOTE: Quick Adding a prompt enables you to populate the recording instructions with a wave file saved on your machine. The prompt is created in IVR Routing and is given the file name.

5. If you are selecting an existing prompt, select the prompt from the list offered to you and click **OK**.
6. To remove a prompt from recording instructions, after **Instructions**, click the drop-down list and select **Clear prompt**.
7. Click **Save**.

To configure a Record activity with a confirmation prompt

1. Select the **Record** activity and click **Properties**.
2. To configure recording instructions for authorized callers, after **Confirmation Prompt**, click the drop-down list and select from the following:
 - **Add a newprompt**
 - **Quick Add Prompt**
 - **Clear prompt**
 - **Select from an existing prompt**
3. If you are adding a new prompt, follow the appropriate steps under "Configuring an activity's prompts" on page 564.
NOTE: Adding a prompt requires you to select a wave file in IVR Routing, which will be added to the system as a prompt.
4. If you are Quick Adding a prompt, follow the appropriate steps under "Configuring an activity's prompts" on page 564.
NOTE: Quick Adding a prompt enables you to populate the recording instructions with a wave file saved on your machine. The prompt is created in IVR Routing and is given the file name.
5. If you are selecting an existing prompt, select the prompt from the list offered to you and click **OK**.
6. To remove a prompt from recording instructions, after **Confirmation Prompt**, click the drop-down list and select **Clear prompt**.
7. Click **Save**.

Clearing prompts from Record activities

The following explains how to remove prompts from Record activities.

To clear a prompt from the Record activity

- Right-click the **Record** activity and select either **Edit Instruction Prompt=>Clear prompt** or **Edit Confirmation Prompt=>Clear prompt**.

Configuring recording options

You can configure the recording options for authorized users phoning in to the system.

1. Select the **Record** activity and click **Properties**.
2. To remove a date and time stamp from the wave file name, deselect the **Append Date Time Stamp** check box.
3. After **Output Name**, type a name for the wave file being recorded.
NOTE: The output name must be a valid file name but may contain variables enclosed between double angle brackets. For example: <<ANI>>. The text between the angle brackets will be replaced with the value of the variable currently executing in the workflow.

4. After **Recording Timeout (sec)**, type the number of seconds an authorized caller has to record a message.
NOTE: This figure determines the amount of time before the Timeout branch is followed.
5. After **Termination Digit**, from the drop-down list, select a number that an authorized caller enters to end the recording.

Configuring the Save, Discard, and Review branches of the Record activity

The Record activity contains an embedded menu with three options. After recording a message, authorized callers are presented with the option of pressing one to save their message, pressing two to discard and re-record their message, and pressing three to review their message before deciding to save or discard it.

You can reconfigure the digit options for the Save and Discard branches, configure options for the Review branch, and add additional branches to the Record activity's Menu.

NOTE: Go To activities in the Review branch direct authorized callers to the Save or Discard branches depending on the caller's selection. If authorized callers choose Save, they hear a prompt confirming that their message has been saved. If they choose Discard, they are taken back to the Record activity.

The following procedures explain how to

- Reconfigure the digit options for the Save and Discard branches
- Configure user options for reviewing messages
- Add branches to the Record activity's Menu

To reconfigure the digit options for the Save and Discard branches

1. In the **Record** activity, select the branch in the **Menu** activity.
2. In the **Properties** pane, after **Condition**, click the ... button.
3. Select the existing digit option.
4. Enter the new digit option and click the **Add** button.
5. Click **OK**.

NOTE: The Save and Discard branches in the Record activity's Menu are named '1' and '2'. You can change these names using the Properties pane, after selecting the relevant branch.

To configure user options for reviewing messages

1. Select the **Menu** activity and click **Properties**.
2. To enable users to enter digits before a prompt completes, select the **Barge In** check box.
3. After **In Between Digit Delay**, type the number of seconds a user has between digit entries.
NOTE: Taking longer than this time between digit entries constitutes a timeout and counts against the system's configured Timeout Attempts.
4. After **Invalid Attempts**, type the number of times an authorized caller can select an invalid menu option before the system follows the **Failure** branch.
NOTE: If users select invalid menu options but do not exceed this number, the system follows the Invalid branch.
5. After **No digit timeout (sec)**, type the number of seconds a user has to make their first digit entry.

6. After **Timeout Attempts**, type the number of times the system can timeout before following the Failure branch.
7. To change the menu instructions an authorized caller hears, after **Instructions**, click the drop-down list and follow the appropriate steps under "Adding prompts to Play activities" on page 598.
NOTE: These instructions are preprogrammed in IVR Routing. You must change these instructions if you reconfigure digit options or add branches to the Menu.
8. To enable reporting on all branches in this activity, select the **Child Reporting Enabled** check box.
9. Click **Save**.

Configuring the Redirect activity

The Redirect activity branches workflows based off a redirect value received in a call record and the number of the device from which the call was redirected. The Redirect activity provides an additional means of branching workflows so that calls can reach the appropriate queue. You can add branching conditions to Redirect activities to determine how IVR Routing directs callers through the workflow.

The Redirect activity is available in

- Inbound and Inqueue workflows.
- Inbound, Management, and Callback Inbound subroutines

NOTE: Redirects are achieved using the telephone system's HCIRedirect or Name Tag hunt groups.

Adding branching conditions to Redirect activities

To add a branching condition to a Redirect activity

1. Right-click the **Redirect** activity and select **Add condition**.
2. To add a Redirect value, at the top of the dialog box, click **Add** and type the value or range of values for the Redirect condition.
3. Click the **Add** icon.
4. To import Redirect conditions in .csv format, click **Import** and navigate to the file name.
5. To export Redirect conditions, click **Export** and navigate to the file name.
NOTE:
 - Conditions on a single line and separated by a comma will be added to a single branch.
 - Conditions on multiple lines and separated by a comma will be added to multiple branches.
6. To add more Redirect conditions, at the top of the dialog box, click **Add**.
7. If you want all Redirect conditions in the same branch, clear the **Add each row in a separate branch** check box.
By default, separate branches are added for each condition.
8. To enable reporting for the branch, select the **Enable reporting for this Branch** check box.
9. To test the Redirect conditions, under **Utilities**, enter a value or range of values.
If the test is successful, 'Pass' displays.
If the test is unsuccessful, 'Fail' displays.

10. Click **OK** to create the branch, or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
11. Click **Save**.

Configuring the Retrieve Callback activity

The Retrieve callback activity enables a workflow to retrieve the next available callback request from the SQL database for use in the current workflow. The Retrieve Callback activity prioritizes callback requests by time, whether the request is new or if it was requeued. To route down the Success branch, there must be an active callback request in the SQL database. To see how the Retrieve Callback activity functions within a workflow, see "Default Outbound Callback workflow" on page 631.

The Retrieve Callback activity requires no configuration. You can optionally provide the activity with a name and system name.

The Retrieve Callback activity is available in

- Outbound workflows
- Outbound subroutines

Configuring the Rules activity

The Rules activity enables workflows to be branched according to multiple conditions, or routing rules, nested within a single activity. When an incoming call enters a workflow and encounters a Rules activity, the call is evaluated against the activity's preconfigured routing rules. Calls will be directed through the workflow based on whether the call meets the activity's routing rules. If a call meets the activity's routing rules, it is routed to the Success branch and the activity will populate variables for the call based on pre-configured options in the rule. These variable values will determine the queue to which the call is directed. For example, you can assign a rule to a Rules activity that specifies the hours of operation and the ANI condition for a French-language queue. If a call enters IVR Routing and matches the ANI of a French-speaking region during the French queue's hours of operation, that call will have an ANI variable populated with the French area code and will be routed to the appropriate branch. You can assign and edit rules for Rules activities to determine how IVR Routing directs callers through the workflow.

The Rules activity is available in

- Inbound, Outbound, RAD, and Inqueue workflows
- Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines

NOTE:

- Before creating a Success branch, configure a rule that will contain the conditions for a successful match. For information on rules and configuring rules, see "Configuring rules" on page 546.
- If the call is evaluated against multiple routing rules, first routing rule to be matched will set the variable values.

Adding and editing rules for Rules activities

To assign a rule to a Rules activity:

1. Right-click the **Rules** activity and select **Configure....**
2. From the **Available members** pane, select the rule to assign to the Rule activity and click the **>** button.
3. Click **OK**.

NOTE:

- Rules are evaluated in the order they appear in the selected list. IVR Routing will evaluate all rules in order to find a match. It will not stop at the first match.
 - You can only configure one Success branch per Rules activity.
4. To edit a rule assigned to a Rules activity, right-click the activity and select **Configure....**
 5. Change the rule assigned to the branch.
 6. To enable reporting for this branch, in the Properties pane, select the **Child Reporting Enabled** check box.
 7. Click **OK**.
 8. Click **Save**.

Configuring the Save Callback activity

The Save Callback activity saves a callback request to the SQL database. This activity can be used to both save the information collected in the callback variables as a new callback request or save an existing callback request back to the SQL database with a reason of completed or requeued. The Global Callback monitor in Contact Center Client informs the supervisor which callback requests were saved and why.

Following are the reasons associated to saving callback requests and their expected behavior:

- **New Request**—collects the information from the callback variables and throughout the workflow and compiles it as a callback request with the type specified
- **In Progress**—saves the callback request to the SQL database with an update on its progress, but does not remove it from the workflow.
- **Completed**—saves the callback request to the SQL database with the indicated reason and prevents it from being retrieved and offered to the queues and agents again.
- **Requeued**—saves the callback request back to the SQL database to be retrieved later. The callback handling count is modified based on the reason for requeue. In outbound callback subroutine workflows, callback requests may no longer be offered if they have been requeued a specified number of times without being completed. If there is a customer-based reason for the requeue (no answer, customer hang up, etc), the handling count is increased. If the reason for requeue is due to an agent or other factor outside a client's control, then the handling count is not modified.

The Save Callback activity has a Success and Pending branch. The activity routes down Pending when network issues prevent the callback from being submitted. When the network issues are resolved, the callback will be saved.

NOTE: Using a Save Callback activity in a workflow that routes callback requests enables the SQL records for callback requests to be updated when they leave the workflow. Otherwise, IVR Routing will treat the callback request as a callback request with the highest priority, potentially creating a loop.

For an example of how the Save Callback activity functions within a workflow, see "Default Outbound Callback subroutines" on page 632.

The Save Callback activity is available in

- Outbound workflows
- Outbound and Callback Inbound subroutines.

To set the Save Callback request reason

1. Select a Save Callback activity.
2. Select a **Request Reason** from the drop-down menu.
3. Click **Save**.

Configuring the Schedule activity

The Schedule activity branches workflows based on date and time conditions, enabling a workflow to respond to a business' hours of operation.

For example, you can use the Schedule activity to route customers calling after hours to an after-hours voicemail and menu. The Schedule activity reduces workflow clutter by providing 'Open' and 'Closed' branching conditions within a single workflow.

NOTE: The Schedule activity applies schedules based on the local time of the IVR Routing server. If the IVR Routing server is located remotely in a different time zone than the contact center to which it is routing calls, the schedules for the Schedule activity should include offset time to compensate for time zone differences.

The Schedule activity is available to

- Inbound, Outbound, RAD, and Inqueue workflows
- Inbound, Outbound, RAD, UPiQ, and Callback Inbound subroutines

Adding and modifying business hour Schedule conditions

The business hour schedule conditions determine when IVR Routing executes business hours workflows and after hours workflows. These include the default Monday to Friday, 9:00 AM to 5:00 PM schedule and the default 24/7 schedule, as well as other user-created schedules. You can add these default Schedule conditions as is, or modify them to suit your contact center's hours of operation.

To add a Business Hour Schedule condition

1. Right-click the **Schedule** activity and select **Add a schedule condition**.
2. Type the **Name** of the schedule condition.
3. Click **Add** and select **Schedule** from the second drop-down list.
4. From the third drop-down list, select a schedule.

5. Click **OK**.
6. To test the conditions, under **Testing**, select a date and time and click **Test**. Pass or Fail displays, indicating whether the test was successful.
7. To enable reporting, select the **Enable Reporting** check box.
8. Click **OK** to create the branch, or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
9. To edit schedule conditions, on the Workflows Canvas, right-click a branch and select **Edit**.
10. Click **Save**.

To modify a Business Hour Schedule condition

1. Select **YourSite=>Schedules** and select the default schedule you wish to modify.
2. Type a new **Name** for the schedule. For example, 'Monday to Friday 8:00 AM to 6:00 PM'.
3. After **Schedule exclusion list**, click the **Browse** button.
4. Select a schedule exclusion list to apply to the schedule and click **OK**.
NOTE: The Schedule exclusion list specifies days to be omitted from the schedule. To create a schedule exclusion list, or to edit an existing schedule exclusion list, see "Managing schedule exclusion lists" on page 177.
5. After **Start time**, type the business day start time for each day of the week.
6. After **End time**, type the business day end time for each day of the week.
7. After **Disable for day**, select the check box for each day your business is closed.
8. Click **Save**.

Adding and modifying time and day of the week conditions for Schedule activities

Adding time and day of week conditions to a Schedule activity specifies when calls are routed to queues based on a call center's business hours.

To add or modify a time and day of the week condition for a Schedule activity

1. Right-click the **Schedule** activity and select **Add a schedule condition**. The Schedule Dialog box opens.
2. After **Name**, type the name of the schedule condition.
3. At the top of the dialog box, click **Add** and select **Time** from the second drop-down list.
4. Using the third drop-down list, type your contact center's **Start time** (hh/mm/ss) and **End Time** (hh/mm/ss) and click **OK**.
5. To add more time conditions follow steps 3-4.
6. To add a day of the week condition, at the top of the dialog box, click **Add** and select **DOW** from the first drop-down list.
7. Under **<Value>**, specify the days of the week your contact center is open by selecting the checkboxes for those days, and click **OK**.
8. To add more Day of the Week conditions follow steps 6-7.
9. To import schedule conditions, click the **Import** button and navigate to a *.csv file.

10. To export schedule conditions, click the **Export** button and navigate to a *.csv file.
NOTE:
 - Conditions on a single line and separated by a comma are added to a single branch.
 - Conditions on multiple lines and separated by a comma are added to multiple branches.
11. To test the conditions, under **Utilities**, enter time and date information and click **Test**.
If the test is successful, 'Pass' displays beside the Test button.
If the test is not successful, 'Fail' displays beside the Test button.
12. To enable reporting, select the **Enable reporting** check box.
13. To delete a schedule condition, from the drop-down list to the left of the condition, select **Delete**.
14. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
15. To edit schedule conditions, on the Workflows Canvas, right-click the branch and select **Edit Schedule condition**.
16. Click **Save**.

Adding and modifying date or holiday conditions for Schedule activities

Adding date and holiday conditions to a Schedule activity specifies when calls are routed to a branch designed to handle calls when the contact center is closed. Use date conditions to specify exceptional days your contact center is closed. Add holiday conditions to specify Holiday closures.

To add and modify a date or holiday condition for a Schedule activity

1. Right-click the **Schedule** activity and select **Add a schedule condition**.
The Schedule Condition Designer opens.
2. After **Name**, type the name of the schedule condition.
3. At the top of the dialog box, click **Add** and select **Date** from the first drop-down list.
4. Using the second drop-down list, specify the date the contact center is closed and click **OK**.
If your contact center is regularly closed on this date, select the **Reoccur every year** checkbox.
5. To add more dates the contact center is closed, follow steps 3-4.
6. To add a holiday condition, click the **Add** button and select **Holiday** from the first drop-down list.
7. After **<Select a holiday>**, select the check box beside the holiday and click **OK**.
8. To add more holidays follow steps 6-7.
9. To import schedule conditions, click the **Import** button and navigate to a *.csv file.
10. To export schedule conditions, click the **Export** button and navigate to a *.csv file.
NOTE:
 - Conditions on a single line and separated by a comma will be added to a single branch.
 - Conditions on multiple lines and separated by a comma will be added to multiple branches.
11. To test the conditions, under **Utilities**, enter the dates and click **Test**.
If the test is successful, 'Pass' displays beside the Test button.
If the test is not successful, 'Fail' displays beside the Test button.
12. To enable reporting, select the **Enable reporting** check box.

13. To delete a schedule condition, from the drop-down list to the left of the condition select **Delete**.
14. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
15. To edit schedule conditions, right-click the branch and select **Edit Schedule**.
16. Click **Save**.

Importing and exporting Schedule conditions

The following explains how to import and export Schedule conditions from *.csv files

To import and export Schedule conditions

1. Right-click the **Schedule** activity and select **Add a schedule condition**.
 2. Type a **Name** for the schedule condition.
 3. To import schedule conditions, click the Import button, navigate to a *.csv file, and click **Open**.
 4. To export schedule conditions, click the Export button, navigate to a *.csv file, and click **Open**.
- NOTE:**
- Conditions on a single line and separated by a comma are added to a single branch.
 - Conditions on multiple lines and separated by a comma are added to multiple branches.
5. To test the conditions, under **Testing**, select a date and time and click **Test**.
 6. Click **OK** to create the branch, or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
 7. Click **Save**.

Grouping schedule conditions in Schedule activities

You can group conditions in Schedule activities using the 'Group AND' or 'Group OR' buttons in the Schedule Condition Designer. Grouping conditions by 'Group AND' means that every queue condition specified must be met to route the call to the Success branch. Grouping conditions by 'Group OR' means that only one of the queue conditions specified must be met to route the call to the Success branch.

NOTE:

- The 'Group AND' and 'Group OR' buttons will be disabled unless you have at least two conditions to group.
- 'Group AND' is the default grouping for the Schedule activity.

To group Schedule conditions

- See "Grouping expressions" on page 570.

Configuring the Set Device Mode of Operation activity

The Set Device Mode of Operation activity changes the mode of operation for a specific device from Normal to Emergency or vice-versa. These devices include

- Hunt Groups
- Extensions

For example, if only one of the IVR Routing's extensions is experiencing emergency conditions, you can use the Set Device Mode of Operation to put that port into Emergency mode without affecting the entire system's operations.

The Set Device Mode of Operations activity is available in

- Management subroutines

Configuring properties for Set Device Mode of Operation activities

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

1. Select the **Set Device Mode of Operation** activity.
2. In the Properties pane, after **Device Type**, select a device type from the drop-down list.
NOTE:
 - Device type refers to the type of device checked when searching a dialable number.
 - Dialable number refers to the digit or series of digits a caller dials to reach an agent at an extension.
3. To set the variable containing the device dialable number, after **Input Variable**, click the ... button.
The Select a variable dialog box opens.
4. Select an input variable and click **OK**.
5. After **Mode of operation**, select either **Normal** or **Emergency** from the drop-down list.
6. To enable reporting on the activity or a branch, select the activity or branch and select the **Child Reporting Enabled** or **Reportable** check box.
7. Click **Save**.

Configuring the Set System Mode of Operation activity

The Set System Mode of Operation activity changes the mode of operation for IVR Routing from Normal to Emergency and vice-versa. For example, if the contact center is closed due to weather you can use the Set System Mode of Operation Activity to change IVR Routing to Emergency mode and route all workflows in accordance with an emergency plan.

The Set System Mode of Operation activity is available in

- Management subroutines

Configuring properties for Set System Mode of Operation activities

To configure properties for a Set System Mode of Operation activity

1. Select the **Set System Mode of Operation** activity.
2. In the Properties pane, after **Mode of Operation**, select either **Normal** or **Emergency** from the drop-down list.
3. To enable reporting on the activity or a branch, select the activity or branch and select the **Child Reporting Enabled** or **Reportable** check box.
4. Click **Save**.

Configuring the Set Variables activity

The Set Variables activity enables IVR Routing to take values generated within a workflow or static, predefined values and use them to populate variables for use later in the same workflow. For example, you can use the Set Variables activity to populate a variable with a caller's choice of service language. IVR Routing can use this information later in the workflow to direct callers to a queue with service in the appropriate language. You can determine the variables to be populated in Set Variables activities.

For security and privacy reasons, variables that use any masking cannot be used with the Set Variables activity.

The Set Variables activity is available in

- Inbound, Outbound, RAD, and Inqueue workflows
- Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines

Populating the Set Variables activity with workflow data

The following explains how to retrieve workflow data and use it to populate Set Variables activities

To populate the Set Variables activity with workflow data

1. Right-click the **Set Variables** activity and select **Edit Variable Settings**.
2. Type a **Name** for the activity and click **Add**.
3. **Select a variable** from the drop-down list and click **OK**.
To see a list of IVR Routing variables and their descriptions, go to 'IVR Routing=>Variables'.
4. In the third column, either type a **Value**, an expression in **Advanced Text**, or select **Variable** and select a variable from the drop-down list. If selecting a value, note that options vary according to the variable selected.
5. Click **OK**.
6. To add a variable row, click **Add**. To delete a variable row, select the row and click **Delete**.
7. Click **Save**.

Configuring the Subroutine activity

The Subroutine activity represents a set of workflow steps that can be inserted at any point in a workflow or in multiple workflows. Editing the subroutine changes all instances of that subroutine in workflows, enabling you to edit multiple workflows using a single point of configuration. The Subroutine activity is an efficient means of replicating and configuring workflow segments. For information on subroutines, see "Building subroutines" on page 534.

You can assign IVR Routing's default Management or Callback subroutines to the activity, or build a subroutine to assign to the activity.

The Subroutine activity is available in

- Inbound, Outbound, and RAD workflows
- Inbound, Outbound, RAD, Management, UPIQ, and Callback Inbound subroutines

Assigning subroutines and variables to Subroutine activities

IVR Routing provides default Management and UPiQ subroutines. To build other subroutines see "Building subroutines" on page 534.

The following section explains how to

- Assign subroutines to the Subroutine activity
- Assign variables to the Subroutine activity
- Expand subroutines in workflows

To assign a subroutine to a Subroutine activity

1. Right-click the **Subroutine** activity and click **Assign...**
2. Click the **Subroutines** tab, select a subroutine to assign and click **OK**.
3. Click **Save**.

To assign a variable to the Subroutine activity

NOTE: Assigning a variable to the Subroutine activity requires first inserting and configuring an activity on the Canvas capable of populating the variable.

1. Right-click the **Subroutine** activity and click **Assign...**
2. Click the **Variable** tab, select a variable to assign and click **OK**.
To see a list of IVR Routing variables and their descriptions, go to 'IVR Routing=>Variables'.
3. Click **Save**.

To expand a subroutine in a workflow

- Right-click the **Subroutine** activity and click **Open...**

Configuring the Swap Prompt activity

The Swap Prompt activity enables you to swap the contents of one prompt with the contents of another prompt in IVR Routing. For example, if an emergency greeting informs customers that the contact center is closed due to bad weather, in the event of an earthquake you can use Swap Prompt to change the contents of the emergency greeting. The Swap Prompt activity enables you to provide specialized prompts within a single workflow without inserting additional activities. You can set the prompts to be exchanged in Swap Prompt activities from existing prompts in IVR Routing or from prompts that you create.

The Swap Prompt activity is available in

- Management subroutines

NOTE: If you have switched the contents of one prompt with another, you may eventually need to switch the contents of prompts back again.

Setting prompts to be exchanged in Swap Prompt activities

To set the prompts to be exchanged in a Swap Prompt activity

1. Select the **Swap Prompt** activity.
2. After **Source Prompt**, click the ▼ button.
The Select a prompt dialog box opens.
NOTE: The source prompt is the prompt that will be used to replace the target prompt.
3. Select a prompt and click **OK**.
4. After **Target prompt**, click the ▼ button.
NOTE: The target prompt is the prompt that will be swapped with the source prompt.
5. Select a prompt and click **OK**.
6. To add a source or target prompt, click the **Add a new prompt** button and follow the steps under "Configuring an activity's prompts" on page 564.
7. Click **Save**.

Configuring the Transfer activity

The Transfer activity transfers a caller to a specified destination, enabling you to send callers to a queue, queue group, variable, or other specified destination. For example, you can use a Transfer activity to route calls across queues.

Transfers can be blind or supervised. Both types of transfer place the caller on hold and transfer the call to the activity's destination. Blind transfers are considered completed when the destination begins ringing, while supervised transfers are considered completed when the destination answers. Callers cannot hear the phone ringing during the transfer unless the transfer time exceeds the timeout.

The Transfer activity contains three branches, which determine how the call is handled in the workflow after the attempted transfer. The three branches are:

- **Success**—This branch determines how the workflow handles the call after the caller is transferred to the transfer destination. By default, the Success branch contains a Hang Up activity. A call routed through the Success branch is separated from the caller, who starts a new call at the transfer destination. The Hang Up activity ends the call remaining in the current workflow and clears the port for a new call.
NOTE: Removing the Hang Up activity from the Success branch is not recommended as it may result in unnecessary port use.
- **Abandon**—This branch determines how the workflow handles the call when the original caller hangs up before a supervised transfer is completed. By default, the Abandon branch contains a Hang Up activity. A call routed through the Abandon branch is separated from the caller, who abandoned it when they hung up. The Hang Up activity ends the call remaining in the current workflow and clears the port for a new call.
NOTE: Removing the Hang Up activity from the Abandon branch is not recommended as it may result in unnecessary port use.
- **Failure**—This branch determines how the workflow handles the call when the Transfer activity fails to connect to the destination. By default, the Failure branch contains a Hang Up activity. A call routed through the Failure branch is not separated from its caller and may continue in the workflow. By default, this branch contains a Hang Up activity that ends the call in the current workflow and clears the port for a new call.

You can configure the options for how and where a call is transferred, and add new devices to Transfer activities.

The Transfer activity is available in

- Inbound, Outbound, and Inqueue workflows
- Inbound, Outbound, Management, and Callback Inbound subroutines.

Configuring options and adding devices to Transfer activities

The following procedures tell you how to:

- Set a destination
- Add a new device as the destination
- Set the dialing properties
- Set the reporting and timeout options

To set a destination

1. Select the **Transfer** activity.
2. In the **Properties** pane, after **Destination**, click
3. Select a destination from one of the following tabs and click **OK**.
 - Extension
 - Queue

NOTE: Ring groups can be set as destinations, but the workflow's port must be located on the same media server as the ring groups.
 - Queue Group

NOTE: When transferring to a virtual queue group, the Transfer activity will route to the first queue on the same media server as the IVR port. If the status of this queue is Offline, it will route to the next local queue configured in the queue group. If all local queues are Offline, it will route to the first remote queue. Queues in Do Not Disturb are considered Online.
 - Variable
4. Click **Save**.

To add a new device as the destination

1. Select the **Transfer** activity.
2. In the **Properties** pane, after **Destination**, click
3. Click **Add**.
4. Select one of the following from the drop-down list:
 - Extension
 - Queue
 - Queue group
 - Variable
5. In the **Extension**, **Queue**, **Queue Group**, **Variable** tabs, at the top of the dialog box, click **Add**.
6. To add a new extension, see "Adding extensions for IVR Routing" on page 512.

7. To add a new queue, in the Queue pane, follow the steps under "Adding queues" on page 142.

NOTE:

- A new ring group can be used as a destination, but only if the workflow's port is on the same media server as the ring group.
 - To configure a new queue for web callbacks, see "Enabling web callbacks" on page 539.
 - To configure a new queue for abandon callbacks, see "Enabling abandon callbacks" on page 537.
 - To associate a queue to an UPiQ workflow, see "Configuring Inqueue routing" on page 518. For information on setting up UPiQ workflows, see "Default Inqueue UPiQ workflow and subroutine" on page 629.
8. To add a new queue group, follow the corresponding steps in "Adding queue groups" on page 155.
 9. To add a new variable, follow the corresponding steps in "Adding variables" on page 553.
 10. Click **Save**.

To set the dialing properties

1. Select the **Transfer** activity.
2. In the **Properties** pane, after **Transfer Type**, to instruct the activity to hold calls transferred to busy lines, in the **Properties** pane, select the **Camp On Busy** check box.
3. To append outbound calls with a prefix digit, select the **External Transfer** check box. The prefix digits appended to external transfers are defined on the media server.
4. Select **Blind** or **Supervised** from the drop-down list.
5. Click **Save**.

To configure the reporting and timeout options

1. Select the **Transfer** activity.
2. To enable reporting, select the **Child Reporting Enabled** check box.
3. To set the duration that a call is put on hold during a transfer, after **Timeout Duration**, enter the time allotted for the transfer.
4. Click **Save**.

Configuring the Variable Compare activity

The Variable Compare activity routes calls through workflow branches by comparing information, stored in either custom or system variables, against specified conditions.

For example, you can use Variable Compare to create a priority branch for customers with Gold membership. The Variable Compare activity compares a variable for Gold membership against a customer's actual membership level. If the customer's membership information compares positively against the criteria for the Gold branch then the caller is routed to the priority branch. Customers whose membership information does not match the criteria for the Gold branch are routed to the No Match branch.

You can applying branching conditions to Variable Compare activities, and you can group variable conditions to determine how IVR Routing directs callers through the workflow.

The Variable Compare activity is available in

- Inbound, Outbound, and Inqueue workflows
- Inbound, Outbound, RAD, Management, UPiQ, and Callback Inbound subroutines

Applying branching conditions to Variable Compare activities

The following procedures explain how to

- Add conditions to be compared against workflow data
- Edit conditions being compared
- Delete conditions being compared

To add a condition to be compared against workflow data

1. Right-click the **Variable Compare** activity and select **Add Variable Compare condition**.
2. Type a **Name** for the condition and click **Add**.
3. Select a variable from the drop-down list and click **OK**.
To see a list of IVR Routing variables and their descriptions, go to 'IVR Routing=>Variables'.
4. Select an operator from the second drop-down list. Options vary according to the variable chosen.
5. In the third column, type or select a value for the variable. If selecting a value, note that options vary according to the variable selected.
NOTE: " means 'No Value'.
6. Click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
7. Click **Save**.

To edit a Variable Compare condition

1. Right-click the condition's branch and select **Edit**.
2. Edit the condition, and click **OK** to create the branch or click **Add** to add the current branch to the workflow while leaving the dialog box open to create new branches.
3. Click **Save**.

To delete a Variable Compare condition

- Right-click the condition's branch and select **Delete**.

Grouping variable compare conditions

You can group variables to be compared in the Variable Compare activity using the 'Group AND' or 'Group OR' buttons in the Variable Compare Condition Designer. Grouping variables by Group AND means that every variable condition specified must be met to route the call to the Success branch. Grouping variables by Group OR means that only one of the variable conditions specified must be met to route the call to the Success branch.

NOTE:

- The 'Group AND' and 'Group OR' buttons will be disabled unless you have at least two conditions to group.
- Group AND is the default grouping for the Variable Compare activity.

To group variable compare conditions

- See "Grouping expressions" on page 570.

PASSING AGENTS CALL INFORMATION IN SCREEN POPS

Screen pops pass call information to agent desktops. When the system routes a call, information can be passed to agents in one of two ways. First, you can configure Contact Center Screen Pop. Contact Center Screen Pop is applied uniformly across queues, providing all agents the same type of call information. For more information, see "Contact Center Screen Pop" on page 458.

Second, you can configure screen pops within an Inqueue workflow, programmed on a queue-by-queue basis. See "Populating screen pops with workflow variables" on page 626.

NOTE:

- Contact Center Screen Pop is hidden unless you are licensed for it.
- If Contact Center Screen Pop and screen pops configured via Inqueue workflows are both active, the workflow screen pop overrides Contact Center Screen Pop.

Populating screen pops with workflow variables

When a call is processed through a workflow, you can populate URLs or executable files with variables detected for the call. These URL and executable files, and the variable information they contain, can be passed to agents in the form of a screen pop.

Screen pops display when a contact is ringing on the agent's extension. Variables available to the workflow's media type, which also contain the 'Send to Agent's desktop' checkbox, can populate a screen pop with information. Populating URLs and executable files with workflow variables enables you to customize screen pops on a queue-by-queue basis.

For example, you can configure a workflow to query a database and retrieve a customer's name and account number. When the call rings on an agent's extension, a screen pop opens a web page delivering the customer information to the agent. The agent is immediately able to provide personalized, informed service.

Administrators must provide webcodes and servers for URLs and the executable codes behind executable files. URLs must include 'http://' in the URL string.

Executable files may prompt a Windows security warning on client desktops before popping. Administrators may disable this security setting in Internet Explorer. For more information, consult Microsoft documentation.

NOTE: If Contact Center Screen Pop and screen pops populated with workflow variables are both active, the workflow variable screen pop overrides Contact Center Screen Pop.

To populate a screen pop with a workflow variable

1. Click **IVR Routing=>Variables**, and select the **ScreenPopOnRinging** variable.
2. Select **Send to agent desktop**.
3. In an Inbound workflow, place a **Set Variables** activity on the Workflows Canvas.
NOTE: We recommend placing the Set Variables activity quite close to the activity offering the call to an agent's extension. This helps prevent the screen pop's value from being overwritten by another variable query.
4. Right-click the **Set Variables** activity and select **Edit Variable Settings**.
5. Click **Add** and, from the **<Select a variable>** drop-down list, select **ScreenPopOnRinging**.
6. Click **<Value>** and, in the **Value** tab, enter a URL string or the path to an executable file.
NOTE: The paths to executable files must be accessible to any clients who require its use. For example, administrators can place the file on a network share.
7. To populate a web page screen pop with variable information, insert the variable's name between double angle brackets where applicable in the URL string.
For example, <<DNIS>>.
8. Click **OK** to close the variable dialog box and click **OK** to return to the workflow.
9. Click **Save**.

IVR ROUTING DEFAULT WORKFLOWS AND SUBROUTINES

Version 7.1 includes a number of default workflows and subroutines. The workflows and subroutines are based on common scenarios and demonstrate IVR Routing's enhanced functionality. They can be configured according to your business needs.

IVR Routing includes the following default workflows

- Default UPiQ Inqueue workflow
 - Includes default UPiQ subroutine
- Default Callback Outbound workflow

Includes the following subroutines

 - Default Outbound Abandon Callback subroutine
 - Default Outbound Voice Callback subroutine
 - Default Outbound Web Callback subroutine

In addition, IVR Routing includes the following default Callback Inbound subroutine:

- Default Inbound Voice Callback subroutine

The following sections summarize the default workflows and subroutines and explain how they operate. For ease of understanding, we also recommend you expand the entire workflow and all annotations.

To expand the workflow

- Click the **Expand All** button

To expand all annotations

- Right-click the workflow and select **Annotations...=>Show All**.

CHANGES TO CALLBACKS AND UPIQ

Version 7.0 introduced important changes to how callbacks and UPIQ are configured.

Prior to Version 7.0, callbacks and UPIQ were configured directly on the queue. Callbacks were configured via callback plans, and UPIQ was configured by selecting from a set of predetermined options. In Version 7.0 and greater, callbacks and UPIQ are configured using default workflows and subroutines included with IVR Routing. These default workflows and subroutines replicate the functionality of callbacks and UPIQ prior to Version 7.0 while enabling you to configure and customize the callback and UPIQ processes. This new configuration ensures that callbacks and UPIQ can be as simple or sophisticated as you require.

Upgrading to Contact Center Solutions Version 7.1 seamlessly migrates your existing Callback and UPIQ configuration from the Version 6.x configuration options into Version 7.1 workflows. This includes custom .wav files and any changes to the default options. For more information on how Callback and UPIQ function in workflows, see "Default callback workflow and subroutines" on page 631, and "Default Inqueue UPIQ workflow and subroutine" on page 629.

Note that UPIQ Inqueue and Callback Outbound workflows are now enabled or disabled by selecting the 'Always run' check box on the Workflows pane.

NOTE: Callback ports have been deprecated and are converted to Outbound ports during the migration process.

CUSTOMIZING THE DEFAULT WORKFLOWS AND SUBROUTINES

If you want to create your own versions of IVR Routing's default workflows, we recommend you do so by reconfiguring the default workflows. To create multiple workflows of the same type, you can make multiple copies of the default workflows and reconfigure them. For more information, see "Copying workflows" on page 526 and "Cutting, pasting, and copying workflow items" on page 526.

Each default workflow requires additional configuration to get them up and running for your business. For information on configuring the workflow activities to suit your contact center, follow the cross-references throughout each summary.

The following requirements are shared among default workflow. You must

- Validate the workflow and activity configuration and correct any errors detected. See "Troubleshooting workflow configuration with the Validation button" on page 568.
- Associate Inbound workflows to an extension or hunt group, and associate Outbound workflows to an extension. See "Associating workflows to devices" on page 529.
- Associate Inqueue workflows to at least one queue. See "Associating workflows to devices" on page 529.

DEFAULT INQUEUE UPIQ WORKFLOW AND SUBROUTINE

This workflow instructs IVR Routing to obtain callers' position in queue and executes a subroutine to play callers different UPIQ messages based on their position. Previously, UPIQ was turned on or off on a queue-by-queue basis and contained pre-programmed options from which to choose. UPIQ is now comprised of a configurable subroutine referenced within a dedicated Inqueue workflow. You can use the subroutine to choose how many customers on hold are updated, the frequency with which they are updated, and the specific messages they hear based on their queue position. You can assign the workflow to any Voice queue in your enterprise. This UPIQ Inqueue workflow enables you to create a customized, dynamic UPIQ experience for customers waiting in queue, helping you to meet your service level objectives by reducing abandoned calls.

Expected Wait Time announcements are not included in the Default UPIQ subroutine, but can be added to the Default UPIQ subroutine. For more information, see "Playing Expected Wait Time announcements" on page 520

To further illustrate the workflow's activities and their operations, we recommend you expand the entire workflow and all annotations.

To expand the workflow

- Click the **Expand All** button.

To expand all annotations

- Right-click the workflow and select **Annotations...=>Show All**.

Description

The first step in this workflow is a Delay activity. The Delay activity determines the time until callers in queue hear the first UPIQ message. By default, the Delay activity is set to 10 seconds. To reconfigure this time, see "Configuring the Delay activity" on page 580.

Next in the workflow is a Variable Compare activity, in this example named 'Check Position'. This activity determines the range of positions hearing UPIQ messages and compares it to a caller's actual position in queue and expected wait time. If a caller is in position one through eight, and if their expected wait time is less than the last expected wait time reported, the Check UPIQ settings branch is followed. To reconfigure the criteria determining whether callers hear UPIQ messages, edit the Variable Compare activity. See "Configuring the Variable Compare activity" on page 624.

NOTE: Any additional position you configure in the Variable Compare activity must have a branch associated to it in the UPIQ subroutine's Variable Compare activity (see below).

If callers do not meet this criteria, the No Match branch is followed and the system is continuously prompted to recheck queue positions against the UPIQ criteria. This enables callers moving into the range of UPIQ positions to hear their updated position. The frequency with which the system rechecks positions and estimated wait time is determined by a second Delay activity (see below). A Go To activity loops back to the Variable Compare activity to begin the process again (see below).

For callers within the range of UPIQ positions, a Connect to Caller activity, embedded within the Variable Compare activity and labeled 'Default UPIQ' in this example, prompts the UPIQ port to engage callers and executes the subroutine determining the messages different positions hear (see below).

If the Connect to Caller activity cannot find an available UPIQ port, the No Port Available branch is followed. If the Connect to Caller action fails, the Failure branch is followed. In each case, after an initial delay determined by the Delay activity (see below), a Go To activity loops back to the Variable Compare activity to begin the process again. A Set Variables activity, in this example named 'Update Last Position and Wait time reported', is configured so callers whose position has not changed do not hear their position read to them repeatedly. If you delete the Variable Compare activity, delete this activity also.

The subroutine contains activities enabling you to customize the experience of a caller waiting in queue.

To see the subroutine, go to **IVR Routing=>Subroutines=>Default UPIQ**.

The first step in the subroutine is an Answer activity. The Answer activity tells the UPIQ port to answer the call. The next step in the subroutine is a Language activity, which enables the prompt language to change, based on options previously selected by the customer. To change this language from English, see "Configuring the Language Activity" on page 591. If the system language will remain English only, you can delete this activity.

Next is a Set Variables activity, configured to determine if the estimated wait time a caller hears should be rounded to the nearest minute. The default setting for this variable is 'False', meaning that the estimated wait time is not rounded to the nearest minute. To round the estimated wait time to the nearest minute, you must reconfigure the setting to 'True'. For more information, see "Configuring the Set Variables activity" on page 620.

Next is a Variable Compare activity. This activity compares a caller's position in queue to those hearing UPIQ messages. If callers are in position one, the 'UPIQ Position Equal 1' branch is followed. Additional branches are followed for other caller positions. These branches contain Play activities informing callers of their position in queue. To alter the messages callers hear, see "Configuring the Play activity" on page 598.

If callers are outside the range of UPIQ positions, the No Match branch is followed. We recommend you configure this branch with activities to determine how the system behaves when the branch is followed. A Hang Up activity ends the subroutine. To reconfigure the Variable Compare activity, for example to add branches to incorporate additional queue positions, see "Configuring the Variable Compare activity" on page 624.

NOTE: Callers are directed to the No Match branch in the subroutine only if you have not programmed a branch to incorporate their position in queue. If callers are being directed to the No Match branch, ensure you adjust the subroutine so these callers hear a message and stay in queue.

Following the subroutine is a Delay activity. The Delay activity determines how frequently the system compares queue positions to the range of callers hearing UPIQ messages. This Delay activity also determines how frequently the script to check position in queue is rerun after a Timeout or if the enterprise is down. By default the Delay activity is set to 20 seconds. To reconfigure this time, see "Configuring the Delay activity" on page 580.

A Go To activity at the end of the workflow loops back to the 'Check Position' Variable Compare activity. This ensures the UPIQ messages run continuously, adjust to shifting caller position in queue, and incorporate new callers.

DEFAULT CALLBACK WORKFLOW AND SUBROUTINES

IVR Routing includes the following default callback workflows:

- Default Callback Outbound workflow
Includes the following subroutines:
 - Default Outbound Abandon Callback subroutine
 - Default Outbound Voice Callback subroutine
 - Default Outbound Web Callback subroutine

In addition, IVR Routing includes the following Callback Inbound subroutine:

- Default Inbound Voice Callback subroutine

Default Outbound Callback workflow

This workflow manages retrieving callback queues and offering them to agents. This workflow runs continuously, searching SQL for submitted callback requests and offering them to queues. Depending on the kind of callback submitted, this workflow leverages the appropriate Outbound callback subroutine so that the callback type is handled correctly and offers the agent relevant options.

This callback must be associated to an Outbound port. See "Associating workflows to devices" on page 529.

To further illustrate the workflow's activity and operations, we recommend you expand the entire workflow and all annotations.

To expand the workflow

- Click the **Expand All** button.

To show all annotations

- Right-click the workflow and select **Annotations...=>Show all**.

Description

The first step of this workflow is the Retrieve Callback activity. This activity looks in SQL for submitted callback request that are ready to be delivered to the queue. Retrieve Callback has three branches: Success, Timeout, and Failure. If the Retrieve Callback activity times out during retrieval or fails to retrieve a callback, for example, if there are no submitted callback requests, it continues in the workflow to the Delay activity. If a callback request is detected, it is retrieved and routed to the Success branch.

The Success branch contains a Subroutine activity, which checks the <<CallbackOutboundWorkflowId>> variable in the callback request for the appropriate subroutine and then routes the request through the appropriate subroutine workflow. For an overview of the subroutines, see "Default Outbound Callback subroutines" on page 632.

The final activity in the workflow is a Delay activity, which is configured with a five-second delay. This activity creates a buffer of time between each offering of a callback request. For information on modifying the Delay activity, see "Configuring the Delay activity" on page 580.

Default Outbound Callback subroutines

IVR Routing includes the following three subroutines for Outbound callbacks:

- Default Outbound Abandon Callback subroutine
- Default Outbound Voice Callback subroutine
- Default Outbound Web Callback subroutine

These subroutines are used by the Default Callback Outbound subroutine to offer callback requests to agents and manage outbound calls to customers. The three subroutines manage the state of the callback request, setting the frequency and number of times a callback request is offered to a queue. This prevents an unsuccessful callback request from being offered repeatedly. Using the Save Callback activities located throughout the subroutine at the various endpoints, callback requests are saved back to the SQL database with reason codes that inform the system whether or not the callback request is complete or if it needs to be requeued.

The subroutines handle the offering of the callback request to agents as well as managing the outbound call to the customer.

The subroutines are functionally identical with the exception of the Menu option for Branch 1. The voice callback enables the agent to listen to any message left by the customer when they made their voice callback request. The web callback enables the contact center agent to hear a text-to-speech reading of the customer's submitted name. The abandon callback has no option for Branch 1.

If you are migrating from Version 6.0.x to Version 7.1, the Default Outbound Callback subroutines replace the voice, web, and abandon Callback Plan's Routing Rules and Agent options. For guidance as to which activities replace which elements of the callback plans, consult the notes placed throughout the following description.

Description

The first step in this subroutine is a Set Variable activity. This activity is configured with the maximum number of callback attempts and the interval for the next attempt at making this callback request, enabling you to control the frequency and number of times a callback will be offered to agents. The number of attempts is added to the callback request's SQL record, depending upon which Save Callback activity reasons are applied to the callback request as it is routed through the subroutine. For information on configuring the Set Variable activity, see "Configuring the Set Variables activity" on page 620.

NOTE: If you are migrating from Version 6.0.x to Version 7.1, the Set Variable activity replaces the 'Number of attempts to contact client' and the 'Retry interval between attempts' field from the 'Routing Rules' tab of the Callback Plans.

Next in the subroutine sequence is a Schedule activity. This activity confirms that callback requests arriving outside of business hours are not offered to queues while there are no agents to handle them.

