



Avaya Interaction Center

Release 7.0

Business Advocate Configuration and
Administration

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An "outside party" is anyone who is not a corporate employee, agent, subcontractor, or person working on your company's behalf. Whereas, a "malicious party" is anyone (including someone who may be otherwise authorized) who accesses your telecommunications equipment with either malicious or mischievous intent.

Such intrusions may be either to/through synchronous (time-multiplexed and/or circuit-based) or asynchronous (character-, message-, or packet-based) equipment or interfaces for reasons of:

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- Theft (such as, of intellectual property, financial assets, or toll-facility access)
- Eavesdropping (privacy invasions to humans)
- Mischief (troubling, but apparently innocuous, tampering)
- Harm (such as harmful tampering, data loss or alteration, regardless of motive or intent)

Be aware that there may be a risk of unauthorized intrusions associated with your system and/or its networked equipment. Also realize that, if such an intrusion should occur, it could result in a variety of losses to your company (including, but not limited to, human and data privacy, intellectual property, material assets, financial resources, labor costs, and legal costs).

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- Installation documents
- System administration documents
- Security documents
- Hardware-/software-based security tools
- Shared information between you and your peers
- Telecommunications security experts

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Release 7.0
Business Advocate Configuration and Administration**

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Before You Begin

This section includes the following topics:

- [Typographical Conventions](#) on page 11.
- [Notes, Tips, and Cautions](#) on page 12.
- [Contacting Technical Support](#) on page 12.
- [Product Documentation](#) on page 13.
- [Educational Services](#) on page 15.

Typographical Conventions

This guide uses the following font conventions:

Font Type	Meaning
<code>command</code>	This font signifies commands, information that you enter into the computer, or information contained in a file on your computer.
<i>commandvariable</i>	This font indicates variables in a command string.
<i>italics</i>	This font is used to add emphasis to important words and for references to other chapter names and manual titles.
link	Blue underlined text in online documents indicates a hypertext jump to related information. To view the related material, click the blue underlined text.

Notes, Tips, and Cautions

Note:

A note calls attention to important information.

 **Important:**

An important note calls attention to a situation that has the potential to cause serious inconvenience or other similar repercussions.

Tip:

A tip offers additional how-to advice.

 **CAUTION:**

A caution points out actions that may lead to data loss or other serious problems.

Contacting Technical Support

If you are having trouble using Avaya software, you should:

1. Retry the action. Carefully follow the instructions in written or online documentation.
2. Check the documentation that came with your hardware for maintenance or hardware-related issues.
3. Note the sequence of events that led to the problem and the exact messages displayed. Have the Avaya documentation available.
4. If you continue to have a problem, contact Avaya Technical Support by:
 - Logging in to the Avaya Technical Support Web site <http://www.avaya.com/support/>
 - Calling or faxing one of the following numbers from 8:30 a.m. to 8:30 p.m. (Eastern Standard Time), Monday through Friday (excluding holidays):
 - Toll free in the U.S. and Canada: 1-888-TECH-SPT (1-888-832-4778)
 - Direct line for international and domestic calls: 1-512-425-2201
 - Direct line for faxes: 1-512-997-4330

- Sending email with your question or problem to crmsupport@avaya.com. You may be asked to email one or more files to Technical Support for analysis of your application and its environment.

Note:

If you have difficulty reaching Avaya Technical Support through the above URL or email address, please go to <http://www.avaya.com> for further information.

Product Documentation

Most Avaya product documentation is available in both printed and online form. However, some reference material is available only online, and certain information is available only in printed form. A PDF document with detailed information about all of the documentation for the Avaya Interaction Center is included in the `Doc` directory on the product CD-ROM. This PDF document is also included on the separate documentation CD-ROM.

Readme File

The Readme file is a PDF file included on the Avaya Interaction Center software CD-ROM. This file contains important information that was collected too late for inclusion in the printed documentation. The Readme file can include installation instructions, system requirements, information on new product features and enhancements, suggested work-arounds to known problems, and other information critical to successfully installing and using your Avaya software. Avaya may also deliver an Addendum to the Readme, which will be posted on the Avaya Technical Support Website. The Readme Addendum will contain similar information uncovered after the manufacture of the product CD-ROM. Review the Readme file and the Readme Addendum before you install your new Avaya software.

Electronic Documentation

The electronic documentation (in PDF or HTML format) for each Avaya Interaction Center product is installed automatically with the program. Electronic documentation for the entire Avaya product suite is included on the product CD-ROM and the documentation CD-ROM.

You can also view the documentation set online at <http://www.avayadocs.com>.

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- Through email at Avaya.U.Helpdesk@accenture.com

Before You Begin

■ ■ ■ ■ ■ ■

Chapter 1: Introduction

Business Advocate for Avaya Interaction Center (Avaya IC) is an intelligent work distribution engine based on patented, predictive algorithms. Unlike other work distribution engines, Business Advocate uses real-time information, statistical information, and information that you provide to make intelligent choices and:

- Predict which contacts are in greatest need compared to established service goals
- Adjust agent pools when service goals are in jeopardy so that service levels are maintained at peak times without sacrificing the match rate of work-type to best-skilled agent
- Provide agent fairness to minimize agent burnout by selecting the least occupied or most idle and qualified agent when more than one agent is available to handle incoming contacts

This section includes the following topics:

- [About Business Advocate](#) on page 17.
- [Qualification criteria](#) on page 21.
- [Contact selection](#) on page 26.
- [Agent selection](#) on page 29.
- [Dynamic adjustment of agent pools](#) on page 32.
- [Example: Using Business Advocate to increase revenue](#) on page 35.

About Business Advocate

Business Advocate includes the features discussed in the following sections:

- [Which media channels Business Advocate supports](#) on page 18.
- [How Business Advocate works with Avaya IC standard routing](#) on page 18.
- [How Business Advocate matches contacts with agents](#) on page 19.
- [How Business Advocate reacts to changes in your contact center](#) on page 20.

Which media channels Business Advocate supports

Business Advocate manages and qualifies contacts from customers in all media channels supported by Avaya IC. The supported media are:

- Voice channel
- Chat channel, including voice chat
- Email channel

How Business Advocate works with Avaya IC standard routing

An Avaya IC system can include both Business Advocate and Avaya IC standard routing. However, an agent can only receive contacts in any channel through either Business Advocate or Avaya IC standard routing. For example, a multi-media agent, who receives voice contacts from Business Advocate cannot receive email contacts or chat contacts through Avaya IC standard routing.

The topics in this section describe the possible combinations for routing and the limitations on those combinations for each channel.

- [Supported routing combinations](#) on page 18.
- [Limitations on routing combinations](#) on page 19.

Supported routing combinations

An Avaya IC system can include a combination of the following types of routing:

- For the voice channel, *both* Business Advocate routing for voice contacts *and* Avaya IC standard routing for voice contacts.
- For the email channel and the chat channel, *either* Business Advocate routing for email and chat contacts *or* Avaya IC standard routing for email and chat contacts.

Note:

If an Avaya IC system includes a combination of Business Advocate and Avaya IC standard routing, an agent can only receive contacts from either Business Advocate or Avaya IC standard routing. An agent cannot receive contacts from both types of routing.

Limitations on routing combinations

The following limitations affect the routing in an Avaya IC system:

- An agent cannot receive contacts from both Business Advocate and Avaya IC standard routing. If you enable an agent for Business Advocate, that agent can receive only contacts from channels that are routed through Business Advocate.
- The chat channel and the email channel must use the same type of routing. For example, if you use Business Advocate to route chat contacts, you cannot use Avaya IC standard routing for email contacts.

How Business Advocate matches contacts with agents

To make decisions about how to match contacts with agents, Business Advocate addresses the questions in the following topics:

- [Which contact is in greatest need?](#) on page 19.
- [Who is the most appropriate agent to handle this contact?](#) on page 20.

Which contact is in greatest need?

Business Advocate answers this question if there are contacts in a service class when an agent becomes available to handle contacts.

Business Advocate keeps the state of a service class. Each service class can progress through multiple states. Each state indicates that the service class is in greater need than the previous state. For example, each state indicates how close the service class is to exceeding its target or how much the service class has progressed beyond its target.

Greatest need does not mean that the customer is in the greatest need to speak to an agent. Greatest need is the method that Business Advocate uses to decide which contact in queue should be chosen to meet or preserve goals for customer service and to give customers the desired level of service.

To determine which contact is in greatest need:

1. Business Advocate identifies the contact that is furthest beyond the time period that you set in the upper threshold for the target service level. If a contact meets this criteria, that contact is determined to be in greatest need.

For example, a contact which meets this criteria would be in a service class with a service state of Critical.

Introduction

2. If no contact meets the first criteria, identifies the contact in a service class that is closest to exceeding the time period that you set in the upper threshold for the target service level.

For example, a contact which meets this criteria would be in a service class that has a service state of On Target - Immediate Risk.

If two contacts in different service classes have identical service states, both of these service classes can qualify as greatest need. In that situation, Business Advocate uses agent activation types and predictive technology to decide which contact to match with the available agent.

For more information about the predictive technology of Business Advocate, see [Predictive technology](#) on page 25. For more information about service classes, see [Service classes](#) on page 23.

Who is the most appropriate agent to handle this contact?

Business Advocate answers this question if several agents are available when a contact arrives in the queue.

Business Advocate can distribute workloads fairly across agents, which eliminates the situation when a small number of agents receive a large proportion of contacts.

You can configure Business Advocate to distribute contacts among agents to better meet your business needs. For example, you can configure Business Advocate to evenly distribute contacts about a sales event among a group of agents. This configuration can promote fairer opportunities for compensation.

How Business Advocate reacts to changes in your contact center

Business Advocate dynamically adjusts to changing conditions in your contact center. Your supervisors do not need to constantly monitor the number of contacts in a queue and manually change agent assignments. Business Advocate makes these adjustments automatically, according to your preset configuration.

For example, if the number of contacts in a queue increases and threatens your ability to meet your service goals, Business Advocate activates additional agents to handle the contact load until your service goals are no longer threatened.

Qualification criteria

Business Advocate uses your qualification criteria and real-time data to determine which contact in queue is in the greatest need. Business Advocate then matches this contact with an available and qualified agent. A qualified agent has a capability set with the same qualifier set as the contact.

During qualification, Business Advocate matches contacts with qualified agents. To perform this task, Business Advocate uses the following principles for qualification:

- Each contact is qualified with a qualifier set.
- Each qualifier set identifies a service class.
- Each service class has a service goal.
- Each service goal identifies the target time period for Business Advocate to deliver a contact in the service class to an agent.
- Each agent is configured with one or more capability sets.
- Each capability set includes a qualifier set that matches the qualifier set in a service class.
- For each capability set, an agent is configured to handle contacts with one of the following activation types:
 - Regular work
 - Backup work, if the agent has no regular work
 - Reserve work, if the service class is in danger of not meeting its service goal
- For each contact, Business Advocate uses state-of-the-art predictive algorithms, real-time data, and qualification criteria to match the contact with an available agent.

For more information, see the following sections:

- [Qualifiers](#) on page 22.
- [Service goals](#) on page 22.
- [Service classes](#) on page 23.
- [Service states](#) on page 24.
- [Agent activation types](#) on page 24.
- [Predictive technology](#) on page 25

Qualifiers

Business Advocate uses qualifiers to match contacts with agents and to meet service goals.

Each qualifier includes a category and a value for that category. For example, a qualifier of Product/Printer includes the category Product and the value Printer. If you create a second category named PrinterSupplies and define a value for that category of InkCartridge, you create a second qualifier named PrinterSupplies/InkCartridge.

A qualifier set includes one or more qualifiers that form a service class or a capability set. You do not need to create qualifier sets. For example, if you create a service class with the qualifiers of Product/Printer and PrinterSupplies/InkCartridge, those two qualifiers become a qualifier set.

For example, a category named Language could include the values of English, Spanish, and French.

The following table shows the qualifiers in the Language category.

Category	Value	Qualifier
language	english	language/english
language	spanish	language/spanish
language	french	language/french

For more detailed information about qualifiers, see [Qualifiers](#) on page 71.

Service goals

Business Advocate uses service goals to set the performance thresholds for contacts. You specify the performance thresholds for a service goal in units of time.

The following table shows the performance thresholds that you can set in a service goal.

Performance threshold	Description
Upper threshold	Required. All service goals must include an upper threshold. The upper threshold is the target time period for Business Advocate to deliver a contact in a service class to an agent. For more information, see Upper threshold on page 91.

Performance threshold	Description
Critical threshold	<p><i>Optional.</i> Service goals do not require a critical threshold. When the time a contact has waited to be matched with an agent reaches the critical threshold, Business Advocate activates reserve or backup agents with a critical activation level.</p> <p>For more information, see Critical threshold on page 92</p>
Lower threshold	<p><i>Optional.</i> Service goals do not require a lower threshold. The lower threshold determines the minimum amount of time that a contact should wait before Business Advocate matches the contact to an agent.</p> <p>For more information, see Lower threshold on page 92.</p>

Service classes

At the most basic level, a service class is a qualifier set and a service goal. Business Advocate uses service classes to:

- Create queues for contacts
- Assign a service goal to a specific type of contact
- Match contacts with agents

Services classes are unique. You cannot create two service classes with the same qualifier set.

Note:

All service classes must specify a value for the channel category as one of the qualifiers. You cannot create a service class without a channel qualifier.

If the qualifiers of an incoming contact do not match an existing service class, Business Advocate automatically creates a new service class with that qualifier set. If the capability set of an available agent includes the same qualifier set, Business Advocate can match the contact with that agent. For more information, see [Dynamically created service classes](#) on page 88.

Service states

Each service class has a service state. The service state is the “state” of a service class, and describes the real-time status of the service class relative to its service goal.

Business Advocate includes eight predefined service states. Business Advocate assigns one of these service states to the service class. You cannot configure or change service states.

Within Business Advocate, service states:

- Are a principal factor in all contact selection decisions.
- Control the size of the agent pool available to handle contacts from the queue for a particular service class.
- Are an important element in Business Advocate reports.
- Are part of how Business Advocate implements goal-based contact distribution and reporting.

For more detailed information about service states, including a description of the predefined service states, see [Service states](#) on page 96.

Agent activation types

For Business Advocate, you assign activation types to service classes for an agent. The activation types determine when an agent receives contacts for that service class.

An activation type is also known as an agent role.

The following table describes the available activation types.

Activation type	Description
Regular	Contacts in a service class with a Regular activation type are the preferred contacts for an agent to handle. The agent typically handles these contacts during a shift. Regular agents can handle contacts in the service class at any time unless the service state for the service class is Ahead of Target. The default activation level for regular agents is On Target.

Activation type	Description
Backup	<p>Contacts in a service class with a Backup activation type are the contacts that an agent handles if there are no contacts in a service class with:</p> <ul style="list-style-type: none"> ● A Regular activation type ● A Reserve activation type for which the agent has been activated <p>An agent only handles these contacts during a shift if the Backup service class reaches the service state that matches the agent activation level.</p> <p>Backup agents can have an activation level of On Target or higher.</p>
Reserve	<p>Contacts in a service class with a Reserve activation type are the contacts that the agent only receives if the service class is having difficulty meeting its service goals.</p> <p>If the Reserve service class reaches the specified activation level, this service class competes with the Regular service class for delivery to an agent. Contacts in the Reserve service class do not take precedence if the Regular service class has a worse service state.</p> <p>Reserve agents can have an activation level of Future Risk or higher.</p>

For more information, see [Activation types for agents](#) on page 242.

Predictive technology

Business Advocate uses predictive technology to select a contact from a queue to match with an agent. The following topics describe the statistics used in this technology:

- [Predicted wait time](#) on page 25.
- [Expected wait time](#) on page 26.

Predicted wait time

Business Advocate constantly monitors service classes to determine how long Business Advocate takes to service contacts in queue. Predicted wait time is a calculation of how long a contact will remain in the queue:

- If the currently available and qualified agent does not handle the contact
- Until another qualified agent becomes available to handle the contact

The time that the contact would have waited in queue is the predicted wait time.