Instead, they are queued in the order they arrive, to be handled when business hours resume. This activity has two branches: Business Hour and After Hours. Callback requests are routed to the After Hours branch if they arrive outside business hours. This branch contains a Save Callback activity that saves the callback to SQL with the reason 'Requeued – Schedule conditions did not pass', requeuing it to be offered at the beginning of the next business day. Callback requests are routed down the Business Hour branch if the contact center is currently open and there are ports available. By default, this branch uses the Default 24/7 - 1 schedule. For details on configuring the Schedule Activity, see "Configuring the Schedule activity" on page 615.

NOTE: If you are migrating from Version 6.0.x to Version 7.1, the Schedule activity replaces the 'Allow Schedule' and 'Schedule Plan' options from the 'Routing Rules' tab of the Callback Plans.

The first activity in the Business Hours branch is the Queue activity. This activity routes callbacks depending on whether or not there are any agents present to handle callback requests in this queue. The condition for this activity branches callbacks depending whether there are one or more agents available or if there are no agents available. This activity has two branches: 1 or More Agents are Logged In and No Agents are Logged In. If no agents are available, callbacks are routed to the No Agents are Logged In branch. This branch contains a Save Callback activity that saves the callback to SQL with the reason 'Requeued – No agents available', requeuing it to be offered later.

Callback requests route down the '1 or More Agents are Logged In' if there are agents available to handle callbacks in the queue. The first activity of this branch is a Save Callback activity that updates the callback request's progress to SQL with the 'In Progress – Dialing Agent' reason.

The branch continues to a Make Call activity. This submits the callback request to the destination set in the <<CallbackDestination>> variable, usually the queue from which the caller made the callback request. Calls submitted to the queue remain in the queue for the time set in the Timeout duration property before following the Timeout branch. By default, the Timeout duration is set to 1 minute. For details on configuring Make Call activity, see "Configuring the Make Call activity" on page 592.

NOTE: The destination of the Make Call activity can be changed if there is an alternate destination, other than the queue of origin, from which you want to handle callback requests. For information on configuring the Make Call activity's destinations, see "Configuring the Make Call activity" on page 592.

The Make Call activity has four branches: Agent Receives the Callback, No Answer Timeout, Destination Busy, Invalid Destination, and Failure. No Answer Timeout, Destination Busy, Invalid Destination, and Failure each contain a Save Callback Request activity.

Callback requests are routed to the No Answer Timeout branch when the timeout duration expires, where the Save Callback Request activity saves the callback request to SQL with the reason 'Requeued – Agent did not answer'. This enables the outbound ports to re-offer it to the queue. If the destination that the callback request was routed to is busy, the callback request is sent to the Destination Busy branch. This branch's Save Callback Request activity saves the callback request to SQL with the reason 'Requeued – Agent was Busy', which enables the outbound ports to re-offer it to the queue. If the destination in the <<CallbackDestination>> variable is invalid, the callback request is routed to the Invalid Destination branch. This branch's Save Callback Request saves the callback request to SQL with the reason 'Completed – Invalid Agent Destination', which prevents the callback from being re-offered to the queue. If there is a failure to queue the callback request, the callback request is routed to the Failure branch. This branch's Save Callback Request saves the

callback request to SQL with the reason 'Requeued – PBX Connection was lost.', which enables the outbound ports to re-offer it to the queue.

NOTE: If you are migrating from Version 6.0.x to Version 7.1, the Make Call activity's timeout duration corresponds to 'No answer timeout (secs)' field from the 'Agent Options' tab of the Callback Plans.

If the destination is valid and the callback request does not timeout, the request is routed through the Agent Receives the Callback branch and offered to the queue. The Agent Receives the Callback branch contains a Menu activity. When the contact center agent answers the callback request, they are connected to the Menu activity in the subroutine.

In the Voice and Web callback subroutines, the Menu activity plays an instruction prompt that tells the agent 'To listen to the caller's message, press 1. To place this call, press 2. To requeue this request, press 3. To reject this request, press 4. To hear these options again, press 5.' In the Abandon callback subroutine, the Menu activity plays an instruction prompt that tells the agent 'To place this call, press 2. To requeue this request, press 3. To reject this request, press 4. To hear these options again, press 5.' The Menu activity has one branch for each menu option, as well as branches for Timeout, No Match, and Failure.

NOTE: If you are migrating from Version 6.0.x to Version 7.1, the Menu activity's prompts and branches correspond to the options in the 'Digit Menu' section of the 'Agent Options' tab of the Callback Plans.

In the Voice callback subroutine, 1 – Play Customers Message enables the employee handling the callback request to listen to the recorded message the customer left. The first activity of 1 – Play Customers Message is a Play activity that is configured to play to the agent the .wav file of the message the customer recorded with their callback request, stored in the <<CallbackClientRecording>> variable. The next activity in this branch is a Go To activity that returns the agent to the start of the Menu activity.

In the Web callback subroutine, 1 – Play Customers Message enables the employee handling the callback request to listen to a text-to-speech reading of the customer's name. The first activity of 1 – Play Customers Message is a Play activity that is configured to play a text-to-speech reading of the customer's name. After playing this, the branch continues to a Go To activity that returns the agent to the start of the Menu activity.

NOTE: In the Abandon callback subroutine, there is no option for 1 – Play Customers Message.

The 2 – Call the Customer Back enables the employee to callback the customer who made the callback request. This branch contains a Conference activity that is configured to call the number the customer left when making their callback request, stored in the <<CallbackClientNumber>> variable. This activity has seven branches Success, Client Disconnect, Agent Disconnect, Destination Busy, Timeout, Invalid, and Failure.

NOTE: If you are migrating from Version 6.0.x to Version 7.1, the Conference activity's timeout duration corresponds with the 'No answer client timeout (secs)' field in the 'Routing Rules' tab of the Callback Plans.

If the agent's call is successful, it is routed to the Success branch of the Conference activity where a Play activity plays the following message 'Please wait while the call is established.' The agent is then connected to the caller. When the agent is finished with the callback, the subroutine continues to a Save Callback activity that saves the reason 'Completed', indicating that the request is complete and should no longer be offered to the queue.

If the customer hangs up on the callback attempt from the agent, the callback request is routed to the Client Disconnect branch of the Conference activity. This branch contains a Play activity that informs the agent that the conference has failed and the customer is not available and a Save Callback activity that saves the callback request with the reason 'Requeued – Client did not answer', which enables the outbound ports to re-offer it to the queue. The client disconnect is counted as an attempt for a callback, increasing the saved number of attempts for the callback by 1.

If the agent hangs up on the callback attempt, the callback request is routed to the Agent Disconnect branch of the Conference activity. The Agent Disconnect branch contains a Save Callback activity that saves the callback request with the reason 'Requeued – Agent did not answer'. This sets the callback request to be requeued to be tried again later and does not count as a callback attempt in the callback request's record.

If the callback request rings on the customer's phone for the configured Timeout duration, it is routed down the Timeout branch of the Conference activity. The Timeout branch contains a Play activity that informs the agent that the conference has failed and the customer is not available and a Save Callback activity that saves the callback request with the reason 'Requeued – Agent did not answer'. This sets the callback request to be requeued again later and does not count as a callback attempt in the callback request's record.

If the customer's phone is busy, the callback request is routed down the Destination Busy branch of the Conference activity. This branch contains a Play activity that informs the agent that the conference has failed and the customer is not available and a Save Callback activity saves the callback request with the reason 'Requeued – Client was busy.', which is counted as a callback attempt.

If the callback request included an invalid phone number for the customer, the callback request is routed to the Invalid branch of the Conference activity. This branch contains a Play activity that informs the agent that the conference has failed and the customer is not available and a Save Callback activity saves the callback request with the reason 'Completed – Invalid Client Destination', which resolves the callback request and ensures it will no longer be offered to the queue.

If a failure occurs, the callback request is routed to the Failure branch of the Conference activity. This branch contains a Play activity that informs the agent that the conference has failed and the customer is not available and a Save Callback activity saves the callback request with the reason 'Requeued – Failed to connect to agent/queue', which does not count as a callback attempt.

The 3 - Requeue the Callback branch of the Menu activity requeues the callback request, offering it to the queue again after the retry interval duration expires. This branch contains a Save Callback activity that saves the callback request with the reason 'Requeued – By an Agent.', which ensures it is re-offered to the queue.

The 4 – Reject the Callback branch of the Menu activity rejects the callback and marks it as completed so it is no longer offered to the queue. This branch contains a Save Callback activity that saves the callback request with the reason 'Completed – Rejected by agent.', which completes the callback request.

The 5 – Hear the Options Again branch enables the agent to listen to the Menu options again. This branch contains a Go To activity that sends the agent back to the start of the Menu activity in the subroutine.

If the agent does not choose an option after 10 seconds, they are routed down the Timeout branch. This branch contains a Go To activity that sends the agent back to the start of the Menu activity in the subroutine.

If an agent pushes a number that is not programmed in the menu, they are routed down the No Match branch. This branch contains a Go To activity that routes the agent back to the start of the Menu activity in the subroutine.

The Failure branch of the Menu activity contains a Hang Up activity. The agent is routed to this branch if the Menu activity times out three times. If the agent is routed to this branch, the callback attempt is deleted from the system.

The final activity of the subroutine is a Hang Up activity, which ends the subroutine.

Default Inbound Voice Callback subroutine

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

NOTE:

- If you change any of the activities in the workflow, ensure that the prompts used are still accurate and reflect the options offered to the callers.
- To further illustrate the workflow's activity and their operations, we recommend you expand the entire workflow and all annotations.
- As of Version 7.0 and greater, this callback subroutine workflow replaces the Voice Callback Plan's Callers Options tab.

To expand the workflow

- Click the **Expand All** button.

To show all annotations

- Right-click the workflow and select **Annotations...=>Show all**.

Description

The first step in the workflow is a Collect Digits activity. This activity prompts callers to enter the phone number they would like to be reached at, which the workflow then stores in the <<CallbackClientNumber>> variable. By default, callers must enter between seven and ten digits and press # as the terminating digit, but these defaults may be altered. For information on changing the defaults, see "Configuring the Collect Digits activity" on page 575.

NOTE:

- If you are migrating from 6.0.x to Version 7.1, the options in this activity correspond to the General options in the Callers Option tab for Voice Callback Plans.
- This activity is mandatory, but another activity that can obtain and store the caller's number in the CallbackClientNumber variable could be used instead of collect digits.

The Collect Digits activity has four branches: Phone Number Collected, Timeout, Invalid, and Failure. Callers are routed to the Timeout Branch if they do not enter anything after 12 seconds. This branch contains a Play activity, whose prompt informs callers that there was no input, and a Go To activity, which returns callers to this Collect Digits activity. Callers are routed to the Invalid branch if the phone number goes over or under the specified minimum and maximum number of digits. This branch is identical to the Timeout branch. Callers are routed to the Failure branch when their timeouts or invalid digit entries exceed the set number of Invalid attempts, which by default is 3. The Failure branch contains a Hang Up activity that terminates the workflow. For information on configuring Collect Digits activity options, see "Configuring the Collect Digits activity" on page 575.

If a caller successfully enters their phone number, they are routed into the Phone Number Collected branch. This branch validates the caller's phone number against a phone number exclusion list, ensuring contact center agents are only handling valid callback requests. The first activity of this branch is a Variable Compare activity, which compares the <<CallbackClientNumber>> variable to a series of conditions in the activity's Invalid Numbers condition. These numbers can be changed and additional numbers can be added to the exclusion list. For information on configuring the Variable Compare activity, see "Configuring the Variable Compare activity" on page 624.

NOTE: If you are migrating from 6.0.x to Version 7.1, the Variable Compare activity and its branches correspond to the 'Exclusion Phone List' from the 'Callers Option' tab for Voice Callback Plans.

The Variable Compare activity contains two branches: Invalid Numbers and No Match. If the phone number collected in <<CallbackClientNumber>> matches any of the conditions of the exclusion list, then the caller is routed into the Invalid Numbers branch. This branch contains a Play activity, which informs callers they have input an invalid phone number. Next in this branch is a Go To activity, which returns the caller to the Collected Digits activity. If the phone number in the <<CallbackClientNumber>> does not match anything in the exclusion list, the caller is routed through the No Match branch to the next activity in the workflow.

The workflow's next step is to capture the customer's preferred date and time for the callback in the <<CallbackPreferredDateTime>> variable. The workflow continues with a Collect Digits activity, which prompts the caller to enter the requested date and time for their callback. The format for this is DDMMYYYYTTTTXX, where XX is either '26' for AM or '76' for PM. IVR Routing will not offer the caller's callback request to a queue until this date and time.

NOTE:

- If you are migrating from 6.0.x to Version 7.1, this activity and its branches correspond to the options under 'Capture Preferred Time' options in the 'Callers Option' tab for Voice Callback Plans. A 12-hour date-time format is used exclusively and can only be entered as DDMMYYYYTTTTXX, where XX is either '26' for AM or '76' for PM..
- This activity and its branches are not mandatory and may be removed from the workflow if you do not want to enable callers to specify a date and time for a callback.

This activity has four branches: Success, Timeout, Invalid, and Failure. The Timeout and Invalid branches are standard Collect Digits branches. Callers are routed to the Timeout Branch if they do

not enter anything after 12 seconds, while callers are routed to the Invalid branch if they enter too few digits or too many digits. Callers are routed to the Failure branch when their timeouts or invalid digit entries exceed the set number of Invalid attempts, which by default is 3. The Failure branch contains a Hang Up activity that terminates the workflow. For information on modifying the timeout duration of the Collect Digits activity, see "Configuring the Collect Digits activity" on page 575.

If they enter valid digits, the caller is routed to the Success branch, where the Collect Digit activity reads back the date and time entered. The branch contains a Date Time Validation activity. This activity validates the entered date to ensure that the date and time are formatted correctly for use in the Outbound Callback workflow. This activity contains three branches: Success, Timeout, and Failure. Callers are routed to the Failure branch if the format of the date is not recognized as valid. This branch contains a Go To activity that returns the caller to this Collect Digits activity. The Success branch routes callers to the next activity in the workflow.

The Success branch contains a Set Variables activity that defines the window of opportunity the system has to offer a callback to a caller. By default it is configured to 30 minutes, so if the system is unable to contact the customer within 30 minutes of their preferred date and time, it will not try again. The time may be customized to match contact center requirements for callbacks. For information on modifying the Set Variables activity, see "Configuring the Set Variables activity" on page 620.

Once the date and time have been saved, the workflow continues to a Record activity, so callers can leave a message with their callback request. The Record activity contains three branches: Save, Discard, and Review. Discard and Review branches are standard Record activity branches. The Record activity's Save branch contains a Play activity, which informs callers that the recording has been saved. The branch continues to a Set Variables activity that links the .wav file to the submitted callback in SQL, ensuring that it is available to the agent when they receive this callback request. For information on configuring the Record activity and its branches, see "Configuring the Record activity" on page 609.

NOTE:

- If you are migrating from 6.0.x to Version 7.1, the Record activity and its options correspond to the 'Capture Recording' section from Voice Callback Plans.
- This activity and its branches are not mandatory and may be removed from the workflow if you do not want to offer callers the ability to record a message.

The workflow continues with a Menu activity. This activity is the final step in the workflow for the caller, requesting that they either confirm or cancel their callback request. The instruction prompt informs the caller 'To submit this callback request, Press 1. To cancel this request and exit this system, please press the * key.' The Menu activity has five branches: 1. Confirm, *. Cancel, Timeout, No Match, and Failure. The Timeout and No Match branches are standard Menu branches with no additional configuration. The Failure branch contains no activities and routes callers through to the Save Callback to Requeue Activity, the *. Cancel branch, which contains a Play activity informing callers that their callback has been cancelled, and a Hang Up activity, which ends the workflow. The Confirm Branch contains no activities and routes the callers through to the Save Callback activity.

NOTE:

- If you are migrating from 6.0.x to Version 7.1, the Menu activity and its options correspond to the 'Capture Confirmation' section from Voice Callback Plans.
- This activity and its branches are not mandatory and may be removed from the workflow if you do not want to offer callers the ability to confirm or cancel their callback request.

The final activity in this workflow is a Save Callback activity. This activity saves the callback request to the SQL database with the reason 'New Request – Voice', which enables the outbound port to detect it and offer it to the queue. This activity contains two branches: Success and Failure. The Success branch contains a Play activity that informs the caller that the callback has been submitted and routes the caller out of the workflow. The Failure branch has a Play activity that informs callers that the callback request submission failed, followed by a Go To activity that returns the callers to the Menu activity to attempt callback resubmission.

IVR ROUTING WORKFLOW SAMPLES

Version 7.1 includes a variety of sample workflows. These workflow samples are based on common business scenarios. They not only demonstrate how IVR Routing can be used to efficiently direct calls to appropriate queues but, because they can be imported directly into your IVR Routing application, they save you the time of creating your own introductory workflows.

The sample workflows create a basis upon which you add elements to fully customize your IVR Routing solution. For example, if you want to be able to access a database of customer phone numbers, you will need to create the database and make it available to your workflow. Each sample workflow description below includes recommendations for workflow configuration optimization.

Generic prompt messages are included for applicable workflow samples.

Version 7.1 gives you access to the following six sample workflows:

- Schedule with Mode of Operation and Menu
- ANI and DNIS condition with unique menus and a callback option
- Schedule condition followed by DNIS and Language with menus
- Management Plan subroutine
- Outbound workflow with Excel
- Workflow for PCI Compliant systems

Some sample workflow contain Menu activities. The Menu activity prompts callers with messages and manages routing based on caller input. Besides the options you configure and add in the Menu, there are three default branches included in all Menu activities: Timeout, Invalid, and Failure. These branches cannot be deleted and function as follows:

- **Timeout:** Calls are routed to this option if the caller does not respond to a request within the time limit allowed, as configured for the Main Menu in the Properties pane, under Options. A default timeout message plays and the caller is returned to the Main Menu. You configure the number of times the call is returned to the Main Menu, after failing to respond to a request within the set time limit. If the caller exceeds the number of attempts, the call proceeds to the Failure branch.
- **Invalid:** This branch works similarly to the Timeout branch except that it channels callers that have entered invalid response digits. There is a default Invalid number message that plays.
- **Failure:** Calls are routed to this branch if the maximum Timeout or Invalid attempts are reached. Calls that enter the Failure branch are, in most samples, transferred to the Operator. If the Operator is unavailable, the call proceeds to the Hang up activity. If you want a message to play in this branch, you must configure and add one.

NOTE: After importing the sample workflows and assigning them to ports they will be 'live' in your system. Any modifications to the workflows will affect your IVR Routing system. For example, if you put a port into Emergency Mode using the Sample Management Plan workflow that port will indeed go into Emergency Mode.

IMPORTING IVR ROUTING SAMPLE WORKFLOWS

In order to have access to the sample workflows you must import them from the folder in which they are stored when you download our software.

To import IVR Routing sample workflows

1. Click **IVR Routing=>Workflows**.
2. Click the **Import** button.
3. Navigate to the .xaml file you want to import and click **Open**.
NOTE: The sample workflows are located in C:\Program Files (x86)\prairieFyre Software Inc\CCM\ivr\Sample Callflows.
4. Click **Save**.

NOTE: After importing a workflow, you must configure your own prompts and connect the workflow to devices that are specific to your system. If the prompts you configure or the connections you make to devices are invalid, a red exclamation mark icon displays on the Workflows Canvas indicating a validation error. For more information, see "Troubleshooting workflow configuration with the Validation button" on page 568.

Associating sample workflows to extensions or hunt groups

After you import a sample IVR Routing workflow, you must associate it to extensions or hunt groups in order to make the workflow go 'live' in your system. For more information, see "Associating workflows to devices" on page 529.

SAMPLE SCHEDULE WITH MODE OF OPERATION AND MENU

This workflow instructs IVR Routing to direct calls that arrive during business hours, in normal conditions, to the appropriate queues based on the caller's selection of menu options. Calls arriving during business hours when the contact center is closed due to emergency conditions are routed to an Emergency branch where they hear an emergency message explaining why the contact center is closed. Calls arriving outside business hours are routed to a Closed branch where they hear a prompt informing them that the contact center is closed.

This workflow:

- Makes customers aware of business hours and channels their calls as applicable
- Enables calls to be routed during emergency closures, for example, in extreme weather conditions
- Routes callers to the appropriate queues, based on customer digit selection

Figure 120 displays this workflow as it appears when first imported.

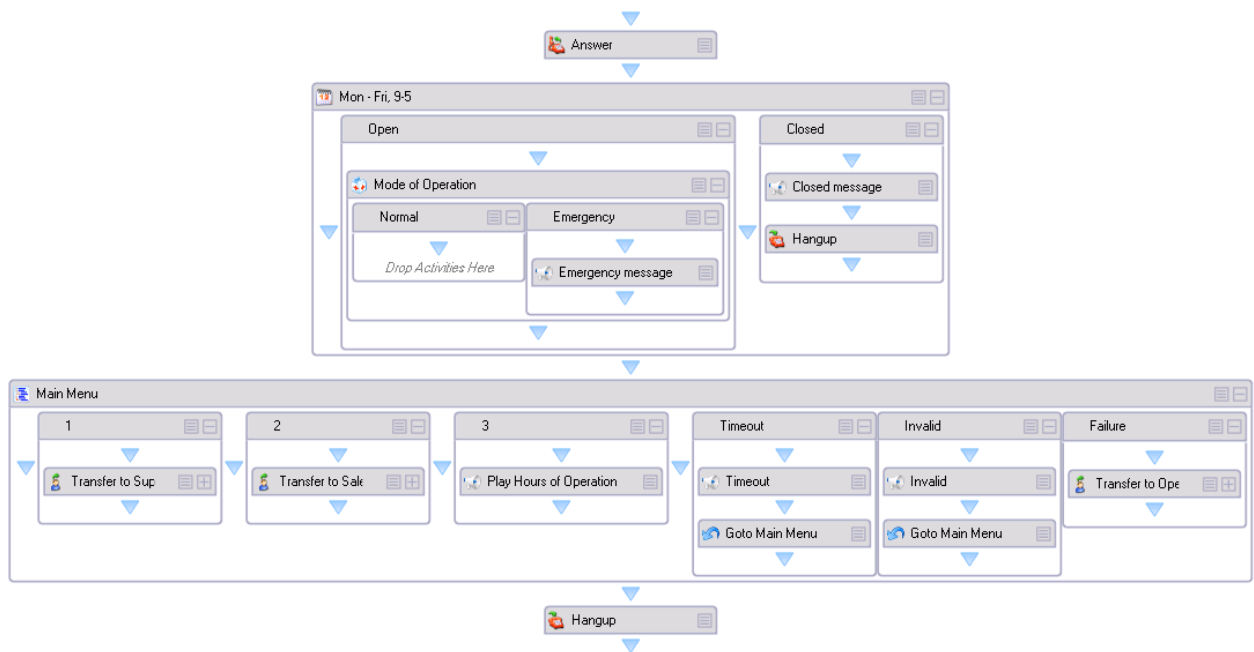


Figure 120: Schedule with Mode of Operation and Menu

Description

The first step in this workflow is an Answer activity. The Answer activity tells the port to answer the call. Until this condition is met, the caller hears ringing.

Next in the workflow sequence is the Schedule condition (Mon-Fri, 9-5). There are two branches, Open and Closed, each containing activities, within the Schedule. A check is done to confirm that the date and time of the call falls within business hours (set as Monday – Friday, 9 AM – 5 PM).

If the call arrives outside of business hours, then the call is routed to the Closed branch, a Closed Message plays, and the call proceeds to the Hang up activity. The Hang up activity ends the workflow and disconnects the call. If you do not have a Hang up activity, the call will continue through the workflow until it reaches the end of all possible actions, at which point it will wait in silence until the port resets.

If the call arrives within business hours, then the call is routed to the Open branch and the Mode of Operation activity is confirmed. The system checks if the ports or hunt groups assigned to the workflow are in Normal mode or Emergency mode. If they are found to be in Emergency mode, the Emergency Message plays and the call is directed to the Hang Up activity. If they are found to be in Normal mode, the call proceeds to the Main Menu activity.

The Main Menu activity prompts callers with messages and manages routing based on caller input. In this example, the Main Menu activity has been configured with three options and customers are prompted to press whichever option suits their needs. IVR Routing then directs the caller to the appropriate queue based on the number they pressed.

The three numbered options in the Main Menu activity were added manually to this sample workflow and complete the following actions:

- **Option 1:** Transfers the caller directly to the Support Queue
- **Option 2:** Transfers the caller directly to the Sales Queue
- **Option 3:** Plays the Hours of Operation Message

Options 1 and 2 have a Failure branch. If the transfer destination is unavailable, the caller is routed to the Operator. We recommend you set up the Failure branch to redirect calls to a dependable, available endpoint.

The last step in this workflow is the Hang Up activity. We recommend you end workflows with a Hang Up activity to prevent errant calls from resting at the end of the workflow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your workflow sample up and running, you must:

- Associate the workflow to a port (extension) or a hunt group. See "Associating workflows to devices" on page 529.
- Configure Properties for Transfer Activities. In this sample, the Operator and the Sales and Support queue destination information needs to be added. To do this, simply right-click the Transfer activity in the workflow and specify the Destination in the Properties pane
- Create prompts (messages) as needed. For example, in this workflow, generic prompts are included for the Greeting Message, Closed Message, Emergency Message, and Hours of Operation Message. If you want to customize these messages, you will need to create your own and add them to the workflow.

SAMPLE ANI AND DNIS CONDITION WITH UNIQUE MENUS AND A CALLBACK OPTION

This workflow instructs IVR Routing to direct calls to appropriate queues based on the caller's telephone number (ANI), the number the caller dialed to reach the contact center (DNIS), and caller-entered responses to menu options. The menu options are unique to each branch, meaning that callers are presented with different menu options based on where their call originated or the number they dialed to reach the contact center. In addition, the customer is offered the option of requesting a callback rather than waiting in queue for an agent. In this example, callers are routed based on their customer status (derived from their ANI) or based on the number they called to reach your contact center, either the Enterprise Business Level or Entry Level Business Software contact number.

This workflow:

- Shows you how to channel callers to queues based on the area from which they are calling. This type of call routing could be beneficial if, for example, you have a sales promotion that is targeted toward particular geographical markets, callers from those areas would be directed to a queue with promotional RADs and agents who have been trained to sell products specifically related to the current promotion. Another useful application for this workflow could be for companies who offer services that are specific to a certain area. For example, a flooring installation company with offices in cities across the country could direct callers based on the city from which they are calling to agents who book in-home flooring consultations.
- Demonstrates how you can set up your IVR Routing system using ANIs to help route customers with specific needs to the agents most suited to assist them. In this sample, a VIP customer calls in and is recognized as such by their ANI, which you have added to the ANI list. They are automatically transferred to an experienced agent with advanced customer relation skills.
- Allows you to send callers to queues based on the number they dialed to access your contact center. This enables callers to be more accurately routed to the services in which they are most interested. In this sample, callers are channeled to either the Enterprise Business Level or Entry Level Business Software queue based on the number they called to reach you.
- Gives callers the option of leaving a message and receiving a callback rather than waiting in queue. Customer satisfaction is improved when callers are offered this enhanced level of control. In addition, the call center operates more smoothly as some calls are diverted during busier periods to be handled during less busy hours

Figure 121 displays this workflow as it appears when first imported.

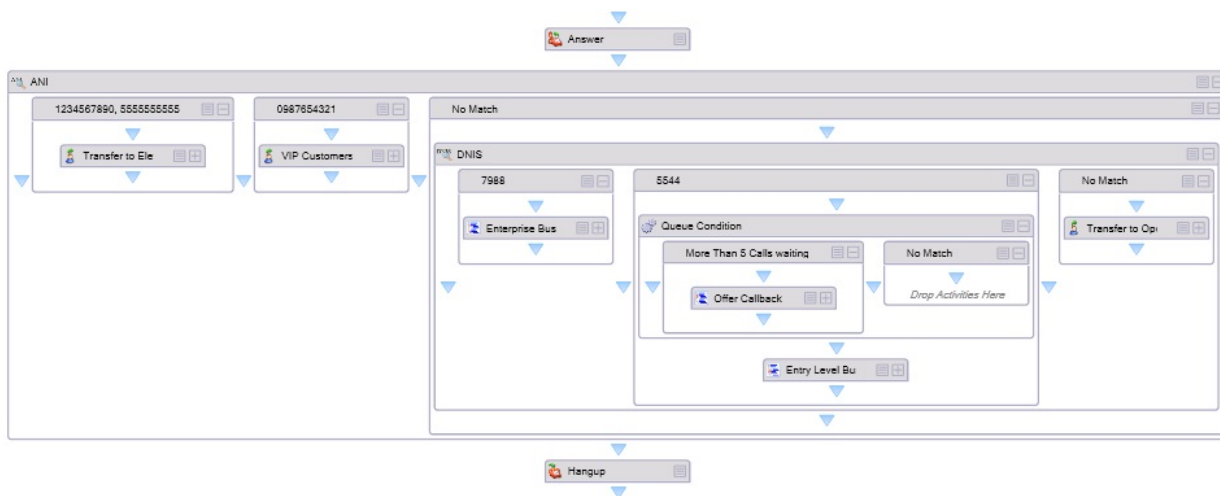


Figure 121: Sample ANI and DNIS Condition with unique Menus and Callback option

Description

The first step in this workflow is an Answer activity. The Answer activity tells the port to answer the call. Until this condition is met, the caller hears ringing.

Following the Answer activity, is an ANI condition that checks the caller's phone number. We recommend placing the ANI condition near the beginning of the workflow as you can use this activity to initially filter calls based on whatever parameters work best for you, for example, you could filter based on VIP status or, conversely, based on a list of customers with a heightened need for immediate support, such as those with a recent history of dissatisfaction with your product. By filtering these calls based on ANI, you can configure the subsequent workflow sequence to channel these calls to queues that are best suited to their needs.

Within the ANI condition, there are three branches that evaluate the ANI and branch the call based on the results. In this example, the caller is branched, based on ANI, either to the Elevated Support Line branch, VIP Customers branch, or a No Match branch. The Elevated Support Line branch (in this example, used for customers that are in need of immediate, skilled support, as they are currently experiencing difficulties with your product) and the VIP Customers branch each contain a Failure branch which routes the caller to the Operator if the transfer destination is unavailable. We recommend you set up the Failure branch to redirect calls to a dependable, available endpoint.

If the ANI is unrecognized (No Match), the system moves on to check the DNIS (the number the customer called to reach the contact center).

Within the DNIS condition, there are three branches that evaluate the DNIS and branch the call based on the results. In this example, the caller is branched, based on DNIS, either to the Enterprise Business Level Menu, the Entry Level Business Software Menu, or a No Match branch.

The Enterprise Business Level Menu prompts callers with messages and manages routing based on caller input. In this example, it has been configured with two options and customers are prompted to press whichever option suits their needs. IVR Routing then directs the caller to the appropriate queue based on the number they pressed.

The two numbered options in the Enterprise Business Level Menu activity were added manually to this sample workflow and complete the following actions:

- **Option 1:** Transfers the caller directly to the Support Queue
- **Option 2:** Transfers the caller directly to the Sales Queue

Options 1 and 2 have a Failure branch. If the transfer destination is unavailable, the call goes to the Hang Up activity.

The Entry Level Business Software Menu activity prompts callers with messages and manages routing based on caller input. In this example, it has been configured with two options and customers are prompted to press whichever option suits their needs. IVR Routing then directs the caller to the appropriate queue based on the number they pressed.

A Queue Condition has been added to this branch to enable the callback request option. In this case, the Queue Condition checks if more than five calls are waiting in queue and if this is the case, the caller is offered the option of requesting a callback rather than waiting in queue. You can alter this Queue Condition as needed.

In the Offer Callback Menu, you configure a message that informs the customer about current call volume and wait times, based on the queue condition you set. There is a sample Default Callback Inbound Voice subroutine included with IVR Routing. You can either use this subroutine with the Callback Request activity or create your own callback subroutine to use with this workflow. For more information about callback plans, see "Configuring callbacks" on page 535.

If the customer declines the request for a callback, the workflow progresses to the Entry Level Business Software Menu.

The two numbered options in the Entry Level Business Software Menu were added manually to this sample workflow and complete the following actions:

- **Option 1:** Transfers the caller directly to the Support Queue
- **Option 2:** Transfers the caller directly to the Sales Queue

Options 1 and 2 have a Failure branch. If the transfer destination is unavailable, the call goes to the Hang Up activity.

If the DNIS is unrecognized, the caller is routed down the No Match branch and, subsequently, the Operator.

The last step in this workflow is the Hang Up activity. We recommend you end workflows with a Hang Up activity to prevent errant calls from resting at the end of the workflow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your workflow sample up and running, you must:

- Associate the workflow to a port (extension) or a hunt group. See "Associating workflows to devices" on page 529.
- Configure properties for all Transfer activities. For example, the Operator and the Sales and Support queue destination information needs to be added. To do this, simply right-click the Transfer activity in the workflow and specify the Destination in the Properties pane.
- In addition, for the Default Outbound Callback, you must designate ports that you want to use for callbacks as Outbound ports (extension type: Outbound port 5020 IP).
- Create prompts (messages) as needed. Generic prompts are included in this workflow but if you want to customize these messages, you will need to create your own and add them to the workflow.

SAMPLE SCHEDULE CONDITION FOLLOWED BY DNIS AND LANGUAGE WITH MENUS

This workflow instructs IVR Routing to direct calls that arrive on standard work days, during business hours, to language-specific queues based on the number the caller dialed. Callers are routed to a single menu, which presents prompts in the appropriate language.

This workflow enables you to:

- Configure schedule conditions to route calls based on predefined holidays
- Offer services in more than one language based on the number dialed to reach your contact center
- Use the same Prompt but make it available to all configured languages

Figure 122 displays this workflow as it appears when first imported.

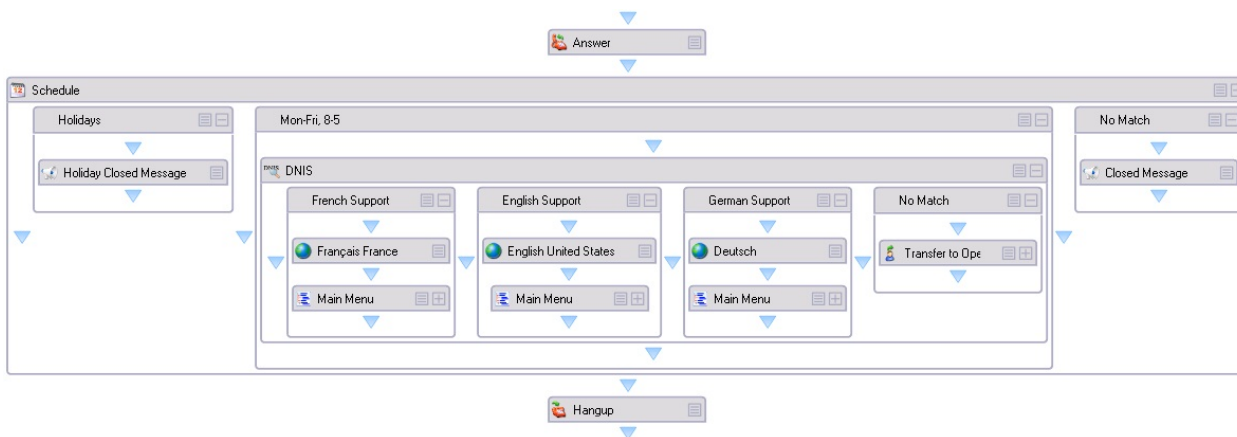


Figure 122: Schedule condition followed by DNIS and Language with Menus

Description

The first step in this workflow is an Answer activity. The Answer activity tells the port to answer the call. Until this condition is met, the caller hears ringing.

Next in the workflow sequence is the Schedule condition. There are three branches, Holidays, Mon-Fri, 8-5, and No Match. Placing the Holiday branch on the far-left of the workflow ensures that this branch is checked first. If it is determined that the call is being received on a predefined holiday, a Closed Message plays and the call proceeds to the Hang Up activity.

NOTE: You must configure the workflow to check whether it is a holiday before checking whether it is within business hours. If a call enters the system between 8 AM and 5 PM on a Monday that is a statutory holiday and you check the business hour schedule first, the system will erroneously determine that the call center is open and the call will proceed through the workflow, even though your office is closed.

If it is not a holiday, a check is done to confirm if the date and time of the call falls within business hours (set as Monday – Friday, 8 AM – 5 PM). If the call arrives within business hours, the call is routed to the DNIS check. If the call arrives outside of business hours, it is routed to the No Match branch and a Closed Message plays. The call then proceeds to the Hang Up activity. The Hang Up activity ends the workflow and disconnects the call. If you do not have a Hang Up activity, the call will continue through the workflow until it reaches the end of all possible actions, at which point it will wait in silence until the port resets.

If the call passes the Schedule criteria, it continues to the DNIS activity. This workflow sample contains three DNIS, each one representing a different language (French, English, and German, in this case). According to the DNIS, the call is routed through the appropriate Language activity to a Menu. The Menu is the same for each DNIS and has the same Prompt. The Prompt contains .wav files that are specific to each language. Depending on which language activity the call was channeled through, the matching language .wav file will play. This enables reuse of the same Prompt regardless of the number of language activities that are configured. If there is no DNIS match, the workflows to the No Match branch and is transferred to the Operator.

As noted above, the Menu options are the same for each DNIS – only the Language is different. The two numbered options in the Menu activity (Main Menu) were added manually to this sample workflow and complete the following actions:

- **Option 1:** Transfers the caller directly to the Support Queue
- **Option 2:** Plays the Shipping Instructions Message

Option 1 has a Failure branch. If the transfer destination is unavailable, the call goes to the Hang Up activity.

The last step in this workflow is the Hang Up activity. We recommend you end workflows with a Hang Up activity to prevent errant calls from resting at the end of the workflow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your workflow sample up and running, you must:

- Associate the workflow to a port (extension) or a hunt group. See "Associating workflows to devices" on page 529.
- Configure properties for all Transfer activities. For example, the Support queue destination information needs to be added. To do this, simply right-click the Transfer activity in the workflow and specify the Properties in the Properties pane.
- Create prompts (messages) as needed. Generic prompts are included in this workflow but if you want to customize these messages, you will need to create your own and add them to the workflow.

SAMPLE MANAGEMENT PLAN WORKFLOW

When assigned to a Management activity in a workflow, the Default Management Plan subroutine enables authorized callers to remotely perform management operations on their IVR Routing application. For example, authorized callers can switch the IVR Routing Mode of Operation between Normal and Emergency mode and modify the prompts that callers hear.

This subroutine:

- Enables you to change over from Normal to Emergency mode if extreme weather conditions or other events force the temporary, unforeseen closure of your contact center. In such conditions, it is often desirable and sometimes necessary to make such changes from a remote location.
- Enables authorized users to make changes to the IVR Routing system remotely. You can modify incoming caller options and record new prompts using a phone. This is useful when a commute to the site is either inconvenient or not possible.

Figure 123 displays the Management Subroutine.

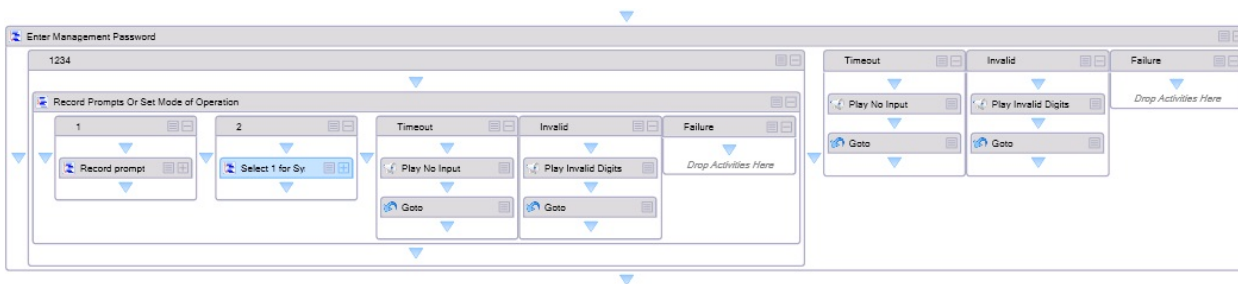


Figure 123: Management Plan workflow

Description

The first step in this subroutine is a Menu activity, which prompts you to enter the Management Password. Authorized users enter their password (in this sample, 1234) in order to access the Management subroutine.

The next step in the subroutine is the Record Prompts or Set Mode of Operation Menu. Within this Menu activity there are two, numbered options that were added manually and complete the following actions:

- **Option 1:** Record prompts or record new greeting
- **Option 2:** Select 1 for System; 2 for Device

If you press Option 1 in the Record Prompts or Set Mode of Operation Menu, you can record new prompts or record new greetings and swap prompts from one position to another within a workflow or subroutine.

Press Option 1 to record a Prompt. If, after recording a Prompt, you want to continue recording Prompts, press 1 to record, press 2 to exit, or press any other key to return to the Record prompts or record new greeting Menu activity (activityMenu7 in the subroutine) through a Go To activity.

If you press Option 2, you can record a new Greeting or swap a Prompt. For example, you can record an Emergency Closed Message during an emergency situation and then swap it for a traditional Open Message once the emergency has been resolved.

If you press Option 2 in the Record Prompts or Set Mode of Operation Menu, you can set the System Mode of Operation to either Emergency or Normal mode. If you select 1 (for system) you are affecting the Mode of Operation for all hunt groups and ports. If you select 2 (for device) you are affecting only the devices for which you enter a reporting number (individual hunt groups or ports).

Additional configuration required

This subroutine must be associated to a Management activity in an Inbound workflow or an Inbound, Management, or Callback Inbound subroutine.

It is recommended that you incorporate access to the Default Management Plan subroutine into your main workflows. There are various ways to do this. For example, you could use an ANI condition that refers to a list of authorized user numbers and gives them the option, when they call in, of accessing the Management activity configured with the Default Management Plan subroutine. You could alternatively add a DNIS condition and give users the appropriate number to call in to access the Default Management Plan. If your workflow has an ANI or DNIS branch, you can add the Default Management Plan ANI or DNIS branch as an additional branch in that location of the workflow. The menu option for accessing the Default Management Plan should be hidden (unadvertised) meaning that it is not mentioned in your greeting message. The authorized user would input a set code to access the Default Management Plan.

SAMPLE OUTBOUND WORKFLOW WITH EXCEL

This workflow queries a data provider, in this case an Excel spreadsheet, to retrieve customer contact information. The workflow then uses the contact information to make outbound calls to customers. If a call is not answered by the customer or if the line is busy, IVR Routing continues to attempt the call until it is connected. If the customer answers the ringing line or the call goes to the customer's voicemail the workflow updates the call status as 'Completed' and the customer will not be called again. Customers who answer the outbound call are directed to a menu presenting them with routing options

This workflow enables:

- Contact centers to make outbound calls to customers by accessing an internal database

Figure 124 displays this workflow as it appears when first imported.

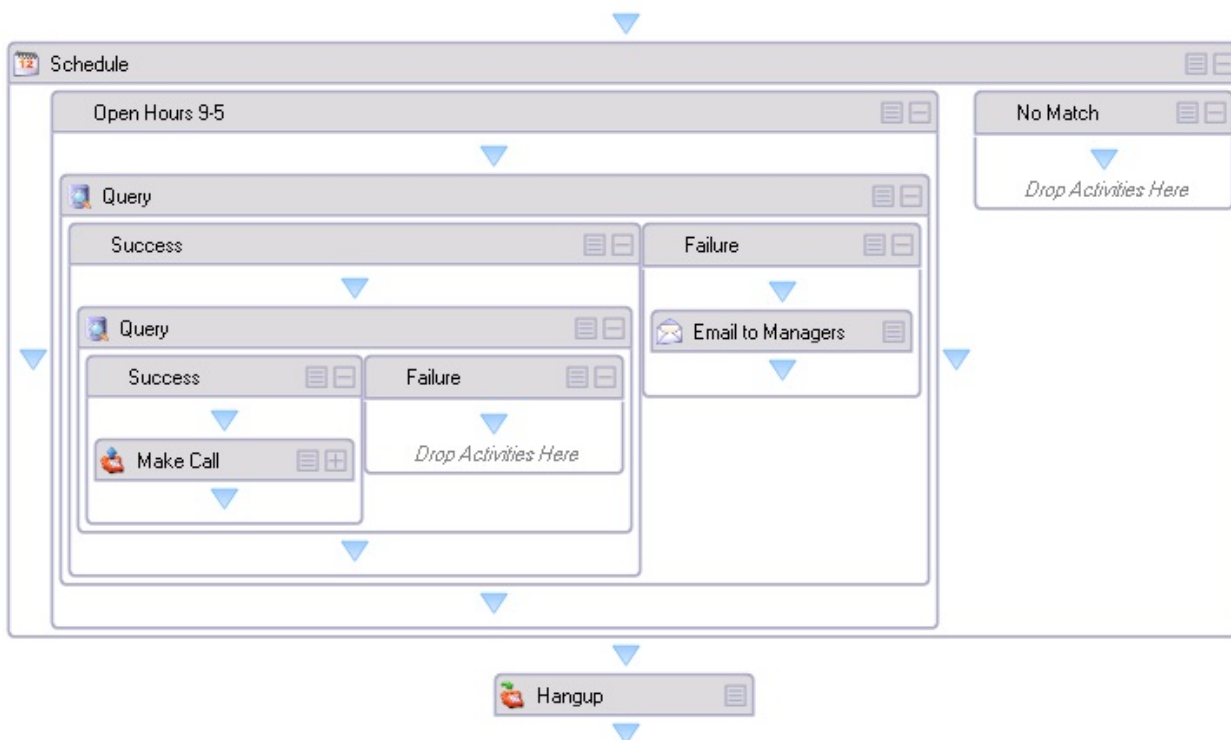


Figure 124: Outbound workflow with Excel

Description

This sample workflow uses an Excel spreadsheet, called OutboundSample.xlsx. This file is located in the IVR folder on the Enterprise Server. You populate the Excel sheet with customer phone numbers that you access while making outbound calls.

The first step in this workflow is the Schedule condition. There are two branches, Open Hours 9-5 and No Match. If calls are executed during business hours, they progress to the Query. If calls are executed outside of configured business hours the workflow routes to the No Match branch and then to the Hang Up activity.

If during business hours, the workflow progresses to the Query. The Query references the Data Provider (in this case, Default Outbound Provider). In this sample, the Data Provider refers to the Excel sheet of customer phone numbers that is mentioned above. This Excel sheet has two columns – one for the customer's phone number and one for the customer's status. The Excel sheet and the Query can be modified as needed.

The first Query action is to run a Select statement to pull the first number with an 'Incomplete' status to call. The Select Query either goes to the Success branch (if it successfully finds/selects a customer phone number) or to the Failure branch if no customer phone number is found. When the call enters the Failure branch an email is sent to managers advising them that no 'Incomplete' calls remain in the database Excel sheet. Access to this functionality requires you to first configure the SMTP Server and the email template used for this example.

If an 'Incomplete' status call is selected, the workflow progresses to the Success branch and the Write statement executes, which changes the customer's status from 'Incomplete' to 'In Progress', preventing other ports from simultaneously calling the same customer.

When the Query successfully pulls a customer phone number, it proceeds to the Make Call activity. The Make Call activity has a destination set for LastQueryResult, meaning it will dial the phone number that the Query pulled from the Excel spreadsheet.

The Make Call activity has several branches. When you successfully connect to a customer, the call goes down the Success branch, a query is executed and the customer status is updated to 'Completed', ensuring that number is not called again. Following this action, the customer is presented with two options. They can choose to either be transferred to a queue to speak to an agent or listen to a message for more information. For example, you could record a message with details about a current sales promotion.

If there is no answer, a Query is executed and the customer status is updated to 'No Answer', meaning that when this number is selected from the list the next time, the system will attempt to call it again.

If there is a busy signal (Destination Busy), a Query is executed and the customer status is updated to 'Busy', meaning that when this number is selected from the list the next time, the system will attempt to call it again.

If the number is not in service (Invalid Destination), a Query is executed and the customer status is updated to 'Invalid', meaning that when this number is selected from the list the next time, the system will not attempt to call it again.

If the Make Call fails due to an issue with the telephone system, an email is sent to the manager(s) advising them of the communication failure. Access to this functionality requires you to first configure the SMTP Server and the email template used for this example.

The last step in this workflow is the Hang Up activity. We recommend you end workflows with a Hang Up activity to prevent errant calls from resting at the end of the workflow and tying up the port until it can reset and disconnect the call.

Additional configuration required

To get your workflow sample up and running, you must:

- Associate the workflow to a port (extension). This workflow type cannot be assigned to a hunt group. See "Associating workflows to devices" on page 529.
- Configure properties for all Transfer activities. For example, the Transfer to queue destination information needs to be added. To do this, simply right-click the Transfer activity in the workflow and specify the Properties in the Properties pane
- Create prompts (messages) as needed. Generic prompts are included in this workflow but if you want to customize these messages, you will need to create your own and add them to the workflow.
- In order to make the workflow active, you must select 'Always Run' in the Properties Pane, under Workflow. If you want to end the workflow activity, deselect this option.
- We recommend adding a queue condition in the Success branch of this workflow so callers are directed to the queue only if, for example, a sufficient number of agents are available to take their call or the number of calls waiting in the queue is not excessive. Rather than making the caller wait to speak to an agent in this situation, it might be preferable to instead play the 'Play more information on offer' message.
- We suggest adding a queue condition following the Schedule condition that sets calling times for the optimum times of the day, for example, you might only want to make outbound calls between 3 PM and 7 PM. By setting a condition in this way, you can ensure that you have sufficient agents available during that time to handle calls.

WORKFLOW FOR PCI COMPLIANT SYSTEMS

The PCI Compliant workflow is an example of how contact centers can use IVR Routing to collect sensitive information, such as credit card numbers, from contacts while ensuring their privacy. While handling a contact, agents need the ability to collect sensitive information without being able to interact with that information. The PCI Compliant workflow offers a demonstration workflow configuration that leverages the Hold State activity to enable a contact to enter private information while on call with an agent.

NOTE: The PCI Compliant workflow itself is not PCI compliant but it implements PCI security requirements to protect the privacy of collected data. You are responsible for ensuring that your configuration, including its associated variables, queries, and web services, meets the standards of PCI Compliance.

In this workflow, the agent dials the port associated with this PCI Compliant workflow, starting a conference call with the workflow. The workflow puts the agent on hold and prompts the caller to enter their private information, which is stored in a masked variable. The information is routed to a Query activity, which uses it to perform a query transaction. The agent is then returned from hold and both contact and agent are informed via a Play activity if the PCI Compliant transaction was completed correctly. The workflow then hangs up, returning the agent and contact to a two party call.

To further illustrate the workflow's activities and their operations, we recommend you expand the entire workflow and all annotations.

To expand the workflow

- Click the **Expand All** button.

To expand all annotations

- Right-click the workflow and select **Annotations...=>Show All**.

Requirements

The workflow provides a framework and as such requires several devices be configured before the workflow can be used:

- Prompts
- Variables
- Data provider
- Extension

This workflow uses a number of prompts. You require the following prompts containing the following messages:

- **Agent Notification:** A message indicating to caller and agent that the agent is being placed on hold
- **Collect Digits instructions:** A message indicating to the caller what information they must enter
- **Unable to Hold:** a message indicating to caller and agent that the system was unable to place the agent on hold
- **Request is being processed:** A message informing the customer that their information has been entered and is being processed.
- **Successful transaction:** A message informing the caller and the agent that the caller's information has been entered and processed correctly
- **Failed transaction:** A message informing the caller and the agent that the caller's information was not entered correctly

For instructions on configuring prompts, see "Configuring prompts" on page 532.

You require two variables configured for this workflow: a Secure Information variable and a Validation variable. The Secure Information Variable is used to store the private information entered by the caller. This variable must be set to FullMask to prevent the collected data from being viewed by others. The Validation variable is used by a Query activity to store the confirmation that the caller's information was entered correctly and is used by a Variable Compare activity to inform both the caller and the agent that the transaction was completed successfully. For instructions on configuring variables, see "Configuring variables" on page 552.

This workflow requires that you have a data provider added to IVR Routing for use with this workflow's Query activity that contains the information that the caller enters.

For instructions on configuring data providers, see "Configuring data providers" on page 550.

This workflow also requires you to have a specific transaction that you want to perform using a Query or an Execute activity. The workflow includes a Query activity, but you must configure a query relevant to your business needs. The Query should use the information entered in the Secure Information variable and return any relevant information in other variables, as determined by your transaction's function. At a minimum, the Query activity's query must be configured to store a value in the Validation variable that will be used to confirm to both the agent and the caller that the caller's private information was entered successfully.

The PCI Compliant workflow requires a port with which to be associated, so an agent can dial it while handling a caller.

Description

The first activity in this workflow is the Answer activity. The agent and contact are next routed to a Play activity. The purpose of this Play activity is to provide a message to the agent that they are being placed on hold. This activity should be configured with your 'Agent Notification' prompt. For more information, see "Configuring the Play activity" on page 598.

After the workflow answers, the caller and agent are routed to the Hold State activity. This activity places the agent on hold for the duration of the Success Branch of the Hold State activity, preventing them from hearing the caller's interaction as they enter their credit card information. This activity must not be removed or modified, otherwise PCI Compliance will be compromised. This activity has two branches: Success and Failure. If the agent is successfully placed on hold, the workflow routes down the Success branch. The agent remains on hold for the entirety of the Success branch. If the agent is not placed on hold, the workflow routes down the Failure branch.

The Failure branch contains a Play activity. The purpose of this Play activity is to provide a message informing the agent and caller that the system was unable to place the agent on hold. This activity should be configured with your 'Unable to Hold' prompt. For more information, see "Configuring the Play activity" on page 598.

The first activity of the Success branch is a Collect Digits activity. This activity, when configured, prompts the caller to enter the private information, which is stored in the Secure Information variable. By default, this activity has no preset configuration. Under the Variable Collection Settings, set the Variable as the Secure Information variable and set the Greeting as the 'Collect Digits instruction' prompt. You must also set the Minimum and Maximum digits to collect for the caller's information. This activity can be configured with a Confirmation prompt to inform customers that their information has been entered. For more information, see "Configuring the Collect Digits activity" on page 575.

The Collect Digits activity has four branches: Success, Timeout, Invalid, and Failure. Callers are routed to the Timeout branch if they do not enter anything after 5 seconds. This branch contains a Play activity, whose prompt informs callers that there was no input, and a Go To activity, which returns callers to this Collect Digits activity. Callers are routed to the Invalid branch if the caller-entered information goes over or under the specified minimum or maximum digits specified during this activity's configuration. This branch is identical to the Timeout branch. Callers are routed to the Failure branch when their timeouts or invalid digit entries exceed the set number of Invalid attempts, which by default is 3.

The Success branch contains a Play activity. The purpose of this Play activity is to provide a message informing callers that their information is being processed. This activity should be configured with your 'Request is being processed' prompt. For more information, see "Configuring the Play activity" on page 598.

The next activity in the Success branch is a Query activity. This activity's purpose is to query a customer database with the information from the Secure Information variable. The Query activity requires a database provider and a Query statement so that the Secure Information variable can be used to retrieve confirmation information to populate the Validation variable. For more information on configuring a Query activity, see "Configuring the Query activity" on page 600.

NOTE:

- Depending on the complexity of your transaction logic you may need to add additional Query or Execute activities to complete your transaction and retrieve the desired information.
- This activity can be replaced with an Execute activity if you need to communicate with an external source, such as a web service. If executing a web service, ensure that you use HTTP Secure (https). The Execute activity must populate your Validation variable. For more information, see "Configuring the Execute activity" on page 584.

The activity next continues to a Variable Compare activity, which should be configured to check if the Validation variable has the correct value stored. For more information, see "Configuring the Variable Compare activity" on page 624.

The Variable Compare activity has two branches: Successful Transaction Condition and No Match. If the variable compare matches your configured conditions, the workflow routes down the Successful Transaction Condition branch. This branch contains a Play activity, which should be configured with the 'Successful Transaction' prompt, informing caller and agent that the transaction was completed successfully. If the variable does not match your configured conditions, the workflow routes down the No Match branch. This branch contains a Play activity, which should be configured with the 'Failed transaction' prompt, informing caller and agent that the transaction was not completed.

The workflow continues to a Hang Up activity, ending the conference call with the workflow and returning the caller and the agent to a two party call.

IVR ROUTING COMPLEX WORKFLOW CONFIGURATION

The following section describes how to configure two intricate workflows. You can use these instructions to create the workflows as described or as an educational exercise from which you can learn to build your own customized, unique workflows. Before attempting to configure these workflows you must be familiar with IVR Routing and able to proficiently configure intermediate to advanced level workflows using IVR Routing.

This document shows you how to construct:

- **Outbound workflow:** An outbound workflow that returns abandoned calls on a priority basis according to customer status
- **Dial Active Directory workflow:** A workflow that uses a LDAP connection to a Windows Active Directory domain to retrieve phone numbers and transfer the caller to the retrieved extension

OUTBOUND WORKFLOW CONFIGURATION

This example demonstrates how to build an outbound workflow that returns abandoned calls on a priority basis according to customer status. This workflow makes use of the delay activity, populates custom variables with a specific format type, demonstrates enhanced email activity by adding attachments, and sends custom variable information to agents via enhanced screen pop.

Consider the following scenario:

Problem: A busy order desk is having trouble keeping up with customer requests. As a result, they are dealing with a high number of abandoned calls. Their customers are sorted into three priority levels: gold, silver, and bronze. Gold member callers are considered the highest priority and the order desk is obligated to return their calls expediently in order to meet service level agreements. Each day a SQL table is populated with all of the abandoned calls from the previous day including the customer's priority levels. All gold customers must be called back.

Solution: The following outbound workflow is configured to search for customer numbers based on priority level, thus ensuring gold-level customer calls are returned expediently. In addition, customers are given options that can expedite call handling, resulting in a more efficient use of agent resources. For example, if callers are offered choices, besides the option of connecting with an agent, of being sent a PDF of their order status or listening to a message describing their balance and due date, some caller's needs would be satisfied without having to speak to an agent. If callers choose to speak to an agent, specific caller information, for example, their status is delivered to the agent via a screen pop display when the agent connects to the call.

Figure 125 depicts the final, post-configuration version of the Outbound workflow example described here.

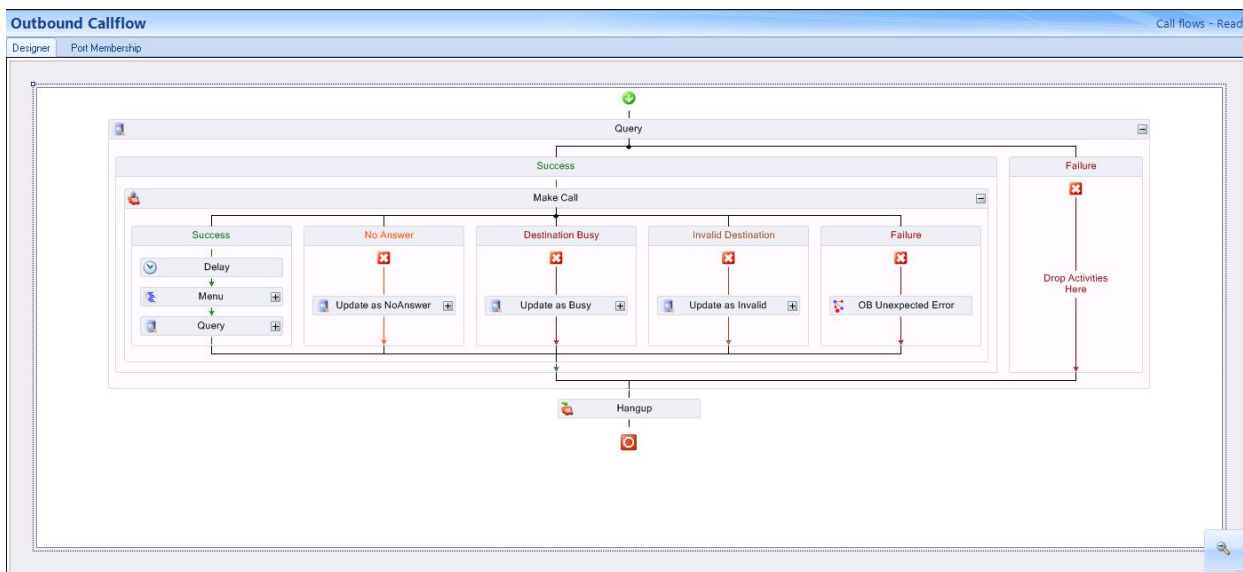


Figure 125: Outbound workflow

Configuring a database provider

The first step in creating this workflow is to determine the source from where you will retrieve the numbers to call back. Typically the outbound call list is stored in a SQL database or an Excel spreadsheet. In this example, the following table was created in a SQL database. The example SQL database used in this sample workflow is named `abandoned_caller`. (See Table 45.)

NOTE: We recommend following standard database design practices when setting up your database. The example database referred to in this document is for demonstration purposes only.

Table 45: SQL database example for abandoned caller list

ID	[LEVEL]	CALLERID	USERNAME	BALANCE	EMAIL
100	Gold	3001	Dave	21.32	dave@prairiefyre.com
101	Silver	6132221212	James	201.55	james@prairiefyre.com
102	Bronze	6135990000	Curtis	30	curtis@prairiefyre.com

ID	LASTBILL	DUEDATE	PROCESSING	CONTACTED	FAILEDATTEMPT
100	\\share\\bills\\100bill.docx	April 20, 2012	0	false	NULL
101	\\share\\bills\\100bill.docx	September 1, 2012	0	false	NULL
102	\\share\\bills\\100bill.docx	Dec 12, 2012	0	false	NULL

The SQL data types used for this example are shown in Figure 126.

	Column Name	Data Type	Allow Nulls
	ID	int	<input type="checkbox"/>
	[Level]	varchar(10)	<input checked="" type="checkbox"/>
	CallerID	varchar(20)	<input type="checkbox"/>
	UserName	varchar(50)	<input checked="" type="checkbox"/>
	Balance	varchar(20)	<input checked="" type="checkbox"/>
	EMail	varchar(50)	<input checked="" type="checkbox"/>
	LastBill	varchar(MAX)	<input checked="" type="checkbox"/>
	DueDate	date	<input checked="" type="checkbox"/>
	Processing	bit	<input type="checkbox"/>
	Contacted	bit	<input type="checkbox"/>
	FailedAttempt	varchar(50)	<input checked="" type="checkbox"/>
			<input type="checkbox"/>

Figure 126: SQL data types

The columns **Processing** and **Contacted** are added to the table to assist with call processing, as follows. The outbound workflow executes in an always-run fashion. If there are records present in the database and outbound ports are available, calls will be executed constantly. The processing column is used to flag a call as in progress. When a call is in progress, it means that the outbound port is currently calling that number. After the outbound workflow has completed, the contacted column is set to true. This process ensures callers, once contacted, are not called back.

A **FailedAttempt** column is added to indicate the reason the attempt to call failed, for example, due to No Answer, Destination Busy, or Invalid Destination. Figure 127 displays an example of failed attempts as they display in the workflow.

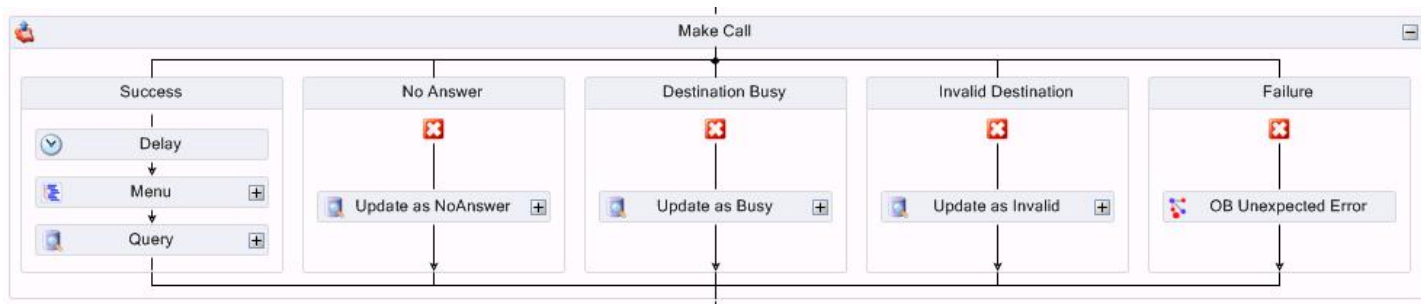


Figure 127: Failed attempt example

You must configure a database provider to supply outbound call records to the Outbound workflow. This example uses a Microsoft SQL server as a data provider and names the data provider Abandon DB. See "Adding a Microsoft SQL server as a data provider" on page 550.

Creating outbound ports

Outbound workflows and IVR Routing callbacks are both executed by the existing prairieFyre Routing Outbound Service. Outbound port 5020 IP are used to process outbound workflows and IVR Routing callbacks.

Refer to the procedure "Adding extensions for IVR Routing" on page 512 and add the appropriate number of outbound ports. If you have any questions regarding the number of ports you require, contact the Systems Engineering Team.

Defining variables

Before creating the workflow, define the variables that it will use. For this example, we have created the following variables from the above SQL database example table. Ensure the 'Send to Agent's Desktop' check box is selected if you want customer-relevant database information to be available in a screen pop display for agents upon call receipt. (See Figure 128.)

Variables		
Search	+ Add	✖ Delete
	Filter	
Name	Description	Variable Type
<i>LastDeviceState</i>	<i>The last state of the device.</i>	<i>Unspecified</i>
<i>LastException</i>	<i>The last exception that occurred during the work flow...</i>	<i>Unspecified</i>
<i>LastMenuCollectedDigits</i>	<i>Populated when used in conjunction with a menu acti...</i>	<i>Unspecified</i>
<i>LastQueryResult</i>	<i>Contains the last query results when used in conjuncti...</i>	<i>Unspecified</i>
<i>LastRecordingFilename</i>	<i>Used in conjunction with a record activity and always...</i>	<i>PromptRecording</i>
<i>LastWaveFilePlayed</i>	<i>The fully qualified name of the last wave file played.</i>	<i>Unspecified</i>
<i>LastWavePlayedDuration</i>		<i>Number</i>
LOG_IVROUTBOUND	outbound IVR error log	Unspecified
LOG_LATESTPORT	log fro teh port used that caused teh error	Unspecified
<i>ManagementCollectedDigits</i>	<i>Used in default management plan to collect the dialab...</i>	<i>DN</i>
<i>Now</i>		<i>DateTime</i>
OB_Balance	balance from DB	Currency_Dollars
OB_CallerID	caller id to transfer to	DN
OB_DueDate	Due date from DB	DateTime
OB_Email	Email Addrews returned from Outbound DB	Unspecified
OB_ID	Database ID record	Unspecified
OB_LastBill	Last Bill location retrieved from DB	Unspecified
OB_Priority	Priority Level	Unspecified
OB_User	Name of Customer	Unspecified
<i>PortDN</i>	<i>The DN of the port handling the current call</i>	<i>DN</i>

Figure 128: Suggested variable configuration

Creating an outbound workflow

Now that you have populated the table in the SQL database with abandoned contact information, added a database provider and outbound ports, and created applicable variables, you can create the outbound workflow

To create an outbound workflow

1. Click **IVR Routing=>Workflows**.
2. Click **Add** and select **Mitel Voice=>Outbound** as the workflow type from the drop-down list.
3. In the **Properties** pane, configure the workflow properties as needed.
NOTE: To make the workflow active, select the **Always run** check box. When you no longer want the workflow to be active, deselect this option.
4. Click **Save**.

Configuring the outbound workflow for abandoned contacts

The first steps in configuring the outbound workflow for use with abandoned contacts are to add a Query activity, a Make Call activity, and a Hang Up activity. The Make Call activity is used to place calls to external phone numbers that are typically stored in a data source, such as a SQL database or an Excel spreadsheet. The Query activity is used to retrieve the numbers from the database that are then stored in a variable which is accessed by the Make Call activity when dialing. The Make Call activity determines the location of the media server and provides the correct formatting for the external phone number before placing the call. In this example, the query looks for gold-level customers that require a return call.

To configure the outbound workflow for abandoned contacts

1. Add a **Query** activity and a **Hang Up** activity into the Workflows Canvas.
2. Right-click the **Query** activity and select **Edit Database Provider**.
3. Select the **Abandon DB** database provider created earlier.
4. Click **OK**.
5. Right-click the **Query** activity and select **Edit Query Definition**.
6. Under **Query type**, select **Advanced Query** and, under **Settings**, enter the following SQL query(1):
SELECT top 1 * from dbo.abandoned_caller where level = 'gold' and processing = '0' and contacted = 'False'

UPDATE dbo.abandoned_caller set processing = 1 where id in (select top 1 id from dbo.abandoned_caller where level = 'gold' and processing = '0')
7. On the **Variable Assignment** tab, assign the appropriate variables to the parameters returned from the query(2).
Figure 129 displays steps 5-7.

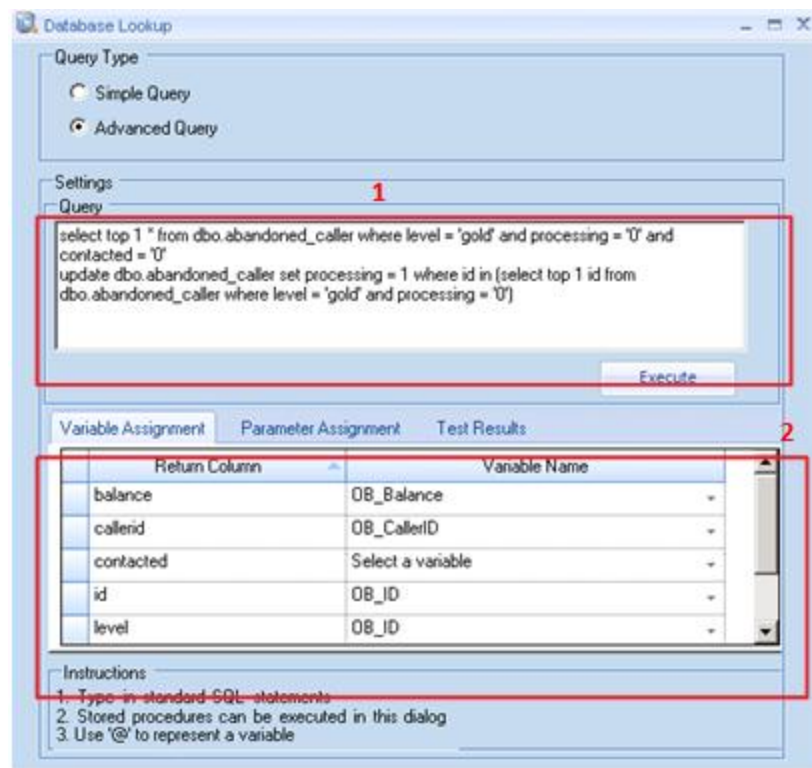


Figure 129: Creating the advanced SQL query

8. In the **Success** branch of the **Query** activity, add a **Make Call** activity. See Figure 130.

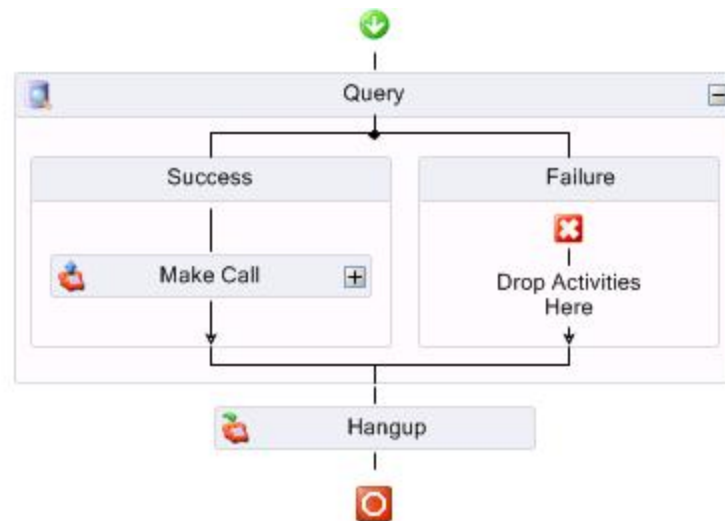


Figure 130: Make Call activity

9. Select the **Make Call** activity and configure the properties in the **Properties** pane.
10. For this example, beside **Destination**, select the variable `<<OB_CallerID>>` and click **OK**.
11. Select the **External Call** check box to indicate that these calls are external to the PBX.
Outbound dialing digits are appended when dialing externally.
NOTE: Outbound dialing digits must be programmed in YourSite Explorer for the media server upon which the outbound ports reside. This is configured in YourSite=>Media servers=>Location tab.

Configuring the branches of the Make Call activity

If the query is successful, the outbound number variable will populate. The caller is then offered the option to speak with an agent, receive an email with account details, or listen to a message that includes their account balance and due date. If the query is unsuccessful, for example, if you are set up to call back gold-level callers and there are none available in the SQL database table, the failure branch is followed

In the Success branch of the Make Call activity three actions are performed: Delay, Menu, and Query. See Figure 131.

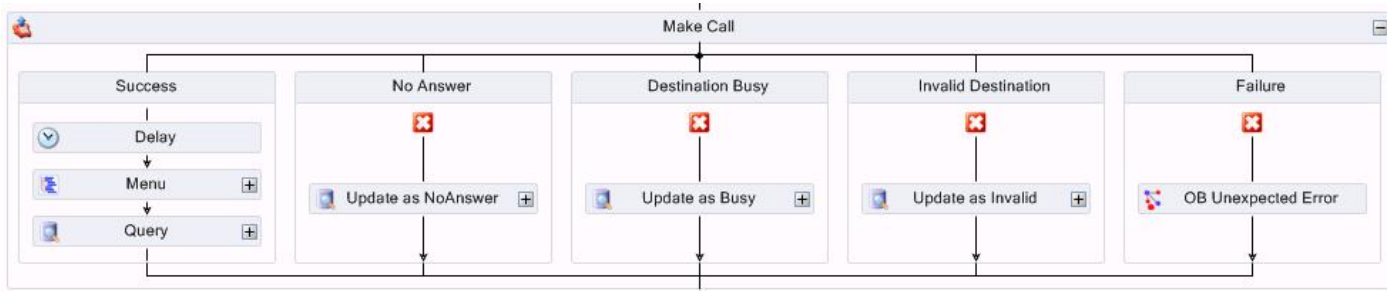


Figure 131: Branches of the Make Call activity

To configure the success branch of the Make Call activity

1. In the **Success** branch of the **Make Call** activity, add and configure properties for a **Delay** activity.
The Delay action is used to give the customer time to answer the phone and greet the caller.
The delay value is set in seconds.
2. Following the **Delay** activity, add a **Menu** activity.
3. Right-click the **Menu** activity and add the three digit options as follows: 1. Speak with Agent, 2. Mail Last Record, and 3. Listen to balance and due date.
The customer will be able to select 1 to speak to an agent, 2 to receive an email containing their most recent account information, or 3 to hear a message regarding their account balance and due date.
See Figure 132.

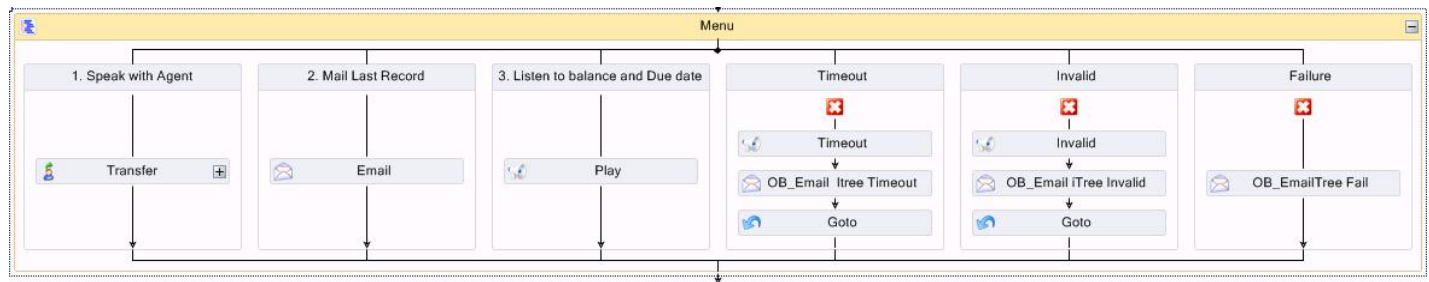


Figure 132: Menu activity options

4. Add a **Transfer** activity under option 1, an **Email** activity under option 2, and a **Play** activity under option 3.
5. Configure the **Properties** for the **Transfer** activity. Be sure to set the **Destination** to an ACD path.
6. Configure the **Properties** for the **Email** activity. Select the SMTP Server address from the SMTP servers that were configured in YourSite Explorer during the software installation process.
For more information, see "Configuring SMTP connections to Contact Center Solutions" on page 83.
7. Right-click the **Email** activity and select **Edit Email Template**.
8. Right-click in the **Configure email template** window to see a list of available variables.
NOTE: To ensure the email is sent to the customer, use the variables that were populated previously with the query action.
See Figure 133.

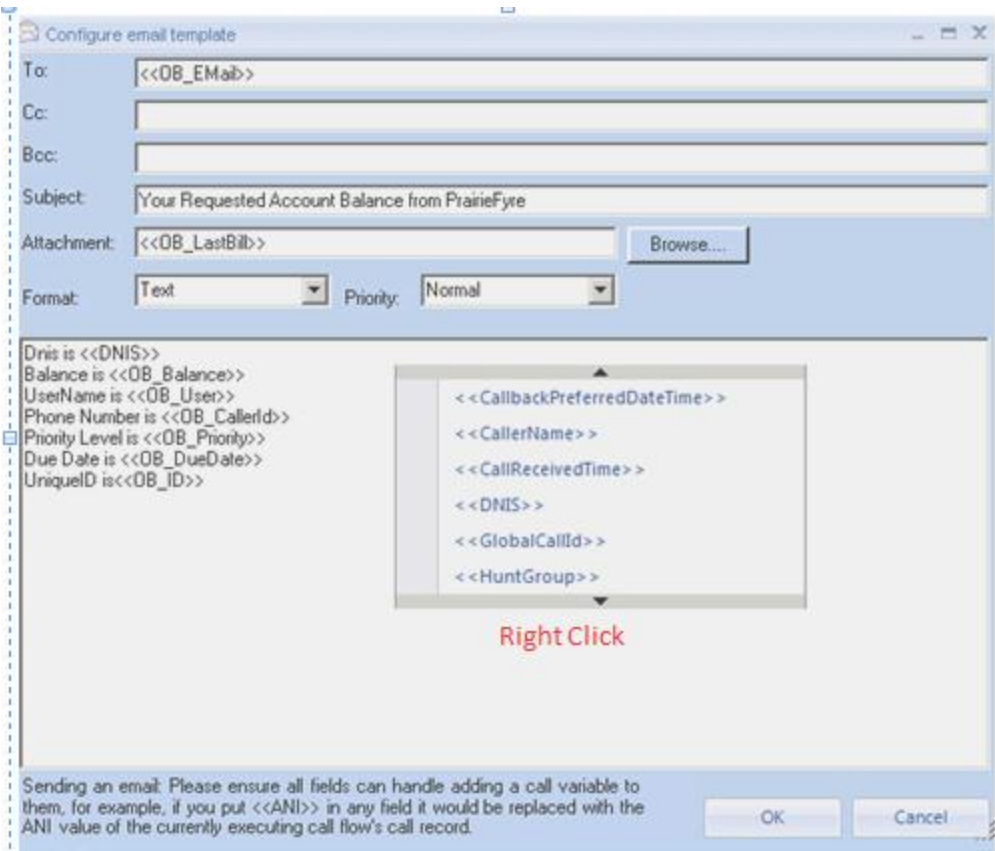


Figure 133: Configuring the email template

- 9. Configure the **Properties** for the **Play** activity.
- 10. Right-click the **Play** activity and select **Greeting prompts=>Add a new prompt**. The Prompt window opens.
You will configure the activity to play two custom .wav files and two prompts. The customer will hear their account balance and due date, based on the variables you associate with the prompts.
- 11. Select the **Variables** tab.
See Figure 134.

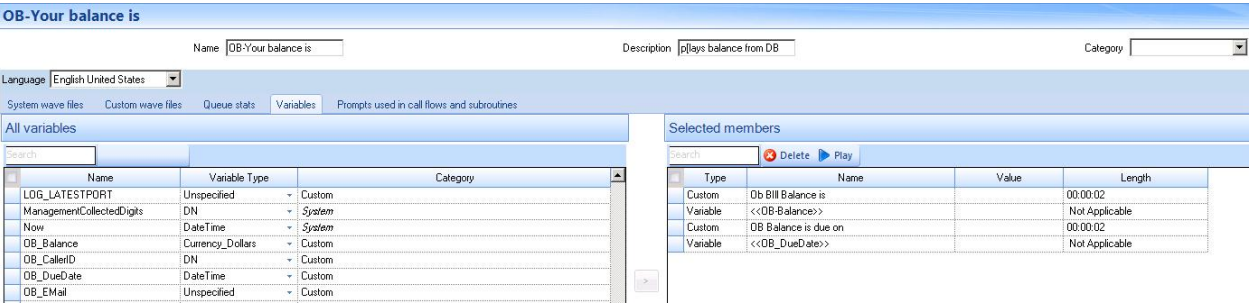


Figure 134: Configuring the Play activity

In this example, the OB_Balance variable is set as type 'Date Time' and the variable OB_Balance is set as type 'Dollars'. These variables have an associated format type. The variable

type 'Date Time' must be formatted to suit the variable populated from the database query. The available options display in Figure 135.

OB_DueDate

General

Name: OB_DueDate

Description: Due date from DB

Variable Type: Date Time

☒ Send to Screen Pop

Display Name: OB_DueDate

Date Format: MMDDYYYY

Time Format: DDMMYY

Available Date Format options (from dropdown): DDMMYYYY, MMDDYYYY, DDMMYY, MMDDYY, MMDD, DDMM, None.

Figure 135: Date format options

12. Select **MMDDYYYY** as the **Date Format** for the due date variable (OB_DueDate).
NOTE: The balance due variable (OB_Balance) can have either **Currency Format** selected. The currency format is only used when writing data to a database.
13. Configure the exception branches, **Timeout**, **Invalid**, and **Failure**, as needed.
14. As a final step in configuring the success branch of the Make Call activity, under the **Menu** activity, add a **Query** activity.
 This query updates the SQL table to indicate that the call has been completed, ensuring that number is not called again.

To configure the failure branch of the Make Call activity

1. Under **No Answer**, add and configure a **Query** activity that updates the customer status in the database to 'No Answer' when the customer does not answer the call. The next time this number is selected from the list, the system will attempt to call it again.
2. Under **Destination Busy**, add and configure a **Query** activity that updates the customer status in the database to 'Destination Busy' when the busy signal is encountered. The next time this number is selected from the list, the system will attempt to call it again.

3. Under **Invalid Destination**, add and configure a **Query** activity that updates the customer status in the database to 'Invalid' when the number called is out of service. The next time this number is selected from the list, the system will not attempt to call it.
4. Under **Failure**, add and configure a **Subroutine** activity that advises the Administrator when there are problems with the workflow.
Adding this subroutine is recommended in order to help error proof the workflow.

After configuring the outbound workflow, associate it to a port. An outbound workflow cannot be associated to a hunt group. See "Associating workflows to devices" on page 529.

DIAL ACTIVE DIRECTORY WORKFLOW CONFIGURATION

This section demonstrates how to build a workflow that uses an LDAP connection to a Windows Active Directory domain to retrieve phone numbers and transfer the caller to the retrieved extension.

This example is composed of a main workflow and a subroutine that contains an LDAP query. The caller is presented with a menu that prompts them to enter the extension of the party they wish to reach. If they know the extension they can dial it at any time or they can dial by name (by pressing 1) or choose to speak to the operator (by pressing 0). When the caller chooses option 1, the workflow is directed to the Dial By Active Directory (DialByAD) subroutine. Subroutines are recommended when a call process contains many activities or repeating tasks. In this case, the DialByAD subroutine contains several activities. Segregating it from the main workflow simplifies the process.

Figure 136 depicts the final, post-configuration version of the Dial Active Directory workflow.

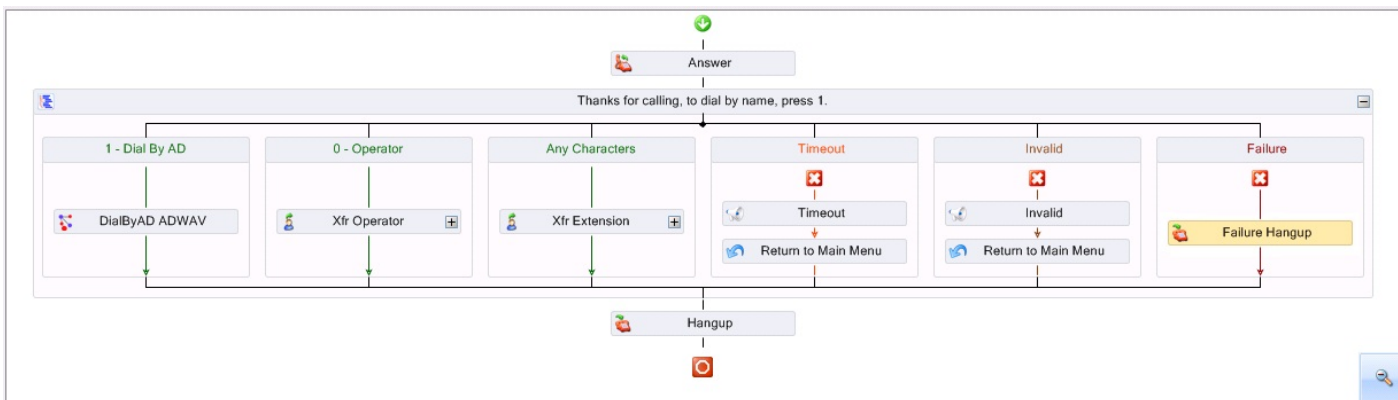


Figure 136: Dial Active Directory workflow

Figure 137 depicts the final, post-configuration version of the DialByAD subroutine.

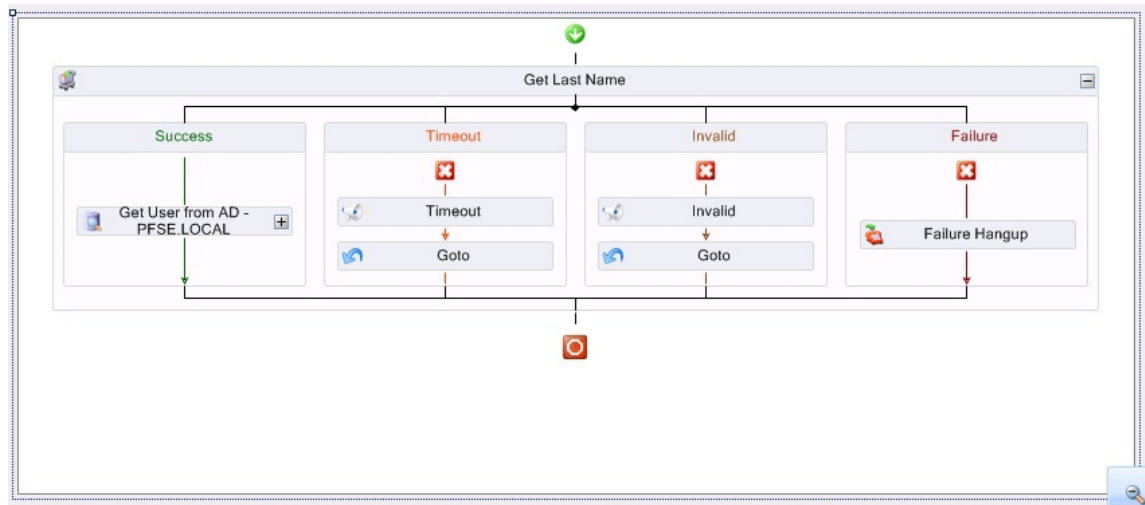


Figure 137: DialByAD subroutine

Preliminary configuration

Before creating the workflow, you must configure the required variables and prompts.

Create the following list of variables along with their associated variable type. (See Figure 138.)

Variables

dad [X] [Add] [Delete] [Filter]

Name	Description	Variable Type
DAD_Ext-Lookup		Number
DAD_FullName	The full name ret...	Unspecified
DAD_LastNameDigits	Digits collected t...	Digits
DAD_TempWav	temporary wav fil...	Unspecified
DAD_XFRPoint	XFR point retriev...	DN

1 of 5 selected. Total : 5

All # A B C D E F G H I J K L

DAD_Ext-Lookup

General

Name: DAD_Ext-Lookup

Description:

Variable Type: Number

Mask Type: No Mask

☐ Send to Screen Pop

Display Name:

Figure 138: Required variables

After creating the variables, configure applicable prompts as shown in Table 46.

Table 46: Required prompts

PROMPT NAME	SCRIPT
DialAD – Main Menu	Thank you for calling. If you know the extension of the party you wish to reach, dial it now. To dial by name, press 1. For operator assistance, press 0.
DialAD – Name from Dialpad	Using your touchtone keypad, please type the last name of the person you wish to reach, followed by the pound (#) sign.
DialAD – Did you mean ...	
NOTE: This prompt references the variable DAD_TempWav created earlier	<DAD_TempWav> If this is the person you want to reach, press 1. If not, press star (*).

Creating the main Dial Active Directory workflow

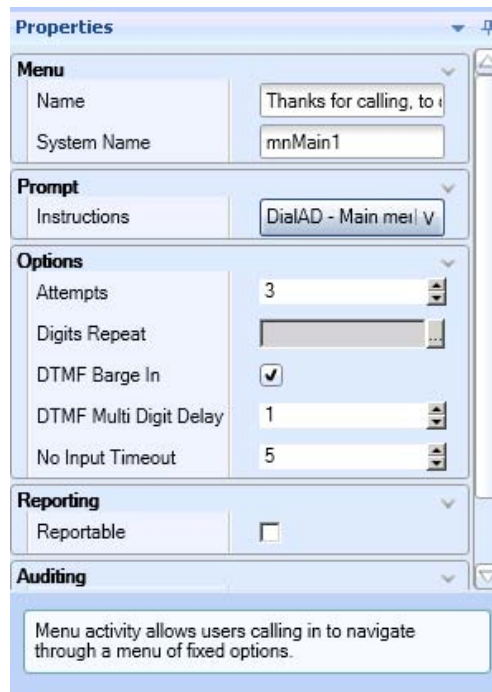
Now that you have created the variables and prompts, you can create the main Dial Active Directory workflow.

1. Click **IVR Routing=>Workflows**.
2. Click **Add** and select **Mitel Voice=>Inbound** as the workflow type from the drop-down list.
3. In the **Properties** pane, configure the workflow properties as needed.
4. Add an **Answer** activity and a **Hang Up** activity onto the Workflows canvas.
5. After the **Answer** activity, add a **Menu** activity.
6. Click **Save**.