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If the predicted wait time is greater than the service goal, then Business Advocate predicts that this contact will miss the service goal of its service class if not selected and matched with the currently available agent.

Business Advocate uses predicted wait time as follows:

- To calculate whether the top contact in a queue will meet the upper threshold if not matched to the currently available agent and set the service state to On Target - Immediate Risk if the predicted wait time is greater than the upper threshold.
- To determine which service class is in the greatest need when two service classes are in the same service state. The service class in the greatest need depends on how long each contact has been in queue, as follows:
 - If the contacts have been in queue for less time than the service goal, the service class in greatest need is the one whose predicted wait time is closest to the service goal.
 - If the contacts have been in queue for longer than the service goal, the service class in greatest need is the one whose predicted wait time is furthest from the service goal.

Expected wait time

Expected wait time is a predictive calculation of how long Business Advocate expects the newest contact will remain in the queue. Expected wait time is a long term predictor that can indicate a potential problem in the future if conditions do not change.

Business Advocate uses expected wait time as one of the factors to determine whether contacts in a queue are likely to exceed the target time period for delivery to an agent.

Contact selection

Business Advocate uses contact selection if there are contacts in queue when an agent becomes available. When an agent becomes available, contact selection determines which contact in queue meets the following criteria:

- Has the same service class and qualifiers as an available agent.
- Is in greatest need.

For contact selection, Business Advocate can use the following types of predictions:

- Predicted wait times estimate how long before another qualified agent will be available to handle the contact.
- Expected wait times estimate whether the service class will meet or miss its service goal based on the volume of contacts for that service class.

This section includes the following topics:

- [Process for contact selection](#) on page 27.
- [Example: Using contact selection](#) on page 28.

Process for contact selection

During contact selection, Business Advocate does the following after an agent becomes available:

1. Identifies all capability sets where the currently available agent is activated.
2. Matches the capability sets to service classes that have contacts in queue.
Business Advocate ignores contacts in service classes with a backup activation level when one or more service classes with a regular or reserve activation level have contacts in queue.
3. Calculates the predicted wait time for the oldest contact in each service class.
4. Evaluates the service states of those service classes.
5. Determines which service class is in the greatest need.
If Business Advocate finds two service classes that are in the same state, Business Advocate uses predicted wait time to determine greatest need.
6. Selects the contact in the greatest need.
7. Avaya IC delivers that contact to the agent.

Example: Using contact selection

In this example, a contact center has three service classes. Each service class has different service goals. An agent becomes available who is configured with capability sets that include all three service classes as a Regular activation type.

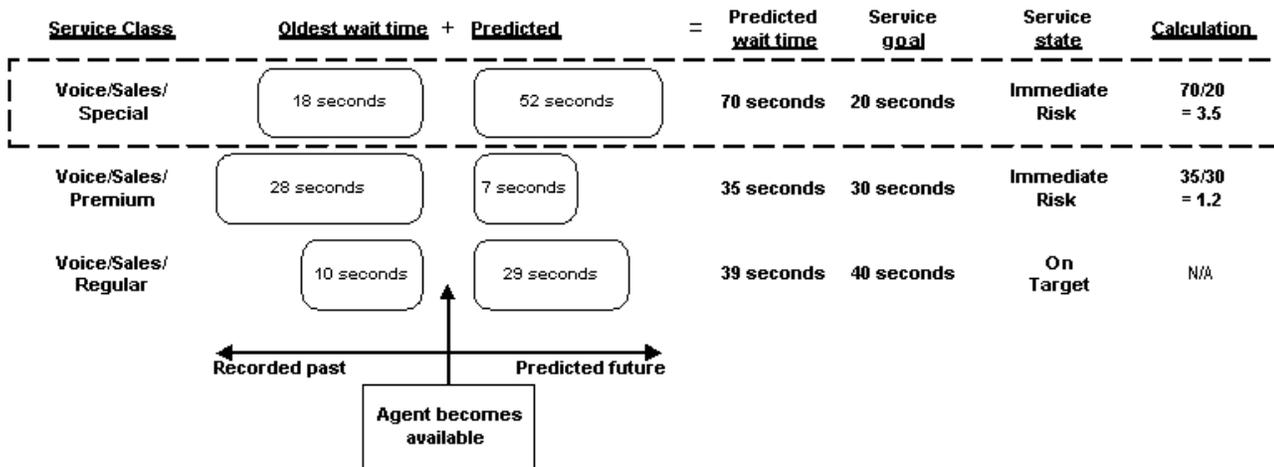
Business Advocate looks at the oldest contact in each service class and performs the following steps to calculate which contact is most likely to exceed its target time period for delivery to an agent:

1. Calculates the predicted wait time.
2. Calculates the service state of each service class.
3. Selects the contact that is in the most risk of missing its service goal.

The following figure shows how Business Advocate uses the qualification criteria in this example to select the contact in greatest need to match with the agent. The Voice/Sales/Special service class and the Voice/Sales/Premium service class are both in the Immediate Risk service state. Business Advocate considers a service class to be in Immediate Risk if the service class:

- Has not yet surpassed its target threshold
- Has a ratio of predicted wait time to service goal that is greater than one

In this example, Business Advocate selects the contact that is predicted to exceed the service goal by the longest period of time.



Agent selection

Business Advocate uses agent selection when your contact center has more than one qualified agent available when a contact arrives.

Business Advocate matches the best agent with the contact to ensure that agents are treated fairly. Business Advocate avoids the situation where one agent is overworked, and another agent sits idle for most of the day.

For agent selection, the service state can only be Resources Available or On Target.

You can configure Business Advocate to use either of the agent selection algorithms described in the following topics to match an agent with a contact:

- [Most idle agent](#) on page 29.
- [Least occupied agent](#) on page 29.
- [Occupancy for agent selection types](#) on page 30.
- [Process for agent selection](#) on page 31.
- [Comparing methods for agent selection](#) on page 31.

Most idle agent

Most idle agent (MIA) matches the contact to the agent in the service class who has been idle for the longest period of time since the agent wrapped up the last contact. Business Advocate reviews the time that the agent has been idle since the last contact that the agent handled.

MIA considers an agent to be busy when the agent performs wrap up on a contact, or works on any contact even when the agent is in AUX work.

Use MIA if you want the agent who has been idle for the longest period of time to get the next contact.

Least occupied agent

Least occupied agent (LOA) matches the contact to the agent in that service class who has the lowest occupancy rate during the current login period. LOA can make sure that one or more agents do not routinely receive more contacts than other agents in the contact center.

LOA considers the agent to be occupied when the agent performs wrap up work.

LOA improves agent fairness if more than one agent is available for a service class, and provides a more equitable distribution of workload than MIA. However, with LOA, an agent

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who spends a long time in a contact with a customer can wait for a longer period of time for the next contact than an agent who spends only a short period of time with a customer.

The following table shows how LOA uses the agent state to determine whether or not an agent is occupied.

Agent state	Occupancy for LOA
AUX work when not working on contact or on telephone for any reason	Idle time
AUX work when working on contact or on telephone	Work time
Available with no contact pending or on hold	Idle time
Available with contact pending or on hold	Work time
Available and in contact work	Work time
After contact work	Work time

Use LOA if you are concerned with fairness to the agents. With other agent selection methods, an agent with the most experience receives the most contacts. This division of work can be unfair to more experienced agents. LOA distributes contacts more evenly, so that all agents spend about the same percentage of their time handling contacts.

Occupancy for agent selection types

Business Advocate includes all contact work by agents when calculating occupancy and idleness for agent selection. Business Advocate does not monitor occupancy or idleness for an individual service class.

Avaya IC and Business Advocate consider an agent to be occupied when:

- For voice contacts and chat contacts, from the time a contact arrives on the desktop until the time the contact is completed.
- For email contacts, when an agent has an active contact on the desktop. A deferred contact does not count as an active contact.

For all three media, if an agent is in AUX work or Available state and does not have an active contact on the desktop, an agent is considered to be idle.

Therefore, if an agent is in AUX work mode and works for ten minutes on an email contact. That ten minutes counts as occupied time. The time after the agent wraps up the email contact is counted as idle time.

Business Advocate does not consider the agent selection type of the service classes in calculations of idle time and occupied time. If you assign LOA to some service classes and MIA to other service classes, Business Advocate includes all service classes handled by

an agent when calculating idleness and occupancy. If an agent is qualified for both LOA and MIA service classes, and Business Advocate wants to match the agent with a contact in a service class that uses MIA, Business Advocate uses the total idle time from the last contact, even if that contact was in an LOA service class.

For example, Business Advocate needs to match a contact from service class X to an agent. Both Agent A and Agent B are available and are qualified to handle contacts for service class X and service class Y. In this example:

- Agent A has been 65% occupied with contacts in service class X. Agent A has not received any contacts in service class Y for the past hour.
- Agent B has been 75% occupied with contacts in service class Y. Agent B has not received any contacts in service class X for the past hour.

Business Advocate matches the contact to Agent A even though Agent B has not received a contact for Service Class X in over an hour.

Process for agent selection

During agent selection, Business Advocate does the following:

1. Uses the qualifiers of the contact to identify the service class.
2. Identifies which agents are available and are qualified to handle a contact for that service class.
3. Identifies whether you configured MIA or LOA contact selection for the service class.
4. Matches the contact with the agent that meets the selection method that you defined.
5. Routes the contact to the agent.

Comparing methods for agent selection

For example, three agents are available to handle contacts for the Sales service class. One contact arrives that matches the service class. The following table shows the information about the three agents.

Agent	Occupancy	Idle time after last sales contact
Agent A	90%	5 seconds
Agent B	95%	30 seconds
Agent C	64%	20 seconds

With MIA, Business Advocate determines that Agent B has spent the greatest length of time idle after the last contact in the sales service class that Agent B handled. Therefore, Business Advocate matches the contact with Agent B.

With LOA, Business Advocate determines that Agent C has spent the least percentage of time occupied with contacts. Therefore, Business Advocate matches the contact with Agent C.

Dynamic adjustment of agent pools

Business Advocate can dynamically adjust the pool of agents by activating reserve and backup agents to more effectively meet your service goals.

This rapid, automatic response to slow service times results in a significant improvement in customer service levels. With dynamic agent staffing, you can use agents from other workgroups to help handle contacts during peak hours. With this efficient use of existing resources, you can increase service levels with the same number of agents.

You can specify the activation level for an agent. The activation level determines when and how an agent can handle contacts in a service class. For more information see [Agent activation types](#) on page 24.

The activation level determines which service state activates an agent for a service class. The possible values for activation levels are the service states. For more information see [Service states](#) on page 24.

Business Advocate monitors the following criteria to determine whether to automatically activate an agent for a particular service class:

- Service goal
- Service state
- Agent activation levels

For more information, see [Activation levels](#) on page 243.

Example: dynamically adjusting the agent pool

In this example, a contact center has three service classes. Each service class has a different service goal and contains one contact. An agent becomes available who has a Regular activation type for two of the service classes, and a Reserve activation type for the third service class.

The service state of the service classes determines which contact Business Advocate matches with the agent, as shown in the following scenarios:

- [Scenario 1: agent receives regular work](#) on page 33.
- [Scenario 2: agent receives reserve work](#) on page 34.

Scenario 1: agent receives regular work

The following figure shows a possible scenario where Business Advocate matches the agent with a contact in a service class with a Regular activation type.

In this scenario, Business Advocate calculates that all of the service classes have a service state of On Target. However, the agent is activated for only the Voice/Sales/Premium service class and the Voice/Sales/Regular service class.

Therefore, in this example, Business Advocate matches the agent with the contact in the Voice/Sales/Regular service class. This contact meets the following criteria:

- The contact is in a service class that is activated for this agent.
- The service class has the highest ratio of predicted wait time to service goal.

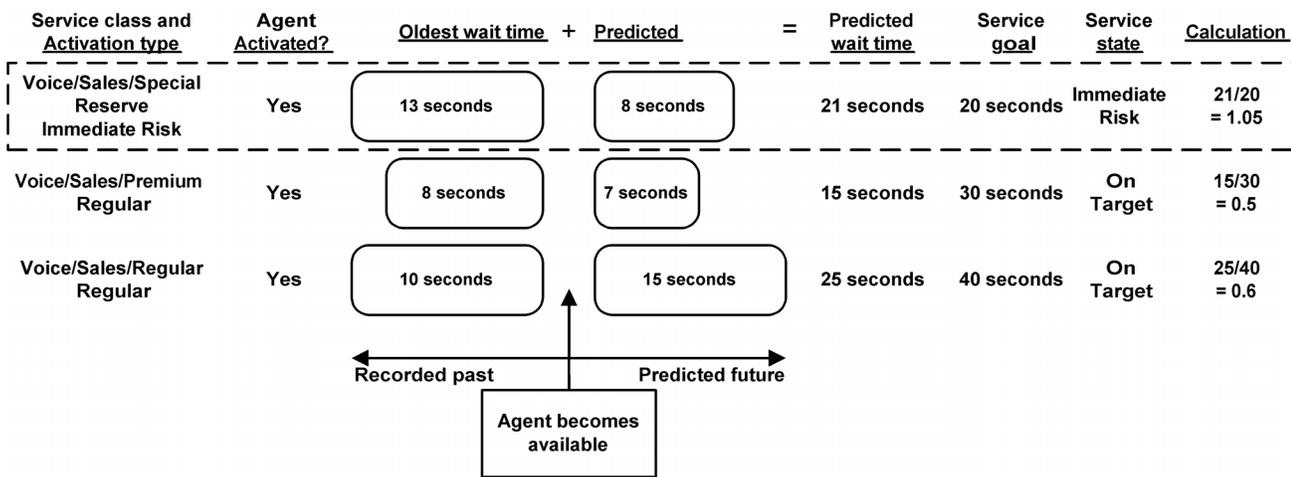
Service class and Activation type	Agent Activated?	Oldest wait time	+ Predicted	= Predicted wait time	Service goal	Service state	Calculation
Voice/Sales/Special Reserve Immediate Risk	No	10 seconds	8 seconds	18 seconds	30 seconds	On Target	18/30 = 0.6
Voice/Sales/Premium Regular	Yes	8 seconds	9 seconds	17 seconds	30 seconds	On Target	17/30 = 0.57
Voice/Sales/Regular Regular	Yes	10 seconds	10 seconds	20 seconds	40 seconds	On Target	20/40 = 0.5

Scenario 2: agent receives reserve work

The following figure shows a possible scenario where Business Advocate matches the agent with a contact in a service class with a Reserve activation type.

In this scenario, Business Advocate calculates that the service class with a Reserve activation type has a service state of Immediate Risk. In Immediate Risk, the predicted wait time is longer than the service goal. Therefore, this service class is likely to exceed its service goal. The service classes with a Regular activation type have a service state of On Target and are not likely to exceed their service goals.

Business Advocate determines that it needs to dynamically increase the agent pool for the service class with the Reserve activation type and matches the agent with the oldest contact in that service class.



Example: Using Business Advocate to increase revenue

Many contact centers are responsible for a significant portion of the revenue earned by their company. Many companies look for ways to increase revenue from their contact centers.

The scenario described in this section details one way to increase revenue in a contact center for a retail company. This section includes the following topics:

- [Background information](#) on page 35.
- [Determining service classes](#) on page 36.
- [Creating agent profiles](#) on page 37.
- [Setting agent activation types and activation levels](#) on page 37.
- [Setting service goals](#) on page 38.
- [Measuring results](#) on page 38.

Background information

A catalog company that sells home furnishings and accessories wants to increase sales. The company decides that it needs to take full advantage of every sales opportunity and make the best use of its agent resources.

The company wants to make sure that the agents receive the appropriate sales calls. The most experienced agents at the company handle contacts from those customers who typically spend a lot of money and who expect excellent service. The least experienced agents handle contacts from customers who order clearance items, and who typically spend the least amount of money.