The next step in creating the Dial Active Directory workflow is configuring the Menu activity.

To configure the Menu activity

1. Select the **Menu** activity on the Workflows Canvas and, in the **Properties** pane, configure the Menu properties.
2. Enter an appropriate **Name** for the menu and add a **Prompt** to play a greeting message to the caller (DialAD – Main Menu, as shown in Table 46). See Figure 139 for suggested configuration settings.



Properties

Menu

Name: Thanks for calling, to

System Name: mnMain1

Prompt

Instructions: DialAD - Main menu

Options

Attempts: 3

Digits Repeat: [Slider]

DTMF Barge In: ☒

DTMF Multi Digit Delay: 1

No Input Timeout: 5

Reporting

Reportable: ☐

Auditing

Menu activity allows users calling in to navigate through a menu of fixed options.

Figure 139: Main Menu activity properties configuration

3. Right-click the **Menu** activity and add the three digit options as follows: **1 - Dial by AD**, **0 - Operator**, and **Any Characters**.
NOTE: The In Between Digit Delay function allows the system to wait for one second (default value) after hearing the first DTMF tone from the caller to see if another digit will be pressed before processing the call.
4. In the **Properties** pane, configure the Menu options.
NOTE: It is important to give each menu option branch an appropriate name as doing so simplifies the troubleshooting process when interpreting log files.
 See Figure 140.

The screenshot displays a configuration interface for menu options, organized into three vertically stacked sections. Each section contains a 'Pattern' header and a 'Conditions' header. The first section has 'Name' as '1 - Dial By AD' and 'System Name' as 'brmnMain1OPT1', with 'Condition' set to '1'. The second section has 'Name' as '0 - Operator' and 'System Name' as 'brmnMain1OPT0', with 'Condition' set to '0'. The third section has 'Name' as 'Any Characters' and 'System Name' as 'brmnMain1OPTAny', with 'Condition' set to '? , ?x'. Each section also includes a dropdown arrow next to the 'Pattern' header.

Figure 140: Menu option configuration

- 5. In the **0 – Operator** and the **Any Characters** branches of the menu options, add a **Transfer** activity.
- 6. Right-click the **Transfer** activity that follows **0 – Operator** and select **Destination**.
- 7. In the **Properties** pane, after **Destination**, type the extension that reaches the operator in your organization.
- 8. Right-click the **Transfer** activity that follows **Any Characters** and select **Destination**.
- 9. Configure the **Destination** as the variable **<<LastMenuCollectedDigits>>**. This sets the entry that is received by the Menu activity as the transfer point.
- 10. Name the **Timeout**, **Invalid**, and **Failure** branches of the **Menu** activity according to best practices. Use the nomenclature **br<PARENT_MENU><OPT>**. Following this naming convention simplifies the troubleshooting process when searching through log files. See Table 47 for an example of best practice naming conventions.
- 11. Click **Save**.

Table 47: Best practice naming convention example

MENU BRANCH	NAMING CONVENTION
Timeout	brmnMain1OPTTIME
Invalid	brmnMain1OPTINV
Failure	brmnMain1OPTFAIL

Now that the main Dial Active Directory workflow has been configured, the DialByAD subroutine must be configured and added to the overall workflow.

Configuring the DialByAD subroutine

If the caller knows the last name of the person they are trying to reach, they enter the matching digits in their dial pad. The dial pad compare feature is used to support this search function. The first step in being able to access this functionality is to collect the digits. This is done via a Collect Digits activity within the subroutine.

To configure the DialByAD subroutine

1. Click **Subroutines=>Add=>Mitel Voice=>Inbound**.
2. In the **Properties** pane, after **Name**, type **DialByAD**.
3. Add a **Collect Digits** activity to the subroutine.
4. Select the **Collect Digits** activity and, in the **Properties** pane, after **Name**, type **Get Last Name** and after **System Name**, type **cdGetLastName**.
5. Configure the **Go To** activities in the **Timeout** and **Invalid** branches to return to the **Get Last Name** Collect Digits activity.
See Figure 141.

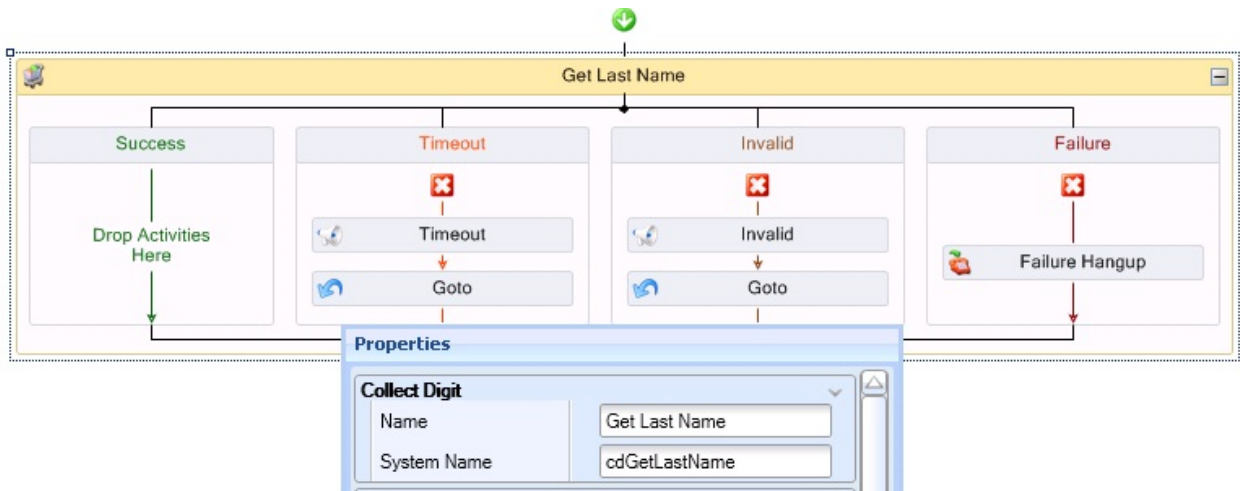


Figure 141: Collect Digits activity

6. Name the **Success**, **Timeout**, **Invalid**, and **Failure** branches according to best practices, as shown in Table 48.

Table 48: Best practice naming convention example

MENU BRANCH	NAMING CONVENTION
Success	brcdGetLastNameSUCC
Timeout	brcdGetLastNameTIME
Invalid	brcdGetLastNameINV
Failure	brcdGetLastNameFAIL

7. Right-click the **Get Last Name** Collect Digits activity and select **Edit Variable Settings**. The Collect Digits settings window opens.
8. Select the appropriate options for each value in the Collect Digits settings window. The **Variable** should be unique to this workflow and be of the Variable Type **Number**. In this case, the variable **<<DAD_Ext-Lookup>>** is used.
NOTE: This example uses a greeting that asks the caller to enter the last name of the person they are trying to reach by using their dial pad and pressing pound (#) when finished. The settings and greeting verbiage you choose are dependent on your environment and needs.
9. Click **OK**.
10. Click **Save** to save the subroutine.

This example performs a lookup based on the last name of the employee in Active Directory. However, the procedure can easily be converted to use the first name or a different value altogether. When a caller successfully enters digits they are branched down the Success branch in the Collect Digits activity. In the Success branch, a Query to Active Directory is inserted to search for the requested employee. Prior to this action, a new data provider must be created.

Configuring the LDAP data provider

To configure the LDAP data provider

1. Click **Data providers=>Add** and select **LDAP** from the drop-down list.
2. Enter the appropriate settings for the Active Directory domain, including a user with read access.
3. Click **Test Connection** to attempt to connect to the domain.
This example connects to a local domain labeled 'PFSE Domain'.
4. Click **Save**.

Configuring the Active Directory LDAP query

This example queries based on the employee's last name and returns their extension to which the call is then transferred. The Last Name, Display name, and Telephone number fields from the user object in Active Directory are accessed. In addition, the objects will return a .wav file so the names can be read back to the caller. It is suggested that each employee record their name to use as a customized .wav file. In this example, the customized employee name .wav files are stored in the Telephones tab in Active Directory. Note that this location must be accessible from the IVR Routing instance performing the query and readback. See Figure 142.

Figure 142: Customized .wav file storage in Active Directory

To configure the Active Directory LDAP query

1. Add a **Query** activity to the **Success** branch of the **Get Last Name** Collect Digits activity.
2. Select the **Query** activity and, in the **Properties** pane, enter an appropriate **Name** and **System Name**.
This example uses 'Get User from AD – PFSE.LOCAL' and 'qrPFSEAD' respectively.
3. Name the **Success** and **Failure** branches in adherence with best practices. In this case, Success: **brqPFSEADSUCC** and Failure: **brqrPFSEADFAIL**.
4. Right-click the **Query** activity and select **Edit Database Provider**.
5. In the **Select Connection** window, choose the appropriate provider.
This example uses PFSE Domain.
6. Right-click the **Query** activity and select **Edit Query Definition**.
7. Under **Query Type**, select **Advanced Query** and, under **Settings**, enter the following query:
select info,telephoneNumber,CN from 'LDAP://PFSE.LOCAL' where objectClass='user' AND sn = '@LastName'.
An advanced query is necessary in this example to enable the return of multiple variables. If there was only a need for a single variable, a simple query would suffice.
8. Click **Execute**.

9. In the **Parameters** window, select the **Value** of '76' for **@LastName** and select the **Use Dialpad Compare** check box.
The value of '76' is translated into the following when using the dialpad compare feature: p, pn, Po, Q, Qm, Qn, Qo, R, Rm, Rn, Ro, S, Sm, Sn, So.
10. Click **Run**.
The command runs and the Database Lookup window for the Advanced Query opens.
11. Confirm correct configuration by clicking the Test Results tab and checking the **info** column to ensure the expected result(s) were returned.
12. In the **Variable Assignment** tab, select appropriate variables for the returned values.
In this example, CN is used for the common name of the Active Directory object (display name in Active Directory) and telephoneNumber for the extension of the user being queried. The information from the Telephones tab is also returned as it contains the location of the .wav file to be played. (See Figure 143.)

Variable Assignment		
Parameter Assignment		
Test Results		
Return Column	Variable Name	
CN	DAD_FullName	
info	DAD_TempWav	
telephoneNumber	DAD_XFRPoint	

Figure 143: Variable assignment

13. In the **Parameter Assignment** tab, select the variable that was populated in the Collect Digits activity, 'cdGetLastName'. In this case, **DAD_Ext-Lookup**.
Configuring the parameter assignment with a variable replaces the query with the appropriate run-time information. (See Figure 144.)

Variable Assignment		
Parameter Assignment		
Test Results		
Parameter Name	Variable Name	Dialpad
@LastName	DAD_Ext-Lookup	<input checked="" type="checkbox"/>

Figure 144: Parameter Assignment

Configuring the Success branch of the query

Now that information has been retrieved via the LDAP query, the process loops through the results until the correct one is found. The customized employee name .wav file is played and the caller is asked if that is the individual they want to reach. Once the correct name is found, the caller is transferred to that destination and the workflow is terminated.

To configure the Success branch of the query

1. Add a **Menu** activity into the **Success** branch of the **Query** activity (**Get User from AD – PFSE.LOCAL**).
2. Select the **Menu** activity and, in the **Properties** pane, enter appropriate information for the **Name** and **System Name**.
This example uses 'Did you mean...?' and 'mnDidYouMeanQ', respectively.
3. Under **Prompt**, in the **Properties** pane, select **Existing Prompt** from the drop-down list and choose the prompt called **DialAD – Did you mean ...**
4. Right-click the **Menu** activity and add a digit option for **1**.
5. Name the **Menu** branches in accordance with best practices, as shown in Table 49.

Table 49: Best practice naming convention example

MENU BRANCH	NAMING CONVENTION
1	brmnDidYouMeanQOPT1
Timeout	brmnDidYouMeanQTIME
Invalid	brmnDidYouMeanQINV
Failure	brmnDidYouMeanQFAIL

6. In the **Failure** branch, add **Hang Up** activity
7. In the **Timeout** and **Invalid** branches, remove the default **Play** and **Go To** activities.
8. Removing these activities ensures that if the returned employee extension is not the correct one, the parent Query activity will move on to the next result found and offer it to the caller instead.
9. In the Digit option **1** branch, add a **Play** activity, a **Transfer** activity, and a **Hang Up** activity.
10. Name the activities, according to best practices, as shown in Table 50.

Table 50: Option 1 activity naming example

ACTIVITY	NAME	SYSTEM NAME
Play	Transferring your call	pfTransferring
Transfer	Xfr To Extension	xfrToExt
Transfer Branch	Failure	brxfrToExtFAIL
Hang Up	Hangup After Transfer	hgTransfer

11. Choose an applicable prompt for the **Play** activity.
This example uses a prompt called 'DAD – Transferring' that plays a .wav file that says: 'Transferring your call now.'
12. Right-click the **Transfer** activity and select **Destination**.
13. In the **Select a device** window, select **Variable** and choose the appropriate variable assigned in the LDAP query.
14. Click **Save**.

SYNCHRONIZING IVR ROUTING SERVERS

IVR Routing servers across your enterprise are synchronized so that saved changes made to one or more remote servers are automatically applied to other servers. The IVR Sync status column in YourSite Explorer enables you to monitor synchronization across servers after saving changes to media servers, workflows, and subroutines. Prompts show synchronization status directly on the Prompts page.

All synchronization information displays in real-time. If synchronization is unsuccessful, a message displays in all applicable IVR Sync Status columns and in the device page header. Detailed information also displays in YourSite Explorer's RSS feed. For more information on alarms in Contact Center Solutions, see "Monitoring and alarming subsystem" on page 178. For information on specific alarm messages, consult the following Mitel Knowledge Base article:
<http://micc.mitel.com/kb/KnowledgebaseArticle51286.aspx>.

Only one set of pending changes to a specific device can be saved at any time. If another user saves changes to the same device you are updating, before you save your changes, you will see the synchronization in YourSite Explorer and will receive an error message when attempting to save your changes. In these instances you must refresh YourSite Explorer after the other user's changes have been saved and synchronized. You may then re-enter and save your changes. We recommend you save changes to IVR Routing devices frequently, in order to avoid losing work.

Table 51 lists the IVR Routing synchronization states and the corresponding messages in each device's IVR Sync Status column. The same information displays in the device page header.

NOTE:

- If synchronization does not complete in one minute's time, you receive the synchronization failure message as listed in Table 51.
- Only media servers running IVR Routing display the IVR Sync Status column.
- Prompts show synchronization status only when you add a new custom .wav file to an existing prompt. Otherwise, the synchronization status on the Prompts page displays as 'Sync Completed'.

Table 51: Synchronization state and IVR Sync Status messages by device

SYNCHRONIZATION STATE	IVR SYNC STATUS MESSAGE	DEVICE
No synchronization taking place	Sync Completed	All
Currently synchronizing	Syncing IVRs X/Y Completed Syncing <device name>	Workflow, prompt, subroutine Server
All servers are synchronized	Sync Completed	All
Synchronization failure	Failed <device name> 'Sync Incomplete. See the Server page to view the Status of Remove Servers.	Server Workflow, prompt, subroutine
IVR Routing Service disruption	IVR services are stopped or the server is offline	All

Chapter 19

WORKFORCE SCHEDULING, SCHEDULE ADHERENCE, AND EMPLOYEE PORTAL

Before installing Workforce Scheduling

Installing Workforce Scheduling

Using Workforce Scheduling

Workforce Scheduling and your contact center

Before you start scheduling

Schedule setup and customization

Forecasting data for schedules

Schedule creation

Schedule distribution

Schedule Adherence

Employee Portal

WORKFORCE SCHEDULING

Workforce Scheduling is an optional application that works in conjunction with Contact Center Management and the Mitel 3300 ICP. You configure employees in YourSite Explorer and schedule them with Workforce Scheduling. Using historical data from Contact Center Management, Workforce Scheduling forecasts the number of employees required to meet your contact center's Service Level objectives. Using Workforce Scheduling, you can build schedules with forecast information. If you enter employee payroll information in YourSite Explorer, Workforce Scheduling can use this information for scheduling and budgeting purposes.

To install Workforce Scheduling, select the Workforce Scheduling option in Client Role Selector.

NOTE: In order to access Workforce Scheduling, you require the May manage Workforce Scheduling security role. For more information on configuring security roles, see "Creating and applying security roles" on page 190.

Using Workforce Scheduling in conjunction with Contact Center Management, you can

- Customize schedules
- Forecast scheduling requirements
- Match an employee's skills to those skills required for jobs in each schedule
- View the distribution of employees across each schedule
- Print schedule reports

There are two optional applications that work in conjunction with Workforce Scheduling: Schedule Adherence and Employee Portal. For more information on these applications, see "Schedule Adherence" on page 722 and "Employee Portal" on page 727.

BEFORE INSTALLING WORKFORCE SCHEDULING

Before you install and run Workforce Scheduling or view Schedule Adherence monitors in Contact Center Client, you must enable remote SQL Server connections and grant SQL Server permissions to Workforce Scheduling users.

ENABLING REMOTE SQL SERVER CONNECTIONS

To enable remote SQL Server 2008, remote SQL Server 2012, or remote SQL Server 2014 connections

1. On the Enterprise Server, in the **Microsoft SQL Server 2008**, the **Microsoft SQL Server 2012** or the **Microsoft SQL Server 2014** program folder, navigate to the **SQL Server Configuration Manager**.
2. Under SQL Server Configuration Manager (Local), expand SQL Server Network Configuration and click Protocols for <SQL Server instance name>.
3. In the right pane, right-click **Named Pipes** and click **Enable**.
4. In the right pane, right-click **TCP/IP** and click **Enable**.
5. Under **SQL Server Configuration Manager (Local)**, click **SQL Server Services**.
6. In the right pane, right-click **SQL Server (<SQL Server instance name>)** and click **Restart**.

7. In the right pane, right-click **SQL Server Browser** and click **Properties**.
8. Click the **Service** tab and after **Start Mode**, select **Automatic**.
9. Click **Apply**.
10. Click **OK**.
11. In the right pane, right-click **SQL Server Browser** and click **Start**.

GRANTING SQL SERVER PERMISSIONS

NOTE:

- If your enterprise uses remote SQL and SQL Authentication, you can skip this step, because the required credentials are provided during the configuration of Contact Center Management
- If you do not currently have a copy of Microsoft SQL Server Management Studio installed, you can download a free copy from Microsoft: <http://www.microsoft.com/en-ca/download/default.aspx>.

To grant SQL Server 2008, SQL Server 2012, or SQL Server 2014 permissions

1. In Windows, open the **Microsoft SQL Server 2008**, **Microsoft SQL Server 2012**, or **Microsoft SQL Server 2014** program folder and go to **SQL Server Management Studio**.
2. Connect to the desired SQL Server.
3. In the left pane, expand the **Security** tree and select **Logins**.
4. If the desired user is not listed, right-click **Logins** and select **New Login**.
5. After **Login name**, type the name of the new user.
Optionally, click **Search** to search for the user name.
6. If you have users configured in groups on your domain, you can optionally add the group to add all users at once.
If you want to grant SQL Server permissions to a domain group, you must click **Search**, click **Object Types**, and select the **Groups** check box.
7. Click **User Mapping**.
8. Under **Users Mapped to this login**, select **CCMData**.
9. Click **OK**.
10. Under **Database role membership for: CCMData**, select **db_owner**.
11. Click **OK**.
12. Repeat steps 5-11 for all Workforce Scheduling users.

INSTALLING WORKFORCE SCHEDULING

NOTE: Workforce Scheduling can only be installed on client computers that are part of the same Windows domain as the SQL Server.

To use Workforce Scheduling, you must first install Contact Center Management Version 7.1. Workforce Scheduling is installed during the installation of Contact Center Management Version 7.1. To install Workforce Scheduling on a client computer, you must install Client Component Pack. You then install Workforce Scheduling and can then begin configuring scheduling options.

To install Workforce Scheduling

1. In Contact Center Management, click **Help=>Software downloads/Installations**.
2. To install Client Component Pack, click **Client Component Pack**.
3. Follow the steps in the wizard to install Client Component Pack.
4. On a client computer, open the **Client Role Selector**.
5. Using a **Supervisor** or **Power User** role, install **Workforce Scheduling**.

USING WORKFORCE SCHEDULING

Before you start using Workforce Scheduling read the following sections on how to

- View the Workforce Scheduling user interface
- Understand forecasting concepts
- Understand the Workforce Scheduling process

VIEWING THE WORKFORCE SCHEDULING USER INTERFACE

Figure 145 displays scheduling information, such as the employees who are scheduled, employee shift start and end times, the time interval shift totals, and the shift details for each employee.

NOTE: The Scheduling and Forecasting buttons in the Tools>Administration window are used to toggle between these two views.

The Workforce Scheduling user interface is comprised of the following panes:

- People pane
- Time bar pane
- Totals pane
- Schedule details pane

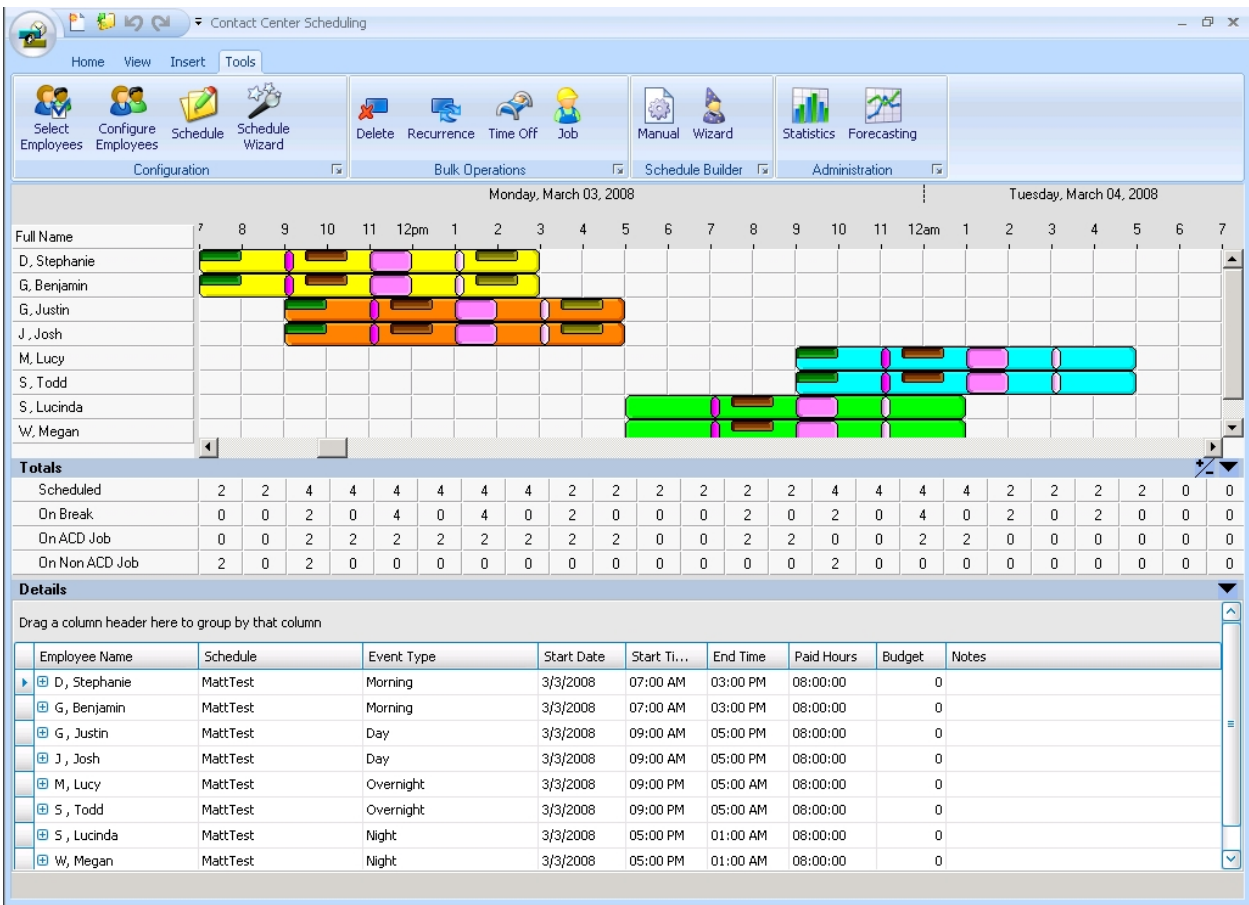


Figure 145: Scheduler window

People pane

The people pane is located in the upper-left portion of the scheduler window. The people pane lists the employees included in the schedules you are viewing. (See Figure 146.)

Full Name
A, Awil
C, Mike
D, Abdallah
G, Dave
M, Ghislain
M, Trevor

Figure 146: People pane

Time bar pane

The time bar pane is located in the upper-right portion of the scheduler window. The time bar pane displays a time bar for each scheduled employee. Time bars display the shifts, breaks, jobs, time off, and unavailable periods for employees listed in the people pane. You can view the time bar pane

in the following time intervals: 6 hours, 12 hours, 1 day, 2 days, 1 week, 2 weeks, and 1 month. (See Figure 147.)

You can view previous or upcoming dates using the horizontal scroll bar under the time bar pane. If you reach the end of the month and want to view dates for the next month, you can click the arrow on the scroll bar to load the schedule for the next month (as indicated by the red square in the following image).

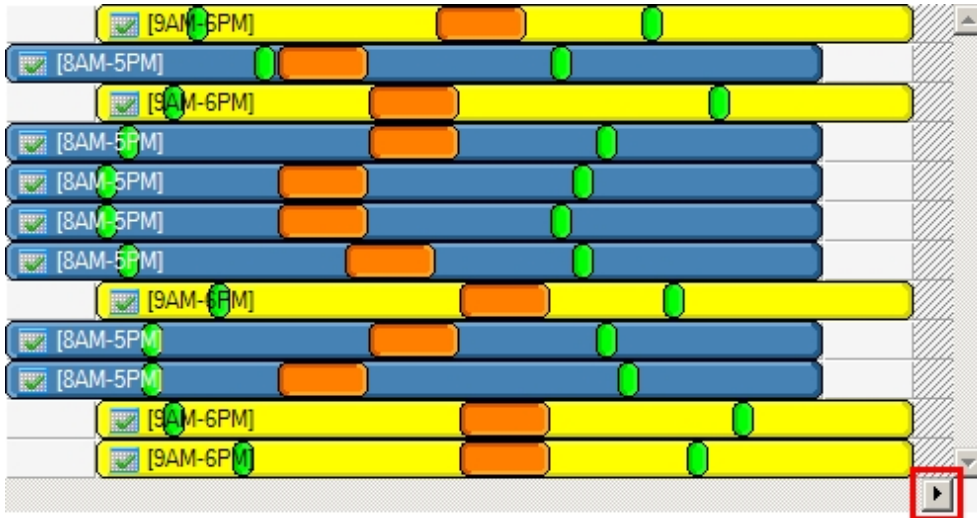


Figure 147: Time bar pane

Totals pane

The totals pane appears when you select event totals to view. The totals pane is located in the center of the scheduler window. Each value represents the total number of employees scheduled for an event. (See Figure 148.)

Totals														
Scheduled	0	0	0	0	0	0	0	0	5	5	5	5	5	4
On Break	0	0	0	0	0	0	0	0	0	0	0	0	0	0
On ACD Job	0	0	0	0	0	0	0	0	0	0	0	0	0	0
On Non ACD Job	0	0	0	0	0	0	0	0	0	0	0	0	0	0
At Work	0	0	0	0	0	0	0	0	5	5	5	5	5	4
Over/Under	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Overtime	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Figure 148: Totals pane

You can view the following event totals:

Forecasted

The *Forecasted* total displays after you apply a forecast to the schedule. This total represents the forecasted number of employees required to handle contact requests and meet the Service Level objectives you specify. You can optionally adjust the Forecasted total in the totals pane. See "Modifying forecast totals in the event totals pane" on page 716.

Scheduled

The *Scheduled* total represents the number of employees scheduled for the time you are viewing.

On break

The *On break* total represents the number of employees scheduled for a break at a specific time.

On ACD Job

The *On ACD Job* total represents the number of employees scheduled to perform ACD work.

On Non ACD Job

The *On Non ACD Job* total represents the number of employees scheduled to perform non-ACD work.

At work

The *At work* total represents the number of employees scheduled to handle contact requests.

Over/Under

The *Over/Under* total represents the difference between the number of employees at work compared to the number of employees forecasted. A value of 4 means 4 additional employees are working compared to the forecasted requirement. A value of (4) means 4 fewer employees are working compared to the forecasted requirement. When you book annual leave for employees, you can preview the result on shift coverage by using the over / under function, before updating changes.

Overtime

The *Overtime* total represents the number of employees scheduled to perform overtime work.

Schedule details pane

The schedule details pane is located at the bottom of the scheduler window. It displays details on scheduled employees. You can modify the start and end times of scheduled events in the schedule details pane. For example, you can adjust the length of a scheduled break. See "Modifying event times and notes in the schedule details pane" on page 716. (See Figure 149.)

Details									
Drag a column header here to group by that column									
	Employee Name	Schedule	Event Type	Start Date	Start Ti...	End Time	Paid Hours	Budget	Notes
▶	M, Ghislain	6120 Training	Regular	2/22/2008	08:00 AM	05:00 PM	09:00:00	0	
⊕	D, Abdallah	6120 Training	Sales	2/22/2008	08:00 AM	04:00 PM	08:00:00	0	
⊕	G, Dave	6120 Training	Regular	2/22/2008	08:00 AM	05:00 PM	09:00:00	0	
⊕	A, Awil	6120 Training	Ssupport Weekday	2/22/2008	08:00 AM	10:00 PM	14:00:00	0	
⊕	M, Trevor		Mat Leave	2/22/2008	08:00 AM	06:00 PM	10:00:00	0	
⊕	C, Mike	6120 Training	Regular	2/22/2008	08:00 AM	01:00 PM	05:00:00	0	

Figure 149: Schedule details pane

You can sort the information in the schedule details pane by organizing the headings. The schedule details column headings are as follows:

- **Employee name**—the employee to which the specified time event is scheduled
- **Schedule**—the schedule to which the specified time event is scheduled
- **Event type**—the events to which the specified time event is scheduled
- **Start date**—the start date of each scheduled event. You can modify this parameter in the schedule details pane. Changes are immediately reflected in the time bar pane
- **Start time**—the start time of each scheduled event. You can modify this parameter in the schedule details pane. Changes are immediately reflected in the time bar pane
- **End time**—the end time of each scheduled event. You can modify this parameter in the schedule details pane. Changes are immediately reflected in the time bar pane
- **Paid hours**—the total number of paid hours for the scheduled shift
- **Budget**—the total cost of the scheduled shift
- **Notes**—the notes on scheduled events you enter in this field

UNDERSTANDING FORECASTING CONCEPTS

Workforce Scheduling assists you in scheduling employees for work and holiday periods. It offers an integrated forecasting component that uses historical data to partially automate the scheduling process. Scheduling is not entirely automated. You may have to modify employee schedules and enter shift and employee variables manually after creating a schedule based on forecasted data.

You schedule employees so the number of incoming calls at any given time typically exceeds the number of employees currently available. This ensures callers experience a slight delay before employees answer their calls. The expected number of incoming calls forecasted for the time of day and day of the week influence scheduling decisions when trying to find the right balance between call volume and available staff.

For detailed information on forecasting variables and how to improve forecasting accuracy, see "Step #3 Forecast the Call Load" on page 33.

For detailed information on Service Level variables and how to calculate the Service Level Percent, see "Understanding the Service Level" on page 26.

UNDERSTANDING THE WORKFORCE SCHEDULING PROCESS

The flowchart in Figure 150 provides an overview of how to schedule employees with Workforce Scheduling, such as adding employees to a schedule, configuring schedule parameters, and building a schedule.

You configure employees, agent IDs, agent groups, queues, queue groups, overtime types, time off types, holidays, and skills in YourSite Explorer. After you configure these devices, you must decide if you will use forecasted data to build your schedules. When you build a schedule in Workforce Scheduling using forecasted data, we recommend you associate the schedule with the queue group you will use to perform the forecast. You must ensure that the employees you want to schedule are associated with the queue group you associate to the schedule. In YourSite Explorer, you must associate the agents with agent groups, associate the agent groups to queues, and associate the

queues to the queue group associated with the schedule. This is recommended so employees in the schedule align with forecasted data. You can optionally associate a schedule to a queue group with different employees, which can be useful for scheduling a new group of employees based on the forecasted data of other employees.

As soon as you start Workforce Scheduling, you can begin creating your schedules. After you log in, you are asked to create or select a schedule. You create a schedule by assigning it a name. If you are using a forecast to build the schedule, you associate the schedule with a queue group.

After you create the schedule, you configure schedule parameters, such as shifts, breaks, jobs, and scheduling preferences/options for each employee.

You can automate the schedule building process with the Schedule Builder tool. It helps you quickly build a schedule, with or without a forecast. If you build schedules using forecasted data, we recommend you use Schedule Builder. Alternately, you can build a schedule manually. This involves inserting or removing events (shifts, breaks, jobs, time off, unavailable periods) and making events recur. You can manually build a schedule based on forecast totals in the Totals pane. After you build a schedule using Schedule Builder, you may need to make a few adjustments.

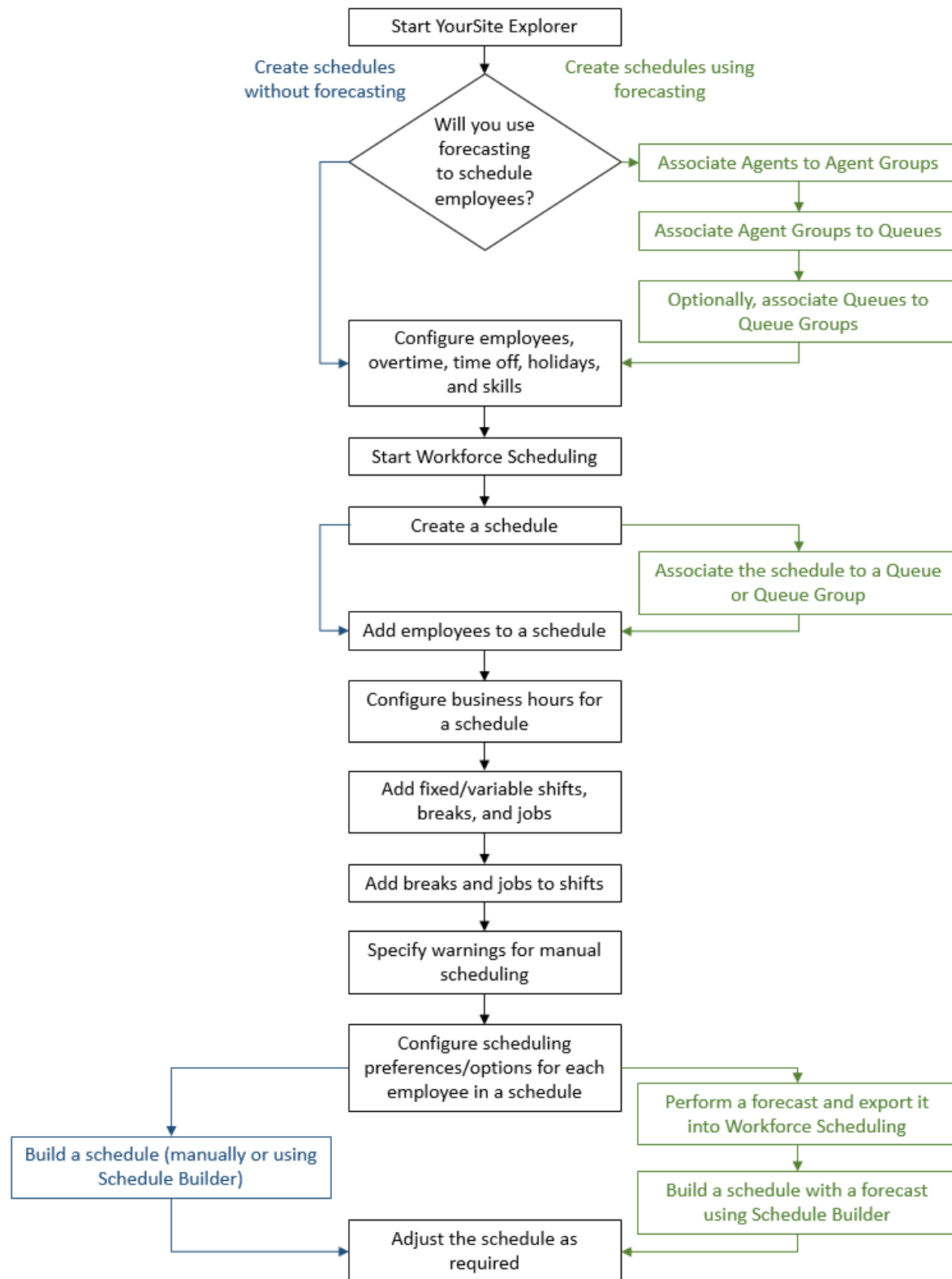


Figure 150: Scheduling with Workforce Scheduling

WORKFORCE SCHEDULING AND YOUR CONTACT CENTER

Using Workforce Scheduling, you can schedule your employees to best suit your contact center needs. You can

- Customize schedules for your contact center groups
- Forecast scheduling requirements
- Match employee skills to the skills required for each schedule
- View the distribution of employees across schedules
- Print schedule reports

For information on scheduling considerations, and how to calculate the Shrinkage Factor and optimize scheduling, see "Step #5 Schedule agents" on page 38.

Using Workforce Scheduling, you can create schedules for your contact center using a variety of options. Depending on your contact center, some options may be more suitable than others. To help your company use Workforce Scheduling most effectively, we have created configuration scenarios that describe how to implement Workforce Scheduling, based on the type of scheduling used in your contact center.

Each Workforce Scheduling configuration scenario provides a description of the scheduling method and an example of contact centers that typically use that method. Each scenario also provides some tips on how to configure Workforce Scheduling for each style of scheduling. The scenarios include the following scheduling configurations:

- Assigned shift
- Availability
- Rotational
- Forecast

ASSIGNED SHIFT-BASED SCHEDULING CONFIGURATION SCENARIO

The assigned shift scheduling method uses fixed shifts staffed by employees who are permanently assigned to specific shifts. Contact centers that use assigned shift scheduling have consistent call volumes. Employees are primarily full-time staff and are guaranteed a specific number of hours of employment per week. Typically, you plan a schedule three to six months in advance with assigned shift scheduling.

Contact centers ideal for assigned shift scheduling

Assigned shift scheduling is best suited to contact centers that have a steady and predictable call volume, such as a contact center that runs a conventional nine to five operation. Examples of contact centers that use assigned shift scheduling include banks and government offices.

To configure Workforce Scheduling for an assigned shift scheduling environment

- Create fixed shifts
- Use shift names that describe a shift's purpose, such as '9 to 5 shift' or '1st shift'
- Use mass recurrence to repeat scheduled events for multiple weeks
- Configure employee hours using shift assignment by day of week

AVAILABILITY-BASED SCHEDULING CONFIGURATION SCENARIO

The availability scheduling method uses fixed shifts, but unlike assigned shift scheduling, the employees that work a given shift are not permanently attached to that shift. Contact centers that use availability scheduling fill shifts using a pool of employees.

A contact center supervisor sets staff availability based on day of week and time of day. When staffing a shift, the supervisor can assign any employee who is listed as available for that date and time to the shift. Typically, you plan a schedule two to four weeks in advance when you use availability scheduling.

Contact centers ideal for availability scheduling

Availability scheduling is best suited to contact centers driven by shifts, such as hotels or companies that focus on catalog sales. These contact centers have a specific number of shifts that can be filled by any qualified employees who are available. This type of schedule is frequently used with contact centers that operate 24/7.

To configure Workforce Scheduling for an availability scheduling environment

- Primarily use fixed shifts, but do not assign employees to specific shifts
- Assign employees all of the possible shifts they can work
- Set employee availability by day of week and time of day
- Use filters to assign the best employee available for a shift, based on skill set, seniority, or personal priority number

ROTATIONAL-BASED SCHEDULING CONFIGURATION SCENARIO

The rotational scheduling method consists of two or more unique schedules that recur at defined intervals. For example, if a contact center rotates four schedules, the week one schedule repeats in week five, week nine, and so on. The rotational scheduling method enables contact center schedules to be consistent in the long-term, while allowing shifts to vary from week to week.

Contact centers ideal for rotational scheduling

Rotational scheduling is best suited to contact centers that require specific employees to cover unique periods of time, such as medical clinics that are open on weekends. If each contact center employee is required to work one weekend a month, a rotational schedule can ensure an even distribution of weekend work for each employee.

To configure Workforce Scheduling for a rotational scheduling environment

- Primarily use assigned shifts with defined employees. The staff changes from one schedule rotation to the next ensure fair coverage on nights, weekends, and holidays
- Recur the shifts multiple times based on the number of rotations
- Manually track and adjust which employees are assigned to each rotation; Workforce Scheduling does not create a balanced schedule so you will need to make changes if you want to ensure the schedule is fair
- Optionally use rotational scheduling in conjunction with other schedule types. For example, create a schedule that uses the assigned shift method to cover Monday to Friday shifts and a second schedule that uses the rotational shift method to cover shifts such as weekends or holidays

FORECAST-BASED SCHEDULING CONFIGURATION SCENARIO

The forecast scheduling method references historical data to create schedules. Contact centers that use forecast scheduling have call volumes that can change considerably over relatively short periods of time, resulting in inconsistent scheduling.

Forecast scheduling provides more flexibility than other scheduling methods since shifts are not defined. A contact center that uses forecast scheduling does not have a fixed staff or fixed hours, as both change based on the expected call volume. Typically, you plan a schedule one to two weeks in advance with forecast scheduling.

Contact centers ideal for forecast scheduling

Forecast scheduling is best suited to contact centers driven by call volume, such as companies that focus on sales campaigns, promotions, or seasonal sales.

To configure Workforce Scheduling for a forecast scheduling environment

- Generate historical data specific to the type of event you are scheduling (for example, to create a schedule for a winter sales campaign, use historical data from a previous winter campaign)
- Create shifts with flexible start and end times to provide Schedule Builder with the greatest number of options when populating the shifts with employees
- Remember that shift variables, such as start/end times and breaks, will vary for employees on a day-to-day basis
- Due to the variety of shift start and end times, create breaks based on the Time to qualify variable
- Do not configure availability or shift assignment

BEFORE YOU START SCHEDULING

You use Workforce Scheduling in conjunction with YourSite Explorer. Before you can schedule employees with Workforce Scheduling, you must add and configure them in YourSite Explorer.

To configure employee information for scheduling

1. Select the employee or employees you want to configure.
2. Specify the employee role.
See "Configuring employee roles" on page 169.
3. Specify employee work hours.
See "Configuring employee work hours" on page 170.
4. Specify employment status.
See "Configuring employment status" on page 170.
5. Specify employee payroll information.
See "Configuring employee payroll information" on page 170.
6. Assign shifts to the employee.
See "Assigning shifts to employees" on page 703.
7. Specify employee availability.
See "Configuring employee availability" on page 171.
8. Specify time off information
See "Configuring employee time off" on page 171.
9. Specify employee skills
See "Configuring employee skills" on page 172.

Before you can make schedules in Workforce Scheduling, you must configure the following scheduling options in YourSite Explorer

1. Holidays
See "Configuring holidays" on page 173.
2. Overtime types
See "Configuring overtime types" on page 173.
3. Time off types
See "Configuring time off types" on page 174.
4. Skills
See "Configuring skills" on page 175.

SELECTING A SCHEDULING METHOD

You can build schedules in Workforce Scheduling:

- Using a forecast
- Manually

The setup you require depends on the scheduling method you choose. If you incorporate forecast data when you build a schedule, you must build the schedule using Schedule Builder.

Scheduling using forecast data

When you use forecast data to build a schedule, you can apply historical data from any queue or queue group to the schedule. It is recommended to use historical data from the queue group with which the schedule is associated. Forecast data is simply the number of required agents. It can be used in schedules which are not associated with a queue or queue group.

Before you build a schedule using a forecast, as a best practice, we recommend you associate your schedule with a queue group. You should also ensure that the employees to be scheduled are associated with this queue group.

In YourSite Explorer, you

1. Associate the agent IDs with an agent group.
See "Managing agent group membership, presence, and skill level" on page 139.
2. Associate the agent group with a queue.
See "Configuring voice queue membership" on page 145.
3. Associate the queue with the queue group (that you will associate with the schedule).
See "Adding queue groups" on page 155.

Scheduling manually

You have the most flexibility when you build a schedule manually. However, this can be time consuming if you must schedule a large number of employees or if you must create a schedule covering a long time period where shift assignments do not recur. You can also use manual scheduling to tweak schedules you build with Schedule Builder. See "Creating and adjusting schedules manually" on page 713.

SCHEDULE SETUP AND CUSTOMIZATION

NOTE: In order to access Workforce Scheduling, you require the May manage Workforce Scheduling security role. For more information on configuring security roles, see "Creating and applying security roles" on page 190.

In order to build a schedule in Workforce Scheduling, whether you build your schedule with forecasting or you build it manually, you must perform the following tasks to set up and customize your schedule:

1. Start YourSite Explorer.
2. Configure employees, overtime types, time off types, holidays, and skills.
3. Start Workforce Scheduling.
4. Configure schedule options.
5. Configure shifts, breaks, and jobs.
6. Assign shifts to schedules.
7. Assign shifts to employees.
8. Specify scheduling preferences/options for each employee in the schedule.
9. Specify schedule warnings.

STARTING WORKFORCE SCHEDULING ON A CLIENT COMPUTER

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

To log on to Workforce Scheduling

1. Open **Workforce Scheduling**.
The Login window appears.
2. If prompted, type your user name and password and verify the Enterprise Server IP address
3. Optionally, select the **Remember my credentials** check box.
4. Click **Login**.
The first time you log on, or if you have not created any schedules, the scheduler window appears. See "Configuring schedule options" on page 693.
Otherwise, if schedules exist, the Load schedule window appears.
See "Loading schedules" on page 713.

CONFIGURING SCHEDULE OPTIONS

NOTE:

- If you associate a schedule with a queue group, only those employees included in the selected queue group can be configured in the schedule. (Agents are members of agent groups, which are associated with queues that are members of queue groups.)
- If you do not associate a schedule with a queue group, you can schedule any employee whose profile enables you to schedule them in Workforce Scheduling. See "Adding employees" on page 121.

Before you can build a schedule, either manually or using Schedule Builder, you must create a new schedule.

On the New Schedule window, you must:

- Name the schedule
- Associate the schedule with a queue or queue group (optional)
- Add employees to the schedule
- Configure business hours for the schedule
- Activate/Deactivate the schedule

You can create new schedules and configure all Workforce Scheduling options using the Schedule wizard. Optionally, use the Schedule tool to add, delete, rename, and activate/deactivate schedules. Within the Schedule configuration window, you can click Apply at any time to apply changes to the schedule without closing the Schedule configuration window.

Configuring scheduling options using the Schedule wizard

You can create new schedules and configure all Workforce Scheduling options using the Schedule wizard.

To configure scheduling options using the Schedule wizard

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule wizard**.
3. Follow the steps in the Schedule wizard to configure schedules, business hours, employees, fixed/variable shifts, fixed/variable breaks and jobs, and fixed/variable shift assignments.
4. Click **Finish**.

Creating schedules

To create a schedule

1. On the Application menu or ribbon, click **New schedule**.
2. After **Schedule name**, type a name for the schedule.
3. Under **Employee association**, select either **All employees**, **Employees associated with this queue group only**, or **Employees associated with this queue only**.
 - If you select Employees associated with this queue group, select a queue group from the list.
 - If you select Employees associated with this queue, select a queue from the list.
4. If this schedule will be an active schedule, select the **This schedule is active** check box. Otherwise, select the **This schedule is used for planning purposes only** check box.
5. Click **OK**.
6. Select the check boxes of the employees to add to the schedule.
7. Click **OK**.

Adding employees to schedules

Schedules that contain fewer than 100 employees are easiest to manage. Each employee should belong to one active schedule only. However, if employees belong to more than one schedule, you can still view the shifts for which they are scheduled.

To add an employee to a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Select employees**.
3. After **Schedule**, select a schedule.
4. If you want to group employees in the list by supervisor, select the **Group by supervisor** check box.
5. Select the check boxes of the employees to add to the schedule.
6. Click **OK**.

Configuring business hours for schedules

You can specify different business hours for each schedule. By default, you are warned if you try to schedule shifts outside business hours.

To configure the business hours of a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, select **Schedules**.
4. Under **Schedules**, select the schedule to modify.
5. After **First day of the schedule week**, specify the day that the schedule will begin.
6. After **Annual calendar start date**, specify the date the calendar year begins.
The information in this field is used to calculate annual minimum and maximum hours for employees. January 1st is the default date.
7. Specify business hours for the schedule.
 - If you want to schedule employees 24 hours a day, seven days a week, under Business hours, click **Open 24/7**.
 - After **Open**, select the check boxes of the days of the week to schedule.
 - After **From**, specify the start times for each day of the week to schedule.
 - After **To**, specify the end times for each day of the week to schedule.
8. Click **OK**.

Renaming schedules

You can rename a schedule without losing any information associated with the schedule.

To rename a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Under **Schedules**, select the schedule to rename.
4. Click **Rename**.
5. After **Name**, type a new name for the schedule.
6. Click **Rename**.
7. Click **OK**.

Deleting schedules

CAUTION: Deleting a schedule deletes all of the information associated with that schedule. This cannot be undone.

To delete a schedule

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Under **Schedules**, select the schedule to delete.

4. Click **Delete**.
5. Click **Yes**.
6. Click **OK**.

Activating / De-activating schedules

You can activate or deactivate a schedule at any time. Deactivating schedules is useful for performing 'what-if' scenarios, for seasonal schedules, and for retaining schedules to be used at a later time.

To activate or deactivate a schedule

1. Click **File=>Activate**.
The Activate / Deactivate Schedule dialog box opens.
2. Select the schedule that you want to activate / deactivate.
You can load multiple active schedules. However, if you load an inactive schedule, all other schedules close.
3. Click **Activate** to activate an inactive schedule or **Deactivate** to deactivate an active schedule.
4. Click **Close**.

CONFIGURING SHIFTS

A shift represents work hours on a given day for an employee. You can assign shifts to specific employees for any day of the week. You can create several shifts for one or more schedules. There are two types of shifts: fixed shifts and variable shifts. Fixed shifts have a fixed start time and duration. Variable shifts are based on the following shift variables:

- **Typical hours**—the number of work hours for the shift
- **Minimum hours**—the minimum number of hours for the shift
- **Maximum hours**—the maximum number of hours for the shift
- **Minimum start**—the time of day after which the shift must start
- **Maximum start**—the time of day by which the shift must start
- **Color**—the color in which the shift appears in the time bar pane

You configure the following shift options using the Schedule tool:

- Add fixed shifts
- Add variable shifts
- Rename shifts
- Delete shifts

Adding fixed shifts

To add a fixed shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Shifts**.
4. In the right pane, click the **Fixed Shifts** tab.

5. In the right pane, click **Add**.
6. After **Name**, type a name for the fixed shift.
7. Click **Create**.
8. Under **Start time**, type the start time of the fixed shift.
9. Under **Duration**, type the duration of the fixed shift.
10. Under **Color**, select a color for the fixed shift.
11. Click **OK**.

Adding variable shifts

To add a variable shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Shifts**.
4. In the right pane, click the **Variable Shifts** tab.
5. In the right pane, click **Add**.
6. After **Name**, type a name for the variable shift.
7. Click **Create**.
8. Under **Minimum hours**, type the minimum number of hours in a day you can schedule the shift.
9. Under **Typical hours**, type the typical number of hours in a day you can schedule the shift.
10. Under **Maximum hours**, type the maximum number of hours in a day you can schedule the shift.
11. Under **Minimum start**, type the time of day after which the shift must start.
12. Under **Maximum start**, type the time of day by which the shift must start.
13. Under **Color**, select a color for the variable shift.
14. Click **OK**.

Renaming shifts

You can rename fixed/variable shifts without losing any information associated with the shifts.

To rename a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click the **Shifts** tab.
4. If you want to rename a fixed shift, click the **Fixed shifts** tab. Otherwise, to rename a variable shift, click the **Variable shifts** tab.
5. Under **Name**, click the name of the shift to rename.
6. Type a new name for the shift.
7. Click **OK**.

Deleting shifts

CAUTION: Deleting a shift deletes all of the instances of that shift, including those inserted in schedules.

To delete a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click the **Shifts** tab.
4. If you want to delete a fixed shift, click the **Fixed shifts** tab. Otherwise, to delete a variable shift, click the **Variable shifts** tab.
5. Under **Name**, select the shift to delete.
6. Click **Delete**.
7. Click **Yes**.

CONFIGURING BREAKS

You configure the following break options using the Schedule tool:

- Add fixed breaks
- Add variable breaks
- Rename breaks
- Delete breaks

Examples of common breaks are morning break, lunch, afternoon break, and dinner break.

Adding fixed breaks

To add a fixed break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Breaks**.
4. In the right pane, click the **Fixed Breaks** tab.
5. Click **Add**.
6. After **Name**, type a name for the break.
7. Click **Create**.
8. If the break is a paid break, enable the check box under **Is paid**.
9. Under **Start time**, type the time at which the break must start.
10. Under **Duration**, type the amount of time allotted for the break.
11. Under **Color**, select a color for the break.
12. Click **Ok**.

Adding variable breaks

To add a variable break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Breaks**.
4. In the right pane, click the **Variable Breaks** tab.
5. Click **Add**.
6. After **Name**, type a name for the variable break.
7. Click **Create**.
8. Under **Duration**, type the amount of time allotted for the break.
9. If the break is a paid break, select the check box under **Paid**.
10. Under **Time to qualify**, type the minimum duration of a shift before you can schedule the break.
11. Under **Must start time**, type the amount of time from the beginning of the shift that employees must work before they are entitled to the break.
12. Under **Must end time**, type the amount of time from the beginning of the shift by which employees must complete the break.
13. Under **Minimum time** before end of shift, type the amount of time before the end of the shift that the break must end.
14. Under **Color**, select a color for the shift.
15. Click **OK**.

Renaming breaks

You can rename a break without losing any information associated with the break.

To rename a break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Breaks**.
4. If you want to rename a fixed break, in the left pane, click the **Fixed Breaks** tab. Otherwise, to rename a variable break, click the **Variable Breaks** tab.
5. Under **Name**, click the name of the break to rename.
6. Type a new name for the break.
7. Click **OK**.

Deleting breaks

CAUTION: Deleting a break deletes all of the instances of the break, including those inserted in schedules.

To delete a break

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. If you want to delete a fixed break, in the left pane, click **Fixed shifts**. Otherwise, to delete a variable break, click **Variable shifts**.
4. Click the **Breaks** tab.
5. Under **Name**, select the name of the break to delete.
6. Click **Delete**.
7. Click **Yes**.
8. Click **OK**.

CONFIGURING JOBS

Use jobs in a schedule to differentiate the non-ACD tasks that employees perform. You create jobs for a specific shift. If the job requires a specific set of skills, you can associate skills to jobs. After you associate skills to jobs, you can compare the skill (and skill level) of the employees to the skill required to perform a job. This will ensure the employees you schedule have the appropriate skills for their assigned jobs.

You configure the following job options using the Schedule tool:

- Add fixed jobs
- Add variable jobs
- Rename jobs
- Delete jobs

Adding fixed jobs

To add a job for a fixed shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. In the right pane, click the **Fixed Jobs** tab.
5. Click **Add**.
6. After **Name**, type the name of the job.
7. Click **Create**.
8. If the job involves work on ACD calls, ensure the check box under **Is ACD** is selected.
9. Under **Start time**, type the time at which the job must start.
10. Under **Duration**, type the duration of the job.
11. Under **Color**, select a color for the job.
12. Click **OK**.

Adding variable jobs

To add a job for a variable shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. In the right pane, click the **Variable Jobs** tab.
5. Click **Add**.
6. After **Name**, type the name of the job.
7. Click **Create**.
8. If the job involves work on ACD calls, ensure the check box under **Is ACD** is selected.
9. Under **Color**, select a color for the job.
10. Click **OK**.

Renaming jobs

You can rename a job without losing any information associated with the job.

To rename a job

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. If you want to rename a fixed job, click the **Fixed Jobs**. Otherwise, to rename a variable job, click the **Variable Jobs** tab.
5. Under **Name**, click the name of the job to rename.
6. Type a new name for the job.
7. Click **OK**.

Deleting jobs

CAUTION: Deleting a job deletes all of the instances of the job, including where it is inserted in schedules.

To delete a job

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Jobs**.
4. If you want to delete a fixed job, click the **Fixed Jobs**. Otherwise, to delete a variable job, click the **Variable Jobs** tab.
5. Under **Name**, select the name of the job to delete.
6. Click **Delete**.
7. Click **Yes**.

Adding breaks or jobs to shifts

To add a break or a job to a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click **Assignments**.
4. In the right pane, click the **Breaks and Jobs** tab.
5. Under **Shifts**, select the shift for which you will add shifts to.
6. Under **Breaks**, select the break to add to a shift.
7. Click > to assign the break to the shift.
8. Under **Jobs**, select the job to add to a shift.
9. Click > to assign the job to the shift.
10. Click **OK**.

Removing breaks and jobs from shifts

To remove a break or a job from a shift

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. Click **Assignments**.
4. In the right pane, click the **Breaks and Jobs** tab.
5. Under **Shifts**, select the shift for which you will remove breaks/jobs from.
6. Under **Breaks**, select the break to remove from the shift.
7. Click < to remove the break from the shift.
8. Under **Jobs**, select the job to remove from the shift.
9. Click < to remove the job from the shift.
10. Repeat steps 5-9 to remove additional breaks and/or jobs from shifts.
11. Click **OK**.

ASSIGNING SHIFTS TO SCHEDULES

NOTE: Schedule Builder uses the shifts you assign, combined with the employees' availability and shift assignment, to schedule shifts (or variations of them).

To assign shifts to schedules

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Schedule**.
3. In the left pane, click **Assignments**.
4. In the right pane, click the **Shifts** tab.
5. Under **Schedules**, select the schedule to which you will add shifts.
6. Under **Fixed Shifts**, select the fixed shift to add to the schedule.
7. Click > to assign the shift to the schedule.
8. Under **Variable Shifts**, select the variable shift to add to the schedule.

9. Click > to assign the shift to the schedule.
10. Repeat steps 6-9 for each shift you want to add to a schedule.
11. Click **OK**.

ASSIGNING SHIFTS TO EMPLOYEES

To assign a shift to an employee

1. Click the **Configuration** tab.
2. In the **Schedules** group, click **Configure employees**.
3. In the left pane, under **Schedules**, select the schedule containing the employee(s) to which you will assign shifts.
4. Under **Employees**, select the employee to which you will add shifts.
5. Under **Shift Assignment**, select the check boxes of the shifts that will be available to this employee.
6. Repeat steps 4-6 for each employee to which you will assign shifts.
7. Click **OK**.

CONFIGURING EVENT DISPLAY PREFERENCES

To make events easy to identify at a glance, you can specify how you want to display the scheduled events.

You can specify the following event display preferences:

- **Time bar content display**—provides descriptions, notes, or icons for scheduled events in the time bar pane
- **Smallest scheduling interval**—the smallest increment with which you insert events into the time bar pane
- **Default shift color**—the color for all of the shifts in the time bar pane. To override the default shift color, see "Configuring shifts" on page 696.
- **Default break color**—the color for all of the breaks in the time bar pane. To override the default break color, see "Renaming breaks" on page 699.
- **Default job color**—the color for all of the jobs in the time bar pane. To override the default job color, see "Configuring jobs" on page 700.
- **Default time off color**—the color for all of the time off types in the time bar pane. To override the default job color, see "Configuring time off types" on page 174.
- **Unavailable color**—the color for unavailable periods in the time bar pane
- **Tool tip display**—provides event information in tool tips on the time bar pane. The tool tip appears as a series of brackets depending on the information criteria you select
- **Time display**—the time format of the time bar pane. For example, 3 o'clock in the afternoon appears as 3 P.M. if you select *12 Hours*, or 15 if you select *24 Hours*

Configuring the time bar display

You can select from the following three time bar display options:

- **Icon**—refers to the icons of the scheduled shifts, time off events, and unavailable periods in the time bar pane
- **Type name**—refers to the names of the scheduled jobs in the time bar pane
- **Type notes**—refers to the notes of the scheduled jobs in the time bar pane

To specify how events display in the time bar

1. On the application menu, click **Preferences**.
2. Click the **Display** tab.
3. Under **Time bar content**, select the time bar content to display for Shifts, Jobs, Breaks, Time off, and Unavailable periods.
4. Click **OK** to save and close the Preferences window.

Configuring the smallest scheduling time interval

By default, events are snapped to the time bar grid in 30 minute increments. However, you can adjust the snap-to-grid interval to 5, 15, 30, or 60 minutes. Set the smallest scheduling time interval to the minimum number of minutes you want to insert events into a schedule. For example, if you select 15 minutes as the smallest scheduling interval, you cannot insert events for an employee in increments smaller than 15 minutes.

The default scheduling interval is 15 minutes, which we recommend, as changing this to a smaller interval will increase the amount of time it takes for Schedule Builder to build schedules.

To configure the smallest scheduling time interval

1. On the application menu, click **Preferences**.
2. Click the **General** tab.
3. Under **Scheduling preferences**, after **Smallest scheduling interval**, select the snap-to-grid time interval.
4. If you want to prevent the user from manually making any change that would trigger a warning, select the **Warnings are hard limits for the user** check box.
5. Click **OK** to save and close the Preferences window.

Preventing users from manually making changes that trigger warnings

You can configure Workforce Scheduling to prevent users from making changes that trigger warnings.

To prevent users from manually making changes that trigger warnings

1. On the application menu, click **Preferences**.
2. Click the **General** tab.
3. Select the **Warnings are hard limits for the user** check box.
4. Click **OK** to save and close the Preferences window.

Configuring the default colors on the time bar

To configure the default colors used for events on the time bar

1. On the application menu, click **Preferences**.
2. Click the **Display** tab.
3. Under **Default Timebar Colors**, after **Default Shift Color**, select a color.
4. Repeat step 3 for **Default Break Color**, **Default Job Color**, **Default Time Off Color**, and **Unavailable Color**.
5. Click **OK** to save and close Preferences window.

Configuring the time format

There are two time formats you can select from: the 24 hour international format or the 12 hour format which uses A.M. and P.M. to indicate morning and afternoon. For example, 3 o'clock in the afternoon appears as 15 if you select the 24 hour time format or 3 P.M. if you select the 12 hour time format.

To configure the time format

1. On the application menu, click **Preferences**.
2. Click the **General** tab.
3. After **Hour Format**, select either **12 Hours** or **24 Hours**.
4. Click **OK**.

Configuring tool tip display

You can specify the following information in tool tips for shifts, jobs, breaks, time off events, unavailable periods, and shadow events:

- **Schedule name**—provides the name of the schedule in which the event appears.
- **Is recurring**—displays if the event recurs.
- **Type**—provides the name of the event.
- **Type name**—states if the event is a shift, job, break, time off event, unavailable period, or shadow event.
- **Start/End Time**—provides the start and end time of the event.
- **Event Notes**—provides any notes from the detail grid for the event.

To configure the tool tip display

1. On the application menu, click **Preferences**.
2. Click the **Display** tab.
3. Under **Tooltip Display**, select the check boxes for the tool tips to display.
4. Click **OK**.

CONFIGURING WARNINGS

Warnings notify you when you try to schedule events outside of your scheduling parameters.

You can set the following warnings:

- Schedule warnings
- Shift warnings
- Break warnings
- Job warnings
- Overtime warnings
- Time Off warnings
- Employee scheduling warnings
- Schedule Builder warnings
- Employee selection warnings

To configure warnings

1. On the application menu, click **Preferences**.
2. Click the **Warnings** tab.
3. Ensure the check boxes of the warnings you want to configure are selected.
See Table 52.
4. Click **OK**.

Table 52: Warnings

WARNING	DESCRIPTION
Scheduling work on company holidays	notifies you when events are scheduled on company holidays
Scheduling work outside business hours	notifies you when you try to schedule events outside of your contact center's business hours
When scheduling outside employee's availability	notifies you when you try to schedule employees who are not available at the specified time
Violates Length of Service Qualifications	notifies you when an employee has worked fewer or more months required to qualify for a specific type of time off
Exceeds accrued hours	notifies you when an employee is scheduled for more time off hours than is available to that employee at that time
Exceeds Maximum Scheduling Limit	notifies you when an employee is scheduled for more time off hours than specified for that type of time off
Less than Minimum Scheduling Limit	notifies you when an employee is scheduled for fewer time off hours than specified for that type of time off

Table 52: Warnings (continued)

WARNING	DESCRIPTION
Employee does not have required skills	notifies you when an employee does not have the required skills for the job for which they are scheduled
Exceeds Daily Maximum Work Hours	notifies you when an employee is scheduled for more hours in a day than defined by the parameter for that shift
Below Daily Minimum Work Hours	notifies you when an employee is scheduled for fewer hours in a day than defined by the parameter for that shift
Exceeds Weekly Maximum Work Hours	notifies you when an employee is scheduled for more hours in a week than defined by the parameter for that shift
Below Weekly Minimum Work Hours	notifies you when an employee is scheduled for fewer hours in a week than defined by the parameter for that shift
Exceeds Yearly Maximum Work Hours	notifies when an employee is scheduled for more than the annual maximum hours required
Below Yearly Minimum Work Hours	notifies you when an employee is scheduled for less than the annual minimum hours required
Start time outside of specified range	notifies you when an employee's shift is scheduled to start before (minimum) or after (maximum) the parameters defined for that shift
Within Minimum Time Between Shifts	notifies you when an employee is scheduled to start another shift too soon following the one previously completed
Below hours worked to qualify	notifies you when an employee is scheduled for a break before working enough hours after the last break in that shift to qualify for another break
Starting before earliest start time	notifies you when an employee is scheduled for the first break in a shift before a break can be taken
Ending after latest end time	notifies you when an employee is scheduled for the last break in a shift after a break can be taken
Removing an employee from a schedule	notifies you when you attempt to delete an employee from the schedule
Accepting a generated schedule	notifies you when you attempt to save a schedule you have built
Scheduled shift will cause overtime	notifies you when a shift qualifies an employee for overtime

FORECASTING DATA FOR SCHEDULES

After setting up and customizing your schedule, if you are building a schedule from forecasted data, you must run the Forecasting tool and export the forecast into your schedule before you can select this option in the schedule builder or schedule builder wizard.

For information on the Forecasting tool, see "Forecasting tool" on page 327.

To access the Forecasting tool

1. Click **Tools** in the **Workforce Scheduling** ribbon.
2. In the **Data Mining** section, click **Forecasting**.

SCHEDULE CREATION

You can create and customize schedules in Workforce Scheduling using specific parameters that suit the needs of your contact center. You can build schedules manually or with the Schedule Builder tool. Schedule Builder automates the schedule building process. It uses pre-defined employee and schedule options to create schedules. See "Schedule setup and customization" on page 692.

Schedule Builder helps you build a schedule with or without forecast data. If you are building a schedule with forecast data, you must export the forecast data into your schedule before running the Schedule Builder if you want to build a schedule with forecast data. See "Forecasting data for schedules" on page 708.

You can also use manual scheduling to modify schedules you build with Schedule Builder. See "Creating and adjusting schedules manually" on page 713.

NOTE: After you generate a schedule with Schedule Builder, you must accept or reject schedule changes before you can generate another schedule.

Schedule Builder uses the following parameters to create a schedule automatically:

- Date/time range
- Shifts
- Breaks
- Forecast data
- Business hours
- Employees
- Employee scheduling preferences
- Scheduling options
- Shift options
- Schedule algorithm options

BUILDING SCHEDULES WITH SCHEDULE BUILDER

NOTE: After you generate a schedule with Schedule Builder, you must accept or reject schedule changes before you can generate another schedule.

To build a schedule with Schedule Builder

1. Click the **Tools** tab
2. In the Schedule Builder group, click **Manual**.
3. Under **Schedule name**, select a schedule.
4. Specify the scheduling parameters on each tab of the Schedule Builder tool.
5. Click **Build**.
A dialog box appears reminding you that changes to the schedule will not be committed to the database until you click Accept Schedule.
6. Click **OK**.
The Accept Schedule and Reject Schedule buttons appear in the toolbar.
7. Verify the schedule.
8. Make any required modifications manually.
9. Click **Accept schedule** to save the new schedule.

NOTE:

- After you click Accept Schedule, the schedule is live in the database and the Accept Schedule button disappears. If you click Reject Schedule, the automatically generated schedule and any manual modifications are deleted from the schedule. See "Creating and adjusting schedules manually" on page 713.
- If there are any conflicts, a dialog box appears stating the number of conflicts. You cannot save a schedule with conflicts. Click Yes to delete the conflicts and accept the schedule, or click No to adjust the schedule. When you have resolved the conflicts, click Accept Schedule again to save the schedule.

Configuring the date and time range

To configure the date and time range for a schedule using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Dates and times**, on the **Date / Time** tab, select the date range of the schedule.
3. Under **Time**, select either **Use business hours**, **24/7**, or **Custom**.
4. If you selected **Custom** in the previous step, select the time the schedule starts and ends each day.
5. If you want to exclude dates from the schedule, click the **Exclusion** tab.
6. Hold down **CTRL** and then click the dates to exclude.

Scheduling shifts

To schedule shifts using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule/Optimize**, select the **Shifts** check box.
3. Under **Event selection**, on the **Shift selection** tab, select the check boxes of the shifts to add to the schedule.

4. Click the **Shift, Break, & Job options** tab.
5. Under **Shift options**, specify how shifts will be distributed.
 - If you want to count existing shifts when determining the number of employees to be scheduled, select the **The Schedule Builder counts existing shifts when determining the number of employees which must be scheduled** check box.
 - If you want to optimize existing unlocked shifts, select the **Allow Schedule Builder to optimize existing unlocked shifts** check box.
 - If you want to optimize existing locked shifts, select the **Allow Schedule Builder to optimize existing locked shifts** check box.
 - If you want to schedule unassigned shifts for times when there are not enough employees available to satisfy the scheduling requirements, select the **Generate unassigned shifts when not enough employees are available to satisfy the schedule requirements** check box.
 - If you want to ignore employee shifts assignments when building the schedule, select the **Ignore employee shift assignments** check box.

Scheduling breaks

To schedule breaks using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule/Optimize**, select the **Breaks** check box.
3. Under **Event selection**, on the **Break selection** tab, select the check boxes of the break types to add to the schedule.
4. Click the **Shift, Break, & Job options** tab.
5. Under **Schedule/Optimize breaks**, select the check boxes of the shift types to apply breaks.

Scheduling jobs

To schedule jobs using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule/Optimize**, select the **Fixed Jobs** check box.
3. Under **Event selection**, on the **Fixed Job selection** tab, select the check boxes of the job types to add to the schedule.
4. Click the **Shift, Break, & Job options** tab.
5. Under **Schedule fixed jobs on**, select the check boxes of the job types to apply shifts.

Generating schedules with forecast data

To build a schedule with forecast data using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule Builder method**, after **Method**, select **Forecasted data**.
3. If you want fewer employees scheduled than are forecasted, move the slider towards **Underschedule**.
4. If you want more employees scheduled than are forecasted, move the slider towards **Overschedule**.
5. If you want to adjust the number of forecasted employees, next to **Increase/decrease the number of forecasted employees by**, enter a number.

Generating schedules without forecast data

To build a schedule without forecast data using Schedule Builder

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule Builder method**, after **Method**, select **Explicit requirements**.
3. After **Number of employees to schedule**, enter a number.
4. If you want fewer employees scheduled than are forecasted, move the slider towards **Underschedule**.
5. If you want more employees scheduled than are forecasted, move the slider towards **Overschedule**.

Generating schedules for your entire workforce

To build a schedule for your entire workforce using Schedule Builder, regardless of employee availability

1. In **Schedule Builder**, click the **General** tab.
2. Under **Schedule Builder method**, after **Method**, select **Entire workforce**.
3. If you want to enable employee filtering, select the **Enable employee filtering** check box.

Selecting employees

To select the employees you want to schedule using Schedule Builder

1. In **Schedule Builder**, click the **Employee filtering** tab.
2. If you want to filter employees by agent group, under **Agent group**, select the check boxes of the agent groups to schedule.
3. If you want to filter employees by their skills, under **Skill**, select the check boxes of the required skills. Otherwise, skip to step 6.
4. Under the list of available skills, select an operand.
 - If the employees must have a skill level greater or equal to the skill level required, select **>=**.
 - If the employees must have a skill level lower or equal to the skill level required, select **<=**.
 - If the employees must have a skill level exactly equal to the skill level required, select **=**.

5. If you want to filter employees by name, under **Select employees with this name**, type an employee's name.
6. If you want to select specific employees, under **Selected employees**, select the check boxes of the employees to schedule.
7. Click the **Employee sorting** tab.
NOTE: You must configure the employee payroll information in order to select the seniority and pay rate parameters.
8. If you want to prioritize how shifts are distributed to employees, select the **Use employee sorting** check box, and select the criteria with which to sort employees.
9. If you want to assign or edit employee priority numbers, under **Employee priority**, select an employee.
10. Under **Priority**, type a personal priority number.
11. Click the **Overrides** tab.
12. If you want to override employee work hour preferences, under **Work hours**, select the check boxes to override daily work hours, weekly work hours, and the minimum time between shifts.
13. If you want to override employee availability, under **Availability**, select the check boxes to override employee availability and unavailable events currently applied to the schedule.
14. If you want to override scheduled time off, under **Time off**, select the **Override time off events currently applied to the schedule** check box.
15. If you want to override an employee's skills required to do the fixed job, under **Fixed Jobs**, select the **Override an employee's skills required to do the fixed job**.

Configuring scheduling options

To configure schedule options Schedule Builder uses to create a schedule

1. In **Schedule Builder**, click the **Advanced options** tab.
2. Under **Schedule algorithm performance**, specify the settings Schedule Builder will use to build the schedule.
3. If you want to optimize break distribution, under **Optimization types**, select the **Optimize break distribution** check box.
4. If you want to optimize shift placement, select the **Optimize shift placement** check box.
5. If you want to optimize shift size, select the **Optimize shift size** check box.
6. If you want to balance the distribution of employee shifts over the week, select the **Balance over the week** check box.
Selecting this option ensures that Schedule Builder does not completely fill the requirements of the first few days of the schedule and understaff employee requirements by the end of the week.

CREATING AND ADJUSTING SCHEDULES MANUALLY

You can create entire schedules manually. However, if you must schedule a large number of employees it can be quite complicated and time consuming. Schedule Builder automates the process and builds schedules for you. You can manually adjust schedules created with Schedule Builder. You can create and adjust schedules manually in the following ways:

- Load a schedule
- Populate a schedule with events
- Drop insert an event
- Drag insert an event
- Recur an event
- Mass recur an event
- Mass delete an event
- Mass apply time off
- Modify a forecast total
- Modify event times or notes

Loading schedules

NOTE: Your access rights determine which schedules you can view, modify, or manage.

To load a schedule

1. Click **File=>Load schedules**.
2. Select the schedule(s) to load.
3. If you want to load all active schedules, select the **Select all active schedules** check box.
4. Click **Load**.

Populating schedules with events

NOTE:

- Your access rights determine which schedules you can view, modify, or manage.
- For ease of use and accuracy when inserting events, select a schedule view of less than 1 week (View=>Schedule View) prior to insertion.

You can manually insert the following events into a schedule:

- Shifts
- Breaks
- Jobs
- Time off
- Unavailable periods

You can insert events in a schedule by either dropping or dragging them on an employee's time line on the time bar pane. You can optionally drop insert breaks or jobs into already existing fixed shifts. Drop inserting events is most useful for fixed events, as the duration of the shift is predefined. Drag

inserting events is most useful for variable shifts, as the duration can vary depending on the defined parameters for a specific event.

NOTE: To accommodate for last minute scheduling changes, you can optionally schedule time off and unavailable events in the middle of scheduled shifts or schedule a shift in the middle of time off and unavailable events.

Drop inserting events

To drop insert an event

1. Click the **Insert** tab.
2. Click **Drop**.
3. Under **Event**, select the event to add to the schedule.
4. Under **Schedule**, select the schedule to add events to.
5. Under **Event name**, select the name of the event to add to the schedule.
6. On the time bar pane, click the employee's time line to insert the event.
The event is added to the schedule.
7. Repeat steps 3-6 for every event to add to the schedule.

Drag inserting events

NOTE: Drag insert is not available in the 1 month schedule view.

To drag insert an event

1. Click the **Insert** tab.
2. Click **Drag**.
3. Under **Event**, select the event to add to the schedule.
4. Under **Schedule**, select the schedule to add events to.
5. Under **Event name**, select the name of the event to add to the schedule.
6. On the time bar pane, click the employee's time line and drag the cursor from the start time to the end of the event.
7. Repeat steps 3-6 for every event to add to the schedule.

Recurring events

You can recur shifts, time off, and unavailable events.

To make an event recur

1. On the time bar pane, on the employee's time line, right-click the event to recur.
2. Click **Recurring**.
3. Click **Daily**, **Weekly**, or **Monthly recurring**.
4. Specify the pattern and range of the recurrence.
5. Click **OK**.

Mass recurring events

You can use the Mass recurrence wizard to create multiple recurrences for several events automatically. The wizard allows you to mass recur shifts, time off, and unavailable periods based on either a daily or weekly template.

NOTE: Manual or mass deletion is required to remove the generated events.

To mass recur events

1. Click the **Tools** tab.
2. In the **Bulk operations** group, click **Recurrence**.
The Mass Recurrence wizard opens.
3. Click **Next**.
4. Follow the steps in the wizard to specify the parameters of the events to mass recur.
5. Click **Finish**.
6. Click **Yes**.

Mass deleting events

You can delete one or more scheduled events (shifts, time off periods, unavailable periods, breaks, and jobs) at a time with the Mass delete option. Only the selected events are deleted from the schedules.

To mass delete scheduled events

1. Click the **Tools** tab.
2. In the **Bulk operations** group, click **Delete**.
3. Specify the date range affected, event types to delete, and the schedules to delete events from.
4. Click **OK**.

Mass applying time off

You can apply time off to any or all agents in a schedule simultaneously.

To mass apply time off

1. Click the **Tools** tab.
2. In the **Bulk Operations** group, click **Time Off**.
The Timeoff Mass Insert dialog box opens.
3. Select a schedule from the **Schedules** drop-down list.
4. Hold down **CTRL** and then click the agents to which you want to apply the time off type. If you want to select all agents, click **Select All**.
5. Under **Time off**, select the time off type from the list.
6. Select the start and end dates, days of the week, and start and end times for the time off type.
7. After selecting the time off time, select **Mark remaining periods of the day as unavailable** if you want the hours outside of the start and end times to be unavailable for scheduling.
8. Click **OK**.

Modifying forecast totals in the event totals pane

If you build schedules with forecast data, you can adjust the forecast totals on the event totals pane. On the events totals pane, you can change forecast totals in time intervals as small as 15 minutes. The schedule view you select determines the time interval of the forecast totals. See "Changing the time interval of the time bar pane" on page 718.

For example, if you select the 8 hour schedule view, you can change the forecast data in 15 minute intervals. However, if you select the 1 day schedule view, you can change the forecast data in 1 hour time intervals. When you change the forecast data in an interval larger than 15 minutes and then change the view to smaller intervals, you will notice that the change applies to each of the smaller intervals.

NOTE: Schedule Builder uses the latest forecast data to calculate the number of employees required.

To change the forecast totals in the events totals pane

1. After **Totals**, click **+**.
2. Select the **Forecast** check box and the check boxes of any other event totals to view.
3. Click **-**.
4. Click the **View** tab.
5. Under **Schedule view**, select a time interval.
See Table 53.
6. Click the **+** before **Forecasted** to expand the forecast tree.
The event totals for the loaded schedules appear.
NOTE: You can use the Tab key to select cells to the right, and the Shift+Tab keys to select cells to the left.
7. Click a cell in the forecast event total grid and type the new forecast total for this time interval.

Modifying event times and notes in the schedule details pane

The changes you make to event start times and end times in the schedule details pane are immediately reflected in the time bar pane.

To modify the start and end times of events in the schedule details pane

1. On the schedule **Details** pane, click the **Start Time** or **End Time** of an event.
2. Type the new time.
The new time is immediately reflected in the time bar pane.
3. Repeat for any other event times to modify.

To modify the start and end times of events in the time bar pane

1. Click the **Insert** tab.
2. Click **Select**.
3. On the time bar pane, select the event to modify.
4. Drag and drop the event to adjust its start and end times.
The new time is immediately reflected in the time bar pane.
5. Repeat for any other event times to modify.

To add/edit a note for a scheduled employee

1. On the schedule **Details** pane, click the note field for an employee.
2. Click the ... button.
The Notes editor appears.
3. Type/edit a note.
4. Click **OK**.

SCHEDULE DISTRIBUTION

You can specify viewing preferences, specify access rights to schedules, and run and print reports.

VIEWING SCHEDULES

You can specify how you view the time bar pane. Use the scroll bar to view other days and times in the schedule. If you reach the end of the month and want to view dates for the next month, you can click the arrow on the scroll bar to load the schedule for the next month. By default, events you insert into a schedule are snapped to the grid in 30 minute increments.

To view a specific date

1. From any tab in Workforce Scheduling, click **Select date**.
2. Click the date to view.
The time bar will display the date you selected to view.

Viewing scheduled events

NOTE: If employees belong to more than one schedule and you are viewing only one of the schedules to which the employees belong, any events scheduled in the other schedule will appear as a shadow event (gray bar) in the time bar view.

You select how event time bars appear in **Configuration=>Preferences**. You can isolate shifts, time off, and unavailability to view them separately in the time bar pane. You must view breaks and jobs with shifts. You cannot isolate breaks and jobs in the time bar pane. See "Configuring event display preferences" on page 703.

To view shifts

- On the **View** tab, in the **Show/Hide** group, select the **Shift** check box.

To view jobs

- On the **View** tab, in the **Show/Hide** group, select the **Job** check box.

To view breaks

- On the **View** tab, in the **Show/Hide** group, select the **Break** check box.

To view time off

- On the **View** tab, in the **Show/Hide** group, select the **Time off** check box.

To view unavailable periods

- On the **View** tab, in the **Show/Hide** group, select the **Unavailable** check box.

To view shadow events

- On the **View** tab, in the **Show/Hide** group, select the **Shadow** check box.

Changing the time interval of the time bar pane

You can view schedules in the time bar pane over 8 hour, 12 hour, 1 day, 2 day, 1 week, 2 week, or 1 month time intervals. The default view is the 12 hour view.

To change the time interval in the time bar pane to one week

1. Click the **View** tab.
2. In the **View options** group, under **Schedule view**, select the interval to view.
3. Optionally, under **Group view**, select **Supervisor** to group employees in the time bar pane by schedule.

Viewing event totals

Event totals represent the total number of employees for an event. You can view event totals in 15 minute, 30 minute, 1 hour, 4 hour, or 1 day time intervals. Table 53 displays the event total time intervals that correspond to the schedule views.

Table 53: Schedule views and corresponding event total time intervals

SCHEDULE VIEW	EVENT TOTALS TIME INTERVAL
8 hour	15 minute
12 hour	30 minute
1 day	1 hour
2 day	4 hour
1 week	1 day
2 week	1 day
1 month	1 day

You can select from the following event totals:

Forecast—appears only after you have applied a forecast to a schedule. This total represents the number of employees required to meet your specified Service Level objectives.

Scheduled—represents the number of employees scheduled at that time

Over/Under—represents the excess (over) or inadequate (under) number of employees scheduled when compared to the number of employees forecasted.

On Break—represents the number of employees scheduled for a break at a certain time

ACD Jobs—represents the number of employees scheduled to perform ACD jobs

Non ACD Jobs—represents the number of employees scheduled to perform non-ACD jobs

At work—represents the number of employees scheduled to handle contact requests

Overtime—represents the number of employees scheduled for overtime

To view event totals

1. In the **Totals** pane, click **+**.
2. Select the check boxes of the event totals to view.
3. Click **-**.
The totals pane appears with the event totals you selected.

Viewing schedule details

To group information in the schedule details pane

- On the schedule details pane, drag and drop the column header to organize to the **Drag a column header here to group by that column** area on the window.

To sort information in the schedule details pane alphabetically

- On the schedule details pane, click the header of the column to sort alphabetically.

To filter information in the schedule details pane

1. On the schedule details pane, click the arrow on a column header.
2. Select the filter criteria.

Synchronizing views

You can synchronize the people pane, time bar pane, and totals pane with the order of the information in the schedule details pane. Once you have organized the details of your schedules (sorting, filtering, and grouping) in the schedule details pane, synchronize views to reflect the order you have selected. For information on how to sort, filter, or group schedule details, see "Viewing schedule details" on page 719.

To synchronize views

1. Click the **View** tab.
2. Select the **Synchronize time bar view with details view** check box.
3. Optionally, select the **Vertical scrolling** check box.

RUNNING SCHEDULE REPORTS

The Workforce Scheduling reports are produced in Microsoft Excel format. You must run and print the following Workforce Scheduling reports from CCMWeb. See either the *Contact Center Solutions Enterprise Edition Reports Guide*, or the *Mitel Contact Center Solutions Workgroup Edition Reports Guide* for more information.

You can produce on-demand reports and scheduled reports for the following reports:

- Detailed Schedule by Employee with Totals
- Schedule by Employee by Time Off by Day of Week
- Employee Configuration

- Summary Schedule by Employee
- Schedule Coverage Totals by Type
- Work Hours Summary Schedule by Employee

Running on-demand reports

To run an on-demand report

1. In CCMWeb, click **Reporter=>Workforce Scheduling=>Schedules**.
2. Under **Report type**, select a report.
3. After **Device type**, select one of the following:
 - Employee — only the employees selected will appear in the report
 - Supervisor — only the employees associated with the selected supervisor will appear in the report
 - Employee group — only the employees who are members of the selected employee group will appear in the report
 - Schedule — only the employees associated with the selected schedule will appear in the report
4. Select one or more devices from the table.
5. Under **Start date**, select the start date of the report.
6. Under **End date**, select the end date of the report.
7. After **Report output language**, select the language for the report.
8. After **Reader type**, select either **Excel** or **PDF**.
9. Click the **Filter** tab (if available for the report type selected).
10. Specify the filtering options to include in the report.
11. Click the **Distribution** tab.
12. If you want to email the report, select the **Email the report to** check box and specify the contact group, contact, employee, and/or email address.
13. If you want to print the report, select the **Print the report** check box.
14. Click **Submit**.

Running scheduled reports

If you need the same reports at the same time on a regular basis, you can schedule Workforce Scheduling reports to run at a specific time of day, such as:

- Every day
- On a specific day of the week
- On the first or last day of the month
- Each weekday

You can run scheduled reports to span the following time frames:

- Current or previous day
- Previous five or seven days, including or excluding the run day
- Current month to date
- Previous month

- Current year to date
- From a given start date to the current date
- Next five days to six months, including the run day

NOTE: You must create a report schedule before you can add reports to it.

Creating report schedules

To create a report schedule

1. In CCMWeb, click **Reporter=>Scheduled reports**.
2. Click the **Workforce Scheduling report schedules** tab.
3. Click **Next**.
4. After **Schedule name**, type the name of the report schedule.
5. After **Schedule will run**, select when the schedule will run.
6. After **at**, select the time of day.
7. After **Reports time span**, select the time frame the report will cover.
8. Click the **Distribution** tab.
9. Select the groups to which you will email scheduling reports.
10. Click **Save**.
11. Click **Add a report**.
12. Click the **Workforce Scheduling** tab.
13. Click **Workforce Scheduling scheduled reports**.
14. After **Report type**, select a report.
15. After **Schedule**, select a schedule.
16. After **Employee** select an employee.
17. Optionally, click the **Filter** tab and specify the report filters options for the Workforce Scheduling report.
18. Click the **Distribution** tab.
19. After **Output language**, select the language for the report.
20. Click **Save** or **Execute now**.

Modifying report schedules

To modify a report schedule (for example, add a report)

1. In CCMWeb, click **Reporter=>Scheduled reports**.
2. After **Select a schedule**, select a schedule.
3. Click **Manage schedule properties**.
4. Click the **Properties** tab and modify when the schedule runs the reports.
5. Click the **Distribution** tab and modify how the reports are distributed.
6. Click the **Reports** tab and modify the reports included in the schedule.
7. Click **Save**.

SCHEDULE ADHERENCE

Mitel Schedule Adherence is an optional application that works in conjunction with Contact Center Management and Workforce Scheduling. Schedule Adherence resides in the Contact Center Client real-time monitors and enables you to view the real-time state of contact center employees scheduled in Workforce Scheduling. Schedule Adherence compares the current activities of employees to the configured schedule and alerts you in real time when employees are out of adherence. Employees are considered out of adherence if they are early or late for their scheduled events or if they are not performing scheduled activities.

Schedule Adherence is made available in Workforce Scheduling and Contact Center Client when you are licensed for Contact Center Management, Workforce Scheduling, and Schedule Adherence.

Once you have configured a schedule in Workforce Scheduling, you

- Configure adherence preferences in Workforce Scheduling
- View adherence monitors in Contact Center Client
- Set adherence alarms on the Employee State by Position/Time monitors (optional)
- Run reports on employee adherence to scheduled activities

CONFIGURING ADHERENCE PREFERENCE

You can configure adherence thresholds for shifts, breaks, and jobs. You can set parameters for each event type to suit the needs of your business. You select employee states and assign them to relevant events and specify event time tolerance levels. You can optionally configure groups of employee states and then associate them to relevant employee events.

NOTE:

- Schedule Adherence will handle two or more overlapping adherence thresholds in one of the following ways. If only one of the events is valid for the current employee state, that event will be used. If more than one event is valid for the current employee state, the first event, using start time, will be used.
- If no states are specified for an event type, all states will be considered in adherence.

Configuring adherence parameters

To configure adherence parameters

1. In Workforce Scheduling, click the **Configuration** tab.
2. In the **Adherence** group, click **Adherence Configuration**.
The Adherence Parameters window opens.
3. In the left pane, expand the event type list and select the event to which you want to add relevant adherence states.
4. Under **Event start tolerance (hh:mm)**, specify the times before and after which an employee state will be reported on as out of adherence.
5. Under **Event end tolerance (hh:mm)**, specify the times before and after which an employee state will be reported on as out of adherence.

6. Under **Available states**, select the states which are relevant for the specified event type and click > to move the state to the **Assigned states** list.
7. Repeat steps 2-6 for each event type for which you want to configure adherence parameters.
8. Click **OK**.