Determining service classes

From sales data and past experience with customers, the company identifies four types of customers, as shown in the following table. The company creates a service class for each type of customer.

Service class	Description
Platinum	Platinum customers spend the most money. These customers are also most likely to purchase additional merchandise that agents recommend.
Gold	Gold customers spend a reasonable amount of money. However, these customers do not typically purchase additional merchandise.
Silver	Silver customers purchase only merchandise that the company reduces in price for clearance.
New	New customers meet one of the following criteria: <ul style="list-style-type: none">● Has not previously contacted the contact center, purchased merchandise, or otherwise used the services of the company.● The customer has not provided identifying information.● The telephone number for the voice contact does not match a customer telephone number in the database. As a result, new customers are unknown to Avaya IC until they speak to an agent.

Creating agent profiles

The company prefers to dedicate groups of agents to a targeted set of customers.

The following table shows how the company creates profiles for agents. The profiles are four tiers that reflect the service classes.

Tier	Description
Tier 4	Agents in Tier 4 are the most proficient agents. These agents are top at sales and can effectively sell additional merchandise to customers.
Tier 3	Agents in Tier 3 are good at sales of standard merchandise, but cannot effectively sell additional merchandise to customers. These agents can also effectively introduce new customers to the catalog.
Tier 2	Agents in Tier 2 have almost the same abilities as agents in Tier 3. However, as the service states fluctuate, Tier 2 agents spend less time with Platinum customers and more time with Silver customers.
Tier 1	Agents in Tier 1 have less experience. Many of these agents are trainees.

Setting agent activation types and activation levels

The company wants to avoid the poor service levels that can result if the contact center experiences an increase in the time for agents to handle contacts, or an increase in the volume of contacts from customers.

The following table shows how the contact center assigned activation types and activation levels to agents for each service class. The less optimal matches between agents and customers are reserve activation types. The assignments in the following table make sure that customers are matched with the most qualified agents as frequently as possible.

Agents	Platinum	Gold	Silver	New
Tier 4	Regular	Backup	-	-
Tier 3	Reserve Activate at On Target - Future Risk	Regular	Reserve Activate at Behind Target	Regular

Agents	Platinum	Gold	Silver	New
Tier 2	Reserve Activate at Behind Target	Regular	Reserve Activate at On Target - Immediate Risk	Regular
Tier 1	-	Reserve Activate at Behind Target	Regular	Reserve Activate at Behind Target

Setting service goals

The configuration of the service goals reflect the desire of the contact center to rapidly activate agents to assist with contacts that generate higher revenue. The contact center assigns the same service goals to the service class for Platinum customers and to the service class for New customers to ensure the following:

- Unidentified Platinum customers receive the required higher service level.
- New customers receive the best possible service level to encourage them to purchase products and to return.

The following table shows the values for the service goal settings.

Customers	Upper threshold	Critical threshold
Platinum	20 seconds	30 seconds
Gold	45 seconds	60 seconds
Silver	60 seconds	75 seconds
New	20 seconds	30 seconds

Measuring results

The thresholds for these service goals help to determine the service state of each service class. These service states govern contact selection for agents with two primary service classes, or for agents who are activated for reserve or backup service classes.

When the contact center experiences sudden increases in the number of contacts or the length of time that contacts in a service class wait in queue, the service states activate reserve agents. The activated agents are those reserve agents with an activation level equal to or less than the current state of the service class.

Example: Using Business Advocate to increase revenue

The contact center assigns service classes and activation levels to agents according to the experience and priority of the agents. Therefore, the company makes sure that:

- Whenever possible, agents handle the contacts that they are most qualified to handle
- Whenever necessary, agents help out in areas they are less qualified to handle

As a result, sales should increase, and agents can handle more than one type of customer contact efficiently.

The following table shows some of the Avaya Operational Analyst (Avaya OA) real-time reports that you can use to measure the effectiveness of this solution. Avaya OA also provides historical reports that you can use. For more information, see *Operational Analyst Reports Reference*.

Avaya OA report	Description
Service class and queue performance	Informs you about the performance of service classes currently and over the last thirty minutes. Some of the statistics you can display in this report are: <ul style="list-style-type: none">● Percentage of contacts handled within service goal● Number of contacts in queue● Number of contacts completed● Number of abandoned contacts● Latest average wait time● Percentage of matched contacts
Service class and queue performance	Lets you compare the performance of service classes currently and over the last thirty minutes.
Agent performance by service class and queue	Lets you compare the performance of multiple agents across different service classes. Some of the statistics you can display in this report are: <ul style="list-style-type: none">● Average work duration● Average wrap-up duration● Number of contacts completed● Average customer hold duration



Chapter 2: Business Advocate components

This section describes the Business Advocate components that you need to add to configure Business Advocate in an Avaya IC system, and how failover works in Business Advocate for Avaya IC. This section includes the following topics:

- [Logical Resource Manager](#) on page 41.
- [Business Advocate servers](#) on page 42.
- [Business Advocate workflows](#) on page 44.
- [Business Advocate databases](#) on page 46.
- [Business Advocate administration tools](#) on page 47.
- [Business Advocate Reports](#) on page 48.
- [Failover and recovery in Business Advocate](#) on page 48.

Logical Resource Manager

The Logical Resource Manager is a logical server that represents a pair of active and standby Resource Manager servers. Both Resource Manager servers in a Logical Resource Manager handle the same agents and the same contacts. One Resource Manager server is an active or primary server. The other Resource Manager server is a standby or secondary server.

Business Advocate uses Logical Resource Managers to assign servers and agents to the Resource Manager servers. You assign the Logical Resource Manager to the server or agent. Business Advocate and Avaya IC use the name of the Logical Resource Manager to identify which active Resource Manager server is associated with the agent or server. This Logical Resource Manager configuration means that you do not need to change the Resource Manager server associated with an agent if the active Resource Manager server fails and the standby Resource Manager server becomes the active server.

To simplify configuration, if an Avaya IC system includes only one Resource Manager server, that Resource Manager server is also represented by a Logical Resource Manager. A Logical Resource Manager that includes only one Resource Manager server does not provide any fault tolerance.

Business Advocate servers

The following topics describe the Business Advocate servers:

- [Resource Manager server](#) on page 42.
- [Telephony Services Adaptor server](#) on page 43.
- [Web Advocate Adaptor server](#) on page 43.

For information about where to deploy Business Advocate servers, and recommended deployment scenarios, see *IC Installation Planning and Prerequisites*.

Resource Manager server

The Resource Manager server maintains the universal queues for Business Advocate. The Resource Manager server is a Windows only server. You cannot host the Resource Manager server on a Solaris or AIX machine.

A Business Advocate system can include multiple Resource Manager servers. However, you cannot deploy more than one Resource Manager server on a machine. Avaya recommends that you deploy an active Resource Manager server paired with a standby Resource Manager server. This combination of Resource Manager servers is a Logical Resource Manager.

The two Resource Managers working as a Logical Resource Manager deployment provides a measure of fault tolerance. The standby Resource Manager server runs in standby mode. This server becomes active only if the active Resource Manager server fails. For this deployment, install the standby Resource Manager server on a separate machine with a separate power supply.

If cost is a factor, you can deploy a single Resource Manager server. For this deployment, you have no backup if the Resource Manager server fails.

For more information about failover, see [Failover and recovery in Business Advocate](#) on page 48.

Telephony Services Adaptor server

The Telephony Services Adaptor (TSA) server is a Business Advocate adaptor for the Telephony server. The TSA server manages server interactions for Business Advocate that are required for voice contacts.

Business Advocate requires a TSA server for:

- Every switch in your Avaya IC system
- Every Telephony server which handles incoming voice contacts that you want Business Advocate to qualify and route

The Telephony server forwards voice contacts to the TSA server. The TSA server then makes a request to the Resource Manager server to match the contacts with qualified agents. For more information about the function of the TSA server in the qualification of voice contacts, see [Qualification in the voice channel](#) on page 149.

For more information about the TSA server, including guidelines, see [Telephony Services Adaptor server](#) on page 159.

Web Advocate Adaptor server

The Web Advocate Adaptor (WAA) server is the Business Advocate adapter for the WebACD server. The WAA server manages server interactions for Business Advocate that are required for chat contacts and email contacts.

The WebACD server sets up two associations with the WAA server: one for the chat channel, and one for the email channel. If only one of these media channels is present, the WebACD server only sets up an association for that channel.

The WebACD server forwards chat contacts and email contacts to the WAA server. The WAA server requests a qualified agent resource from the Resource Manager server. For more information about the function of the WAA server:

- For the qualification of chat contacts, see [Qualification and routing in the chat channel](#) on page 193.
- For the qualification of email contacts, see [Qualification and routing in the email channel](#) on page 211.

The WAA server has different requirements for email contacts and chat contacts. For more information, see:

- [Web Advocate Adaptor server for chat contacts](#) on page 201.
- [Web Advocate Adaptor server for email contacts](#) on page 219.

Business Advocate workflows

Business Advocate workflows qualify contacts and perform other contact-related functions for Business Advocate systems.

All Workflow servers can run the Business Advocate qualification workflows. You do not need to configure workflow criteria in the Workflow servers, because the Business Advocate servers start the workflows.

For incoming voice contacts, the TSA server connects to a Workflow server to start the voice qualification workflow and the exception workflow. For email contacts and chat contacts, the WAA server connects to a Workflow server to start the appropriate qualification workflow and the exception workflow.

This configuration allows you to configure multiple Workflow servers to handle a high volume of contacts. For example, you can assign multiple Workflow servers to the same TSA server if the TSA server connects to a CTI link that handles a high volume of voice contacts. The TSA server uses a round robin approach to select a Workflow server to qualify each incoming contact.

This section includes the following topics:

- [Location of Business Advocate workflows](#) on page 44.
- [System workflows for Business Advocate](#) on page 45.
- [Sample workflows for Business Advocate](#) on page 45.

Location of Business Advocate workflows

Avaya IC installs the Business Advocate flows in the following directory:

```
IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate
```

System workflows for Business Advocate

⚠ CAUTION:

Do not modify the system workflow for Business Advocate. If you modify the system workflow, your Business Advocate system will not function correctly.

The following table describes the system workflow for Business Advocate.

Workflow	Project Name	Purpose
Synchronization	Advocate.prj	Synchronizes qualifier representations in global variables with the qualifiers in the database. Fetches the category/qualifier values and their associated numeric representations from the database and creates global string variables for the Workflow server. File: update_qualifiersetids.qfd

Sample workflows for Business Advocate

Before you compile the sample Business Advocate workflows, you can customize them with property values that match the qualifiers in your Business Advocate system and the specific business processes in the contact center. For more detailed information, see *Avaya IC Media Workflow Reference*.

The following table describes the sample Business Advocate flows.

Workflow	Project Name	Purpose
Qualify Voice flow	Advocate.prj	Identifies a collection of Business Advocate qualifiers for an incoming voice contact. Assigns those qualifiers to the voice contact so that Business Advocate can accurately match the contact with an appropriate agent. Selects the wait treatment for the voice contact. File: qualifyvoice_adv.qfd
Qualify Chat flow	Advocate.prj	Identifies a collection of Business Advocate qualifiers for a chat contact. Assigns those qualifiers to the chat contact so that Business Advocate can accurately match the contact with an appropriate agent. Selects the wait treatment for the chat contact. File: qualifychat_adv.qfd

Business Advocate components

Workflow	Project Name	Purpose
Qualify Email flow	Advocate.prj	Identifies a collection of Business Advocate qualifiers for an email contact. Assigns those qualifiers to the email contact so that Business Advocate can accurately match the contact with an appropriate agent. File: qualifyemail_adv.qfd
Exception handling	Advocate.prj	Responds to exceptions that occur when Business Advocate cannot match an agent to a contact. File: handle_exception.qfd
Transfer to agent	Advocate.prj	Supports the ability of the agent desktop application to transfer either an email contact or a voice contact to a specific agent. This workflow is only required in a Business Advocate system. File: transfertoagent.qfd

Business Advocate databases

In addition to the Avaya IC databases, Business Advocate also has its own databases. The Business Advocate databases store administration and operation information for the Resource Manager server.

You can configure Business Advocate databases on Microsoft SQL Server or Oracle databases. Business Advocate does not support DB2 databases. You can host Business Advocate databases on the same database server as the Avaya IC databases.

The following table describes the Business Advocate databases.

Database	Description
System store	Stores administration information, such as system parameters, initialization parameters, location of MSMQ queues, location of servers, and the roles of the Resource Manager servers. Each Logical Resource Manager has a dedicated system store.
Resource store	Stores operation information, such as qualifiers, service classes, and agent records and the associated capability sets and profiles. All Resource Manager servers in the system share one Resource store.

Business Advocate administration tools

The Business Advocate administration tools are Microsoft Management Console (MMC) snap-in applications. For more information about MMC and the snap-in applications, see the MMC online help provided with the online help for the Business Advocate administration tools.

This section includes the following topics that describe the Business Advocate administration tools:

- [Business Advocate Supervisor](#) on page 47.
- [Component Manager](#) on page 47.
- [Alarm Manager](#) on page 48.

 **Important:**

To use the Business Advocate administration tools, log in to the machine with an Active Directory Domain account that has local administrator privileges.

Business Advocate Supervisor

Business Advocate for Avaya IC uses Business Advocate Supervisor (Advocate Supervisor) to do the following:

- Define and manage agent resources and their capabilities.
- Define and manage categories and qualifiers
- Define and manage service classes and service goals for work distribution.
- Configure desired service levels
- Customize Advocate options

Component Manager

Business Advocate for Avaya IC uses the Component Manager to specify the role for a Resource Manager server when you install the Business Advocate components. You can set the role of the Resource Manager server as either a primary, active server or a secondary, standby server.

You do not require Component Manager for any other function.

Business Advocate components

Component Manager is not a VESP process and is not controlled by IC Manager.

Use IC Manager to create Business Advocate servers and to perform all other server configuration tasks.

Alarm Manager

Only the Component Manager uses the Alarm Manager. The Alarm Monitor in IC Manager displays alarms for Business Advocate servers. Therefore, you do not need to use Alarm Manager.

Business Advocate Reports

Avaya Operational Analyst (Avaya OA) provides real-time reports and historical reports on Business Advocate. You can use these reports to measure the effectiveness of your Business Advocate configuration, such as whether a service class requires additional regular agents.

For more information about Business Advocate reports, see *Operational Analyst Reports Reference*.

Failover and recovery in Business Advocate

Business Advocate servers do not use the same failover strategy as other Avaya IC servers. This section describes the failover strategy for Business Advocate servers. This section includes the following topics:

- [Failover and recovery for Resource Manager servers](#) on page 49.
- [Failover for multiple media channels](#) on page 49.
- [Failover and recovery for voice contacts](#) on page 51.
- [Failover for chat contacts](#) on page 54.
- [Failover for email contacts](#) on page 54.

Failover and recovery for Resource Manager servers

Resource Manager servers do not use Avaya IC domains for failover. When you include a pair of Resource Manager servers in a Logical Resource Manager, you provide failover for Resource Manager servers. The standby Resource Manager server automatically becomes active if the active Resource Manager server fails.

You use the Component Manager to specify the initial role of a Resource Manager server when you first install the Business Advocate components. After that, Business Advocate considers:

- The active Resource Manager server to be the Resource Manager server that starts first
- The standby Resource Manager server to be the Resource Manager server that starts second

For this failover deployment, install the standby Resource Manager server on a separate machine with a separate power supply.

If cost is a factor, you can deploy a single Resource Manager server. For this deployment, you have no backup if the Resource Manager server fails.

Failover for multiple media channels

If your Business Advocate system includes voice and at least one other media channels, you need to determine which channels you want an agent to handle during a failover situation.

This section includes the following topics:

- [Switch configuration and failover for multiple media channels](#) on page 49.
- [Link groups and failover for multiple media channels](#) on page 50.
- [Configuration of agents for multiple media channels](#) on page 50.