Configuring state groups

To configure a state group

1. In Workforce Scheduling, click the **Configuration** tab.
2. In the **Adherence** group, click **State groups**.
The State groups window opens.
3. Click **Add**.
4. Type a name for the state group and click **Create**.
5. Under **Available states**, select the states that are relevant for the state group and click > to move the state to the **Assigned states** list.
6. Repeat steps 2-5 for each state group you want to configure.
7. Click **OK**.

VIEWING ADHERENCE MONITORS IN CONTACT CENTER CLIENT

Schedule Adherence includes two Contact Center Client monitors that enable you to monitor employee adherence to schedules in real time. The Schedule Adherence monitors alarm on employees who are not adhering to schedules based on the thresholds you specify in Workforce Scheduling and the alarms you configure in Contact Center Client. You can optionally set adherence alarms on the Employee State by Position/Time monitors.

Adherence Detail Grid monitor

The Adherence Detail Grid monitor provides a drill-down view of employee scheduled activities, expected states, and event totals. It enables you to easily compare expected employee states and actual employee states in real time.

There are three levels to the Adherence Detail Grid monitor. The first level provides a high level overview of employee adherence. The second level has two grids. The first lists all of the embedded events (breaks and jobs) for the shift and the associated adherence information. The second grid lists the out of adherence record for the shift. The final level has only one grid, which represents the out of adherence record for the embedded events.

You can set Adherence Detail Grid alarms based on the following variables:

- Out of adherence
- Scheduled
- Expected states
- Actual state
- Actual start
- Current out of adherence

- Total out of adherence
- Shift time
- % out of adherence

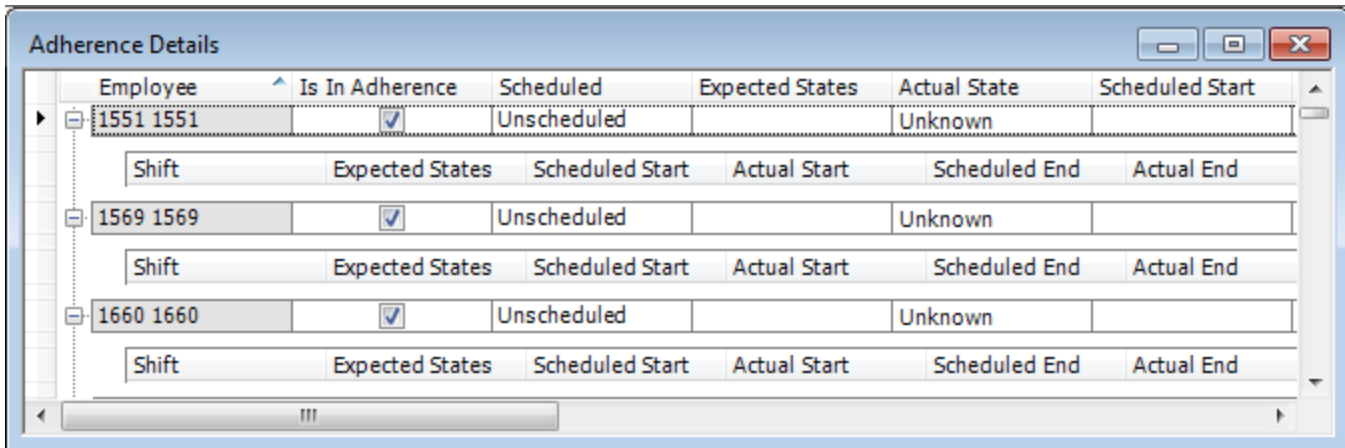
Table 54 details provides column heading definitions for the Adherence Detail Grid monitor.

Table 54: Adherence Detail Grid monitor headings

HEADING	DEFINITION
Employee	the name of the employee being monitored
Is in Adherence	the check box is enabled when the employee is adhering to the schedule
Scheduled	the type of event (shift, break, or job) the employee is performing, whether in or out of adherence
Expected States	the employee states that are relevant for the type of scheduled activity the employee is scheduled to perform
Actual State	the current employee state. If this is one of the expected states, the employee is adhering to the schedule
Scheduled Start	the time at which the employee is scheduled to start the scheduled activity
Actual Start	the time at which the employee started the scheduled activity. This column may be blank if the employee has not come into adherence for the scheduled event
Scheduled End	the time at which the scheduled event is to end
Current Out Of Adherence	the amount of time the employee has been out of adherence for the scheduled activity. This column will be blank if the employee is adhering to the schedule
Total Out Of Adherence	the total amount of time the employee has been out of adherence for all scheduled activities for the current shift
Shift Time	the duration of time the employee has been working the current shift
% Out Of Adherence	the percent of time the employee has been out of adherence for the elapsed portion of the scheduled shift
Shift	the name of the shift for which the employee is scheduled
Embedded	the name of the embedded event type (break or job)
Start	the time at which the employee went out of adherence
End	the time at which the employee came back into adherence

To open the Adherence Detail Grid monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. From the drop-down arrow in the **Adherence** column, select **Detail Grid**.
The Add/Remove device IDs window opens.
3. Select the **Employees** or **Schedules** for which you want to review Adherence.
4. Click **OK**.
The Adherence Details monitor opens.
See Figure 151.



The screenshot shows a window titled "Adherence Details" with a table of employee adherence data. The table has columns for Employee, Is In Adherence, Scheduled, Expected States, Actual State, and Scheduled Start. There are three rows of data, each with a collapse/expand icon on the left. Below each row is a sub-table with columns for Shift, Expected States, Scheduled Start, Actual Start, Scheduled End, and Actual End.

Employee	Is In Adherence	Scheduled	Expected States	Actual State	Scheduled Start
1551 1551	<input checked="" type="checkbox"/>	Unscheduled		Unknown	
1569 1569	<input checked="" type="checkbox"/>	Unscheduled		Unknown	
1660 1660	<input checked="" type="checkbox"/>	Unscheduled		Unknown	

Shift	Expected States	Scheduled Start	Actual Start	Scheduled End	Actual End

Figure 151: Adherence Detail Grid monitor

To set an Adherence Detail Grid monitor alarm

1. Right-click the Adherence Detail Grid monitor and click **Set Alarms**.
NOTE: You can select the Apply the alarm thresholds to all devices displayed on the monitor option to apply the threshold settings for performance variables across all employees. Alternatively, you can select Apply the alarm thresholds to a specific list of devices to apply the threshold settings for performance variables to a list of employees.
2. If you selected **Apply the alarm thresholds to a specific list of devices**, under **Devices**, select the employee(s) to which you want to apply the alarm thresholds.
3. Under **Performance variables**, select the performance variable to which you want to set an alarm.
4. Under **Alarm threshold**, click **Add a threshold** and specify the font color, background, sound, pop-up, bring to front, and email alarm options you want to apply to the alarm threshold.
5. Click **OK**.

Adherence Timebars monitor

The Adherence Timebars monitor provides a schedule time bar, based on the employee time bar and event colors configured in Workforce Scheduling, for each employee's scheduled activities. The current time is identified by a green line on the employee time bar and past events are shaded purple.

You can set Adherence Timebar alarms based on the following variables:

- Shift out of adherence
- Break out of adherence
- Job out of adherence

To open the Adherence Timebar monitor

1. Click the **Real Time** tab in the Contact Center Client ribbon.
2. From the drop-down arrow in the **Adherence** column, select **Timebars**.
The Add/Remove device IDs window opens.
3. Under **Schedules**, select a schedule to include in the monitor or under **Employees**, select the employees to monitor.
4. Click **OK**.
The Adherence Timebars monitor opens.

See Figure 152.

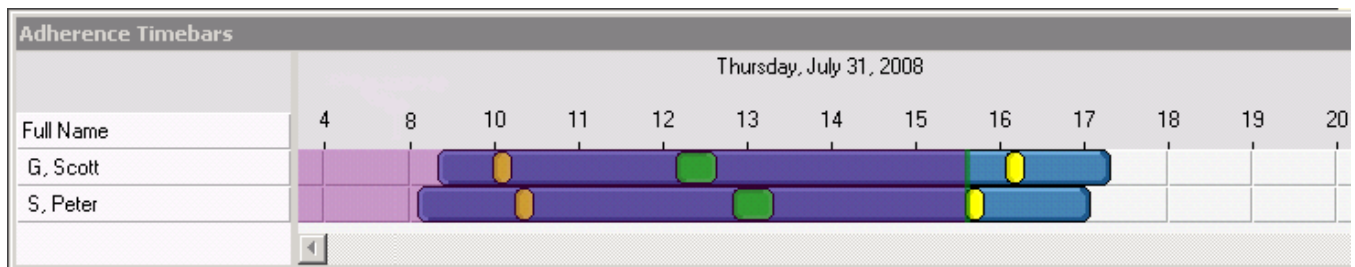


Figure 152: Adherence Timebars monitor

To set an Adherence Timebar monitor alarm

1. Right-click the Adherence Timebar monitor and click **Set Alarms**.
NOTE: You can select the Apply the alarm thresholds to all devices displayed on the monitor option to apply the threshold settings for performance variables across all employees. Alternatively, you can select Apply the alarm thresholds to a specific list of devices to apply the threshold settings for performance variables to a list of employees.
2. If you selected **Apply the alarm thresholds to a specific list of devices**, under **Devices**, select the employee(s) to which you want to apply the alarm thresholds.
3. Under **Performance variables**, select the performance variable to which you want to set an alarm.
4. Under **Alarm threshold**, click **Add a threshold** and specify the background, sound, pop-up, bring to front, and email alarm options you want to apply to the alarm threshold.
5. Click **OK**.

Employee State by Position/Time monitors

You can now optionally alarm on employees who are not adhering to schedules on the Employee State by Position/Time monitors.

To set an adherence alarm on the Employee State by Position/Time monitors

1. Right-click an Employee State by Position/Time monitor and click **Set Alarms**.
NOTE: You can select the Apply the alarm thresholds to all devices displayed on the monitor option to apply the threshold settings for performance variables across all employees. Alternatively, you can select Apply the alarm thresholds to a specific list of devices to apply the threshold settings for performance variables to a list of employees.
2. If you selected **Apply the alarm thresholds to a specific list of devices**, under **Devices**, select the employee(s) to which you want to apply the alarm thresholds.
3. Under **Performance variables**, select the performance variable to which you want to set an alarm.
4. Under **Alarm threshold**, click **Add a threshold** and specify the background, sound, pop-up, bring to front, and email alarm options you want to apply to the alarm threshold.
5. Click **OK**.

RUNNING ADHERENCE REPORTS

The Schedule Adherence reports are produced in Microsoft Excel format. You must run and print the following Schedule Adherence reports from CCMWeb. See either the *Contact Center Solutions Enterprise Edition Reports Guide* or the *Contact Center Solutions Workgroup Edition Reports Guide* for more information.

You can produce on-demand reports and scheduled reports for the following reports:

- Employee and Employee Group Adherence Trace
- Employee Group Time Out of Adherence by Employee by Day of Week
- Employee Group Time Out of Adherence by Day of Month
- Employee Group Adherence by Period

You run Schedule Adherence reports in CCMWeb, under **Reporter=>Schedule Adherence**.

EMPLOYEE PORTAL

Mitel Employee Portal enables employees to view and trade shifts online and request changes to schedules for time off, shifts, and availability. Employee Portal enables schedulers to view employee requests, perform what-if scenarios, quickly approve or deny requests, and automatically update schedules.

Employee Portal is made available in Workforce Scheduling and the web-based user interface when you are licensed for Contact Center Management, Workforce Scheduling, and Employee Portal.

Employee Portal is available only to employees who have the correct permissions configured in YourSite Security. The following permissions currently exist:

- May access Employee Portal
- May trade shifts
- May trade time off
- May request changes to availability

For specific details on configuring employee roles and security options, see "Security roles" on page 189.

EMPLOYEE FUNCTIONALITY

Using Employee Portal, employees can

- View their currently scheduled shifts and the shifts of other employees who share their schedule
- View messages from supervisors and employees and receive updates about the status of their requests on the home page
- Offer shifts to the bulletin board for other employees to take or trade
- Remove shifts from the bulletin board
- Propose to take shifts from the bulletin board
- Propose to trade shifts from the bulletin board
- Accept or reject employee proposals to take or trade your shift
- Request time off
- Request changes to your availability

The Employee Portal home page provides links to the bulletin board, view and offer your scheduled shifts for take or trade, view your pending offers, request time off, and request availability changes. Any Employee Portal alerts that require your attention also display on the home page. These include

- You have approved shift requests
- You have denied shift requests
- You have shift requests pending supervisor approval
- You have shift proposals pending your acceptance
- You have shift proposals pending acceptance or that have been rejected
- You have time off requests pending supervisor approval
- You have notes regarding your availability

If a home page alert is red, it requires your attention. Click View to view the alert and any employee or supervisor notes in detail.

Starting Employee Portal

To start Employee Portal

1. Open **Employee Portal**.
2. Type your username and password.
3. Click **Log on**.

Creating a desktop shortcut to Employee Portal

To create a desktop shortcut to Employee Portal

1. Open **Employee Portal**.
2. Enter your login credentials and click **Log on**.
3. Drag and drop the Employee Portal web address from the address bar to your computer desktop.

Viewing currently scheduled shifts

To view your currently scheduled shifts

1. In Employee Portal, click **My shifts**.
2. If you want to view shifts starting on a specific calendar day, select the start date from the calendar.
3. Optionally, to view the break and job details for a specific shift, under **Details**, click **Select**.

Viewing the shifts of other employees in your schedule

You can view the shifts for other employees in your schedule to help you determine potential shift swaps.

To view the shifts of other employees in your schedule

1. Click **My Schedules**.
2. To view shifts starting on a specific day, select the start date from the calendar.
3. Click **Select** next to the employee for which you want to view the shift.
The break and job details for the shift display below.

Offering shifts for other employees to take or trade

You can offer shifts to the bulletin board for other employees to take or trade. You can remove shifts from the bulletin board at any time as long as no employees have proposed to take or trade the shift. Shifts that have already begun cannot be posted to the bulletin board for other employees to take or trade.

To offer a shift for other employees to take or trade

1. Click **Offer my shifts**.
2. Next to the shift you want to offer for other employees to take or trade, click **Select**.
The shift details display.
3. Click **Continue**.
4. Optionally, type a note to accompany your offer.
5. Click **Submit**.

Removing shifts from the bulletin board

You can remove shifts from the bulletin board at any time as long as no employees have proposed to take or trade the shift. If a proposal has been made, you will need to reject it first before you can remove the shift from the bulletin board.

To remove a shift from the bulletin board

1. Click **My pending offers**.
2. Next to the shift you want to remove from the bulletin board, click **Select**.
The shift details display.
3. Click **Continue**.
The shift offer is removed from the bulletin board.

Proposing to take shifts

To propose to take a shift

1. Click **Bulletin board**.
2. Next to the shift you want to take, click **Select**.
The shift details display.
3. Click **Continue**.
4. Click **Next**.
5. Optionally, add a note to accompany your proposal.
6. Click **Next**.
7. Click **Submit**.

Proposing to trade shifts

To propose to trade a shift

1. Click **Bulletin board**.
2. Next to the shift you want to take, click **Select**.
The shift details display.
3. Next to the shift you want to propose for trade, click **Select**.
4. Optionally, add a note to accompany your proposal.
5. Click **Next**.
6. Click **Submit**.

Accept or reject an employee proposal to take or trade your shift

To accept or reject an employee proposal to take or trade your shift

1. On the Employee Portal home page, next to **You have <#> shift proposals pending your acceptance**, click **View**.
The Proposals window displays.
2. Next to the proposal you want to view, click **Select**.
The proposal details display with any relevant employee notes.
3. Click **Accept** to accept the proposed shift change. Otherwise, click **Reject** to reject the proposed shift change.

Requesting time off

To request time off

1. Click **Request time off**.
The Request time off window displays, including a list of any time off you have already scheduled.
2. Click **Request time off**.
3. Select a time off type from the list.
4. Click **Next**.
5. Specify the time off start and end times.
6. Click **Next**.
7. Optionally, add a note to accompany the time off request.
8. Click **Next**.
The time off request summary displays.
9. Click **Submit**.

Requesting availability changes

NOTE: You can click Clear request at any time to reset the Request availability change window to your currently configured availability.

To request an availability change

1. Click **Request availability change**.
The Request availability change window displays with your current availability.
2. If you need to change existing availability, under **Update current availability**, select a day of the week and click **Remove**. Otherwise, continue to step 3.
3. Under **Change availability**, specify the dates and times you are available to work.
 - After **Day of week**, specify the day of week you are available.
 - If you are only available during certain hours, select **Part of the day**, and specify the times at which you are available.
 - If you are available to work at any time during the day, select **Full day**.
4. Click **Add** to add the new availability to the request.
5. You can optionally select a currently configured availability day or time in the **Update current availability list** and click **Remove** to remove it from the list.
NOTE: The Add button is for adding new availability to the Update current availability list only and not for replacing specific dates and times from the currently configured availability list.
6. Optionally, under **Employee note**, add a note to accompany your request.
7. Click **Accept**.
The Confirm availability change window displays.
8. Specify the date that your requested availability will take effect.
9. Click **Submit**.

SUPERVISOR FUNCTIONALITY

Using Employee Portal, supervisors can

- View employee scheduling requests
- Preview the effect of approving or denying employee shift change requests
- Approve or deny employee proposals to take or trade shifts
- Approve or deny employee requests for time off
- Approve or deny employee requests for availability changes

Handling employee scheduling requests

NOTE: If you attempt to approve an employee's request for time off for a period where a schedule has yet to be built, time off will not be decremented properly and the time off will be entered as an unavailable event in the schedule.

To view, approve, or deny employee scheduling requests

1. Open **Workforce Scheduling**.
2. Log on to Workforce Scheduling.
3. Load an active schedule.
4. Click the **Employee Portal** tab.
5. Click the **Request mode** icon.
6. In the details pane, click the **Shift changes**, **Time off**, and **Availability** tabs to view any employee scheduling requests pending your approval.
7. Next to **Approve**, click the **+** to view the scheduling request details.
8. If you are viewing the Shift change tab, click **View timebar** to view the scheduled shift.
9. In the Employee requests group, click **Preview** to view the effect of approving the request.
10. In the Employee requests group,
 - Click **Approve** to approve the request.
 - Click **Deny** to deny the request.

The schedule is automatically updated and employees are notified of the schedule request status.

EMPLOYEE PORTAL REPORTS

The Employee Portal reports are produced in Microsoft Excel format. You must run and print the following Employee Portal reports from CCMWeb. See either the *Contact Center Solutions Enterprise Edition Reports Guide* or the *Contact Center Solutions Workgroup Edition Reports Guide* for more information.

The following reports are available with Employee Portal:

- **Employee Portal Availability Requests**
Provides a detailed summary of employee requests for availability changes
- **Employee Portal Time Off Requests**
Provides a detailed summary of employee requests for time off
- **Employee Portal Shift Requests**
Provides a detailed summary of employee requests to take or trade shifts
- **Employee Portal Shift Change Status**
Provides a detailed summary employee requests that have been approved or denied

You run Employee Portal reports in the CCMWeb, under **Reporter=>Workforce Scheduling=>Employee Portal**.

Chapter 20

TRAFFIC ANALYSIS

Using Traffic Analysis

TRAFFIC ANALYSIS

Traffic Analysis is an optional application that works with Business Reporter and Contact Center Solutions. Traffic Analysis works in conjunction with the 3300 ICP telephone system.

In order to have summarized data for Traffic Analysis reports you must wait until the nightly maintenance routine runs the summary (at midnight each night). The data for these reports is derived from the traffic stream. Traffic Analysis reports are not available in real-time.

For detailed information about traffic reports, refer to the reports guide appropriate to your edition of Contact Center Solutions. Traffic reports provide call statistics on DTMF receivers, route lists, route plans, routes, and trunks. You can create the following on-demand and scheduled traffic reports:

- Attendant Console Traffic by Interval report
- Attendant Traffic by Interval
- Attendant Group Traffic by Interval
- DTMF Receiver Group Traffic by Interval
- Route List Traffic by Interval
- Route Plan Traffic by Interval
- Route Traffic by Interval
- Trunk Traffic by Interval
- Trunk Busy Hour Traffic by Day of the Week
- Trunk and Trunk Group Traffic Usage by Day of the Week
- Trunk Group Outgoing Traffic by Interval
- Trunk Group Outgoing Traffic Usage by Day of the Week
- Trunk Group Outgoing Busy Hour Traffic by Day of the Week

USING TRAFFIC ANALYSIS

Before you generate Traffic Analysis reports you must configure data collection for Traffic Analysis.

To configure data collection for Traffic Analysis

1. Set up the telephone systems to collect traffic data
2. Configure the media servers in Contact Center Management for traffic data collection (YourSite=>Enterprise).
3. Set up Traffic Analysis reporting

SETTING UP TELEPHONE SYSTEMS TO COLLECT TRAFFIC DATA

You can collect traffic data from a 3300 ICP telephone system over TCP/IP.

Setting up the 3300 ICP

You must specify traffic data options on the 3300 ICP Traffic Options Assignment form in order to collect traffic data and produce reports with the Traffic Analysis application.

The Traffic Options Assignment form is a form-driven method to obtain time-based traffic reports on telephone system usage. You can generate reports that cover attendant usage, channel utilization, system activity, data station usage, delay to dial tone, extension-to-extension calls, feature usage, and trunk use.

NOTE:

- You can define up to six different time slots.
- If the start and stop time are blank while the time slot is active, an error message is displayed when the commit operation is attempted; in this case, the changes will not be committed.
- No two traffic slot stops should be less than 5 minutes apart. This time is required for the system time to generate the previous report.
- Making changes to the data in this form and recommitting interrupts a traffic report that is running.

Programming the Traffic Options Assignment form

To program the Traffic Options Assignment form

1. Log onto the 3300 ICP telephone system.
2. Browse to the **Traffic Options Assignment** form.
3. Click **Change**.
4. Configure the traffic options as described in Table 55.

Table 55: 3300 ICP Traffic Options Assignment form

OPTION	VALUE
Time Slot Active	Select Yes to start a traffic session at the time specified in Start Time field and finish at the Stop Time field for each of up to six different slots. The report is resumed the next day at the same time. Select No to suspend the traffic report for the associated time slot. The traffic report will not run until Yes is entered and the form recommitted. Default is No. There can be no overlapping of ACTIVE time slots. Select: Yes
Start Time (-Hours, -Minutes)	Select the time the traffic report is to start running. Default is blank. The start time must be assigned for active time slots; it can be blank for inactive time slots. If the start time equals the stop time then the time period is 24 hours. Select: 00:00
Stop Time (-Hours, -Minutes)	Select the stop time for the report. If the session is to run for 24 hours, enter the same time as the start time. Default is Blank. The stop time must be assigned for active time slots; it can be blank for inactive time slots. If the start time equals the stop time then the time period is 24 hours. Select: 24:00

Table 55: 3300 ICP Traffic Options Assignment form (continued)

OPTION	VALUE
Period Length	Select the length of time (15, 30, or 60 minutes) that data is to be collected for the session before a traffic report is formatted and output. Default is 60 minutes. Select: 15
Usage Units	Select the type of units the report will use. Default is Erlangs. Select: Erlangs
Autoprint	Select Yes to spool the traffic report to the printer assigned to this function in the Application Logical Port Assignment form. Default is No. We will be using the LPR1 Port 1754 to output traffic. Select: Yes
Maximum Number of Traffic Files	Enter the maximum number of traffic reports to be stored in disk. Default is 10. Select: 10
Sections to include in Traffic Report	Select Yes to enable the collection of data for each resource group you want to include in the traffic report. The default is No.
	Route Plans Yes
	Route Lists Yes
	Routes Yes
	Trunk Groups Yes
	Trunks Yes
	Links No
	Groups of Links No
	Channels No
	DTMF Receivers Yes
	Data Transceivers No
	Modem Groups No
	Data Station Groups No
	Attendant Groups Yes
	Attendant Consoles Yes
	Attendants Yes

Assigning ports

You must assign a port to the 3300 ICP to output traffic data.

To enable traffic data output

1. Log on to the 3300 ICP telephone system.
2. Browse to **Application Logical Port Assignment**.
3. Select **Traffic Report Port**.
4. Click **Change**.
5. Under **Port Physical Name**, type **LPR1**.
6. Click **Save**.

Verifying the traffic output

Before you configure traffic collection settings for the 3300 ICP, verify traffic data is being output through port 1754. Using your preferred telnet client, monitor port 1754 and wait the 15 minute interval time selected in the Traffic Options Assignment. The traffic should then output to your telnet client.

CONFIGURING MEDIA SERVERS

You must configure traffic collection settings in YourSite for the media servers from which you collect traffic data.

3300 ICP

You do not require a dataset to collect traffic data from a 3300 ICP. The traffic data is directed to the printer port, 1754, on the 3300 ICP telephone system. See "Configuring data collection settings for a 3300 ICP" on page 88.

Verifying traffic data is saved on the Enterprise Server

To verify the traffic collection for the 3300 ICP

1. Double click the Contact Center Management Enterprise Server icon on your desktop.
2. Using an administrative username and password, log on to CCMWeb
3. Click **YourSite=>Enterprise**.
4. Expand the tree of the site for which you want to configure traffic options.
5. Click a **3300 ICP** media server.
6. Click the **Data Collection** tab.
7. Verify the **Traffic Analysis** check box is selected and the port is 1754.
8. Wait the interval time you selected in the Traffic Options Assignment, for example 15, 30 or 60 minutes.
9. On the Enterprise Server, browse to **<drive letter:>\Program Files (x86)\prairieFyre Software Inc\CCM\Data Directory\Node_0X**.
This is the directory of the media server for which you configured traffic options.
You should see a new file with the following naming convention, TYYYYMMDD.txt. For example, T20050127.txt, where YYYY is the year, MM is the month, and DD is the day.
10. Double-click the file to open it and view the traffic data.

Setting up Traffic Analysis reporting

After setting up the telephone system to collect traffic data and configuring the media servers for traffic data collection, you can assign reporting numbers and names to the traffic devices you are reporting on with your Traffic reports.

To configure traffic

1. Type the **Name** of the Traffic.
2. Type the **Reporting** number of the Traffic.
3. Select the **Traffic Type** from the drop-down menu.
4. After **Media Server**, click the **Browse** button.
5. Select a media server and click **OK**.
6. Click **Save**.

Chapter 21

CONTACT CENTER MANAGEMENT REMOTE SERVERS

Collecting data with Remote Servers

Creating remote IVR Routing instances

Monitoring activity and viewing alarms

Viewing ACD/SMDR data collection

Updating Remote Servers

Displaying enterprise-wide statistics

CONTACT CENTER MANAGEMENT REMOTE SERVERS

A Remote Server enables you to perform many of the functions of the Enterprise Server without having to install an additional Enterprise Server or upgrade your licensing. You can configure and administer Remote Servers in YourSite Explorer.

Remote Servers enable you to

- Collect, stream, and buffer ACD/SMDR data to the Enterprise Server. This enables enterprise-wide reporting while protecting data from loss if the link between the Enterprise and Remote Servers goes down.
- Create a remote IVR Routing instance. This enables IVR Routing instances to continue to function if they lose access to the primary database or site.
- Monitor prairieFyre services activity and collect data on alarms
- View the status of data collection on the Remote Server.
- Update Remote Servers automatically following the upgrade of the Enterprise Server.
- Display real-time performance statistics and text messages from the Remote Server on LED wall signs.

For information on installing Remote Servers, see the *Contact Center Management Installation Guide*. For information on Remote Server hardware and software requirements, see the *Contact Center Solutions and Business Reporter System Engineering Guide*.

COLLECTING DATA WITH REMOTE SERVERS

Remote Servers enable you to collect and stream ACD/SMDR data from media servers, facilitating enterprise-wide monitoring and reporting. A Remote Server's ability to buffer data prevents data loss should the link to Enterprise Server go down.

Remote Servers collect and stream ACD/SMDR data from media servers to the Enterprise Server over TCP/IP. The Enterprise Server gathers, summarizes, and writes the data to a SQL database for monitoring and reporting purposes.

Should the link to the Enterprise Server go down, Remote Servers will buffer ACD/SMDR data until communication is restored and the data can be streamed. Note that if the link between the Enterprise Server and a Remote Server goes down, the managers and supervisors cannot view real-time data from the Remote Server until the connection is restored.

NOTE:

- You require a Contact Center Network License to collect data using a Remote Server. For more information, see the *Contact Center Solutions and Business Reporter System Engineering Guide*.
- A single Remote Server can collect ACD/SMDR data from up to 65 voice media servers. If you are attempting to collect data from more than 65 PBXs with a single Remote Server, you must contact Mitel Technical Support at 1-800-722-1301 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia pacific) for guidance.

CREATING REMOTE IVR ROUTING INSTANCES

Creating remote IVR Routing instances enables workflows to continue to operate if the connection to the Enterprise Server goes down, minimizing call disruption.

For information on how to install IVR Routing on Remote Servers, see the *Contact Center Management Installation Guide*.

NOTE: If the connection from Remote Servers to the Enterprise Server goes down, loss of real-time connectivity affects all workflow components that depend on data derived from real-time queue statistics including queue condition activities, Updated Position in Queue (UPiQ) messages, and prompts based on real-time statistics.

MONITORING ACTIVITY AND VIEWING ALARMS

The Remote Server can monitor its performance and notify the Enterprise Server when server states surpass configured alarm thresholds. You configure alarm thresholds and view alarms for Remote Servers in YourSite Explorer. For more information on server-side alarms, see "Monitoring and alarming subsystem" on page 178.

VIEWING ACD/SMDR DATA COLLECTION

You can view real-time ACD and SMDR data collection by clicking the Data Link button, located in the YourSite Explorer ribbon when a 3300 ICP media server has been selected. For more information, see "Verifying media servers are receiving telephone system data" on page 384.

UPDATING REMOTE SERVERS

Remote Servers will automatically update when the Enterprise Server is upgraded, if you have configured the Enterprise Server accordingly. For more information, see "Configuring the Enterprise Server settings" on page 80.

DISPLAYING ENTERPRISE-WIDE STATISTICS

WallBoarder is an application that displays real-time performance statistics and text messages from the Enterprise Server on one or more LED reader boards. You can run WallBoarder on Remote Servers to keep agents and employees throughout your contact center aware of enterprise-wide statistics and key messages. For more information, see "WallBoarder" on page 278.

Chapter 22

CTI DEVELOPER TOOLKIT

CTI Developer Toolkit sample applications

Best practices for custom development

Common user scenarios and source code examples

Troubleshooting CTI Developer Toolkit issues

CTI DEVELOPER TOOLKIT

NOTE:

- CTI Developer Toolkit is currently supported for use with the 3300 ICP only.
- If you require the calculations used to populate Contact Center Management and Business Reporter reports to use in your custom application built with the CTI Developer Toolkit, you can download these applications from Mitel Online under Support=>Software Downloads=>Contact Center Enterprise Edition or Contact Center Business Edition.
- In Version 7.0 and greater, the CTI toolkit application uses .NET Framework 4.5. Upon upgrade to Version 7.1, any third-party products that use the CTI Toolkit will need to be recompiled using the latest CTI Toolkit DLLs.

Mitel Computer Telephony Integration (CTI) Developer Toolkit is a programmable .NET C# Dynamic-link library (DLL) that can be used in any .NET Framework 4.5 application or website. The CTI Developer Toolkit completes the migration from Mitel Agent Portal to Mitel Contact Center Screen Pop.

The CTI Developer Toolkit is offered in two forms: server side and client side license. The server side license provides the ability to insert custom real-time IVR collected data to each incoming call. It also uses the Contact Center Screen Pop infrastructure to deliver third-party data to agent desktops (using either the client side license or Contact Center PhoneSet Manager). The client side license provides basic telephony functions (answer, hang up, transfer, and hold), provides agent control (such as set/remove Make Busy) and delivers caller information such as ANI, DNIS, Collected Digits, and call notes in real time as calls arrive. The client side license may be used to display information in CRM, Microsoft Outlook, or custom applications.

If you want to route or screen pop on digits or other data sets collected from a third-party IVR, you must adhere to the following conditions:

- You must have a CTI Developer Toolkit Server license
- The third-party vendor must be a Mitel MSA Development partner. As a Mitel MSA Development partner, they must have completed a MiTAI (API) integration that allows them to pass the collected digits or other data set, along with a unique call ID provided by this API, enabling Mitel's Contact Center software to associate the collected digits to a particular call with unique call ID matching.
- If you want to route or screen pop on ANI or DNIS or on digits collected within the Mitel IVR, the above are not required.

For installation information and procedures, see the *Contact Center Management Installation Guide*.

NOTE: Once you have installed the CTI Developer Toolkit, typically to <installation_drive>:\Program Files (x86)\prairieFyre Software Inc\CTI Developer Toolkit, you can access the DLLs required to create customized applications in the CTI Developer Toolkit\Redist folder. You must include the entire Redist folder with your final compiled custom application or it will not function properly.

The CTI Developer Toolkit includes a number of sample applications, including source code, that can be used to test CTI Developer Toolkit functionality. For a complete overview of the sample applications included, see "CTI Developer Toolkit sample applications" on page 749.

The CTI Developer Toolkit is currently available with the following functionality:

- Connect and disconnect from the Contact Center Management Enterprise Server with user authentication
- Retrieve devices from the Contact Center Management configuration database, based on all
 - All agent devices for the user currently logged on to the system
 - All agent devices associated with employees
 - All extensions
 - All queues
- Set real-time monitors on agents, extensions, and queues to receive notification when
 - A call is received (including call detail information)
 - A device state changes (for example, idle, ACD, and hold)
- Set phone monitors on agents and extensions to receive notification when
 - A call is received (including call detail notification)
 - A call is made
 - A call is cleared
 - A call is transferred
 - A call is conferenced
 - A call is established
 - A call fails
- Control a device (for example, set/remove Do Not Disturb or Make Busy)
- Make calls from agent or extension devices
- Place calls on hold
- Retrieve calls that are on hold
- Remove calls from queues
- Redirect calls from queues to agents/extensions
- Transfer or conference calls between agent and extension devices
- Clear calls for agent and extension devices
- Add call detail information from third-party IVRs and dialers. This information is available to client applications in the Call Received event

Table 56 lists the major areas of functionality exposed with each version of the CTI Developer Toolkit. The version specified indicates the most recent version, including any service packs available to customers.

Table 56: Supported functionality by version

FUNCTIONAL AREA	VERSION 5.8	VERSION 6.0.2	VERSION 7.0	VERSION 7.1
Application events				
• Connection state changes	x	x	x	x
• Configuration loaded	x	x	x	x
Device Information				
• Get all devices	x	x	x	x
• Get all extension	x	x	x	x
• Get all agents	x	x	x	x
• Get all queues	x	x	x	x
• Get agents by login	x	x	x	x
• Get agents for all employees	x	x	x	x
Device events¹				
• Device state changed	x	x	x	x
Voice events²				
• Call info received	x	x	x	x
• Call delivered	x	x	x	x
• Call received	x	x	x	x
• Call cleared	x	x	x	x
• Call transferred	x	x	x	x
• Call established	x	x	x	x
• Call failed	x	x	x	x
• Call diverted	x	x	x	x
• Call originated	x	x	x	x
• Call retrieved	x	x	x	x
Extension events				

Table 56: Supported functionality by version (continued)

FUNCTIONAL AREA	VERSION 5.8	VERSION 6.0.2	VERSION 7.0	VERSION 7.1
• Extension state changed	x	x	x	x
Agent events				
• Agent state changed	x	x	x	x
Queue events				
• Queue Now statistics	x	x	x	x
• Queue totals statistics	x	x	x	x
• Interactive Visual Queue delta	x	x	x	x
• Interactive Visual Queue snapshots	x	x	x	x
Voice control³				
• Make call	x	x	x	x
• Clear call	x	x	x	x
• Answer call	x	x	x	x
• Hold call	x	x	x	x
• Retrieve held call	x	x	x	x
• Conference call	x	x	x	x
• Transfer call	x	x	x	x
• Make consultation call	x	x	x	x
• Transfer consultation call	x	x	x	x
• Cancel consultation call	x	x	x	x
• Trade call		x	x	x
Agent control				
• Login	x	x ⁵	x ⁵	x ⁵
• Logout	x	x ⁵	x ⁵	x ⁵
• Set Make Busy	x	x	x	x

Table 56: Supported functionality by version (continued)

FUNCTIONAL AREA	VERSION 5.8	VERSION 6.0.2	VERSION 7.0	VERSION 7.1
• Remove Make Busy	x	x	x	x
• Set Do Not Disturb	x	x	x	x
• Remove Do Not Disturb	x	x	x	x
• Cancel Work Timer	x	x	x	x
• Cancel reseize timer		x ⁶	x ⁶	x ⁶
• Conference call	x	x	x	x
Queue control				
• Redirect call	x	x	x	x
• Remove call	x	x	x	x
• IVR integration				
• Add call detail ⁷	x	x	x	x

1 Device events are supported by all device types.

2 Voice events are supported by extension and agent devices

3 Voice control is supported by extension and agent devices.

4 Both hot desking and traditional agent logins are supported with Version 5.5 SP1 or greater.

5 Supports External hot desk agent and External hot desk user functionality.

6 The Cancel reseize timer agent control function requires External hot desk agent functionality.

7 The AddCallDetail method requires a CTI Developer Toolkit server license.

NOTE: The CTI Developer Toolkit may also be referred to as the prairieFyre.CallControl.Toolkit namespace throughout this chapter and in the CHM help file documentation, as the CHM help file included with the CTI Developer Toolkit is sourced from the source code, which refers to the namespace by this name.

Table 57 lists and describes the top level classes available with the CTI Developer Toolkit.

Table 57: Primary object classes

CLASS	DESCRIPTION
DeviceManager	This class contains functionality to manage the connection to the Enterprise Server and provides access to configured agents, extensions, and queues.
Device	This abstract class includes the core properties for all device types. Objects of this class may not be directly instantiated.
Voice	This class is derived from the Device class and serves as the base class for the agent and extension classes. It includes properties and functionality that is specific to devices with voice characteristics.
Agent	This class is derived from the Voice class. It represents both traditional ACD and hot desking agents. Specialized functionality handled in this class includes agent control operations, such as agent login and set/remove Make Busy.
Extension	This class is derived from the Voice class. It represents configured extensions.
Queue	This class is derived from the Device class. It represents configured queues. It includes properties and functionality that is specific to the queue device. Specialized functionality handled in this class includes set/remove Do Not Disturb, redirect call, and remove call.

CTI DEVELOPER TOOLKIT SAMPLE APPLICATIONS

There are currently four sample applications, including source code, that are included with the CTI Developer Toolkit.

Device Monitor

The Device Monitor sample application provides a graphical user interface that enables developers to connect to the Contact Center Solutions Enterprise Server, retrieve a list of devices, perform agent control activities on the retrieved devices (for example, login/logout, set/remove Make Busy, etc.), perform call control activities (for example, make call, answer call, clear call, etc.), and retrieve call event notifications. (See Figure 153.)

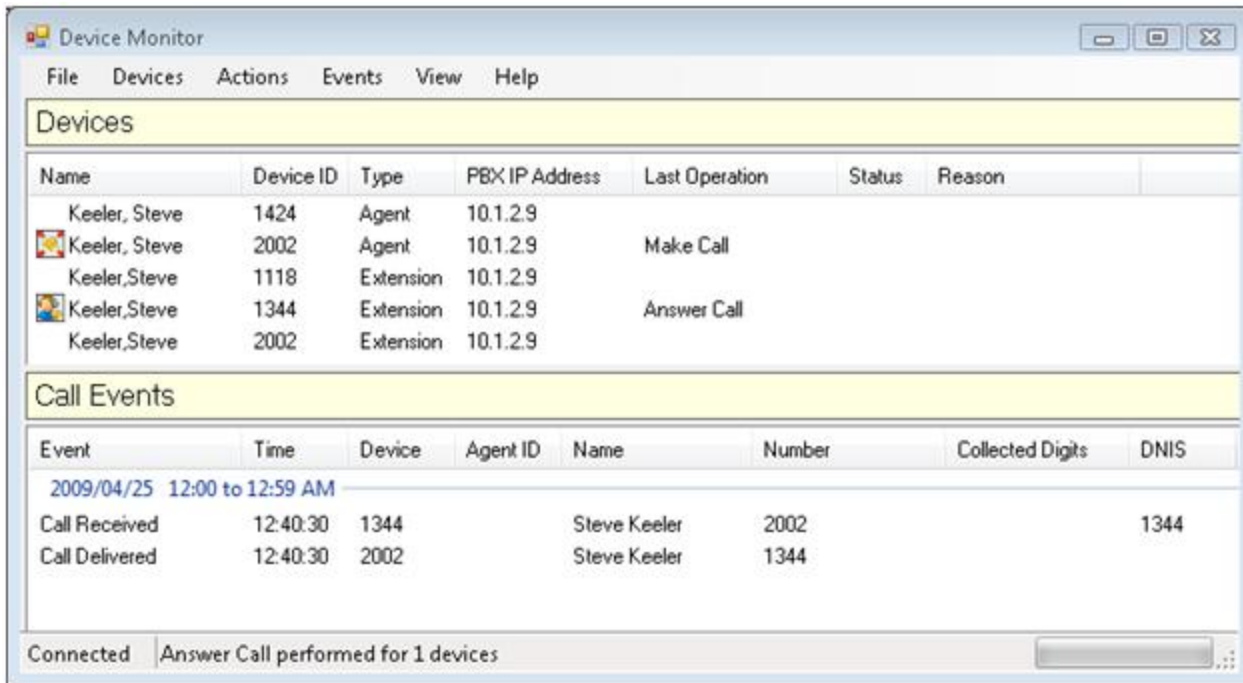


Figure 153: Device Monitor sample application

To use the CTI Developer Toolkit Device Monitor sample application

1. In Windows, navigate to the **CTI Developer Toolkit** and open **Device Monitor**.
2. Click **File=>Connect**.
3. Type the IP address of the Enterprise Server, user name, and password and click **OK**.
4. Click **Devices** and select one of the following options:
 - Retrieve agents for current login
 - Retrieve agents for all employees
 - Retrieve all agents
 - Retrieve all extensions
 - Retrieve all queues
 - Retrieve all devices
5. Once the devices you selected have loaded, you perform actions on the selected device(s) by clicking **Actions** and selecting an available action or by right-clicking and selecting an available action from the list:
 - Set monitor=>Phone, Real time, All
 - Remove monitor=>Phone, Real time, All
 - Login
 - Logout
 - Set Make Busy
 - Remove Make Busy
 - Set DND
 - Remove DND

- Cancel Work Timer
- Make call
- Answer call
- Hold call
- Retrieve call
- Transfer call
- Conference call
- Clear call
- Add call notes
- Make consultation call
- Transfer consultation call
- Cancel consultation call
- Trade call

Queue Monitor

The QueueMonitor sample application displays the functionality and support for queue device types included with the CTI Developer Toolkit. The QueueMonitor application is similar to the optional Interactive Visual Queue monitor that is housed in Contact Center Client. It enables developers to connect to the Contact Center Solutions Enterprise Server, load a set of queues, and view real-time call activity (calls entering and exiting queues) and queue statistics (for example, calls waiting, number of agents available, longest waiting, etc.). (See Figure 154.)

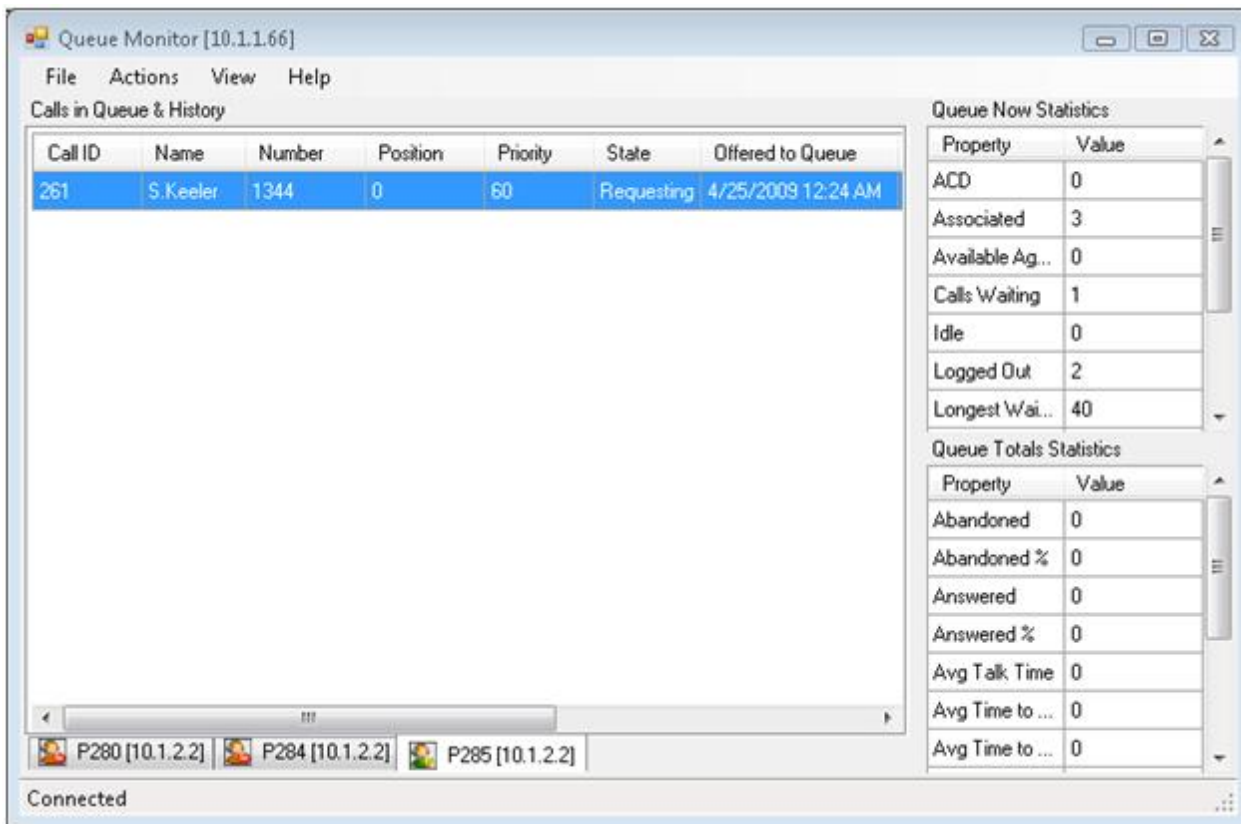


Figure 154: Queue monitor sample application

To use the CTI Developer Toolkit QueueMonitor sample application

1. In Windows, navigate to the **CTI Developer Toolkit** and open **Queue Monitor**.
2. Click **File=>Connect**.
3. Type the IP address of the Enterprise Server, user name, and password and click **OK**.
4. Click **Actions**.
5. Select one or more queues to open.
6. Click **OK**.
If you selected multiple queues, you can toggle between them using the tabs at the bottom of the queue monitor.
7. Once the queues you selected have loaded, you perform actions on the selected device(s) by clicking **Actions** and selecting an available action or by right-clicking and selecting an available action from the list:
 - Open queue
 - Close queue
 - Set DND
 - Remove DND
 - Redirect call
 - Remove call

Console Call Monitor

The ConsoleMonitor sample application displays call received information for either single or multiple agents or extensions in a simple console application window. It is intended to be a very brief example, with little error handling, that can be used to demonstrate the basics of coding screen pop displays.

To use the CTI Developer Toolkit ConsoleCallMonitor sample application

1. In Windows, open the command prompt window.
2. Type **cd "<installation_drive>:\Program Files (x86)\prairieFyre Software Inc\CTI Developer Toolkit\Samples\ConsoleCallMonitor\bin"** and click **Enter**.
3. Type **ConsoleCallMonitor.exe Device Number/Telephone System IP Address/Type** and click **Enter**.

The ConsoleCallMonitor application takes multiple parameters in the following form, Device Number/Telephone System IP Address/Type. For example, 2000/10.1.1.1/Agent 1800/10.1.1.10/Extension would invoke agent 2000 on telephone system 10.1.1.1 and extension 1800 on telephone system 10.1.1.10.

Console Queue Monitor

The ConsoleQueueMonitor sample application displays information on calls entering/exiting queues and queue statistics in a simple console application window. Similar to the Console Call Monitor application, it represents a minimal set of code required to build a real-time queue monitoring application.

To use the CTI Developer Toolkit Console Queue Monitor sample application

1. In Windows, open the command prompt window.
2. Type **cd "<installation_drive>:\Program Files (x86)\prairieFyre Software Inc\CTI Developer Toolkit\Samples\ConsoleQueueMonitor\bin"** and click **Enter**.
3. Type **ConsoleQueueMonitor.exe Queue/Telephone System IP Address** and click **Enter**.
The ConsoleQueueMonitor application takes multiple parameters, in the following form: Queue/Telephone System IP Address. For example: P200/10.1.1.1 P180/10.1.1.10 would invoke monitoring calls on two queues, queue P200 on telephone system 10.1.1.1 and queue P180 on telephone system 10.1.1.10.

BEST PRACTICES FOR CUSTOM DEVELOPMENT

The following best practices must always be followed when developing custom developments to work in conjunction with Contact Center Solutions software.

- Before you begin development
 - Verify that the CTI Developer Toolkit and Contact Center Solutions software are the same version and that you are properly licensed for all desired functionality
 - Verify that you have access to the Contact Center Management Enterprise Server
 - Verify that the Contact Center Solutions Enterprise Server has been properly set up and configured with the extensions, agents, and queues that you will be using with your custom application
 - Verify that the telephone system(s) in your enterprise has been properly set up and configured with the extensions, agents, and queues that you will be using with your custom application
 - Verify that all pre-installation and post installation steps have been completed. See the *Contact Center Management Installation Guide*.
 - Confirm the telephone system conforms to the guidelines stated in the Golden Rules document. In particular, aspects of the CTI Developer Toolkit rely on the ability to set MiTAI monitors on devices. As such, the 'HCI Options' must be enabled for the Class of Service on all monitored devices. See the Mitel Knowledge Base at <http://micc.mitel.com/kb/> and use the key words 'Golden Rules'.
 - Verify you have Microsoft .NET Framework Version 4.5 installed on your workstation
 - Verify you have an IDE installed on your workstation, either Visual Studio 2005/2008 or SharpDevelop
- When developing custom applications and integrations
 - Verify the what you are attempting to build is possible by attempting the functions from an alternate client application, such as Contact Center Client, the Device Monitor sample application, or MiTAI Browser
 - Routinely check the log files of all related services, specifically the Enterprise Server, Collector, and MiTAI Proxy Server to ensure there are no unusual or unexpected warnings or errors
 - Routinely check the log files of alternative client applications for any unusual or unexpected warnings or errors (as listed in the previous bullet)

The following best practices must always be followed when developing custom connectors to third-party IVRs.

- Third-party IVR ports and IVR Routing ports must all be programmed in YourSite Explorer as an extension type=>Messaging Port or RAD Port. When configuring the extension as a port type, the disable real-time monitoring option will not be configurable.
- In addition to whatever custom data your third-party IVR is sending, it must also send the same data that IVR Routing does (using the same naming conventions). These are PFANI, PFCALLERNAME, and PFDNIS. This will ensure that the existing MiTAI record linking logic within the Contact Center Management Enterprise Server gets the correct information, which is typically at the first controller/port

COMMON USER SCENARIOS AND SOURCE CODE EXAMPLES

This section details the following common user scenarios for developing custom integrations and applications using the CTI Developer Toolkit

- Click to dial
- Call received notification
- Add call detail (using a third-party IVR)

CLICK TO DIAL

NOTE: This code sample is not included in the sample project that is included with the CTI Developer Toolkit.

The following C# code fragment provides sample source code that can be used to build a console application with click-to-dial functionality.

```
static void Main()
{
    DeviceManager dm = DeviceManager.Instance;
    string pbxIpAddress = "10.1.1.10";
    string server = "the-CCM-server-IP-address-here";
    string username = "your-username-here";
    string password = "your-password-here";
    Voice extension;
    if (!dm.Connect(server, 5024, username, password))
    {
        Console.WriteLine("Unable to connect to server");
        return;
    }
    extension = dm.GetDevice("1100", pbxIpAddress, DeviceType.Extension) as Voice;
    if (extension == null)
    {
        Console.WriteLine("Unable to retrieve extension device");
        return;
    }
    if (!extension.SetMonitor())
```

```
{  
    Console.WriteLine("Unable to monitor extension");  
    return;  
}  
extension.MakeCall("16135990045");  
dm.ReleaseAllDevices();  
dm.Disconnect();  
Console.WriteLine("Exit application");  
}
```

This source code will connect to the specific Enterprise Server using the supplied username and password. It then initiates a call from extension 1100 on the telephone system with IP address 10.1.1.10 to the phone number 16135990045.

CALL RECEIVED NOTIFICATION

The following C# code fragment shows a condensed version of the source code provided with the ConsoleCallMonitor sample application that is shipped with the CTI Developer Toolkit.

```
static void Main()  
{  
    DeviceManager dm = DeviceManager.Instance;  
    string pbxIpAddress = "10.1.1.10";  
    string server = "the-CCM-server-IP-address-here";  
    string username = "your-username-here";  
    string password = "your-password-here";  
    Voice extension;  
    if (!dm.Connect(server, 5024, username, password))  
    {  
        Console.WriteLine("Uable to connect to server");  
        return;  
    }  
    extension = dm.GetDevice("1100", pbxIpAddress, DeviceType.Extension) as Voice;  
    if (extension == null)  
    {  
        Console.WriteLine("Unable to retrieve extension device");  
        return;  
    }  
}
```

```
}  
if (!extension.SetMonitor())  
{  
    Console.WriteLine("Unable to monitor extension");  
    return;  
}  
device.CallInfoReceived += CallInfoReceivedHandler;  
Console.WriteLine("Listening for calls on extension 1100");  
Console.WriteLine("Press any key to end application.");  
while (!Console.KeyAvailable) ;  
dm.ReleaseAllDevices();  
dm.Disconnect();  
Console.WriteLine("Exit application");  
}  
static void CallInfoReceivedHandler(object sender, CallInfoReceivedEventArgs e)  
{  
    Console.WriteLine("-----");  
    Console.WriteLine("Call Info Received:");  
    Console.WriteLine(" Caller Name : " + e.Info.CallerName);  
    Console.WriteLine(" Caller Number : " + e.Info.CallerNumber);  
    Console.WriteLine(" DNIS : " + e.Info.DNIS);  
    Console.WriteLine(" Collected Digits : " + e.Info.CollectedDigits);  
}
```

ADD CALL DETAIL (USING A THIRD-PARTY IVR)

The following C# code fragment shows a condensed version of using the AddCallDetail method to toolkit users can invoke to add custom key/value pairs into call information.

In summary, this code fragment does the following:

- Device_CallReceived is an event handler that is invoked whenever a monitored IVR extension/port receives a call. This is needed to acquire the MiTAI Call ID which is used to link these extra information records (--w records in ACD data files) to other call records
- When this event handler is invoked, it makes three sequential calls to the AddCallDetail method, adding call values for the following keys: PFANI, PFCALLERNAME, and PFDNIS
- The keys used above are the ones that the default screen pop display recognizes but developers can easily make up their own key names as well, provided they have toolkit code on the client side to pull the custom information from the CallInfoReceivedEvent notifications

```
public void Device_CallReceived(object sender, CallReceivedEventArgs e)
{
    Device device = sender as Device;
    DeviceManager.Instance.AddCallDetail(
        e.CallingDevice.CallReferenceID, device.PBXIPAddress, device.DeviceID,
        "PFANI", "6135990045");
    DeviceManager.Instance.AddCallDetail(
        e.CallingDevice.CallReferenceID, device.PBXIPAddress, device.DeviceID,
        "PFCALLERNAME", "John Smith");
    DeviceManager.Instance.AddCallDetail(
        e.CallingDevice.CallReferenceID, device.PBXIPAddress, device.DeviceID,
        "PFDNIS", "8001");
}
```

TROUBLESHOOTING CTI DEVELOPER TOOLKIT ISSUES

Diagnosing any issues experienced while using the CTI Developer Toolkit requires a high level of familiarity with Contact Center Solutions and Business Reporter applications and CTI Developer Toolkit functionality. This section details several troubleshooting tips and tricks when encountering issues with CTI Developer Toolkit functionality.

The CTI Developer Toolkit and any custom applications created using it rely heavily on the proper configuration and operation of the Contact Center Solutions Enterprise Server. Ensuring that the server is operating correctly is the first diagnostic step that should be taken when troubleshooting CTI Developer Toolkit issues. This includes:

- Verifying that the CTI Developer Toolkit and Contact Center Solutions software are the same version and that you are properly licensed for the desired functionality
- Verifying that all pre-installation and post installation steps have been completed. See the *Contact Center Management Installation Guide*.
- Checking the log files of all related services, specifically the Enterprise Server, Collector, and MiTAI Proxy Server to ensure there are no unusual or unexpected warnings or errors
- Attempting the same operation using an alternate client application. This can be any of the following, depending on the underlying issue:
 - Contact Center Client
 - Device Monitor sample application
 - MiTAI Browser
- Checking the log files of alternative client applications for any unusual or unexpected warnings or errors (as listed in the previous step)
- Confirming the telephone system conforms to the guidelines stated in the Golden Rules document. In particular, aspects of the CTI Developer Toolkit rely on the ability to set MiTAI monitors on devices. As such, the 'HCI Options' must be enabled for the Class of Service on all monitored devices. See the Mitel Knowledge Base at <http://micc.mitel.com/kb/> and use the key words 'Golden Rules'.

TROUBLESHOOTING SPECIFIC ISSUES

This section describes some specific problems that may be encountered when working with the CTI Developer Toolkit and provides any recommended steps for diagnosing issues and potential solutions.

Retrieve All commands does not display any devices

If any of the *Retrieve All* commands in the Device Monitor application return an empty list of devices, there may be a configuration problem with the *IPAddress* values stored in the *CCMData* database table named *tblEnterpriseConfig_Node*.

To troubleshoot this issue, run the following SQL query and pay particular attention to values in the [IP Address] column. This query simulates the query used by the CTI Developer Toolkit and will return a list of agents and extensions for all voice media servers.

```
SELECT node.Name AS [Node],
node.IPAddress AS [IP Address],
'Agent' AS [Type],
device.FirstName AS [First Name],
device.LastName AS [Last Name],
device.Reporting AS [Reporting Number]
FROM tblConfig_Agent device INNER JOIN tblEnterpriseConfig_Node node
ON device.FKNode = node.Pkey INNER JOIN tblLookup_NodeType NodeType
ON node.FKNodeType = NodeType.Pkey
WHERE FKNodeFamily = 1
```

```
UNION
SELECT
node.Name AS [Node],
node.IPAddress AS [IP Address],
'Extension' AS [Type],
" AS [First Name], -- No first name on extensions
" AS [Last Name], -- No last name on extensions
device.Reporting AS [Reporting Number]
FROM tblConfig_Extension device INNER JOIN tblEnterpriseConfig_Node node
ON device.FKNode = node.Pkey INNER JOIN tblLookup_NodeType NodeType
ON node.FKNodeType = NodeType.Pkey
WHERE FKNodeFamily = 1
ORDER BY [Node], [Type]
```

The [IP Address] values in the query results should contain the IP address of the telephone system that is associated with the voice media server. If this value is incorrect or blank, use YourSite Explorer to set the IP address to the correct value.

GetDevice method fails or returns null unexpectedly

If a custom applications calls the *GetDevice* method and returns null even though the device is valid and programmed in Contact Center Management, there may be a timing issue with the Connect operation. When a custom application calls the *Connect* method in the CTI Developer Toolkit, the operation returns as soon as an authenticated connection has been established with the Enterprise Server. However, there may still be some basic configuration loading occurring in the background, which must complete before calls to *GetDevice* can be successful.

An event named *ConfigurationLoaded* is provided in the CTI Developer Toolkit, which is used to notify custom applications that background configuration loading has completed. In previous versions, the Device Monitor sample application used a workaround method of issuing a *Sleep* method call on the active thread to give background configuration loading time to complete.

Agent control actions succeed while call control actions fail

In this scenario, agent control actions (for example, login, logout, and set/remove Make Busy) succeed, while call control actions (for example, make call, answer call, and clear call) fail. The key difference between these two types of operations is that call control actions require a MiTAI monitor set on the device and agent control actions do not. Your investigation should start with an analysis of MiTAI related configuration, including:

- Verifying that the MitaiEnabled flag set properly for devices in the database
- Checking telephone system (for example, HCI Options enabled)
- Confirming the telephone system version is supported

Unable to set monitor on agent device

In some cases, using the Device Monitor to issue a Set Monitor operation on an agent will fail. If you have the Errors view open in the application, it displays a MiTAI error, indicating 'Operation failed: MessageTag[8] ReturnCode [SXERR_FEATURE_NOT_ALLOWED]'

In this case, you should verify that the agent device is properly configured on the telephone system, including HCI Options enabled for the associated Class Of Service. If the problem persists, check to see if the CTI Developer Toolkit is Version 5.5 or earlier and if the agent is a traditional or hot desking agent. There was a known issue setting monitors on traditional ACD agents using the CTI Developer Toolkit that was corrected in 5.5 SP1. For earlier versions, one workaround is to set the monitor on the extension the agent logs in to.

Web service errors occurring in log files

If you encounter Web service error messages in log files and an application built with the CTI Developer Toolkit is experiencing errors, check to ensure that the Microsoft.Web.Services3.dll file is present under the Windows system directory or in the custom application directory.

'Softphone proxy did not respond after 30 seconds' error

If you encounter this message and the Contact Center Solutions software is Version 5.5 SP2 or earlier, there is a known licensing issue where the MiTAI Proxy Server will fail to send clients messages unless there is at least one Contact Center Softphone or Contact Center PhoneSet Manager license in your enterprise. This issue was corrected in version 5.5 SP3.

To work around this problem, contact Mitel technical support at 1-800-722-1301 (North American customers) or your approved Mitel vendor (for customers residing in Latin America, Europe, the Middle East, Africa, and Asia Pacific).and have them create new license files.

Chapter 23

SALESFORCE.COM CONNECTOR

Setting up a Call Center in Salesforce.com

Logging into your Contact Center

Salesforce.com Connector

Salesforce.com Connector functionality

SALESFORCE.COM CONNECTOR

Salesforce.com Connector is an optional client application that works in conjunction with Contact Center Management and/or Business Reporter and requires an account with Salesforce.com (Enterprise and Professional editions of Salesforce.com), and, optionally, IVR Routing (for Collect Caller Entered Digits only).

NOTE:

- Salesforce.com Connector is currently supported for use with the 3300 ICP only.
- Whether Salesforce.com is running on the cloud or on a server within your organization, agents must have the Contact Center Salesforce.com Connector installed and running on their client computers for Salesforce.com Connector to function properly.
- The Contact Center Salesforce.com Connector refers to the Contact Center Softphone application as it appears in Salesforce.com.
- We test support for Salesforce.com Connector against Internet Explorer 9, 10, and 11, and make every effort to test against the most recent versions of Mozilla Firefox and Google Chrome. For information regarding Salesforce's support requirements, please consult Salesforce documentation.
- If you use Internet Explorer 10 or 11, you must enable Compatibility View.
- Ensure you enable the 'Display mixed content' option in Internet Explorer's local intranet security settings before logging into Salesforce.com.

Salesforce.com Connector enhances the functionality of Salesforce by embedding your Mitel phone directly into the Salesforce user interface. This improves productivity by providing fast and easy access to accounts, contacts, cases, and other Salesforce objects directly related to incoming calls. Using Salesforce.com Connector enables your contact center agents to perform their job functions through a single user interface.

Salesforce.com Connector is compatible with the Salesforce.com Microsoft Outlook connector. Users can synchronize their Salesforce.com contacts, tasks, and calendar events, associate Outlook email messages, and map custom fields in Salesforce.com to fields in Outlook.

Salesforce.com Connector manages interactions between the Contact Center Management server and the hosted Salesforce.com server through the Salesforce user interface. Salesforce.com Connector offers a wide variety of enhancements and capabilities to agents, including

- **Unified login**
Salesforce automatically retrieves agent IDs and extensions to enable users to log in to Contact Center Management directly from Salesforce.com.
- **Hot desking support**
ACD hot desking agents and non-ACD general business hot desking extensions are supported for use with the Salesforce.com Connector.
- **Click to dial**
Agents can save time and avoid misdialed calls by using click to dial to contact customers, co-workers, or extensions.

- **Screen pop**

When an external call arrives, the relevant Salesforce customer record displays on the agent's screen. If the call is subsequently transferred or joins a conference, the record displays on the screen of the agent receiving the transferred call or taking part in the conference. Immediate access to customer information increases agent productivity and improves customer satisfaction. Screen pop can be configured to work with Automatic Number Identification (ANI), Dialed Number Identification Service (DNIS), or Collect Caller Entered Digits (requires IVR Routing Premium ports).

Pertinent customer information also displays in the Salesforce user interface, for example, Caller Name, Collect Caller Entered digits, ANI, DNIS, and any search results you configure in the Salesforce soft phone layout. For information on configuring soft phone layouts in Salesforce.com, see the *Contact Center Management Installation Guide*.

NOTE: If Salesforce is not providing Collect Caller Entered Digits in a screen pop, ensure you disable caching if you use Internet Explorer.

- **Call control**

Agents can save time by having all their typical desk phone functions embedded and available directly from the Salesforce user interface. With complete customer information on the screen, agents can quickly access alternate numbers for customers.

- **Call logging capabilities**

Salesforce creates call tasks when agents make or receive internal or external calls. Use call tasks to log caller information including notes, phone numbers, and the date and time of a call. This assists compliance with your business processes by increasing consistency and providing improved reporting.

- **Make Busy codes and Wrap-up codes (ACD agents only)**

Agents can place themselves in and remove themselves from Make Busy to show their availability to receive ACD calls. After agents indicate they are not ready for calls, they can select from a variety of Make Busy codes that describe their activity. After finishing an ACD call, enter the Work Timer state where they can select from a list of Wrap-up codes (also known as Call Classification codes) and insert comments about the call. Supervisors can use this information to track call activity and measure agent performance.

NOTE: To enable agents to complete their call logs, do not select the 'Cancel queue work timer once code is entered' check box in the Queues pane in YourSite Explorer. This enables an agent to stay in the Work Timer state and enter call log information until they click the Done button in their Contact Center Salesforce.com Connector. See "Configuring general information for voice queues " on page 143.

SETTING UP A CALL CENTER IN SALESFORCE.COM

To set up a Call Center in Salesforce.com, you must first ensure you are running the Call Center version that is compatible with your version of Contact Center Solutions. Contact Center Solutions Version. 7.1 requires Salesforce Call Center v. 4.0. For more information, see "Upgrading to Call Center v.4.0 in Salesforce.com" on page 765.

Once you are running the appropriate version of the Call Center in Salesforce.com, you may create and configure a Call Center, add users to the Call Center, and configure the soft phone layout from within the Salesforce user interface. Optionally, you can configure Salesforce.com Connector to display caller DNIS information to agents receiving calls. You can also optionally add custom ANI and DNIS fields to call logs to save caller information.

NOTE:

- Whenever you make changes to your Call Center settings, you must log out of and back into Salesforce for these changes to take effect.
- Ensure you enable the 'Display mixed content' option in Internet Explorer's local intranet security settings before logging into Salesforce.com.

UPGRADING TO CALL CENTER V.4.0 IN SALESFORCE.COM

Before creating and configuring a Call Center in Salesforce.com, ensure you are using a version of Salesforce that is compatible with your version of Contact Center Solutions. If you upgrade to Contact Center Management Version 7.1 or greater without Salesforce Call Center upgraded to v.4.0, you will not be able to use your Contact Center Salesforce.com Connector.

Upgrading to Salesforce Call Center 4.0 requires you to:

- Determine your current version of Salesforce Call Center
- Import Salesforce Call Center 4.0
- Remove users from a previous Call Center
- Add users to the Call Center

To determine your current version of Salesforce Call Center

1. Double-click the **Salesforce Connector** icon on your desktop.
If the Salesforce Connector icon is not visible on your desktop, from the **Start menu** select **All Programs=>Mitel=>Salesforce Connector**.
2. In the task bar, right-click the **Contact Center Salesforce.com Connector** icon and select **About**.
The Salesforce.com About window opens.
3. Under **Call Center Edition**, note the version number listed.
If the version number is 4.0, you do not need to upgrade your Salesforce Call Center.
If the version is 3.0, 3.0a, or 3.0b, follow the procedures below to upgrade your Salesforce Call Center to 4.

To import Salesforce Call Center 4.0

1. Log in to **www.salesforce.com**.
2. Click your **user name** and select **Setup** from the drop-down list.
3. Under **App Setup**, click **Customize=>Call Center=>Call Centers**.
The All Call Centers page opens.
4. Click **Edit** beside Mitel Contact Center Integration to view your Call Center configuration settings.
NOTE: You will have to re-enter these settings in the Mitel Contact Center Integration page when you upgrade to Salesforce Call Center 4.0. We recommend that you print or save this page in order to reference your settings.
5. At the top of the screen, click **All Call Centers** to return to the All Call Centers page.

6. Click **Import=>Browse**, and after **File name** navigate to the Mitel3300.xml file and click **Open**.

NOTE: The file is generally held in C:\Program Files (x86)\prairieFyre Software Inc\CCM\Applications\SalesforceIntegration.

For E.164 support, import the Mitel3300v4.0a - E164.xml file.

7. Click **Import**.
8. On the **Call Center page**, click **Edit** beside the new Call Center.
9. Using the information you saved or printed in step 4, enter the IP/Name of your Enterprise Server and other configuration settings for the Call Center.
10. Click **Save**.

To remove a user from a Call Center

1. In Salesforce.com, click your **user name** and select **Setup** from the drop-down list.
2. Under **App Setup**, click **Customize=>Call Center=>Call Centers**.
The All Call Centers page opens.
3. In the **All Call Centers page**, select the Call Center from which you want to remove users.
4. At the bottom of the page, click **Manage Call Center Users**.
The Manage Users page opens.
5. Select the checkboxes beside the Call Center users you wish to remove and click **Remove Users**.

To add a user to a Call Center

1. In Salesforce.com click, your **user name** and select **Setup** from the drop-down list.
2. Under **App Setup**, click **Customize=>Call Center=>Call Centers**.
The All Call Centers page opens.
3. In the **All Call Centers page**, select the Call Center to which you want to add users.
4. At the bottom of the page, click **Manage Call Center Users**.
The Manage Users page opens
5. Click **Add More Users**.
The Search for New Users page opens.
6. Specify your search parameters using the drop-down list for each search field and click **Find**.
NOTE: To see all users, do not select any parameters for the search fields.
7. Select the checkboxes for the users you want to add to the Call Center and click **Add to Call Center**.
NOTE: Users can only be assigned to one Call Center at a time. Users who already belong to a Call Center are excluded from search results.

CREATING CALL CENTERS IN SALESFORCE.COM

To use Salesforce.com Connector, you must first create a Call Center. For more information on selecting call center configuration options, see Table 58.

NOTE: If you have imported your Call Center as part of upgrading to the latest Call Center version of Salesforce.com, you can skip the following procedure.

To create a Call Center in Salesforce.com

1. In Salesforce.com, click your user name and select **Setup**.
2. Under **App Setup**, click **Customize=>Call Center=>Call Centers**.
The All Call Centers page opens.
NOTE: If the Introducing Call Center Edition splash page opens, click **Continue**.
3. Click **Import=>Browse** and, after **File name**, navigate to the **Mitel3300.xml** file and click **Open**.
NOTE: This file is generally held in C:\Program Files (x86)\prairieFyre Software Inc\CCM\Applications\SalesForceIntegration\
For E.164 support, import the Mitel3300v4.0a - E164.xml file.
4. Click **Import**.
5. In front of the Call Center's name, click **Edit**.
The Call Center Edit page opens.
NOTE: We recommend you do not alter any of the general information fields.
6. Under **CTI Server Info**, after **IP/Name**, type the IP address or name of your Enterprise Server.
7. After **Use SSL**, type **Yes** or **No**.
8. Under **Advanced Queries**, after **Search by IVR Routing Collected Digits**, type the object and the field to search using collected digits.
9. After **Search Cases by ANI**, type **Yes** or **No**.
10. Under **If Records are Found for both ANI and DNIS**, after **Open the ANI Records**, type **Yes** or **No**.
11. After **Open the DNIS Records**, type **Yes** or **No**.
12. Under **If Records are Found for both ANI and/or DNIS and Advanced Queries**, after **Open the ANI and/or DNIS Records**, type **Yes** or **No**.
13. After **Open the Advanced Queries Records**, type **Yes** or **No**.
NOTE:
 - Whether you open records matching the ANI or the DNIS depends on the information you entered in **If Records are Found for both ANI and DNIS**.
 - Whether you open records matching IVR Routing Collected Digits or records attached to Contact or Account objects matching the ANI depends on the information you entered under **Advanced Queries**.
14. Under **New Lead Button**, after **Enable**, type **Yes** or **No**.
15. After **DNIS (custom field ID)**, type the DNIS custom field ID.
16. Under **Dialing Options**, after **Outside Prefix**, type the number required to make an outbound call.
17. After **Long Distance Prefix**, type the digit or digits to be appended to the front of a long distance number.
18. After **International Prefix**, type the digit or digits to be appended to the front of an international number.

19. After **Local Area Codes (comma-separated)**, type the area code(s) that do not require the long distance prefix.
NOTE: To set the long distance prefix to always dial first, do not configure local area codes.
20. Under **Call Log Options**, after **Save Extra Information to CallLog**, type **Yes** or **No**.
21. After **Create CallLogs For All Outbound Calls**, type **Yes** or **No**.
22. If you want to enable E. 164 support:
 - After **Search Enabled**, type **Yes**.
 - After **Local Country Code**, type your local E. 164 local country code.
 - After **Long Distance Call Prefix**, type the digit or digits to be appended to the front of a long distance number.
 - After **International Call Prefix**, type the digit or digits to be appended to the front of an international number.
23. Click **Save**.

CONFIGURING CALL CENTERS IN SALESFORCE.COM

Table 58 describes configurable options for creating a Call Center in Salesforce.com. The configuration options that you choose determine the Contact Center Salesforce.com Connector's behavior during call handling and help streamline your contact center operations. The table lists configurable options, the default setting for each option, the purpose each configuration option serves in the Call Center setup, and our recommendations for configuring the option.

Table 58: Configuration options for Salesforce Call Centers

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
General Information	Internal Name	MitelContactCenterIntegrationV4	Identifies the call center object internally	Optionally, leave this as the default NOTE: If using multiple Call Centers, each Call Center must have a unique internal name
General Information	Display Name	Mitel Contact Center Integration v4.0	Identifies the Call Center object in Salesforce.com Also used for readability and administration	Set the display name as required. This name will display in the agent's Salesforce.com profile for the associated Call Center and in the Call Center list.
General Information	Description	Mitel Contact Center integration v4.0 (developed by Mitel Networks)	Describes the purpose of the Call Center	Optionally, leave this as the default
General Information	CTI Connector ProgId	Mitel3300Adapter..1	Represents the base Component Object Model class of the customized Contact Center Salesforce.com Connector	CAUTION: Never change this option as this could cause functionality issues within the Contact Center Salesforce.com Connector.

Table 58: Configuration options for Salesforce Call Centers (continued)

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
General Information	CTI Connector ProgId	4.0	Represents the Contact Center Salesforce.com Connector Toolkit against which the Connector has been built Identifies the Salesforce API version against which the Contact Center Salesforce.com Connector has been built	CAUTION: Never change this option as this could cause functionality issues within the Contact Center Salesforce.com Connector.
CTI Server Info	IP/Name	Blank	Contains the IP address of the Enterprise Server Points the Contact Center Salesforce.com Connector to the Enterprise Server	This option can either be the IP address of the server or the DNIS name NOTE: We recommend using an IP address instead of a DNS name or DNS entry.
CTI Server Info	Use SSL	No	Specifies if the client uses SSL to connect to the Enterprise Server	Set this option to Yes if SSL is enabled on the Enterprise Server.

Table 58: Configuration options for Salesforce Call Centers (continued)

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
Advanced Queries	Search by IVR Routing Collected Digits	Case.CaseNumber	Specifies if the Salesforce.com object (case, contact, lead) and the field (phone, description, ID) will search using collected digits from IVR Routing	By default this option searches for a case that has a CaseNumber equal to the collected digits. If you are running Salesforce in conjunction with IVR Routing and you have your call center configured to search the Salesforce database by Collected Digits, you must have 'Send to agent desktop' enabled for the 'LastCollectedDigits' variable.
Advanced Queries	Search Cases by ANI	No	Specifies if the Contact Center Salesforce.com Connector will open records using the ANI as the search value	If set to No , the Contact Center Salesforce.com Connector stops searching records based on the customer phone number.
If Records are Found for both ANI and/or DNIS	Open the ANI Records	Yes	Specifies if the Contact Center Salesforce.com Connector should open records using the ANI as the search value	If set to No , the Contact Center Salesforce.com Connector stops searching records based on the customer phone number.

Table 58: Configuration options for Salesforce Call Centers (continued)

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
If Records are Found for both ANI and/or DNIS	Open the DNIS Records	Yes	Specifies if the Contact Center Salesforce.com Connector should open records using the DNIS as a search value	If set to No , the Contact Center Salesforce.com Connector stops searching records based on the customer dialed number.
If Records are Found for both ANI and/or DNIS and Advanced Queries	Open the ANI and/or DNIS Records	Yes	Specifies if the Contact Center Salesforce.com Connector opens records found using ANI and/or DNIS when results are also found using an Advanced Query	If set to Yes , this option displays records in the Contact Center Salesforce.com Connector that have been found using ANI and/or DNIS.
If Records are Found for both ANI and/or DNIS and Advanced Queries	Open the Advanced Queries Records	Yes	Specifies if the Contact Center Salesforce.com Connector opens records found using the Advanced Query when results are also found using customer ANI and/or DNIS	If set to Yes , this option displays records in the Contact Center Salesforce.com Connector that have been found using Advanced Query.

Table 58: Configuration options for Salesforce Call Centers (continued)

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
New Lead Button	Enable	No	Enables or disables the New Lead button within the Contact Center Salesforce.com Connector	<p>If set to Yes, a yellow button for New Lead displays in the Contact Center Salesforce.com Connector when you are on a call with a customer.</p> <p>Enabling this option will open the New Lead page in Salesforce.com or start a New Lead workflow if one exists.</p>
New Lead Button	DNIS (custom field ID)	Blank	Specifies the New Lead field into which the DNIS information is automatically entered	<p>Find this value by editing the field within Salesforce.com and copying the ID from the URL bar.</p> <p>The custom field ID begins immediately after salesforce.com and ends before the ? in the URL.</p> <p>For more information, see "Configuring the New Lead button to display DNIS information" on page 779.</p>
E.164 Support	Search Enabled	No	Enables searching using E.164 phone numbering format	Yes, if using E.164; otherwise No
E.164 Support	Local Country Code	31	Specifies the E.164 country code (example 31 for Netherlands)	Change to your E.164 local country code

Table 58: Configuration options for Salesforce Call Centers (continued)

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
E.164 Support	Long Distance Call Prefix	00	Specifies the prefix required to dial long distance numbers in an E.164 country	Specify a long distance prefix for click to dial functionality to work correctly. To specify, type the digit or digits to be appended to the front of a long distance number
E.164 Support	International Call Prefix	00	Specifies the prefix required to dial international numbers in an E.164 country	Specify an international prefix for click to dial functionality to work correctly. To specify, type the digit or digits to be appended to the front of an international phone number
Dialing Options	Outside Prefix	9	Specifies the outbound dialing digit(s) that your Mitel telephone system requires	Specify an outside prefix for click to dial functionality to work correctly. To specify, type the digit or digits to be entered when making an outbound call. For example, when an agent clicks 613-599-0045 the Contact Center Salesforce.com Connector will automatically dial 96135990045.

Table 58: Configuration options for Salesforce Call Centers (continued)

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
Dialing Options	Long Distance Prefix	1	Specifies the prefix required to dial long distance numbers	<p>Specify a long distance prefix for click to dial functionality to work correctly. To specify, type the digit or digits to be appended to the front of a long distance number.</p> <p>For example, when an agent clicks 416-599-0045 the Contact Center Salesforce.com Connector will automatically dial 914165990045.</p>
Dialing Options	International Prefix	011	Specifies the prefix required to dial international numbers	<p>Specify an international prefix for click to dial functionality to work correctly. To specify, type the digit or digits to be appended to the front of an international phone number.</p> <p>For example, when an agent clicks a number with a country code that does not correspond to the regional settings (44-770-954-321) the Contact Center Salesforce.com Connector will automatically dial 901144770954321.</p>

Table 58: Configuration options for Salesforce Call Centers (continued)

SETTING	OPTION	DEFAULT SETTING	PURPOSE	RECOMMENDATION
Dialing Options	Local Area Codes	613,819	Specifies your local area codes	<p>Specify local area codes for click to dial functionality to work correctly. To specify, type the area code or area codes for which the long distance prefix is not required.</p> <p>NOTE: If your agents are in multiple geographic locations each location must have its own Call Center with applicable dialing options.</p>
Call Log Options	Save Extra Information To CallLog	No	Saves or adds extra ANI or DNIS information to the call log	<p>If set to Yes, the call log must contain the following custom fields:</p> <p>ANI: Field name must be ANI, Type must be Text</p> <p>DNIS: Field name must be DNIS, Type must be Text.</p> <p>Ensure that all agents have write access to these fields.</p> <p>For more information, see "Adding custom ANI and DNIS fields to Call Logs" on page 780.</p>
Call Log Options	Create CallLogs For All Outbound Calls	No	<p>Specifies if a call log should be created on unanswered outbound calls</p> <p>Specifies that if an agent makes an unanswered outbound call, a call log is still created</p>	<p>This option may be required for continued functionality when switching from traditional PRI trunks to SIP trunks.</p> <p>CAUTION: Setting this to Yes when a Call Center is already in operation will impact your Salesforce.com task reporting.</p>

ADDING USERS TO CALL CENTERS

Salesforce users must be added to a Call Center before they can use Salesforce Call Center Edition features. You must also add users to a Call Center to enable the Contact Center Salesforce.com Connector to display in the Salesforce.com page upon login.

To add a user to a Call Center

1. In Salesforce, click your user name and select **Setup=>Customize=>Call Center=>Call Centers**.
The All Call Centers page opens.
2. Select the Call Center to which you want to add users.
The Call Center Detail page opens.
3. At the bottom of the page, click **Manage Call Center Users**.
The Manage Users page opens.
4. Click **Add More Users**.
The Search for New Users page opens.
5. Specify your search parameters using the drop-down list for each search field and click **Find**.
NOTE: To see all users, do not select any parameters for the search fields.
6. Select the checkboxes beside the users you want to add to the Call Center and click **Add to Call Center**.
NOTE: You can only assign users to one Call Center at a time. Users who already belong to a Call Center are excluded from search results.

CONFIGURING SOFT PHONE LAYOUTS

Configuring soft phone layouts enables you to control the information that displays in a screen pop. Once you have configured soft phone layouts, you can assign them to agents. Assigning customized soft phone layouts increases service efficiency by giving agents access to the most pertinent customer information.

NOTE: For more detailed information on the options for configuring soft phone layouts, click **Help about this section** on the **SoftPhone Layout Edit** page in Salesforce.com.

To configure a soft phone layout

1. In Salesforce.com, click your user name and select **Setup** from the drop-down list.
2. Under **App Setup**, click **Customize=>Call Center=>SoftPhone Layouts**.
3. To create a new soft phone layout, click **New**.
4. To modify a soft phone layout, click **Edit** beside the existing layout's name.
The SoftPhone Layout Edit page opens.
5. After **Name**, type or modify the name for the soft phone layout.
6. To make this soft phone layout the default layout, select the **Is Default Layout** checkbox.
7. After Select Call type, select one of the following call types from the drop-down list:
 - Internal
 - Inbound
 - Outbound

8. After **Caller ID, Dialed Number**, click **Edit**.
9. To add or remove a call-related field, in the **Available** or **Selections** pane, select the field and click **Add** or **Remove**.
10. To change the order of call-related fields, in the **Selections** pane, select the field and click **Up** or **Down**.
11. After **Account, Contact, Lead**, click **Add/Remove Objects**.
12. To add or remove an object, in the **Available** or **Selections** pane, select the object and click **Add** or **Remove**.
13. To change the order of objects, in the **Selections** pane, select the object and click **Up** or **Down**.
14. For each object, after each **If single <name of object> found, display:**, click **Edit**.
15. To display objects in the soft phone layout if a single record is found, in the **Available** pane, select the field(s) and click **Add**.
16. To remove objects from display in the soft phone layout if a single record is found, in the **Selections** pane, click **Remove**.
17. To change the order in which objects display, in the **Selections** pane, select the object and click **Up** or **Down**.
18. At the top of the page, click **Save**.
NOTE: To configure soft phone layouts for additional call types, repeat steps 7-18 for each type.

To configure screen pop settings for a soft phone

1. Under **Screen Pop Settings:**, after **Screen pops open within:**, click **Edit** and select a screen pop location.
2. After **No matching records:**, click **Edit** and select a screen pop location.
3. If you select **Pop to new**, select a page from the drop-down list.
4. If you select **Pop to Visualforce page**, type the name of the page in the field provided or click the **Lookup** button to search for a page.
5. After **Single-matching record:**, click **Edit** and select a screen pop location.
6. After **Multiple-matching records:**, click **Edit** and select a screen pop option.
7. At the top of the page, click **Save**.

To assign a soft phone layout to an agent

1. In Salesforce.com, click your user name and select **Setup**.
2. Under **App Setup**, click **Customize=>Call Center=> SoftPhone Layouts**.
3. Click **SoftPhone Layout Assignment**.
4. From the drop-down lists, select a soft phone layout for each agent.
NOTE: The list of agents only includes those who have been added to a Call Center.
5. Click **Save**.

CONFIGURING THE NEW LEAD BUTTON TO DISPLAY DNIS INFORMATION

You can configure the New Lead button to display caller DNIS information to agents receiving calls.

To configure the New Lead button to display DNIS information, you must

- Add the DNIS custom field to the Leads form in Salesforce
- Configure Salesforce to display a New Lead button when calls are received

To add the DNIS custom field to the Leads form in Salesforce

1. In Salesforce.com, click your username and select **Setup**.
2. Under **App Setup**, click **Customize=>Leads=>Fields**.
The Lead Fields page opens.
3. Under **Lead Custom Fields & Relationships**, click **New**.
The New Custom Field page opens.
4. Under Data Type, select **Text** and click **Next**.
5. After **Field Label**, type a label for the DNIS custom field.
6. After **Length**, type the number of characters permitted in the DNIS custom field.
7. After Field Name, type **DNIS**.
8. Click **Next**.
9. Under **Field-Level Security for Profile**, select the page layouts to which the DNIS custom field will be added.
10. Click **Next**.
11. Click **Save**.
The Lead Fields page opens.
12. Under **Lead Custom Fields & Relationships**, select the DNIS custom field.
13. Take note of the URL that displays in your web browser. This is the DNIS custom field information required in the following procedure.
For example, in the URL
<https://na7.salesforce.com/00Nd0000005FhBE?setupid=LeadFields>, the DNIS custom field information is 00Nd0000005FhBE.

To configure Salesforce to display a New Lead button when calls are received

1. In Salesforce.com, click your username and select **Setup**.
2. Under **App Setup**, click **Customize=>Call Center**.
The Call Center page opens.
3. Under **Call Center**, select **Manage call centers**.
The All Call Centers page opens.
4. Under **Action**, for the appropriate Call Center, click **Edit**.
5. Under **New Lead Button**, after **Enable**, type **Yes**.
6. After **DNIS (custom field ID)**, enter the DNIS custom field information as noted in the previous procedure.
7. Click **Save**.

ADDING CUSTOM ANI AND DNIS FIELDS TO CALL LOGS

Adding custom ANI and DNIS fields to call logs saves a caller's phone number, or the number they dialed to reach your organization, within Salesforce call logs. Adding ANI and DNIS fields enables you to collect additional customer information by customizing your call logs in Salesforce.

NOTE: To see ANI and DNIS information in call logs, in the Call Center setup page under Call Log Options, you must set the 'Save Extra Information to CallLog' field to 'Yes'. For more information, see "Configuring Call Centers in Salesforce.com" on page 768.

To add a custom ANI and DNIS field to a call log

1. In Salesforce.com, click your user name and select **Setup**.
2. Under **App Setup**, click **Customize=>Activities=>Activity Custom Fields**.
The Activity Fields page opens.
3. Click **New**.
The New Custom Field page opens.
4. Under **Data Type**, select **Text** and click **Next**.
5. After **Field Label**, type a name for this field as it will appear in the call log.
NOTE: We recommend using 'ANI' or 'DNIS' for ease of identification.
6. After **Length**, type the maximum length for the ANI or DNIS field.
7. After **Field Name**, type **ANI** or **DNIS**, depending on the field type you are adding.
NOTE: You must populate this field with "ANI", or "DNIS", only.
8. Click **Next**.
9. Under **Field-Level Security**, select the profiles that will be able to see the ANI or DNIS field.
10. Click **Next**.
11. If you are finished adding fields, click **Save**.
12. To add an additional field to a Salesforce call log, click **Save & New** and repeat steps 4-10.
NOTE: A call log can only have a single ANI or DNIS field. Clicking Save & New enables you to create a DNIS field after creating an ANI field or an ANI field after creating a DNIS field.
13. To make these changes take effect, log out of Salesforce and log back in.

LOGGING INTO YOUR CONTACT CENTER SALESFORCE.COM CONNECTOR

The Contact Center Salesforce.com Connector refers to the Contact Center Softphone application as it appears in Salesforce.com. To integrate with Salesforce.com, you must first open Contact Center Client and load the Contact Center Salesforce.com Connector toolbar. This sets the MiTAI monitor on the extension and indicates to the telephone system that the extension is ready to make and receive calls. Following this action, you can minimize Contact Center Client and log in, log out, and perform all call control activities from within the Salesforce.com client.

NOTE:

- The Salesforce.com Connector must be running before logging into the Salesforce.com website. Before logging into the Salesforce.com website, verify the Salesforce.com Connector is running in the system tray on your computer (next to the clock and volume controls). If the icon is displayed, the Salesforce.com Connector is open.
- If you are using a desk phone, you do not need to open Contact Center Client before loading the Contact Center Salesforce.com Connector toolbar.
- Your login for Salesforce.com is different than the login used for the Contact Center Salesforce.com Connector.
- The Contact Center Salesforce.com Connector is located in the left pane of the Salesforce user interface and appears only when you are assigned to Call Center in Salesforce.
- If an employee is unlicensed, they will not be able to log in to the Contact Center Salesforce.com Connector through Salesforce. For more information on employee licensing, see the *Contact Center Solutions and Business Reporter System Engineering Guide*.