Switch configuration and failover for multiple media channels

The switch retains ultimate control on the delivery of voice contacts to agents. You configure this control on the switch when you determine which skills an agent will service. You do not administer skills in Avaya IC.

When Business Advocate runs normally with Avaya IC, voice contacts are never routed to skills in the switch. Therefore, agents never receive voice contacts directly from the switch.

However, in a failover scenario, voice contacts are immediately diverted into the skills that are programmed on the vectors of the incoming VDNs. The switch then routes the voice contacts to agents according to the skills administered on the switch for each agent.

Business Advocate components

The switch uses the configuration of the VDNs to route incoming voice contacts to certain queues. If an agent is configured on the switch to handle those skills or queues, then the agent receives a voice contact from the switch.

If the configuration of an agent who is logged in to skills or queues does not match the queues where the switch routes incoming calls when the link fails, the agent will not receive voice contacts from the switch.

You cannot stop the routing of these voice contacts unless you change the administration of skills or queues on the switch for the agents.

Link groups and failover for multiple media channels

A link group can include multiple Telephony servers which are configured for different links on the switch. To ensure that failover occurs properly, a contact center administration who knows the configuration of the VDNs, skills/queues, and the agent skill administration should match the switch configuration to the link group configuration in Avaya IC.

When a link fails, the configuration of the switch determines how voice contacts are routed to agents who are configured with link groups that include the failed link. Business Advocate no longer determines the number or type of voice contacts routed to an agent. Therefore, Business Advocate automatically stops routing chat and email contacts to agents who receive voice contacts from the switch.

If an agent is not configured with a link group, and the switch is configured to deliver voice contacts to the agent when a link fails:

- The switch sends voice contacts to the agent.
- Business Advocate continues to send chat and email contacts to the agent.

Important:

Under these circumstances, where Business Advocate cannot control the maximum number of contacts received by an agent, Business Advocate routing can become unstable with race conditions.

For more information, see [Failover and recovery for voice contacts](#) on page 51.

Configuration of agents for multiple media channels

If you configure an agent without a link group for voice, the agent:

- Can receive and handle chat and email contacts if a link in the link group fails.
- Cannot receive and handle voice contacts from Business Advocate until the failed link is restored.

If you configure an agent with a link group for voice, the agent:

- Can log into failover queues on the switch to receive and handle voice contacts if a link in the link group fails.
- Cannot receive and handle chat or email contacts until the failed link is restored.

Tip:

If a link fails, you can configure agents assigned to link groups with the failed link to be able to receive and handle chat and email contacts. For more information, see [Troubleshooting channel availability issues](#) on page 303.

Failover and recovery for voice contacts

Failover for voice contacts depends upon the connections between a TSA server, a Telephony server, and a link on the Telephony switch.

This section includes the following topics:

- [Process of failover and recovery for voice contacts](#) on page 51.
- [Failover and recovery without backup link](#) on page 52.
- [Failover and recovery with backup link](#) on page 52.
- [Failover and Adjunct Routing Extended Wait Treatment in Communication Manager](#) on page 53.

Process of failover and recovery for voice contacts

Each Telephony server connects to one link on the Telephony switch. Each TSA server connects to and is in the same Avaya IC domain as one Telephony server. The TSA server handles voice contacts from a link that is connected to the Telephony server. Qualification and routing for voice contacts fails over to the switch if any one of the following components fails:

- TSA server
- Telephony server
- Link associated with the TSA server

Business Advocate also uses the TSA servers to assist with failover when a Logical Resource Manager fails. In that event, no agents assigned to the Logical Resource Manager can receive voice contacts.

When a Logical Resource Manager that is assigned to a TSA server fails, the TSA server tells the Telephony server to reject every route request with a route end. In this mode, the switch takes responsibility for routing voice contacts to the agents in the link group

Business Advocate components

associated with the Telephony server. All agents assigned to the link group receive the previously parked voice contacts and any new incoming voice contacts from the switch.

If you configure your switch appropriately, failover to the switch can make sure that agents can continue to receive new voice contacts while the Resource Manager recovers from failure. For information on how to configure the switch, see [Configuring Telephony switches for Business Advocate](#) on page 261 and the documentation provided with your switch.

Failover and recovery without backup link

With Business Advocate, when a link fails, all voice contacts on parking devices and incoming queues that are controlled by the failed link failover to the switch.

If you set up a backup link for a link and assign the backup link to a Telephony server, Business Advocate can continue to service the incoming contacts without failing them over to the switch. With a backup link, when the primary link fails:

- Incoming voice contacts are sent to the Telephony server through the backup link.
- Previously parked voice contacts are moved to failover queues.

Failover and recovery with backup link

If you do not define a backup link, and a link fails:

1. Business Advocate gives up control of all agents assigned to the link groups that contain the failed link.
2. Avaya IC temporarily loses control of the telephones of all agents that are configured on the link. The agents can still access Avaya IC applications. However, the Softphone fails when the link fails.
3. The switch begins to route contacts to agents logged in to the following queues:
 - Failover queues that take the incoming voice contacts for the failed link
 - Failover queues that take the voice contacts that were waiting in parking devices for the failed link

Agents are always logged into their failover queues even if the system is not in failover mode. The status of an agent on the switch does not change in failover mode. The only difference for the switch is that the failover queues, which are normally empty, now contain voice contacts.

4. Agents receive voice contacts from the switch. The Phone task list in Avaya Agent does not display these voice contacts.
5. When the link comes back up, Business Advocate begins to qualify and route the incoming voice contacts again. The following recovery for agents happens automatically without manual configuration by an agent or a Supervisor:
 - Agents who are not servicing failover queues on the switch and are still Business Advocate agents can immediately receive voice contacts through Business Advocate for Avaya IC.
 - Agents who are servicing failover queues continue to do so until no contacts remain in the queues. When there are no more contacts in the failover queues, these agents begin to receive voice contacts from Business Advocate for Avaya IC.

Failover and Adjunct Routing Extended Wait Treatment in Communication Manager

Avaya Communication Manager does not queue voice contacts when Avaya IC maintains control and queuing status. Therefore, Communication Manager cannot guarantee that voice contacts which break out of an adjunct-route "wait" treatment vectoring loop due to ASAI link failure will end up in the failover backup skill in the same order the contacts were originally received.

The failover voice contacts are processed by their respective vector steps while the customer hears the wait treatment. These failover contacts do not necessarily execute the same step at the same time.

The event that indicates that the ASAI link is down is sent separately to each voice contact in queue in no particular order. As a result, some contacts may fall through to the backup skill and be queued in a different order than originally received. After those contacts are queued by the Communication Manager, they are delivered in the order they ended up in queue.

Note:

The intent of the Adjunct Routing Extended Wait Treatment failover protection is to prevent loss of voice contacts controlled by Avaya IC under rare link-failure conditions. The intent is not to maintain the queue order for these contacts.

Failover for chat contacts

Like Avaya IC, Business Advocate does not provide failover for qualifying and routing chat contacts. If chat routing fails, Web Management redirects the chat customer to the Website.

Business Advocate cannot qualify chat contacts when Business Advocate or Web Management fails, including the following circumstances:

- The Resource Manager server assigned to the WAA server for chat fails.
- The WebACD server fails.
- The Web Advocate Adaptor server fails.

Failover for email contacts

Like Avaya IC, Business Advocate does not provide failover for qualifying and routing email contacts. If email routing fails, Email Management holds email contacts until routing for email contacts is restored.

Business Advocate cannot qualify email contacts when Business Advocate or Email Management fails, including the following circumstances:

- The Resource Manager server assigned to the WAA server for email fails.
- The WebACD server fails.
- The Web Advocate Adaptor server fails.



Chapter 3: Distributed Business Advocate

When you configure a system with multiple Logical Resource Managers, Business Advocate automatically employs a set of enhanced, location-aware algorithms to match agents with contacts.

This section describes distributed Business Advocate and provides some examples of how distributed Business Advocate functions.

This section includes the following topics:

- [About distributed Business Advocate](#) on page 55.
- [Components of distributed Business Advocate](#) on page 57.
- [Example: using distributed Business Advocate](#) on page 59.
- [Matching a contact with an agent](#) on page 60.

About distributed Business Advocate

Distributed Business Advocate is only used in a Business Advocate system that includes multiple Logical Resource Managers. This configuration is employed in a Business Advocate system that includes more than one site or location.

This section includes the following topics:

- [Deployments for distributed Business Advocate](#) on page 56.
- [Options for qualification of contacts](#) on page 56.

Deployments for distributed Business Advocate

The only requirement for distributed Business Advocate is that the system include more than one Logical Resource Manager (Business Advocate instance). The system can include several different deployments, including:

- Multiple Logical Resource Managers in a single physical location, where each Logical Resource Manager is assigned service classes for a subset of the contacts that arrive in that location.
- Multiple Logical Resource Managers in a single physical location, where each Logical Resource Manager is assigned service classes for contacts that arrive in different physical locations within the contact center.
- One Logical Resource Manager in each location, where each Logical Resource Manager is assigned service classes for contacts that arrive in the same physical location as the Logical Resource Manager.
- One Logical Resource Manager in only some of the physical locations, where a Logical Resource Manager can be assigned service classes for contacts that arrive in more than one physical location. For example, a contact center with one location in the United States and three locations in Europe can deploy one Logical Resource Manager to handle contacts that arrive in the United States and a second Logical Resource Manager to handle contacts that arrive in all locations in Europe.

Some of the examples in this section assume that the Avaya IC system spans multiple locations and includes one Logical Resource Manager in each location.

Options for qualification of contacts

Distributed Business Advocate can handle contacts that arrive in more than one Logical Resource Manager in either of the following ways:

- Ensure that qualified and available agents are matched with a contact, even if that contact arrives at a different Logical Resource Manager.
- Ensure that an agent only receives contacts from the local Logical Resource Manager and does not receive contacts from another Logical Resource Manager.

Components of distributed Business Advocate

Distributed Business Advocate does not require any additional components. It uses the same components as a Business Advocate system with one Logical Resource Manager.

This section describes how distributed Business Advocate system uses the components of Business Advocate. This section includes the following topics.

- [Agents in distributed Business Advocate](#) on page 57.
- [Logical Resource Manager](#) on page 57.
- [Telephony Services Adaptor server](#) on page 58.
- [Web Advocate Adaptor server](#) on page 58.

Agents in distributed Business Advocate

Agents in a distributed Business Advocate system do not require any special configuration. You assign each agent to one Logical Resource Manager.

For more information about how to configure an agent for Business Advocate, see [Managing agents](#) on page 241.

Logical Resource Manager

In distributed Business Advocate, each Logical Resource Manager maintains the state of:

- Its own service classes
- The service classes for all other Logical Resource Managers in the system

Each Logical Resource Manager obtains information about the state of service classes in the other Logical Resource Managers from the service class summary record. This summary record is maintained in an ADU by the ADU server. Distributed Business Advocate shares this record between all Logical Resource Managers in the system.

Telephony Services Adaptor server

In distributed Business Advocate, you assign each Telephony Services Adaptor (TSA) server to a Logical Resource Manager, which primarily handles all contacts for that TSA server. The TSA server sends all requests for an agent to this Logical Resource Manager.

Distributed Business Advocate handles failover in the same way as a Business Advocate system with a single Logical Resource Manager. If both Resource Manager servers in the Logical Resource Manager assigned to a TSA server fail, the TSA server no longer sends requests for agents. The TSA server informs the Telephony server to reject any voice contacts for that TSA server. For information about how Business Advocate handles failover for voice contacts, see [Failover and recovery for voice contacts](#) on page 51.

Web Advocate Adaptor server

In distributed Business Advocate, you assign the WAA server to one Logical Resource Manager for each channel. However, you can assign a single Logical Resource Manager to handle all chat contacts and email contacts, or a different Logical Resource Manager for chat and for email. The WAA server sends all requests for an agent to the designated Logical Resource Manager for a specific media.

Distributed Business Advocate handles failover in the same way as a Business Advocate system with a single Logical Resource Manager. If both Resource Manager servers in a Logical Resource Manager assigned to the WAA server fail, the WAA server no longer listens for route requests from the WebACD server and routing of chat contacts and email contacts is halted. For more information, see [Failover for chat contacts](#) on page 54 and [Failover for email contacts](#) on page 54.

Example: using distributed Business Advocate

In this example, a distributed Business Advocate system has three Logical Resource Managers. This example applies in all of the deployments discussed in [Deployments for distributed Business Advocate](#) on page 56.

The scenario described in this section details one way to increase revenue in a contact center for a retail company. This section includes the following topics:

- [Distributed Business Advocate setup](#) on page 59.
- [Matching the agent with a contact](#) on page 59.

Distributed Business Advocate setup

In this example, the Business Advocate system has three Logical Resource Managers that can handle all of the service classes in the system.

- LRM1
- LRM2
- LRM3

Matching the agent with a contact

In this example, an agent associated with LRM1 becomes available. This agent is qualified to handle the VoiceGold service class and the VoiceSilver service class.

When the agent becomes available, Business Advocate checks the state of the VoiceGold and VoiceSilver service classes in each Logical Resource Manager to determine which service class is in the greatest need. The results of that check determine how distributed Business Advocate matches the agent with a contact.

This section includes two scenarios. Each scenario shows a different way in which distributed Business Advocate can match the available agent with a contact.

Scenario 1 - The following table shows the service class states for the service classes in each Logical Resource Manager.

Service classes	LRM1	LRM2	LRM3
VoiceGold	On Target - Immediate Risk	On Target	On Target - Immediate Risk
VoiceSilver	On Target	On Target	On Target

The service classes in greatest need include one local service class that is associated with LRM1. Therefore, distributed Business Advocate matches the agent with the VoiceGold service class in LRM1.

Scenario 2 - The following table shows the service class states for the service classes in each Logical Resource Manager:

Service classes	LRM1	LRM2	LRM3
VoiceGold	On Target	On Target - Immediate Risk	On Target - Immediate Risk
VoiceSilver	On Target	On Target	On Target

Neither of the local service classes are in the greatest need. The VoiceGold service classes in LRM2 and in LRM3 are both in the same state and in the greatest need. Therefore, distributed Business Advocate checks which of the VoiceGold service classes in LRM2 and in LRM3 was most recently offered an agent. Distributed Business Advocate then offers the agent to the *other* Logical Resource Manager.

If more than two remote Logical Resource Managers have service classes in the same state, distributed Business Advocate uses a round robin selection.

Matching a contact with an agent

When a system has multiple Logical Resource Managers, distributed Business Advocate uses enhanced, location-aware algorithms to match contacts with agents.

This section provides an overview of how distributed Business Advocate matches contacts with agents. This section includes the following topics:

- [Process for matching contacts with agents](#) on page 61.
- [Changing how distributed Business Advocate matches contacts with agents](#) on page 61.

Process for matching contacts with agents

When an agent becomes available, the Logical Resource Manager for that agent checks the state of all of the service classes that match the capability sets for that agent. This check includes the state of service classes in other Logical Resource Managers.

After the check is completed, the Logical Resource Manager:

1. Chooses the service class in the greatest need of an agent.
2. If multiple service classes are in a state that indicates the greatest need, the Logical Resource Manager selects a service class as follows:
 - a. If the service classes in greatest need include one local service class that is associated with that Logical Resource Manager, selects the local service class.
 - b. If multiple local service classes are in the same state, uses the standard Business Advocate logic to select a service class. For more information, see [How Business Advocate matches contacts with agents](#) on page 19.
 - c. If no local service classes are in greatest need, and distributed Business Advocate is configured to restrict contacts to local agents, uses the standard Business Advocate logic to select a service class.
 - d. If no local service classes are in greatest need, and distributed Business Advocate is not configured to restrict contacts to local agents, offers the agent to the Logical Resource Manager with a remote service class in the greatest need.
 - e. If two or more remote service classes are in the same state, offers the agent to the Logical Resource Managers for those services classes in a round-robin type of format, selecting the remote service class with the oldest time stamp. The Logical Resource Manager applies a time stamp to a remote service class when an agent offered for that service class has been accepted.

Changing how distributed Business Advocate matches contacts with agents

With distributed Business Advocate, you can choose one of the following ways to match contacts with remote agents:

- Contacts can be matched with agents at any location.
- Contacts are only matched with agents at the location where the contact arrives.
- Contacts are only matched with agents at other locations if the service class is at risk of not meeting its service goals.

Matching contacts to agents at any location

By default, distributed Business Advocate matches contacts with agents at any Logical Resource Manager.

You do not need to perform any special configuration to set up Business Advocate to use this process to match contacts with agents.

Matching contacts to local agents only

You can change distributed Business Advocate to restrict contacts to agents in a specific location or region. To make this change, create a location qualifier and add that qualifier to service classes. The location qualifier can apply to only one site, or to a region (group of sites). When you add the location qualifier to a service class, that qualifier restricts contacts in the service class to be delivered only to that location.

For example, you can use the location qualifier to ensure that:

- Voice contacts are not delivered to another switch.
- Email contacts are only handled within a specific region. For example, that email contacts received in the United States are only handled by agents in a United States location.

In this configuration, a "local" agent is an agent that is configured to handle contacts in the location or region specified by the location qualifier. All other agents are considered to be "remote" agents. The local agents will never receive a contact that arrived in another location.

To restrict contacts to local agents:

1. Create a location or "site" qualifier for each location that you want one or more agents to handle.
2. Configure "local" service classes that include the location qualifier.
3. Determine which "local" agents will handle contacts for the location designated by the location qualifier. Ensure that these local agents are assigned to the Logical Resource Manager that handles incoming contacts for that location.
4. Configure the capability sets of all local agents to include the local service classes.
5. Do not configure the capability sets of other "remote" agents to include the local service classes.

Matching contacts to remote agents only in risk situations

You can change distributed Business Advocate to only match a contact with an agent in another location if the service class in the other location is at risk of not meeting its service goal.

To make this change, create a location qualifier and add that qualifier to service classes in both the location where you want "local" agents to handle the contacts, and the location

where you want "remote" agents to handle the contacts in risk situations. Then, configure the capability sets of agents in both locations with the location qualifier.

In this configuration, a "local" agent is an agent that is configured to handle contacts in the location or region specified by the location qualifier. All other agents are considered to be "remote" agents.

To match contacts with remote agents only in risk situations:

1. Create a location or "site" qualifier for each location that you want one or more agents to handle.
2. Configure "local" service classes that include the location qualifier.
3. Determine which "local" agents will handle contacts for the location designated by the location qualifier. Ensure that these local agents are assigned to the Logical Resource Manager that handles incoming contacts for that location.
4. For all local service classes, configure the corresponding capability sets for the local agents with a Regular activation type. The Regular activation type implies an activation level of On Target.
5. For all service classes that include a location qualifier for other locations, configure the corresponding capability sets for the agents with:
 - A Reserve or Backup activation type.
 - A risk or jeopardy activation level, such as On Target - Immediate Risk or On Target - Future Risk. To increase the chances of a local agent being matched with the contact, use an activation level of Behind Target or Critical.
6. Ensure that the "remote" agents are assigned to Logical Resource Managers that handle incoming contacts for remote locations.

Chapter 4: Overview of configuration

This section provides an overview of the tasks involved in setting up a Business Advocate system. This section does not include information about planning for the Business Advocate system.

The following table includes the tasks that need to be performed to set up a Business Advocate system and where the information about that task is located in the Avaya IC documentation set. You must complete the task in each row before you move on to the task in the next row. If the Business Advocate system does not include the component listed in a task, you can skip that row.

✓	Task	Location
Plan the Avaya IC and Business Advocate systems		
	Plan and determine the deployment and failover for the Avaya IC system, including Business Advocate components.	<i>IC Installation Planning and Prerequisites</i>
	Plan the components of the Business Advocate system, including but not limited to: <ul style="list-style-type: none"> ● Qualifiers ● Service classes ● Agent profiles ● Assignment of agents to work on contacts routed through Business Advocate. 	<ul style="list-style-type: none"> ● <i>IC Installation Planning and Prerequisites</i> ● <i>IC Business Advocate Configuration and Administration</i>
Install the base Avaya IC system		
	Install and configure the base Avaya IC system, including all prerequisites, databases, core servers, and media channels for that system.	<ul style="list-style-type: none"> ● <i>IC Installation Planning and Prerequisites</i> ● <i>IC Installation and Configuration</i>
Customize Business Advocate workflows		
	Review the sample Business Advocate workflows and complete any customization required for the Business Advocate system. Note: You can perform this task at any point up to when you configure qualification for the media channel.	<i>Avaya IC Media Workflow Reference</i>

Overview of configuration

✓	Task	Location
Configure the prerequisites for Business Advocate		
	Configure the Microsoft Windows operating system on the machines that host the Resource Manager servers, including the following tasks: <ul style="list-style-type: none"> ● Set up the Active Directory domain. ● Install the MSMQ service. ● Create the Nethome shared directory. 	<i>IC Installation Planning and Prerequisites</i>
	Create and configure the Advocate database.	<i>IC Installation Planning and Prerequisites</i>
Install the Business Advocate components		
	Create and configure the Avaya IC secondary server environment, including a secondary ORB server, on the machines that host the Resource Manager servers.	<i>IC Installation and Configuration</i>
	Install the first Logical Resource Manager and build the Advocate database schema.	<i>IC Installation and Configuration</i>
	Install the Standby Resource Manager server for the first Logical Resource Manager and assign a role to that Resource Manager server.	<i>IC Installation and Configuration</i>
	If the Business Advocate system includes more than one Logical Resource Manager, install the additional Logical Resource Managers.	<i>IC Installation and Configuration</i>
	If desired, install the Business Advocate administration tools, including Business Advocate Supervisor. Note: Perform this step only if you want to host Business Advocate Supervisor on a separate administration machine. When you install the first Logical Resource Manager, the Business Advocate installation automatically installs Business Advocate Supervisor on the same machine as the first Logical Resource Manager.	<i>IC Installation and Configuration</i>
Create qualifiers		
	Create the qualifiers required by the Business Advocate system.	Creating a qualifier on page 79
	Export the qualifiers from Business Advocate Supervisor to Workflow Designer.	Exporting qualifiers to Workflow Designer on page 83

✓	Task	Location
Configure service levels		
	Configure the Business Advocate options.	Configuring Business Advocate options on page 101
	Create the service goals.	Creating a service goal on page 104
	Create the service classes.	<ol style="list-style-type: none"> 1. Creating a service class on page 108 2. Assigning attributes to a service class on page 108 3. Assigning qualifiers to a service class on page 111
Create and configure Business Advocate core components		
	Configure the database connections for the Advocate database, including the following: <ul style="list-style-type: none"> ● Create Data server for Advocate database ● Configure IC Repository connections ● Configure CCQ connections 	Configuring database connections on page 118
	Configure the customer profile attributes.	Configuring customer profile attributes on page 134
	Configure the Directory servers for Business Advocate.	Configuring Directory servers on page 136
	Create the Logical Resource Managers.	Creating a Logical Resource Manager on page 137
	Create and configure the Resource Manager servers.	<ol style="list-style-type: none"> 1. Adding a Resource Manager server on page 140 2. Viewing the role of a Resource Manager server on page 142
Configure qualification for voice contacts		
Note: If the Business Advocate system does not include the Voice channel, omit these tasks.		
	Complete any required customization, if not already done, and compile the Qualify Voice workflow.	Qualify Voice workflow on page 155
	Create and configure the Telephony Services Adaptor server.	<ol style="list-style-type: none"> 1. Guidelines for a TSA server on page 159 2. Creating a TSA server on page 160 3. Assigning a Logical Resource Manager on page 161 4. Setting up contact handling on page 165 5. Assigning a transfer exception workflow on page 167

Overview of configuration

✓	Task	Location
	Create and configure the parking device for the switch.	Do one of the following: <ul style="list-style-type: none"> • Creating a parking device for an Avaya switch on page 173 • Creating a parking device for an Aspect switch on page 175 • Creating a parking device for a Nortel Meridian switch on page 179
	Configure the Telephony server for Business Advocate.	<ol style="list-style-type: none"> 1. Configuring a Telephony server on page 182 2. Configuring a backup link on page 184
	Create a Workflow server to handle voice contacts.	Creating a Workflow server for the voice channel on page 185
	If desired, create and configure link groups for the Telephony servers.	Creating link groups on page 189
Configure qualification for chat contacts Note: If the Business Advocate system does not include the Chat channel, omit these tasks.		
	Complete the Qualify Chat workflow.	Qualify Chat workflow on page 197
	Create the Web Advocate Adaptor server and configure for chat contacts.	<ol style="list-style-type: none"> 1. Creating a WAA server on page 203 2. Configuring a WAA server for the chat channel on page 204
	Configure the WebACD server for Business Advocate.	Configuring the WebACD server on page 206
	Create a Workflow server to handle chat contacts.	Configuring a Workflow server for the chat channel on page 208
Configure qualification for email contacts Note: If the Business Advocate system does not include the Email channel, omit these tasks.		
	Complete the Qualify Email workflow.	Qualify Email workflow on page 215
	Configure the Web Advocate Adaptor server for email contacts.	Configuring a WAA server for the email channel on page 221
	Create a Workflow server to handle email contacts.	Configuring a Workflow server for the email channel on page 222
Configure virtual queues Note: If the Business Advocate system includes only the Chat channel, omit these tasks.		
	Create virtual queues for voice contacts and for email contacts.	Creating a virtual queue on page 227

✓	Task	Location
Create profiles for multiple agents		
	Create profiles.	Creating a profile on page 233
	Defining capability sets for profiles.	Defining a capability set for a profile on page 234
	Assign agents to profiles.	Assigning an agent to a profile on page 237
Create and configure Business Advocate agents		
	Create agents. Note: This step can also be performed when you set up the base Avaya IC system.	<ul style="list-style-type: none"> • Creating an agent on page 246. • <i>IC Installation and Configuration</i> • <i>IC Administration Volume 2: Agents, Customers, & Queues</i>
	Activate agents for Business Advocate.	Activating an agent for Business Advocate on page 247
	Configure Business Advocate attributes for agents.	Configuring Business Advocate attributes for an agent on page 248
	Assign capability sets to agents. Note: If you already created and assigned profiles to all Business Advocate agents, you can omit this step.	Assigning a capability set to an agent on page 250

Overview of configuration



Chapter 5: Using qualifiers

Business Advocate uses qualifiers to match agents with contacts.

This section describes how Advocate Supervisor uses qualifiers and how to assign qualifiers to agents, profiles, and service classes. This section includes the following topics:

- [Qualifiers](#) on page 71.
- [Qualifiers used by the sample workflows](#) on page 77.
- [Creating a qualifier](#) on page 79.
- [Editing a qualifier](#) on page 81.
- [Viewing qualifiers](#) on page 82.
- [Exporting qualifiers to Workflow Designer](#) on page 83.
- [Deleting a qualifier](#) on page 84.

Qualifiers

Qualifiers are part of the Business Advocate classification system. Qualifiers define the capabilities of the agent and the needs of the customer. Business Advocate uses qualifiers to match contacts with qualified agents and to meet service goals.

Each qualifier includes a category and a value for that category. For example, a qualifier of Product/Printer includes the category Product and the value Printer. If you create a second category named PrinterSupplies and define a value for that category of InkCartridge, you create a second qualifier named PrinterSupplies/InkCartridge.

A qualifier set is one or more qualifiers that form a service class or a capability set. You do not need to create qualifier sets. For example, if you create a service class with the qualifiers of Product/Printer and PrinterSupplies/InkCartridge, those two qualifiers become a qualifier set.

Using qualifiers

The following table shows some example categories and values for qualifiers.

Category	Language	Customertype	Location	Product
Value	Portuguese	Gold	Brazil	Insurance
Value	English	Silver	New York	Stocks
Value	Japanese	Bronze	Japan	Bonds

You can define an unlimited number of qualifiers.

This section includes the following topics:

- [Role of qualifiers](#) on page 72.
- [Requirements for qualifiers](#) on page 73.
- [Example: qualifying contacts with qualifiers](#) on page 73.

Role of qualifiers

When you define the qualifiers for your Business Advocate system, you determine how Business Advocate will match contacts with agents. You must assign the same qualifiers to a service class and to an agent, for Business Advocate to match a contact in that service class with the agent.

Avaya IC and Business Advocate use qualifiers to perform the tasks in the following topics:

- [Qualifying work in Business Advocate workflows](#) on page 72.
- [Defining service classes](#) on page 72.
- [Determining which agents can handle a particular contact](#) on page 73.

Qualifying work in Business Advocate workflows

Business Advocate uses qualification workflows to associate a qualifier set with every incoming contact. Business Advocate has a unique set of workflows, which are different from those used in non-Business Advocate qualification and routing. For more information about Business Advocate workflows, see *Media Workflow Reference*.

Defining service classes

Business Advocate uses a qualifier set as part of the definition of each service class. To determine the service class of an incoming contact, Business Advocate matches the qualifiers associated with a contact to the qualifier set in a service class.

Determining which agents can handle a particular contact

Business Advocate uses a qualifier set to define a capability set for an agent. To match an agent with an incoming contact, Business Advocate matches the qualifier set in the service class of the contact with the qualifier set in a capability set. Only those agents who have a capability set with a qualifier set that exactly matches those in the service class can handle the contact.

Business Advocate uses the channel qualifiers to qualify contacts for the different media channels.

Requirements for qualifiers

Every qualifier in your Business Advocate system must meet the following requirements:

- A qualifier set can include only one value for each category. A category cannot be repeated in a qualifier set.
- Every qualifier set must include a channel qualifier.

Example: qualifying contacts with qualifiers

This example describes how Business Advocate uses qualifiers to qualify and match contacts with agents.

A contact center for a catalogue company handles three different types of products and customers who speak one of two languages. Customers can contact agents through the voice channel or the email channel.

This example includes the following topics:

- [Determining the needed qualifiers](#) on page 74
- [Using a qualifier set to create a service class](#) on page 74
- [Using qualifiers to match the contact with an agent](#) on page 76

Using qualifiers

Determining the needed qualifiers

Avaya IC creates qualifiers for the channels. The contact center needs to create additional qualifiers for the types of products and languages.

The following table includes the categories and values needed to create qualifiers for the contact center.

Categories	Values
Product type	<ul style="list-style-type: none">● Books● Video● Music
Language	<ul style="list-style-type: none">● English● Spanish
Channel	<ul style="list-style-type: none">● Voice● Email

All agents can receive voice contacts and email contacts. However, the agents have expertise in different types of products. Some agents can speak only one language. Other agents are bilingual.

To make sure that Business Advocate matches contacts with the correct agents, the contact center adds the qualifiers to the following:

- Business Advocate workflows
- Agent capability sets
- Service classes

Using a qualifier set to create a service class

The contact center decides to combine sets of qualifiers into service classes. Each service class represents a different type of contact that the contact center can receive. The contact center then creates a different service class for every combination of qualifiers that will be handled by different agents for different channels.

Tip:

You do not have to create a service class for every combination of the defined qualifiers if you do not expect to receive contacts for every combination. For example, you do not need a service class that includes MusicEnEmail or MusicSpEmail if you do not expect customers to email the contact center about music.

The following table includes all service classes and their qualifiers.