To log into your Contact Center Salesforce.com Connector

1. Start Internet Explorer and type **<http://login.salesforce.com/>**.
2. In the Login pane, type your Salesforce.com **User Name** and **Password**, and click **Login**. See Figure 155.

Figure 155: Salesforce.com login pane

After you log in, the Contact Center Salesforce.com Connector will initialize in the top-left section of the Salesforce.com webpage. (See Figure 156.)

3. If you receive a message asking if you want to see the page content that was delivered securely, click **No**.

NOTE: Clicking Yes or closing the window will disable the Contact Center Salesforce.com Connector.

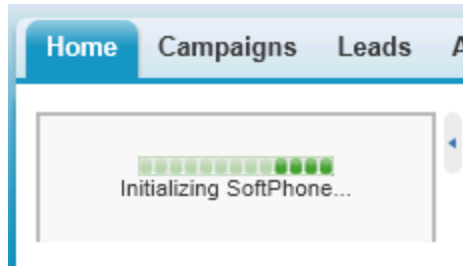


Figure 156: The initializing pane

4. Type your Call Center **Username**, **Password**, **Agent ID**, and **Extension**.
NOTE: If you do not have an agent ID associated with your employee ID, you will not have ACD functionality. However, you can continue to log in and use your desk phone or soft phone from within Salesforce for non-ACD calls.
5. To set Salesforce to remember your Contact Center Salesforce.com Connector login credentials every time you log into Salesforce, enable the **Remember me** check box. See Figure 157.

A screenshot of the Salesforce.com interface showing a login pane. The pane has a title bar with 'Home', 'Campaigns', 'Leads', and 'Accounts' tabs. Below the title bar, there is a form with the following fields: 'Username' (containing 'james'), 'Password' (masked with dots), 'Agent ID' (containing '2003'), and 'Extension' (containing '7500'). Below these fields is a checkbox labeled 'Remember me' which is checked. At the bottom of the form is a green button with a phone icon and the text 'Log In'. Below the form is the MITEL logo.

Figure 157: The login pane

6. Click **Log In**.

The Contact Center Salesforce.com Connector will display 'Logged In' when you are logged in as an ACD agent.

See Figure 158.

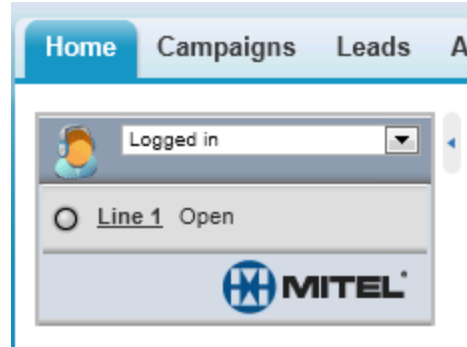


Figure 158: The 'Logged In' status display

If no agent ID was provided with the login credentials and you are not logged in as an ACD agent, the Contact Center Salesforce.com Connector functions as a soft phone and displays 'Ready for Calls'. (See Figure 159.)

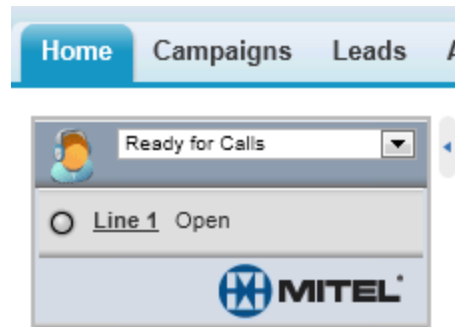


Figure 159: The 'Ready for Calls' status display

To automatically log into your Call Center when logging into Salesforce

1. In Salesforce, click your username and select **Setup**.
2. Under **Personal Setup**, select **Call Center Settings => My SoftPhone Settings**.
3. Enable the **Automatically log into your call center when logging into salesforce.com** checkbox.
4. Click **Save**.

SALESFORCE.COM CONNECTOR FUNCTIONALITY

NOTE:

- If using a true soft phone, you must first open Contact Center Client, click View => Soft phone and configure soft phone options. You must keep Contact Center Client running in the background as you use Salesforce. If you are using a desk phone there is no need to open Contact Center Client.
- Caller ANI/DNIS information is not included when you transfer a call between telephone systems. When you transfer a call between telephone systems, the ANI/DNIS information that displays in the screen pop for the receiving agent is that of the transferring agent, not the caller.

You can use Salesforce.com Connector to perform the following functions:

- **Dial phone numbers**

Dial a phone number by clicking Line 1, entering the number into the Contact Center Salesforce.com Connector and clicking Dial. (See Figure 160.)

NOTE: Default digit lengths that determine whether a call is recognized as internal or external in reports and the 'My Calls Today' interface can be modified in YourSite Explorer=>Media servers in the 'Min/Max digits to dial locally' procedural steps. The default values are set to < 10 digits in length to signify an internal number and > = 10 digits in length to signify an external number.

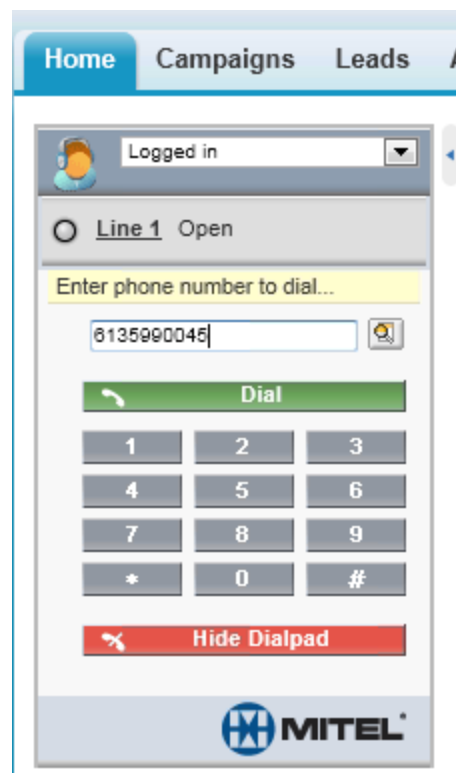


Figure 160: Dialpad

Alternatively, dial by clicking the icon next to a phone number associated with a contact, lead, activity, account, or any other phone field you have created. (See Figure 161.) ACD agents can dial by clicking on available employee or extension links. You can also dial numbers using the dial pad on your desk phone.

Phone	<u>(613) 599-0045</u> 
Mobile	
Fax	

Figure 161: The icon to dial a contact, lead, activity, account, or other phone field

- **Answer phone calls**

Answer a phone call by clicking Answer or using your desk phone. If the caller's number is in your Salesforce database, their customer information page appears. Salesforce.com Connector supports one incoming line per user. (See Figure 162.)

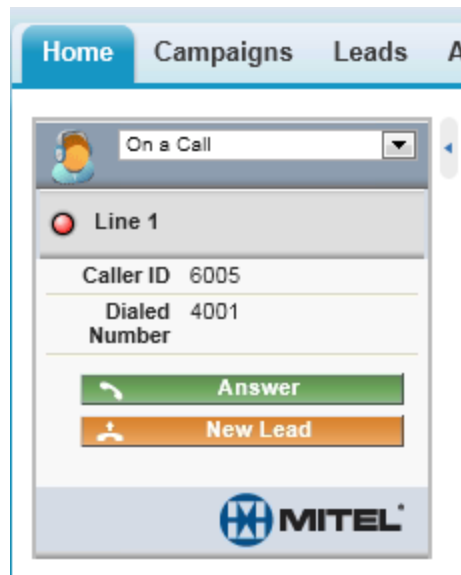


Figure 162: Answer

- **Place callers on hold**

Place callers on hold by clicking Hold. Retrieve the call by clicking Retrieve from Hold. (See Figure 163.)

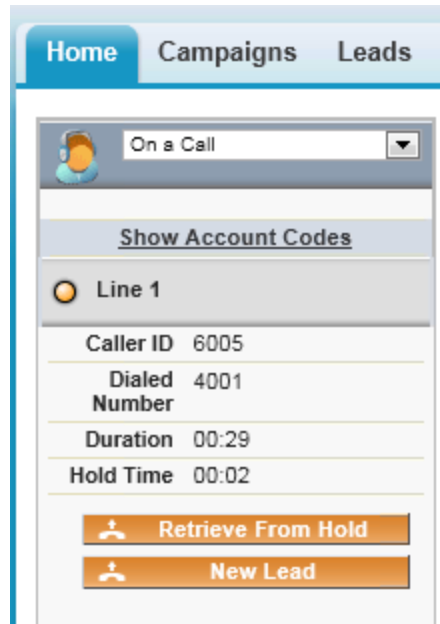


Figure 163: Retrieve From Hold

- **Perform one-step transfers (cold transfers)**

A one-step transfer (cold transfer) is when you transfer a caller without speaking to the third party destination first. Transfer a call directly to another number without speaking to the third party by clicking Transfer, entering the third party's phone number or extension, and clicking One Step Transfer to complete the transfer. (See Figure 164.)

The screenshot shows a software interface for a contact center. At the top, there are tabs: 'Home' (selected), 'Campaigns', 'Leads', and 'A'. Below the tabs is a header area with a user icon and a dropdown menu showing 'On a Call'. Underneath is a section titled 'Show Account Codes'. Below that is a section for 'Line 1' with a green status indicator. This section contains the following information: 'Caller ID 6005', 'Dialed Number 4001', and 'Duration 01:15'. Below this information is a yellow highlighted box with the text 'Enter phone number to transfer to...' and an input field. Below the input field are two buttons: 'Initiate Transfer' (green) and 'One-Step Transfer' (orange). Below these buttons is a numeric keypad with buttons for digits 1-9, *, 0, and #. At the bottom is a red button labeled 'Cancel Transfer'.

Figure 164: One-Step Transfer

- **Perform initiated transfers (warm transfer)**

An initiated transfer (or warm transfer) is when you place a caller on hold and speak to the third party destination before transferring the call. To transfer a call directly to another number and speak with the third party before transferring the call, click Initiate Transfer. Speak with the third party and once the call is ready to be transferred click Complete Transfer to connect the caller and remove yourself from the call.

- **Initiate conference calls**

Initiate a conference call by clicking the Conference button while on a call, entering the phone number to join to the conference and clicking Initiate Conference. Your caller is placed on hold while you dial the third party to be added to the call. (See Figure 165.)

Home Campaigns Leads A

On a Call

Show Account Codes

Line 1

Caller ID 6005

Dialed Number 4001

Duration 01:53

Enter phone number to conference...

Initiate Conference

1 2 3

4 5 6

7 8 9

* 0 #

Cancel Conference

Figure 165: Initiate Conference

Once you have connected to the third party number, click Complete Conference to place all three parties on the same line. (See Figure 166.)

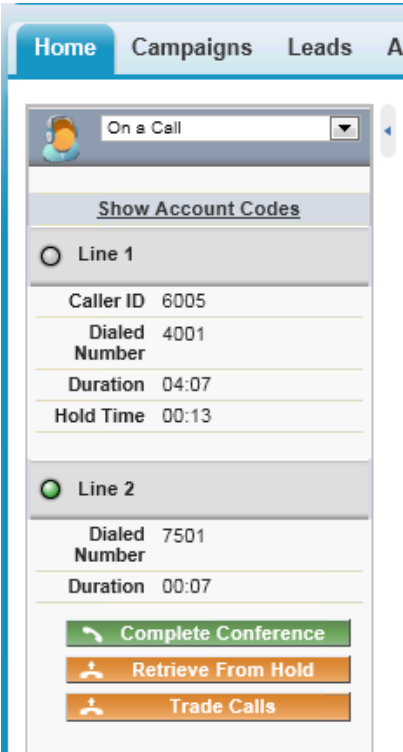


Figure 166: Complete Conference

- **Ending calls**

End a call by clicking End Call. (See Figure 167.)

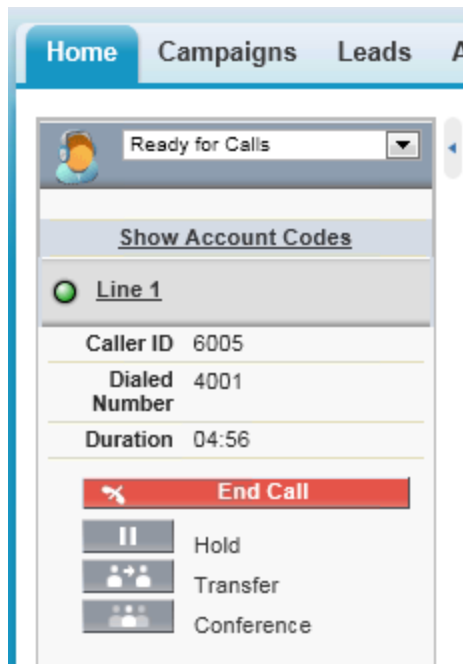


Figure 167: End Call

- **Set make busy codes (ACD agents only)**

To set a Make Busy code, click on the arrow in the agent state bar and select Not Ready for Calls. (See Figure 168.) Make Busy codes are entered in YourSite Explorer and should be maintained by your YSE Administrator.

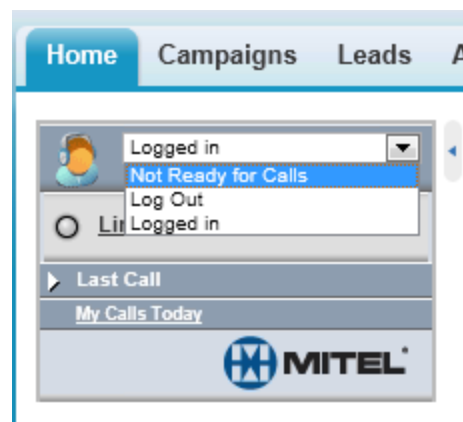


Figure 168: Not Ready for Calls

Select from the list of available Make Busy codes. (See Figure 169.)

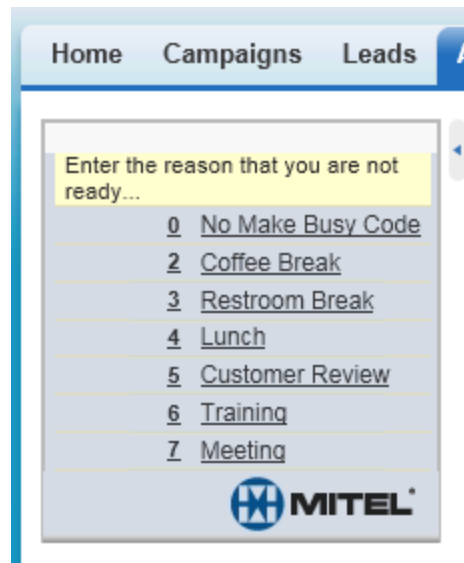


Figure 169: Make Busy codes

You will now appear as unavailable for calls. (See Figure 170.)

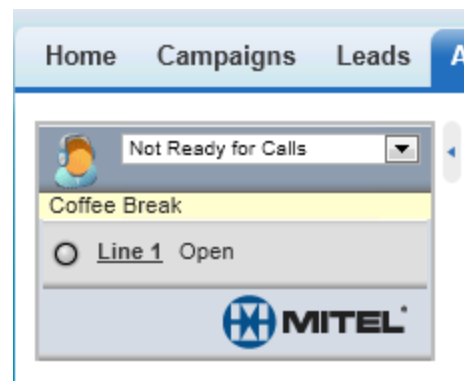


Figure 170: Agent Status

Remove the Make Busy code and make yourself available for calls again by clicking Ready for Calls in the agent state bar. (See Figure 171.)

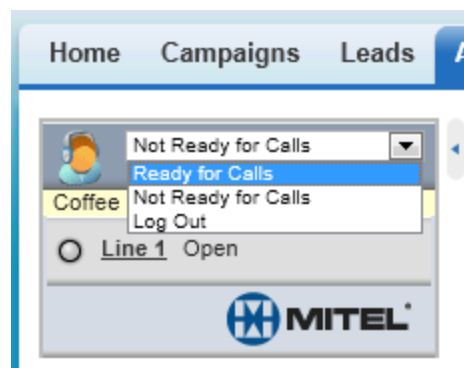


Figure 171: Ready for Calls

- **Create new leads while on calls**

Once you have answered an internal/external call, the Contact Center Salesforce.com Connector will display a New Lead button. Click the New Lead button to open a new lead and auto-populate the Lead phone number field with the caller's phone number. (See Figure 172.)

Home Campaigns Leads A

On a Call

Show Account Codes

Line 1

Caller ID 6005

Dialed Number 4001

Duration 00:27

End Call

New Lead

Hold

Transfer

Conference

Current Call Log

Log will auto-save when call ends.

Subject [Call 4/25/2012 11:38 AM]

Related To [To relate a record to this call, navigate to it in the main window.]

Comments

MITEL

Figure 172: New Lead

- **Relate Salesforce records to a call activity task**

You can associate up to two records to a call. From the Related To list in the call log area, select the Account, Opportunity, or Case to which you will associate the call. To associate a Contact or Lead to the call, select it from the Name drop-down list in the call log area. (See Figure 173.)

The figure shows two side-by-side screenshots of the Salesforce interface, specifically the 'On a Call' window. Both screenshots show the 'Current Call Log' section with a yellow banner that says 'Log will auto-save when call ends.' The left screenshot shows the 'Current Call Log' section with fields for Subject, Name, and Comments. The right screenshot shows the 'Current Call Log' section with fields for Subject, Name, Related To, and Comments. The 'Related To' field is set to 'Account: Systems Engineer'.

Figure 173: Call Log and Related To

NOTE: The Related To record cannot be selected when Name is set to a Lead.

- **Search on outbound calls**

Search results for outbound calls display in the Contact Center Salesforce.com Connector user interface, but do not generate screen pops.

- **Tag calls with account codes**

Click on Show Account Codes to display a list of available Account Codes, then click on the account code link that you want to apply. (See Figure 174.)

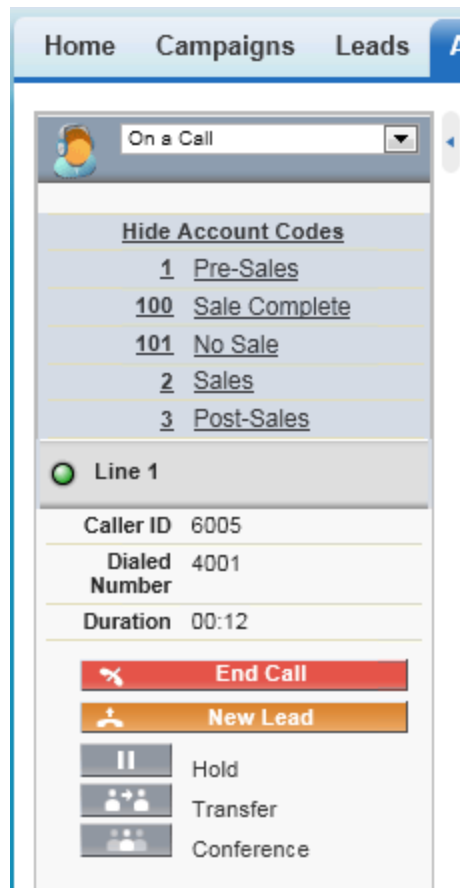


Figure 174: Account Codes

- **Set wrap-up codes (ACD agents only)**

When an external ACD call ends, select an appropriate Wrap-up code (also known as a Call Classification code) from the Call Result list of the Current Call Log window.

- **Attach comments to a call**

Attach comments to a call by typing text into the Comments field. When the call ends, the comments are automatically saved. (See Figure 175.)

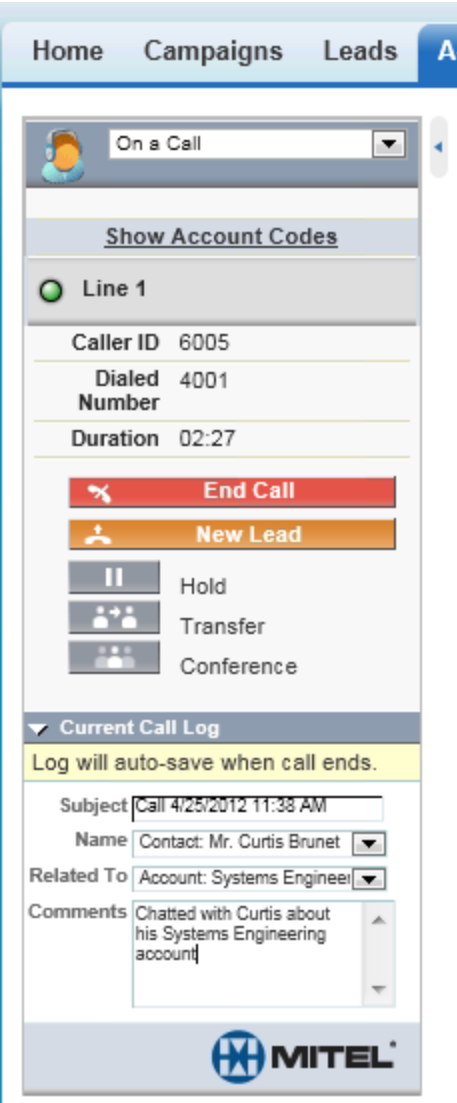


Figure 175: Attach comments to call

Call log information can be accessed from either the My Calls Today section of the soft phone or by scrolling to the Active History section of an object in Salesforce. (See Figure 176.)

Activity History			Log A Call	Mail Merge	Send An Email
Action	Subject	Related To			
Edit Del	Call 4/25/2012 12:12 PM				
Edit Del	Call 4/25/2012 12:11 PM				
Edit Del	Call 4/25/2012 11:38 AM	Systems Engineering			
Edit Del	Call 4/25/2012 10:45 AM	Systems Engineering			
Edit Del	Call 4/25/2012 10:26 AM	Systems Engineering-			

Figure 176: Activity History

- **View recent call activity**

Access recent call activities by clicking Last Call or My Calls Today. To edit one of the last call activities created, click the Last Calls arrow in the Contact Center Salesforce.com Connector and enter the new comments you would like to add before clicking the Save button. Clicking My Calls Today will take you to the My Calls Today webpage where you can view all Call Activities that have been created for the entire day. (See Figure 177.)

NOTE: If call duration is not accurately displayed in My Calls Today, run Windows Update and install the most recent updates on your work stations. For more information on running Windows Update, see the *Contact Center Management Installation Guide*.

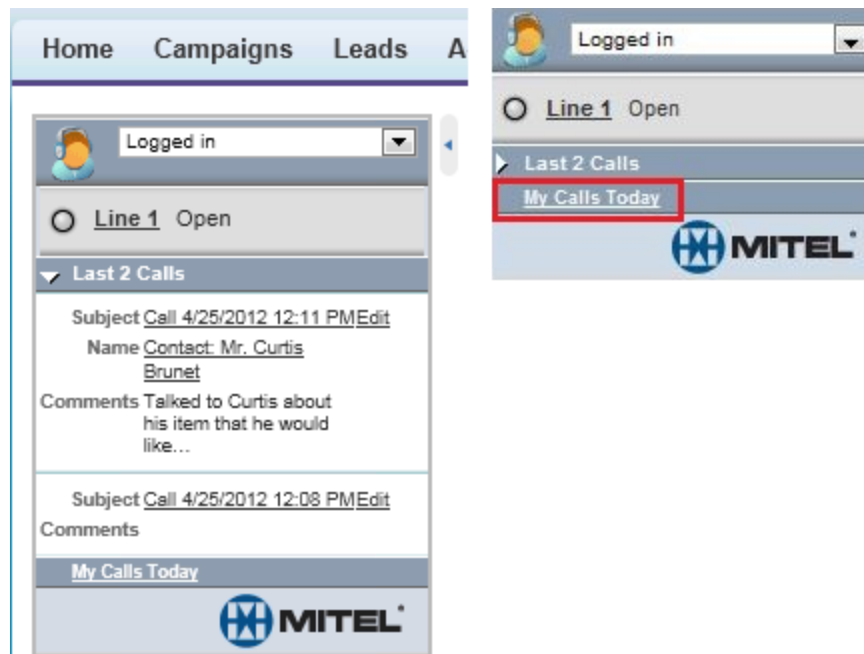


Figure 177: Call history

- **Edit completed call logs**

Call logs are automatically created for all external calls an agent makes or receives. Edit a call log by clicking on the link to the call. (See Figure 178.)

Activity History						
Log A Call Mail Merge Send An Email Request Update View All						
Activity History Help ?						
Action	Subject	Related To	Task	Due Date	Assigned To	Last Modified Date/Time
Edit Del	Call 4/25/2012 12:12 PM		✓	25/04/2012	James Renaud	25/04/2012 12:17 PM
Edit Del	Call 4/25/2012 12:11 PM		✓	25/04/2012	James Renaud	25/04/2012 12:16 PM
Edit Del	Call 4/25/2012 11:38 AM	Systems Engineering	✓	25/04/2012	James Renaud	25/04/2012 11:46 AM
Edit Del	Call 4/25/2012 10:45 AM	Systems Engineering	✓	25/04/2012	James Renaud	25/04/2012 10:50 AM
Edit Del	Call 4/25/2012 10:26 AM	Systems Engineering	✓	25/04/2012	James Renaud	25/04/2012 10:48 AM
Show more » Go to list »						

Figure 178: Edit call logs

- **Search on outbound calls**
Search results for outbound calls display in the Contact Center Salesforce.com Connector user interface within Salesforce, but do not generate screen pops. Enter the phone number into the dial pad and click Dial. The search will return results in the Contact Center Salesforce.com Connector interface. You can click Account, Contact, etc. to view the details of the search result. (See Figure 179.)

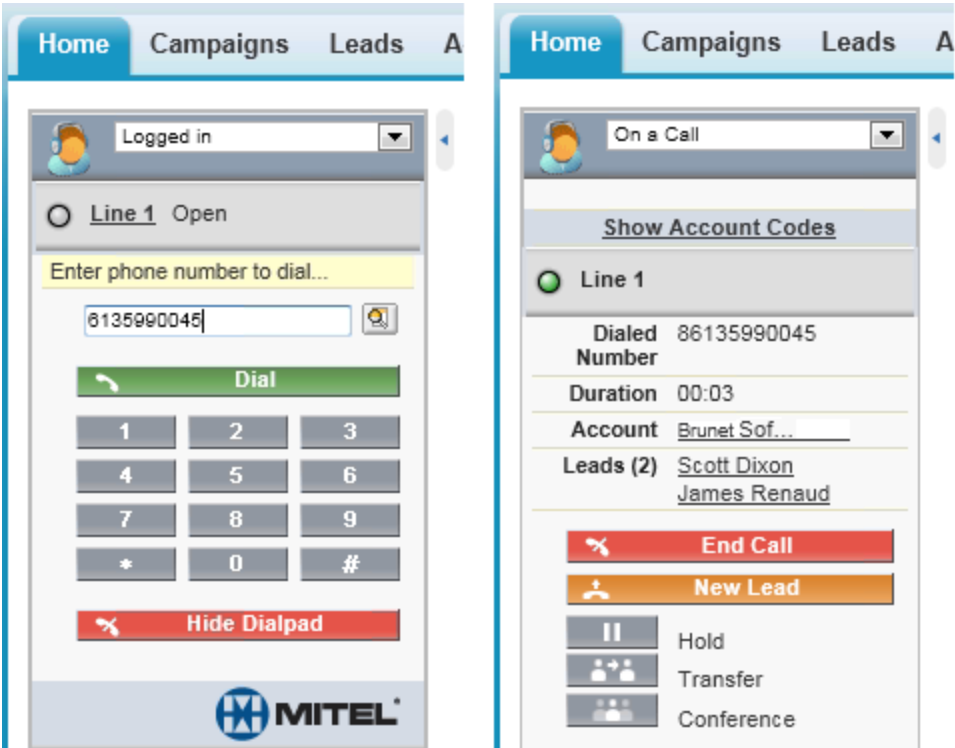


Figure 179: Search on outbound calls display

CONTACT CENTER SOLUTIONS TERMS AND DEFINITIONS

Abandoned call

An abandoned call is a call that the caller ends before the call is answered.

Account Code

Account Codes are classifiers that can be applied to call records and used to identify unique attributes about the caller or call for individual departments, projects, or services to generate reports on them. As well, they can be used by agents as classification codes for incoming calls. Account codes can be verified, non-verified, fixed length, or forced.

See Classification Codes, Fixed Length Account Codes, Forced Account Codes, Non-Verified Account Codes, Verified Account Codes.

ACD (Automatic Call Distribution)

ACD (Automatic Call Distribution) is a call distribution mechanism that distributes calls to a pool of available queue members.

ACD (state)

ACD is a state applied to a queue member while they are handling an ACD call.

ACD calls handled

See Calls Handled.

ACD calls interflowed

See Interflow.

ACD calls offered

See Calls offered.

ACD calls requeued

See Calls requeued.

ACD handling time

ACD handling time is a parameter for Contact Center Management that provides the sum of all events from answer to hang up of an ACD call.

ACD path

An ACD path is a predefined route that a call follows before reaching an agent. ACD paths direct callers to the agents or agent groups best suited to handle the calls. For example, a contact center can have an ACD path for sales, which routes callers to the agents taking sales orders.

Active Directory

Active Directory is a directory service created by Microsoft that is used for managing a domain. In Contact Center Solutions, Active Directory is synchronized with YourSite Explorer to align Active Directory security groups and users with Contact Center Solutions employees and employee groups within selected organizational units.

Agent

An agent is a contact center employee, assigned an Agent ID, who receives calls routed to ACD paths.

Agents available

Agents available is a real-time statistic indicating the current number of agents who are logged in and not in Make Busy or Do Not Disturb. If an agent is configured as a part of an agent group and is logged in, the agent is counted as available, even if they are not present in that agent group. This statistic can be used as a queue condition in IVR Routing.

ANI (Automatic Number Identification)

ANI (Automatic Number Identification) is a service that provides receivers of telephone calls with the caller information. ANI can be used to create screen pops for agents or to route calls by caller phone numbers.

Answered by

Answered by is the real-time name for the number of calls answered by the first, second, third, and fourth answer points

Answering points

An answering point is a single point of communication available to callers where they can contact a contact center, such as a queue, voice mail, or extension.

ASA

See Average Speed of Answer

Average Speed of Answer

Average speed of answer (ASA) is an ACD statistic that measures how long the average caller waits on hold before the call is picked up by a queue member (including time in queue and ringing time).

Average abandon time

The average abandon time is the average number of seconds callers wait in queue before they abandon a call.

Blocked call

A blocked call is a call that is unable to get into the contact center's telephone system because there are no trunks available. The caller receives a busy signal.

Busy hour

Busy hour is a statistic that highlights the busiest hour of operation of a business day.

Call abandoned parameter

The Call abandoned parameter is a queue configuration that defines short abandoned calls, determining what abandoned calls are included as abandoned in call statistics. The default the short abandon is configured at 6 seconds.

Call routing

Call routing is the set of instructions configured in Contact Center Solutions to automate the movement of calls to their intended answering points.

Call type

Call type categorizes calls queue members receive, enabling them to be looked up in SMDR Inspector. Call types include ACD or non-ACD, abandoned, interflowed, requeued, unavailable, or outbound.

Callback

Callback is an optional feature of telephone systems that enables callers who are unable to reach an agent in a contact center to be called back by the contact center. Contact Center Solutions and IVR Routing offer several methods of providing callbacks, including Call me back, voice callbacks, web callbacks, and abandon callbacks.

Calls abandoned

Calls abandoned is a report field detailing the total number of calls that abandoned in queue or while the phone was still ringing at an extension. Calls abandoned ignores calls that were abandoned before the short abandoned parameter had been passed.

See Abandoned calls.

Calls abandoned (long)

Calls abandoned (long) are abandoned calls where the caller hung up after the short abandon parameter had been passed. By default, the short abandon is configured to be 6 seconds.

Calls abandoned (short)

Calls abandoned (short) are abandoned calls where the caller hung up before the short abandon parameter had been passed and are not included in the call statistics.

Calls answered

See Calls handled.

Calls handled

A handled call is a call that has been picked up answered by a queue member. A call that listens to in-queue RAD messages is not considered handled until it is answered by a queue member.

Calls interflowed

See Interflow

Calls offered

- 1) Call offered are all calls received, regardless of how they are handled or routed, including calls handled and both short and long abandoned calls.
- 2) Calls offered is a forecasting parameter used to determine the queue member requirement for a contact center's Service Level percent and Service Level time targets through applying the Erlang C equation to the estimated Call Load and average ACD Handling Time.

Calls requeued

Requeued calls are all calls replaced back into the same queue and offered to another agent when an agent receives an ACD call and fails to answer it after a pre-configured duration or number of rings.

Calls waiting

Calls waiting is the number of callers in a queue waiting for a queue member to become available, including those listening to Music on hold or queue announcements.

Camp on

Camp on is a notification tool that enables callers to notify an employee, who is currently on a call, that they are waiting to be answered. The employee is notified by a series of audible beeps.

Classification codes

Classification codes are classifiers appended to calls to categorize them, enabling reporting to examine specific categories of calls, such as those relating to specific products or services.

Clustered environment

A clustered environment is a network environment where multiple telephone systems are linked together to function as a single system.

Computer Telephony Integration

Computer Telephony Integration (CTI) are technologies that merge computer functions and telephone systems, enabling PC-based telephone systems to deliver functions such as synchronized voice and data delivery, voice and data conferencing, automatic information retrieval for calls, caller-based messaging and routing, and desktop productivity tools.

CTI

See Computer Telephony Integration

Customer Relationship Management

Customer Relationship Management (CRM) is a model for customer management that relies on technology to streamline and manage interactions with customers.

Date stamp

See Date/Time stamp.

Date/Time stamp

A date/time stamp is an indicator attached to a record or statistic detailing when it was created.

Delayed call

A delayed call is a call placed in the ACD queue because it cannot be immediately answered by a queue member. The ACD queue allows the client to wait for an available member rather than blocking the client from entering the system.

Dialable number

The dialable number is a digit or series of digits dialed by a caller to reach an answering point, such as a queue member, an extension, a queue, or voice mail.

Dialed Number Identification Service (DNIS)

Dialed Number Identification Service (DNIS) is a telecommunication service that identifies the phone numbers dialed by inbound callers. DNIS can be used to route calls, enabling contact centers managing multiple product lines or businesses to direct calls to the appropriate endpoint.

Division

A division is a grouping of several employee or extension groups that enable a single report to be run for several groups simultaneously.

DND

See Do Not Disturb (state).

DNIS

See Dialed Number Identification Service.

Do Not Disturb (state)

Do Not Disturb (DND) is a state that prevents queue members from receiving inbound contacts and transfers. For agents, Do Not Disturb is an employee-level configuration. When an employee is in Do Not Disturb, they enter Do Not Disturb across all agent capabilities.

Employee

An employee is a person who is employed by an organization and configured as an employee in Contact Center Solutions so that they have access to Contact Center Solution applications and may have their associated devices reported on.

Enterprise

An enterprise is both the single site where the Enterprise Server is installed and all the connected branch offices that comprise a company.

Enterprise Server

The Enterprise Server is the central server upon which Contact Center Solutions is installed and from which Contact Center Solutions runs.

Erlang

An Erlang is a unit of measure for telephone traffic equal to one hour or 3,600 seconds of telephone conversation, such as a single call lasting one hour or six calls lasting 10 minutes.

Erlang B

Erlang B is an equation used to estimate the number of trunks required by a contact center.

Erlang C

Erlang C is a forecasting equation that uses historical Call Load data, Service Level Percentage, Service Level Time, and Wrap up Time Used to predict the resources required to keep wait times within a contact center's Service Level objective for the time interval and data range selected in a forecast.

External Hot Desking Agent

See Hot Desking Agent.

Extension

An extension is an endpoint for answering calls. Extensions can be assigned to Ring Groups, or can be logged into by agents.

Fixed Length Account Codes

Fixed Length Account Codes are verified and non-verified Account Codes that are automatically submitted to the system when the correct number of digits has been entered.

Forced Account Codes

Forced Account Codes are verified and non-verified account codes that must be entered at a specific time in a call. Forced verified account codes must be entered as soon as the phone is off the hook. Forced non-verified Account Codes must be entered after the phone number is dialed. Systems may be configured to avoid the requirement of entering a forced non-verified Account Code when making a call that must not be charged (for example, dialing a leading digit such as 8 to make a call without entering an Account Code and dialing a leading digit such as 9 to make a call that requires an Account Code).

Grade of service

The grade of service (GOS) is a measure of the likelihood of an attempted call receiving a busy signal. GOS compares the number of trunks to the level of traffic and expresses the result as a decimal fraction. A GOS of P.02, for example, indicates that a caller would have a two percent chance of receiving a busy signal.

Handled by

Handled by is the real-time statistic for the number of calls answered by the first, second, third, and fourth answer points.

Handled %

Handled % is the real-time statistic comparing the calls handled to the calls offered.

Handling time

Handling time is the measure of how long a call took to be handled by a queue member, from when the call is answered when the call is finished. Handling time includes talk time, hold time, as well as transfers and conferences on the call.

Hot desking agent

Hot desking agents are employees configured with a hot desking agent ID that enables them to sit at any extension in a network and log on to that extension with all their regular work settings available. External hot desking agents can hot desk remotely using any phone or headset.

Hunt group

A hunt group is a series of telephone lines grouped by the telephone system that rotates incoming calls through the lines until an available line is found and the caller is connected.

Inbound

Inbound is a descriptive term applied to forms of contact or communication, such as a phone call, to indicate that it is being sent to a contact center from an external source.

Inbound calls

See Inbound.

Interflowed

Interflow is a mechanism that redirects contacts from queues to alternate answering points (for example, to another queue or to voicemail). Interflow statistics include contacts manually transferred from one queue to another. Contacts routed from queues to other answering points before the Short Abandon time are not included in Interflow statistics.

Interactive Voice Response

Interactive Voice Response (IVR) is a technology that enables callers to interact with a contact center's phone system by pressing keys or speech recognition while following IVR dialog.

Internal calls

Internal calls are calls made from within a system to other answering points within the same system.

LAN

A Local Area Network (LAN) connects multiple computers together over short distances. LANs typically operate within a building. The computers share information, applications, and peripherals, such as printers.

Logged on

Logged on is an agent state applied to agents who have signed into the ACD system.

Logged off

Logged off is an agent state applied to agents who have signed out of the ACD system.

Longest waiting

Longest waiting is the duration, in minutes and seconds, of the call that has been waiting the longest in queue.

Make Busy (state)

Make Busy is an agent presence state applied to prevent an agent who is busy from receiving ACD calls. Agents in Make Busy are able to receive non-ACD calls. Make Busy is an employee-level configuration. When an employee is in Make Busy, they enter Make Busy across all agent capabilities.

Media servers

A media server is a server or system, such as a telephone system, used to organize and distribute communications throughout a contact center.

MiTAI

MiTAI is a Mitel implementation of TAPI that is used to connect the telephone system/PCs running windows to external applications, such as ACD controllers.

Mitel OPS Manager

Mitel OPS Manager is a Mitel software application that provides network-wide administration and maintenance for MCD and 3300 Network Elements or Nodes.

Non ACD (state)

Non ACD is a state applied to queue members involved in an incoming personal contact, a member-originated call, or a call dialed directly to their extension.

Non-verified Account Codes

Non-verified Account Codes are numbers entered onto the SMDR record for billing and call management. During a call, non-verified Account Codes can be entered as often as required.

Outbound calls

Outbound calls are calls made from within a contact center to external answering points.

Overflow

Overflow is a call distribution mechanism that queues calls against two or more agent groups to limit the delay faced by callers. If a call in an ACD queue is not answered after the configured Overflow time, then it is placed into the queue of a second agent group in addition to the first queue.

PBX

See Telephone system.

Pooling principle

The pooling principle refers to the increased contact center efficiency gained by consolidating contact center resources.

Port

A port is a communications endpoint in Contact Center Solutions used to link services.

Probability of delay

The probability of delay is a statistic that measures the likelihood of a call being delayed in the ACD queue, comparing the number of queue members to the level of traffic carried by the trunks.

PSTN

See Public Switched Telephone Network.

Public Switched Telephone Network (PSTN)

The Public Switched Telephone Network is a global collection of Central Offices (CO) interconnected by long distance telephone switching systems.

Quality of service

Quality of service is a reflection of an agent's ability to provide excellent assistance to each customer. Quality of service can be evaluated and managed through silent monitoring systems, IT support systems, CTI, ANI, and DNIS.

Queue number

A queue number is the address of a queue or other answering point used in the telephone system. The programming associated with the queue number defines the routing and timing options available to the call.

Queue member

A queue member is an individual answering for the queue. For ACD paths, 'members' refers to agents in the queue's answering agent groups. For Ring Groups, 'members' refers to the extensions assigned to the queue's Ring Groups.

Queue unavailable

1) Queue unavailable is a routing option that reroutes calls to an unavailable answer point/overflow point. Queues are unavailable when the call enters the system outside business hours, when all queue members have removed their presence, when all queue members are in DND, or when the queue has been placed in DND (ACD path only). Calls interflowed before the Short Abandon time are included in Queue Unavailable statistics.

2) Queue unavailable is a real-time statistic that counts how many calls were re-rerouted to other queues due to the queue being unavailable.

RAD

See Recorded announcement device.

Readerboard

See Wall sign.

Real-time adherence

Adherence refers to whether or not agents are performing the activities for which they are scheduled. Workforce management tools enable supervisors to be notified of discrepancies between agents' work schedules and the actual activities they perform.

Reason Code

Reason codes are descriptive classifiers applied to Make Busy and Do Not Disturb states to provide more detailed information as to why the queue member applied the code.

Recorded announcement device

Recorded Announcement Device is an IVR Routing feature that provides prerecorded messages to callers waiting in the ACD queue.

Reporting number

A reporting number is the unique number assigned by the system to contact center resources for reporting purposes.

Ring Group

A Ring Group is a collection of extensions, or a single dialing point for a collection of extensions, in a business. Ring Groups are typically used to reach back office extensions. For example, a business with agents taking sales orders may also have several phone extensions in the warehouse. These warehouse phone extensions are compiled into a Ring Group, which can be reached via a single dialing point.

Service Level percent

The Service Level percent is the number of calls that are handled, abandoned, and interflowed before the Service Level time, compared to the total number of calls handled, abandoned, and interflowed.

Service Level time

The Service Level time is the specified time used in calculating the queue service objective in conjunction with the Service level percent, such as 80% (Service Level percent) of contacts answered within 120 seconds (Service Level time).

Silent monitoring

Silent monitoring is a Contact Center Solutions feature that facilitates the tracking of agentcall handling techniques by enabling supervisors to listen to the voice conversations of internal or external calls between agents and callers.

Site

A site is a physical location of a contact center with one or more media servers. It may be the same location where the Enterprise Server is installed or a branch office.

Spectrum

Spectrum is a reporting feature configured for queues that provides a frequency distribution of calls abandoned, answered, or interflowed based on a defined time scale.

SQL

SQL is a standard query language used to enter, query, and change data in a database, as well as create and administer databases. Administration of YourSite Explorer is done using Microsoft's SQL Server.

Subroutines

Subroutines are portions of workflows that can be reused in multiple workflows.

Talk-time

Talk-time is the measure of the time an agent spends talking to callers, excluding time spent on hold.

TCP/IP

TCP/IP is the basic communication protocol of the Internet and is used as a communication protocol in private networks (intranets).

Telephone system

A telephone system is a private branch exchange (PBX) or business telephone switch used to process incoming and outgoing calls to a contact center.

Time to answer

Time to answer is the measure, in seconds, of how long an incoming call remained in queue before it was answered. It is primarily used as an SMDR data mining criteria.

Time stamp

See Date/Time stamp.

True-talk time

See Talk Time.

Trunk

A trunk is a communication line between two telephone systems.

Trunk load

Trunk load is the duration of time from when a trunk receives a call to when the queue member finishes handling the call and disconnects. Trunk load does not include Wrap Up Time.

Unavailable

Unavailable is an agent and employee state real-time column in Contact Center Client that includes agents unavailable to take calls due to being in Do Not Disturb, Make Busy, Work Timer, Reseize Timer, or Unknown.

Updated Position in Queue (UPiQ)

Updated Position in Queue (UPiQ) is a notification feature that provides messages to callers informing them of their position in queue and keeps them informed of their position if it changes, at preset intervals.

UPiQ

See Updated Position in Queue.

Verified Account Codes

Verified Account Codes are numbers entered before making a call to change the Class of Service or Class of Restriction at the station. When the call ends, the station returns to normal. Verified Account Codes can be tracked with SMDR for long-distance billing purposes and may be reported in Internal SMDR logs.

Wall board

See Wall sign.

Wall sign

A wall sign is an electronic sign used to display real-time ACD statistics to employees in a contact center.

WAN

Wide Area Network (WAN) connects multiple computers over a wide geographic area. WANs operate over telephone carrier lines through bridges or routers. Router options enable communication between high speed LAN links and slower speed WAN links, which tie LAN segments together.

Whisper Coach

Whisper Coach is a silent monitor feature that enables supervisors to converse with and coach agents handling calls without callers hearing the supervisor.

Workflow

Workflows are programed pathways in IVR Routing and Multimedia Contact Center, which control how contacts are routed to queue members.

Workforce management

Workforce management is the scheduling of contact center agents to meet forecasted needs and the managing of agents to ensure they adhere to their scheduled activities.

Wrap Up Time

Wrap Up Time is a real-time and reporting statistic detailing the total time an agent spends in the Work Timer state.