Service class	Qualifiers
BookEnVoice	<ul style="list-style-type: none"> ● Product type/books ● Language/English ● Channel/Voice
BookEnEmail	<ul style="list-style-type: none"> ● Product type/books ● Language/English ● Channel/Email
BookSpVoice	<ul style="list-style-type: none"> ● Product type/books ● Language/Spanish ● Channel/Voice
BookSpEmail	<ul style="list-style-type: none"> ● Product type/books ● Language/Spanish ● Channel/Email
VideoEnVoice	<ul style="list-style-type: none"> ● Product type/video ● Language/English ● Channel/Voice
VideoEnEmail	<ul style="list-style-type: none"> ● Product type/video ● Language/English ● Channel/Email
VideoSpVoice	<ul style="list-style-type: none"> ● Product type/video ● Language/Spanish ● Channel/Voice
VideoSpEmail	<ul style="list-style-type: none"> ● Product type/video ● Language/Spanish ● Channel/Email
MusicEnVoice	<ul style="list-style-type: none"> ● Product type/music ● Language/English ● Channel/Voice
MusicEnEmail	<ul style="list-style-type: none"> ● Product type/music ● Language/English ● Channel/Email
MusicSpVoice	<ul style="list-style-type: none"> ● Product type/music ● Language/Spanish ● Channel/Voice
MusicSpEmail	<ul style="list-style-type: none"> ● Product type/music ● Language/Spanish ● Channel/Email

Using qualifiers to match the contact with an agent

When a contact arrives in the contact center, Business Advocate uses the qualifiers to qualify the contact. For example, when a customer telephones the contact center, the system prompts the customer to make some initial selections that determine the needs of the customer. The customer selects English and Books. Business Advocate qualifies and matches the contact as follows:

1. The qualification workflow sets the following values for the qualifiers in the EDU for the contact:
 - Product type: books
 - Language: English
 - Channel: voice
2. The qualification workflow sends a resource request to Business Advocate.
3. Business Advocate reviews the service classes and finds that the BookEnVoice service class contains the same qualifier set as the incoming voice contact.
4. Business Advocate locates agents with a capability set that matches the service class of the contact.

For a voice contact or chat contact, the agent must be logged in to Avaya IC. However, Business Advocate will not send an email contact to an exception workflow if a qualified agent is not currently logged in. Business Advocate will hold the email contact until the qualified agent logs in to Avaya IC.

5. Business Advocate checks the thresholds of the service goals and the status of agents who match the resource request, then performs one of the tasks in the following table.

Agent status	Lower threshold	Business Advocate task
Available	Lower threshold is 0.	Uses agent selection criteria to match the contact with the appropriate agent.
Available	Lower threshold is greater than 0.	<ul style="list-style-type: none">● Adds contact to queue for the service class.● Matches contact with agent when time in queue exceeds lower threshold of time for delivery of contact.
Not available	Not applicable.	<ul style="list-style-type: none">● Adds contact to queue for the service class.● Matches contact with agent when agent becomes available and contact meets criteria for delivery to an agent.

Qualifiers used by the sample workflows

Some blocks in the sample workflows installed with Business Advocate use qualifiers. Avaya includes these qualifiers to demonstrate how the Business Advocate workflows:

- Identify qualifiers for a contact
- Associate a collection of qualifiers with a contact

Business Advocate can match a contact with an agent with only the pre-defined channel qualifiers. However, you need to define additional qualifiers if you want to be more selective about which contacts an agent handles, or to match a chat contact with an agent who can handle a Voice Chat.

This section describes the pre-defined channel qualifiers and the qualifiers used by the sample workflows. This section includes the following topics:

- [Required predefined qualifiers](#) on page 77.
- [Sample qualifiers](#) on page 78.

Required predefined qualifiers

Avaya includes a set of three predefined channel qualifiers with Business Advocate. The following table describes those qualifiers.

Qualifier	Category	Value
Channel/Voice	Channel	Voice
Channel/Email	Channel	Email
Channel/Chat	Channel	Chat

Sample qualifiers

Blocks in the sample qualification workflows also include some sample qualifiers. Create these qualifiers for your Business Advocate system to see how the workflows use qualifiers. The following table describes the sample qualifiers and the workflows that use them.

Workflow	Qualifier category	Qualifier value
All workflows	customertype	gold
		silver
		bronze
	intent	sales
		support
	language	english
		french
		german
		spanish
	Qualify Chat	multimedia
ivchat		
Qualify Email	QA	approvalrequired
		suspectcontent

Creating a qualifier

When you set up Business Advocate for the first time, you must create qualifiers. However, you can update existing qualifiers, and add new qualifiers whenever your business requires these changes.

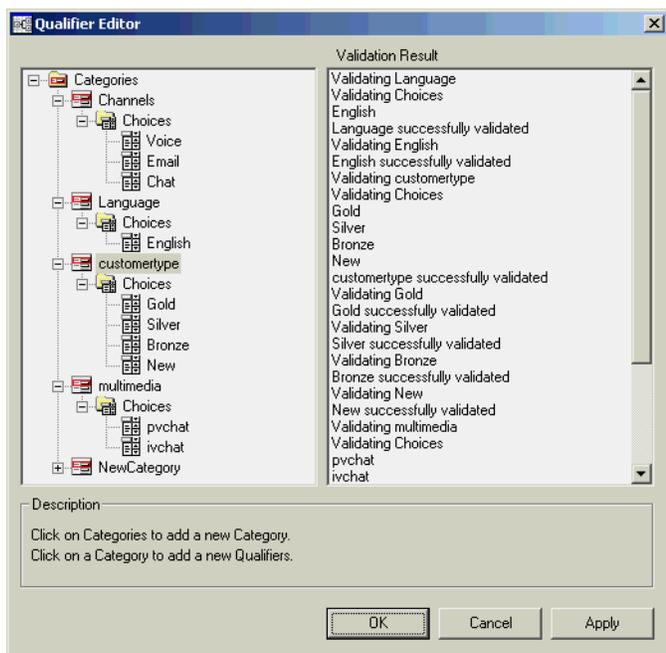
Business Advocate includes qualifiers for the Channel category and its values. You cannot delete or modify the following qualifiers:

- Channel/Voice
- Channel/Chat
- Channel/Email

Tip:

Business Advocate maps qualifiers to internal key values in the system. If you create a new qualifier with the same name as a previous qualifier, Business Advocate does not identify the duplication. Business Advocate maps this qualifier to a different key value.

You must create a category and one or more values for each type of qualifier that you want to create. Create the qualifiers in the Qualifier Editor, shown in the following figure.



Using qualifiers

To create a qualifier:

1. In the console tree of Advocate Administration, select **Supervisor > Resources > Qualifiers**.
2. In the results pane, select **Edit Qualifiers**.
3. In the Qualifier Editor:
 - a. Select **Categories**.
 - b. Select **New Category**.
4. In the **New Category** dialog box, shown in the following figure:
 - a. In the **Name** field, enter the name of the category.
 - b. Select **OK**.



5. In the Qualifier Editor:
 - a. Select **Choices** below the category.
 - b. Select **New Qualifier**.
6. In the **New Qualifier** dialog box, shown in the following figure:
 - a. In the **Name** field, enter the value for the qualifier.
 - b. Select **OK**.



Repeat Steps 5 and 6 to add more qualifier values to the category.

7. In the Qualifier Editor, select **Apply**.

Advocate Supervisor saves the changes to the database and validates your selections. If all qualifiers are valid, Business Advocate updates the changes in real-time. If one or more qualifiers is not valid, Advocate Supervisor displays the problem in the **Validation Result** pane.

After you create qualifiers, export them to Workflow Designer to use in qualification workflows. For more information, see [Exporting qualifiers to Workflow Designer](#) on page 83.

Editing a qualifier

You can update a qualifier category, change an existing qualifier, or add a new value to an existing qualifier in the Qualifier Editor.

Tip:

If you select **OK** or **Apply** in the Qualifier Editor, Business Advocate Supervisor automatically validates and saves all of the qualifiers. Supervisor performs this validation even if you did not make any changes. Depending on the number of qualifiers and the speed of the system, this validation process could cause a noticeable delay. To close the Qualifier Editor without validating qualifiers, select the **X** in the upper right corner of the window.

To edit a qualifier:

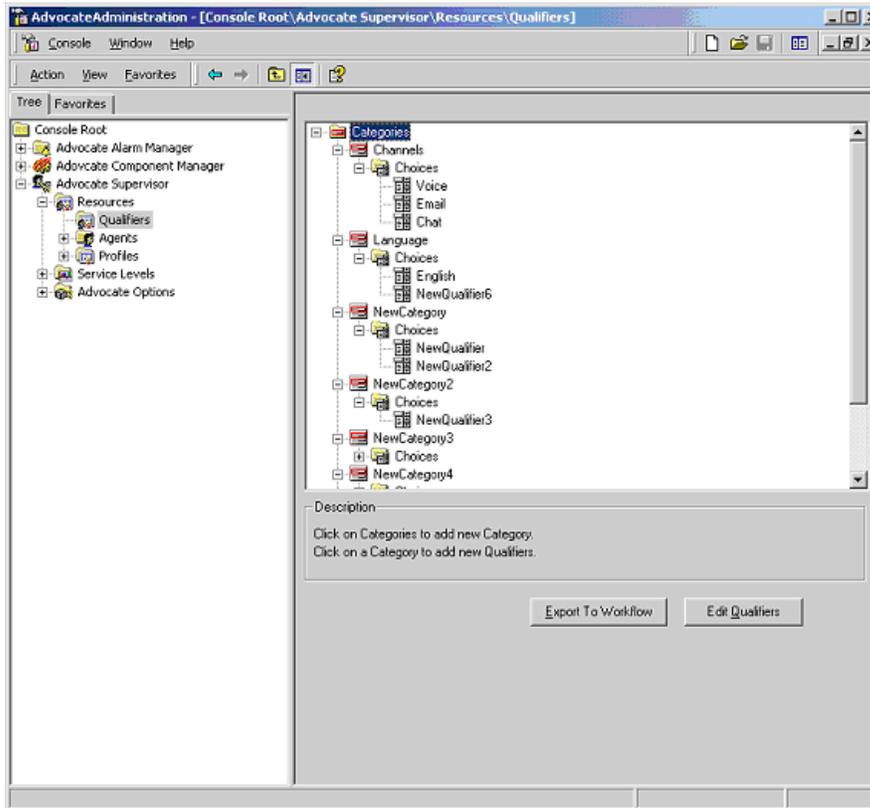
1. In the console tree of Advocate Administration, select **Supervisor > Resources > Qualifiers**.
2. In the results pane, select **Edit Qualifiers**.
3. To edit a qualifier category:
 - a. Right-click the qualifier category and select **Properties** to open the **Properties** dialog box.
 - b. In the **Name** field, enter a new name for the category.
 - c. Select **OK**.
4. To edit a qualifier value:
 - a. Right-click the qualifier value and select **Properties** to open the **Properties** dialog box.
 - b. In the **Name** field, enter a new value for the qualifier.
 - c. Select **OK**.
5. After you complete your edits, select **Apply**.

Advocate Supervisor saves the changes to the database and validates your selections. If all qualifiers are valid, Business Advocate updates the changes in real-time. If one or more qualifiers is not valid, Advocate Supervisor displays the error in the **Validation Result** pane.

After you update qualifiers, export them to Workflow Designer to use in qualification workflows. For more information, see [Exporting qualifiers to Workflow Designer](#) on page 83.
6. Select **OK**.

Viewing qualifiers

View qualifiers in the Qualifiers section of Advocate Supervisor, shown in the following figure.



To view qualifiers:

- In the console tree of Advocate Administration, select **Supervisor > Resources > Qualifiers**.

Exporting qualifiers to Workflow Designer

You must export qualifiers from Advocate Supervisor to Workflow Designer to use the qualifiers in a qualification workflow. Avaya recommends that you rename the old qualifier file on the Workflow Designer machine before you export updated qualifiers to Workflow Designer.

**Important:**

Business Advocate cannot properly qualify contacts if you do not use the exact same file name, file type and export directory listed in the steps below.

To export qualifiers:

1. In the console tree of Advocate Administration, select **Supervisor > Resources > Qualifiers**.
2. In the results pane, select **Export**.
3. In the **Save As** dialog box:
 - a. Navigate to the `IC_INSTALL_DIR\IC70\etc` directory on the machine that hosts Workflow Designer.
 - b. In the **File Name** field, enter `qualifiers`.
 - c. In the **Save as type** field, select **text** as the file type of the exported qualifier file.
 - d. Select **Save**.
4. Select **OK** to acknowledge that the export was successful.
5. To access the exported qualifiers in workflows:
 - a. Close and re-open Workflow Designer.
 - b. Build the qualification workflows.
 - c. Load the workflows to the appropriate Workflow server.
 - d. Stop and restart the Workflow server.

Deleting a qualifier

You can delete one qualifier value in a category, or you can delete a category and all of the qualifier values in that category.

You cannot delete a qualifier if that qualifier is part of a service class or the capability set of an agent or profile. You must delete all service classes or capability sets which include a qualifier before you can delete the qualifier.

 **CAUTION:**

If you delete a qualifier that is associated with a contact currently in the queue, Business Advocate sends that contact to an exception workflow. Even if you create a new qualifier with the same name, contacts in queue that are associated with the deleted workflow are still sent to an exception workflow.

To delete a qualifier:

1. In the console tree of Advocate Administration, select **Supervisor > Resources > Qualifiers**.
2. In the results pane, select **Edit Qualifiers**.
3. To delete a qualifier category:
 - a. Right-click the qualifier category and select **Delete**.
 - b. Select **Yes** to confirm that you want to delete the category.
Advocate Supervisor deletes the qualifier category and all values in that category.
4. To delete a qualifier value:
 - a. Right-click the qualifier value and select **Delete**.
 - b. Select **Yes** to confirm that you want to delete the qualifier value.
Advocate Supervisor deletes the qualifier value.
5. Select **OK**.

Advocate Supervisor saves the changes to the database and validates your deletions. If all qualifiers are valid, Business Advocate updates the changes in real-time. If one or more qualifiers is not valid, Advocate Supervisor displays the error in the **Validation Result** pane.

After you delete qualifiers, export the qualifiers to Workflow Designer to make them unavailable to the qualification workflows. For more information, see [Exporting qualifiers to Workflow Designer](#) on page 83.



Chapter 6: Managing service classes

You use service classes to administer and manage service levels in Business Advocate. You can define and administer an unlimited number of service classes and the service goals for those service classes.

 **Important:**

At start up, the Resource Manager server creates a logical queue for every service class, even if no contacts are ever routed through the system with that service class. For optimal performance, do not create service classes you do not intend to use and delete service classes that are no longer in use.

Business Advocate assigns a service state to each service class, according to the service goals that you set, the current status of contacts in queue, and the available agents for each service class. You cannot directly administer the service states of a service class.

This section describes service classes and their components, and how to set them up. This section includes the following topics:

- [Service classes](#) on page 86.
- [Service goals](#) on page 89.
- [Service states](#) on page 96.
- [Configuring Business Advocate options](#) on page 101.
- [Configuring a service goal](#) on page 103.
- [Configuring a service class](#) on page 107.

Service classes

Service classes match contacts to agents. A service class describes a specific type of contact with a single qualifier set. Business Advocate uses the service class to manage and measure work distribution.

Create service classes for the different types of contacts and customers that your contact center handles. If a contact arrives that does not match an existing service class, Business Advocate dynamically creates a service class for that item.

This section includes the following topics:

- [Components of service classes](#) on page 86
- [Dynamically created service classes](#) on page 88

Components of service classes

When you configure a service class, you must configure the following components described in the following topics:

- [Agent selection](#) on page 86.
- [Service goal](#) on page 87.
- [Service state](#) on page 87.
- [Expected average handling time](#) on page 87.
- [Qualifiers](#) on page 87.

Agent selection

Business Advocate uses agent selection when your contact center has more than one qualified agent available when a contact arrives.

You can select one of the following methods for Business Advocate to select agents:

- Least occupied agent
- Most idle agent
- System setting

You can select a different method for agent selection for each service class, or you can use the system setting. You should use the system setting if you plan to use the same agent selection method for most service classes. For information about how to configure the default agent selection, see [Configuring the default agent selection method](#) on page 101.

Service goal

Each service class must have a service goal that defines the performance parameters for that service class. You specify service goals in units of time. A service goal is a set of thresholds that Advocate uses to decide which agent should receive a contact. For more information see [Service goals](#) on page 89.

When you define a service class, you can select the system default service goal or create a custom service goal for the service class.

The service goal must match the needs of your business and of the media. Different media have different requirements for agent responses. For example, you can create a service goal with an upper threshold of 20 seconds for voice contacts, and a service goal with an upper threshold of one day for email contacts.

Service state

Each service class has a service state. The service state is the real-time reflection of whether current contacts in that service class will achieve the service goal.

If a service class is in the worst service state, Business Advocate matches the oldest contact in that service class to the next available and qualified agent. If configured, Business Advocate can activate additional agents to handle contacts in that service class until the service class recovers from the worst service state. For more information, see [Service states](#) on page 24.

Expected average handling time

Service classes also define the expected average handling time (EAHT). EAHT is the expected average length of time that agents who handle contacts in this service class will take to complete a contact.

Business Advocate uses EAHT as an initial estimate to match contacts in queue to an available agent. Business Advocate also monitors the actual average handling time, which changes dynamically as agents handle contacts.

You can use the system default for EAHT or specify an individual time for each service class. For information about how to configure the default EAHT, see [Configuring the default EAHT](#) on page 102.

Qualifiers

The qualifier set defines the service class. This qualifier set must include a channel qualifier. You cannot create a service class without a channel qualifier. The qualifier set can only include one qualifier for each category. For more information, see [Qualifiers](#) on page 71.

Dynamically created service classes

Business Advocate dynamically creates service classes if an incoming contact does not match an existing service class.

With dynamically created service classes, you need to create service classes only if your contact center requires service goals that are different than the default values.

Tip:

You can change the names and modify the service goals for dynamically-generated service classes. For more information, see [Modifying a service class](#) on page 113.

Naming a dynamically created service class

To name a dynamically created service class, Business Advocate uses a connected series of the names of the qualifiers in the service class.

For example, the qualification workflow assigns the following qualifiers to a contact:

- Channel/Voice
- Language/French
- Product/Shoes
- Customertype/Unknown

Business Advocate does not have a service class with this qualifier set, and therefore dynamically creates the following service class:

```
_Channel._call,customertype.unknown,language.french,product.shoes
```

Setting default values for a dynamically created service class

Business Advocate applies the following defaults to dynamically created service classes, according to the type of contact or channel:

- Default service goals
- Default agent selection algorithm
- Default EAHT

Note:

Business Advocate assigns a default service goal to dynamically created service classes based upon the channel of the contact. Voice contacts and chat contacts receive a real-time service goal. Email contacts receive a non real-time service goal.

Service goals

Service goals help you measure and manage work distribution and performance monitoring. You can use service goals to configure different levels of performance for each service class.

Note:

Service goals are not specific to a service class. You can associate service goals with more than one service class.

This section describes the types of service goals, the thresholds of service goals, and how to use service goals. This section includes the following topics:

- [Types of service goals](#) on page 89.
- [Thresholds of a service goal](#) on page 90.
- [Purpose of a service goal](#) on page 92.
- [Performance level and a service goal](#) on page 93.
- [Branding strategy](#) on page 93.
- [Examples: setting thresholds for a service goal](#) on page 94.

Types of service goals

Business Advocate uses the types of service goals described in the following topics:

- [Default service goal](#) on page 89.
- [Custom service goal](#) on page 90.

Default service goal

Business Advocate provides a default service goal for each channel type. Business Advocate uses these default service goals for dynamically created service classes.

You cannot delete default service goals, but you can change the values for the thresholds.

Managing service classes

The value of the channel type determines the values for the default service goals, as shown in the following table.

Default service goal	Channel type	Lower threshold	Upper threshold	Critical threshold
Real-time Contact Work	Voice, Text Chat	0	30 seconds	<none>
Non-Real Time Contact Work	Email	0	12 hours	<none>

Custom service goal

You can create as many custom service goals as you need for the service classes in your Business Advocate system. Custom service goals must include at least an upper threshold, and can include values for the other thresholds.

The following table shows two example service goals.

Custom service goal	Channel type	Lower threshold	Upper threshold	Critical threshold
PremiumVoice	Voice	0	15 seconds	25 seconds
RegularEmail	Email	0	8 hours	24 hours

Thresholds of a service goal

You can set up to three thresholds for each service class. Business Advocate uses these thresholds to assign a service state to the service class.

You can set a threshold in time units of seconds, minutes, hours, or days.

The upper threshold is the only required threshold. Business Advocate uses the upper threshold of a service class when Business Advocate matches an agent with a contact in that service class. Most qualification functions in Business Advocate do not need any other thresholds.

You can also add a critical threshold that Business Advocate can use with the upper threshold to determine whether to dynamically increase or decrease the number of agents eligible to receive contacts in the service class.

For more information about each threshold, see the following topics:

- [Upper threshold](#) on page 91.
- [Critical threshold](#) on page 92.
- [Lower threshold](#) on page 92.

Upper threshold

All service goals must include an upper threshold. The upper threshold is the target time period for Business Advocate to deliver a contact in a service class to an agent.

When Business Advocate assigns a service state to a service class, Business Advocate uses the upper threshold to determine the jeopardy states. For example, Business Advocate uses the upper threshold to assign the jeopardy states in the following table.

Jeopardy service state	Description
Immediate Risk	Assigned to a service class if the predicted wait time of the oldest contact in the service class is longer than the time period that you set for the upper threshold.
Future Risk	Assigned to a service class if the estimated wait time of the newest contact in the service class is longer than the time period that you set for the upper threshold.
Behind Target	Assigned to a service class if the oldest contact in the service class has waited for: <ul style="list-style-type: none"> ● A longer period of time than the time period you set for the upper threshold <i>And</i> <ul style="list-style-type: none"> ● A shorter period of time than the period set in the critical threshold

Business Advocate also uses the thresholds to determine when to activate reserve agents. Business Advocate activates reserve agents with an activation type that matches the current service state of the service class when Business Advocate predicts that either of the following will occur:

- A contact will surpass the upper threshold.
- The time a contact has waited to be matched with an agent will reach the upper or critical thresholds.

The upper threshold must be a longer period of time than the lower threshold, and a shorter period of time than the critical threshold.

Critical threshold

The critical threshold is optional. However, if you want to configure an agent with a critical activation level for a service class, you should configure the critical threshold.



Important:

If you configure an agent with a critical activation level and do not set a critical threshold for that service class, the agent will never be activated for that service class.

When the time a contact has waited to be matched with an agent reaches the critical threshold, Business Advocate activates reserve agents with a critical activation level.

If you have also assigned backup agents with a critical activation level, Business Advocate activates those agents. However, Business Advocate will not match the contacts in the critical service class to backup agents unless those agents do not have work in their regular service classes.

The critical threshold must be a greater period of time than the upper threshold.

Lower threshold

The lower threshold is optional and is typically set at zero. The lower threshold determines the minimum amount of time that a contact should wait before Business Advocate matches the contact to an agent.

The lower threshold must be a shorter period of time than the upper threshold.

Use the lower threshold only when you create a branding strategy. For more information, see [Branding strategy](#) on page 93. Only use the lower threshold if you want to specify a minimum wait time for customers before they can communicate with an agent.

Purpose of a service goal

The service goal is one of the criteria that Business Advocate uses to determine which contact in queue is in the greatest need. For example, the time period of the upper threshold is part of the ratio that Business Advocate uses to assign a service state to the service class. For more information about the role of the service goal in this predictive technology, see [Predictive technology](#) on page 25.

Service goals can control the type of service that your customers receive. To provide all customers a similar level of service, assign the same service goal to all service classes. To provide a different level of service for one or more customers, assign different service goals to different service classes. When Business Advocate calculates the ratio for the predictive technology, a service class with a shorter period of time for the upper threshold reaches a risk state sooner and more frequently than a service class with a longer period of time.

A shorter period of time for the upper threshold in a service goal does not automatically mean that one service class is more important or gets a higher priority than another service class. Business Advocate also compares the service state of a contact with the service goals. As a result of this comparison, Business Advocate might choose to deliver a contact in a service class with a longer period of time for the upper threshold before it delivers a contact in a service class with a shorter period of time for the upper threshold.

Performance level and a service goal

Before you set the thresholds in a service goal, you need to consider what performance levels you need for the service class.

Different criteria affect the performance level. Some criteria require shorter periods of time for some thresholds than other criteria. For example, you need to set low thresholds for voice contacts, which typically have goals that are measured in seconds. In contrast, you can use higher thresholds for email contacts, which typically have goals that are measured in hours or days.

Branding strategy

A branding strategy uses the upper threshold and the lower threshold to create a target range for Business Advocate to match a contact in the service class with an agent. A branding strategy does not mean that the waiting time for customers will be zero. The objective of a branding strategy is to create a consistent, reliable, and repeatable expectation of wait time for all customers in the same service class.

In many cases, you may not want to reduce the waiting time for your customers to zero. For voice contacts, you can use branding to ensure that customers spend enough time in a queue to hear an announcement before they speak to agents. For chat contacts, you can use branding to ensure that customers wait long enough to read an announcement on your Web site.

To create a branding strategy for a service class, you define periods of time for the upper and lower thresholds. The thresholds create a target range of service times for the service class, or a "branded" level of service. For example, a branding strategy could include the following thresholds for a service goal:

- Lower threshold of 20 seconds
- Upper threshold of 40 seconds

With the thresholds above, a customer would ideally wait at least 20 seconds before Business Advocate matches the contact to an agent. The contact center can play an announcement about new products, sales promotions, or information that the agent needs from the customer.

Examples: setting thresholds for a service goal

This section includes the following examples:

- [Example: using the upper threshold only](#) on page 94
- [Example: using the upper threshold and the critical threshold](#) on page 95
- [Example: using the upper threshold and the lower threshold](#) on page 95

Example: using the upper threshold only

If you want to use a basic service goal, you specify a time period for only the upper threshold. With this service goal, Business Advocate attempts to qualify and match all contacts within the time period of the upper threshold.

If Business Advocate determines that a queued contact for a service class will miss the service goal set by the upper threshold, Business Advocate does the following:

- If this contact is in the greatest need, Business Advocate matches the contact to an agent before all other contacts.
- If reserve or backup agents were configured with an activation level equal to the current service state of this service class, Business Advocate activates additional agents until the potential threat has been eliminated.

The following table shows the threshold settings for a basic service goal.

Threshold	Setting
Lower	0 seconds
Upper	40 seconds
Critical	Not set

Example: using the upper threshold and the critical threshold

Add a time period for the critical threshold if you want to define a second target when Business Advocate makes additional agents available for each service class.

With these two thresholds configured, Business Advocate does the following:

- If Business Advocate determines that a queued contact for a service class will miss the service goal set by the upper threshold, Business Advocate does the following:
 - If this contact is in the greatest need, Business Advocate matches the contact to an agent before all other contacts.
 - If reserve or backup agents were configured with an activation level equal to the current service state of this service class, Business Advocate activates additional agents until the potential threat has been eliminated.
- If a contact in the service class reaches the critical threshold:
 - If the oldest contact in the service class is in the greatest need, Business Advocate matches that contact before other contacts in the system.
 - If reserve or backup agents were configured, Business Advocate activates additional agents who are configured with a critical activation level until the service state is no longer in a critical state.

The following table shows the threshold settings for a service goal that includes an upper threshold and a critical threshold.

Threshold	Setting
Lower	0 seconds
Upper	40 seconds
Critical	80 seconds

Example: using the upper threshold and the lower threshold

You can use the upper threshold and the lower threshold to create a target range of service times for a branded level of service. With this branding strategy, your contact

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center can offer a very consistent and repeatable level of service to each class of customers.

With these thresholds configured, Business Advocate manipulates the selection process and the agent pool dynamically as follows:

- For the upper threshold, if Business Advocate determines that a queued contact for a service class will miss the service goal set by the upper threshold, Business Advocate does the following:
 - If this contact is in the greatest need, Business Advocate matches the contact to an agent before all other contacts.
 - If reserve or backup agents were configured with an activation level equal to the current service state of this service class, Business Advocate activates additional agents until the potential threat has been eliminated.
- If Business Advocate determines that contacts in the service class will be matched to an agent in less than the period of time for the lower threshold, Business Advocate queues contacts in the service class for a minimum of the lower threshold time and does the following:
 - If the oldest contact in the service class has been queued for less than the lower threshold, Business Advocate places the service class in an Ahead of Target state.
 - Until the oldest contact surpasses the lower threshold time, Business Advocate matches contacts in other service classes to agent first.

The following table shows the threshold settings for a service goal that includes the upper and lower thresholds.

Threshold	Setting
Lower	20 seconds
Upper	40 seconds

Service states

Every service class has a service state. The service state reflects how well Business Advocate achieves the service goal for a service class at a particular point in time.

Note:

You cannot modify a service state. Business Advocate dynamically assigns a service state to a service class according to real-time conditions.

The service state can change throughout the day as the number of contacts in the service class and the number of available agents to handle those contacts fluctuate.

This section includes the following topics:

- [Identifying the types of service states](#) on page 97.
- [Example: Using the service state to select contacts](#) on page 100.

Identifying the types of service states

The following table shows the types of service states in the order of service state in the greatest need to service state in the least need.

Service state	Description
Critical	Service class has missed service goal. Contacts have waited in queue for a longer period of time than the unit of time defined as the critical threshold for the service goal.
Behind Target	Service class has missed service goal. Contacts have waited in queue for a longer period of time than the unit of time defined as the upper threshold for the service goal.
On Target - Immediate Risk	Service class is predicted to miss service goal in the short term. Based on predicted wait time (PWT) calculations, Business Advocate expects that, at the current rate, the oldest contact in queue will wait longer than the service goal for the service class. Business Advocate alerts Avaya IC that there is a potential problem in meeting targets.
On Target - Future Risk	Service class is predicted to miss service goal in the long term. Based on expected wait time calculations, Business Advocate expects that, at the current rate, some contacts in queue will not meet the service goal for the service class. On Target - Future Risk is the default activation level for reserve agents.

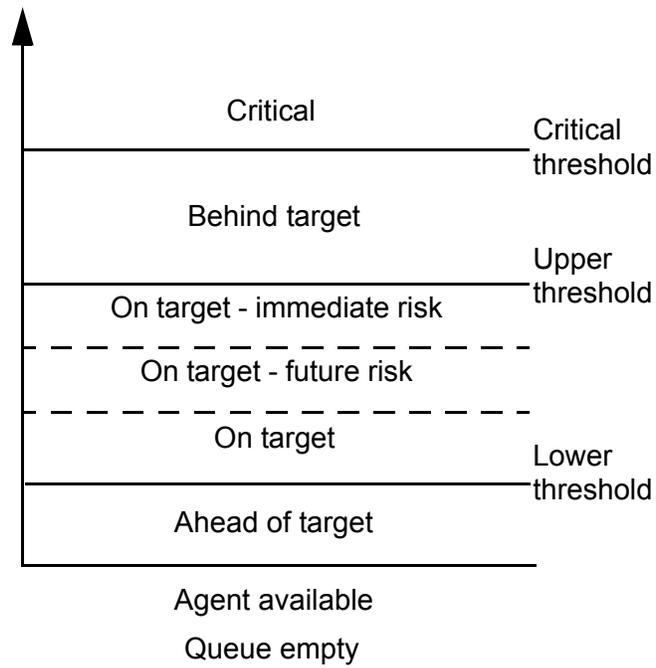
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Service state	Description
On Target	Optimal state. Service class is meeting service goal. Based on predicted wait time for contacts in queue, Business Advocate expects to meet the service goal for the service class. No contacts are in jeopardy. One or more contacts have been in queue for a longer period of time than the lower threshold, so the service class is not ahead of target. On Target is the default activation level for backup agents.
Ahead of Target	Contacts have waited in queue for a shorter period of time than the unit of time defined as the lower threshold for the service class.
Queue Empty	All agents are busy, but the queue does not contain any contacts.
Resources Available	At least one agent is available. One or more agents are available for work. The work queue is empty, and some agents may not have any work.

Note:

The default activation levels for backup agents is On Target and for reserve agents is On Target - Future Risk.

The following figure shows the available service states, and how they relate to the thresholds of the service goals.



Example: Using the service state to select contacts

For contact selection, Business Advocate uses the service state of a service class to select a contact to match with an available agent. Business Advocate determines the service classes that match a capability set of the agent, then selects the contact in those service classes that is in the greatest need.

For example, the VoiceSupport service class and the VoiceSales service class both have contacts that need to be routed to an agent. An agent becomes available who can handle contacts in both service classes. For the VoiceSupport service class, the agent has a Regular activation type. For the VoiceSales service class, the agent has a Reserve activation type. Business Advocate checks the service state to determine which contact to route to the agent, as follows:

1. If VoiceSupport has a service state of On Target or below, and Voice Sales has a service state of On Target - Future Risk or higher, then Business Advocate routes a contact in the VoiceSales service class to the agent. With service classes in these service states, Business Advocate only needs to check the service state to determine which contact to route. Business Advocate does not need to check the activation type or predicted wait time.
2. If VoiceSupport and VoiceSales both have identical service states, and that service state is On Target - Future Risk or higher, Business Advocate checks the activation type for each service class. Because the agent has a Regular activation type for VoiceSupport, Business Advocate routes the contact in the VoiceSupport service class to the agent. With service classes in these service states, Business Advocate checks the service state and the activation type to determine which contact to route. Business Advocate does not need to look at the predicted wait time.
3. If VoiceSupport and VoiceSales both have identical service states, that service state is On Target - Future Risk or higher, and the agent has the same activation type for both service classes, Business Advocate checks the predicted wait time for each service class. Because VoiceSupport has the longest predicted wait time, Business Advocate routes the contact in the VoiceSupport service class to the agent. With service classes in these service states, Business Advocate checks the service state, the activation type and the predicted wait time to determine which contact to route.

Configuring Business Advocate options

The Business Advocate options include the default agent selection method and the default EAHT. Business Advocate uses these defaults for dynamically created service classes. You can also assign them to service classes that you create.

This section describes how to configure the Business Advocate options. This section includes the following topics:

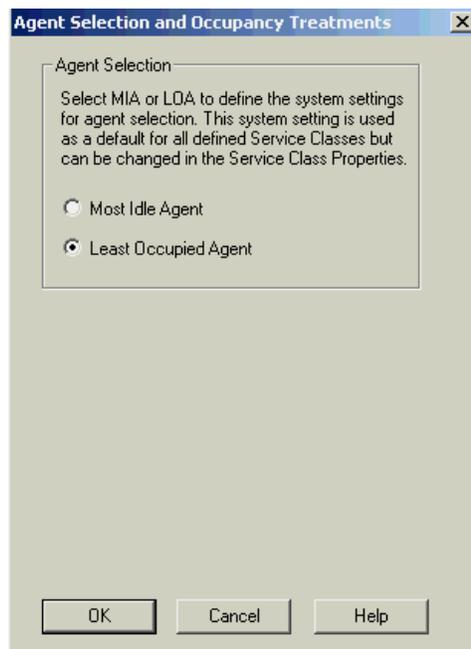
- [Configuring the default agent selection method](#) on page 101.
- [Configuring the default EAHT](#) on page 102.

Configuring the default agent selection method

Configure one of the following agent selection methods as the default:

- Most idle agent
- Least occupied agent

You configure the default agent selection method in the **Agent Selection and Occupancy Treatments** dialog box, shown in the following figure. You cannot use this dialog box to configure an occupancy treatment. Business Advocate for Avaya IC does not include occupancy treatments.



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For more information about the agent selection methods, including a comparison of the agent selection methods, see [Agent selection](#) on page 29.

Important:

To use Advocate Supervisor, log in to the machine with an Active Directory Domain account that has local administrator privileges.

To configure the default agent selection method:

1. In the console tree of Advocate Administration, select **Supervisor > Advocate Options > Agent Algorithms**.
2. In the results pane, right-click the entry under **Agent Selection** and select **Properties**.
3. In the **Agent Selection and Occupancy Treatments** dialog box, shown in the following figure:
 - a. Select one of the following options:
 - Most Idle Agent
 - Least Occupied Agent
 - b. Select **OK**.

Configuring the default EAHT

The expected average handling time (EAHT) is the expected average length of time in which agents who handle contacts in this service class will complete a contact.

Business Advocate uses EAHT as an initial estimate to match contacts in queue to an available agent. Business Advocate also monitors the actual average handling time, which changes dynamically as agents handle contacts.

Business Advocate provides the following default settings for EAHT.

Default EAHT settings	Channel types	Default EAHT value
Real-time Contact Work	Voice, Chat	3 minutes
Non-Real-time Contact Work	Email	20 minutes

You can create a custom EAHT for a service class when you configure the service class. For more information, see [Assigning attributes to a service class](#) on page 108.

To configure the default EAHT:

1. In the console tree of Advocate Administration, select **Supervisor > Advocate Options > Default EAHT**.
2. In the results pane, right-click one of the following options:
 - Default Real-time Contact Work EAHT
 - Default Non-Real-time Contact Work EAHT
3. Select **Properties** from the right-click menu.
4. In the **Default EAHT Attributes** dialog box:
 - a. Enter an amount of time in the first field.
 - b. Select one of the following units of time from the drop-down list.
 - Seconds
 - Minutes
 - Hours
 - Days
 - c. Select **OK**.

Repeat Steps 2 through 4 for the other Default EAHT option, if desired.

Configuring a service goal

You can set a service goal before you create the service class. If you want to adjust the thresholds for default service goals, perform the steps in [Modifying a service goal](#) on page 106.

Note:

Service goals are not specific to a service class. You can associate service goals with more than one service class.

This section includes the following topics:

- [Creating a service goal](#) on page 104
- [Modifying a service goal](#) on page 106
- [Deleting a service goal](#) on page 107

Creating a service goal

You can create a new service goal in Advocate Supervisor at any time. For example, you can create a new service goal when you have a new service class or when your contact center sets a different target for customer service.

Create a service goal in the **New Service Goal** dialog box, shown in the following figure.

To create a service goal:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Service Levels > Service Goals**.
2. In the console tree, right-click **Service Goals**.
3. Select **New Service Goal** from the menu.
4. In the **New Service Goal** dialog box, complete the fields as shown in the following table.

Field	Recommended entry	Description
Name	Enter a name for the service goal.	Assign a unique name for the service goal that describes the purpose of the service goal. For example, enter Voice_EmergencyService.
Description	Enter a description for the service goal.	The description should reflect the contents of the service goal.

Field	Recommended entry	Description
Lower	To set the lower threshold: <ol style="list-style-type: none"> 1. In the text field, type a number of time units. 2. From the drop-down list, select the type of time unit. 	If you do not want to use a branding strategy, set the value of the text field at zero. If you use a branding strategy, the lower threshold defines the lower boundary of the target range.
Upper	To set the upper threshold: <ol style="list-style-type: none"> 1. In the text field, type a number of time units. 2. From the drop-down list, select the type of time unit. 	Business Advocate gives priority to those service classes whose upper thresholds are threatened, and activates additional agents until the potential threat has been eliminated If you use a branding strategy, the upper threshold also defines the upper boundary of the target range.
Critical	To set the critical threshold: <ol style="list-style-type: none"> 1. In the text field, type a number of time units. 2. From the drop-down list, select the type of time unit. Select Do not use if you do not want to use a critical threshold. 	Use the critical threshold if you want to configure an agent with a critical activation level for the service class. If you do not want to use a critical threshold, set the value to zero and select Do not use from the drop-down list. The critical threshold activates additional agents to prevent future problems.

5. Select **OK**.

The results pane in Advocate Supervisor displays the new service goal.

Modifying a service goal

When you modify a service goal, the changes take effect immediately on all service classes that use the service goal.

You cannot change the name or description of default service goals.

 **Important:**

If you modify a default service goal, you modify the service goal for all service classes that use the default service goal.

To modify a service goal:

1. In the results pane, double-click the service goal that you want to modify.
2. In the **Service Goal Properties** dialog box, change one or more of the fields shown in the following table.

Field	Notes
Name	You cannot modify the name of system default service goals.
Description	You cannot modify the description of system default service goals.
Lower	<i>Optional.</i> To change the lower threshold: <ol style="list-style-type: none"> 1. In the text field, type a number of time units. 2. From the drop-down list, select the type of time unit. If you do not want to use a lower threshold, leave the value of the text field at zero.
Upper	<i>Required.</i> To change the upper threshold: <ol style="list-style-type: none"> 1. In the text field, type a number of time units. 2. From the drop-down list, select the type of time unit.
Critical	<i>Optional.</i> To change the critical threshold: <ol style="list-style-type: none"> 1. In the text field, type a number of time units. 2. From the drop-down list, select the type of time unit. If you do not want to use a critical threshold, leave the value of the text field at zero, and select Do not use from the drop-down list.

3. Select **OK**.

The results pane displays the changes to the service goal.

Deleting a service goal

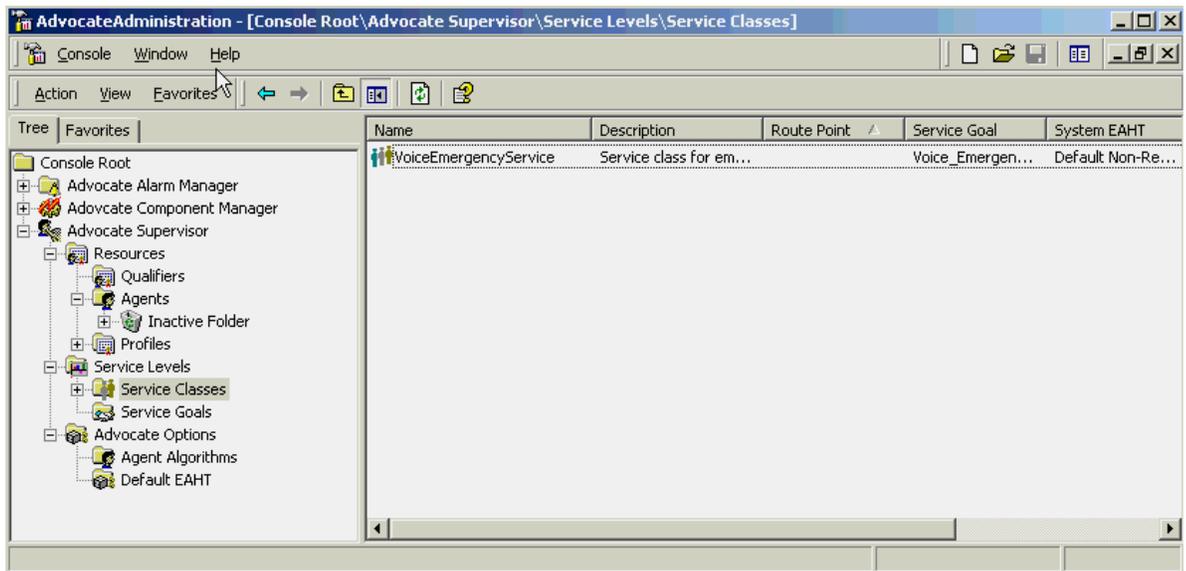
To delete a service goal:

1. Select the service goal from the list in the results pane.
2. Select **Delete**.
3. Select **Yes** to confirm that you want to delete the service goal.

Configuring a service class

You can use the default service classes or you can create a service class for each class of customers that your contact center serves.

You configure a service class in the Service Class section of Advocate Supervisor, shown in the following figure.



This section includes the following topics:

- [Creating a service class](#) on page 108
- [Assigning attributes to a service class](#) on page 108
- [Assigning qualifiers to a service class](#) on page 111
- [Modifying a service class](#) on page 113
- [Deleting a service class](#) on page 115

Creating a service class

You can create a service class for each new class of contact.

To create a service class:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Service Levels > Service Classes**.
2. In the console tree, right-click **Service Classes**.
3. Select **New Service Class** from the menu.
4. In the **New Service Class** dialog box, to complete the service class, continue with the steps [Assigning attributes to a service class](#) on page 108.

Assigning attributes to a service class

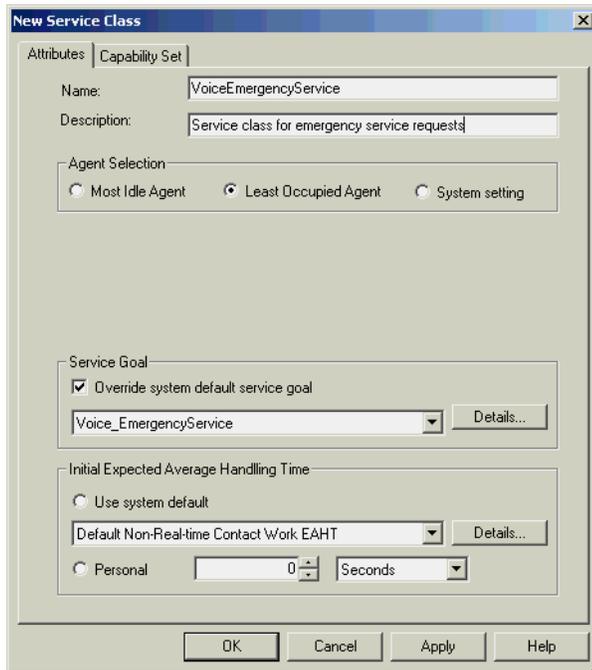
Before you assign attributes to a service class, you must know the following:

- Which agent selection method the service class will use
- Whether the service class will use a system service goal or a custom service goal
- Whether the service class will use the default EAHT or a personal EAHT

Note:

Agent selection applies to service classes. You cannot set an agent selection method for an agent. If you assign an agent to handle service classes with different selection methods, then Business Advocate will use different selection methods when matching the agent with contacts.

You assign attributes to a service class in the **Attributes** tab of the **New Service Class** dialog box, shown in the following figure.



To assign attributes to a service class:

1. In the **New Service Class** dialog box, select the **Attributes** tab.
2. In the **Name** field, type a name for the service class.

Each service class must have a name that is unique within the system. You can use this name as a query field for system reports.

3. In the **Description** field, type a description for the service class.

The description is optional. You can include additional information about the service class or a brief description of the service class.

4. In the **Agent Selection** group, select one of the following options:

- Most Idle Agent
- Least Occupied Agent
- System setting

Managing service classes

5. In the **Service Goal** group, perform the step for the appropriate type of service goal, as shown in the following table.

Type of service goal	Recommended entry
Custom service goal	To use a custom service goal: <ol style="list-style-type: none">1. Check the Override system default service goal box.2. Select a service goal from the drop-down list. If the service goal you want to use is not in the drop-down list, select Details , then follow the appropriate instructions in Creating a service goal on page 104.
System service goal	To use a system service goal: <ol style="list-style-type: none">1. Clear the Override system default service goal box.2. Select a system service goal from the drop-down list. To modify a system service goal, select Details , then follow the appropriate instructions in Modifying a service goal on page 106.

6. In the **Initial Expected Average Handling Time** group, perform the step for the appropriate type of EAHT, as shown in the following table.

Type of EAHT	Recommended entry
System default EAHT	To use the system default EAHT for the service class: <ol style="list-style-type: none">1. Select the Use system default option.2. Select an EAHT from the list. Select Details to view the properties of the selected default EAHT.
Custom EAHT	To use a custom EAHT for the service class: <ol style="list-style-type: none">1. Select the Personal option.2. Enter an amount of time in the first field.3. Select one of the following units of time from the drop-down list.<ul style="list-style-type: none">- Seconds- Minutes- Hours- Days.

7. Select **Apply**.

Continue with [Assigning qualifiers to a service class](#).

Assigning qualifiers to a service class

A service class must include a unique qualifier set. Business Advocate uses the qualifier set to match contacts in the service class with agents. You must create the qualifiers before you can assign them to a service class. For more information, see [Creating a qualifier](#) on page 79.

Note:

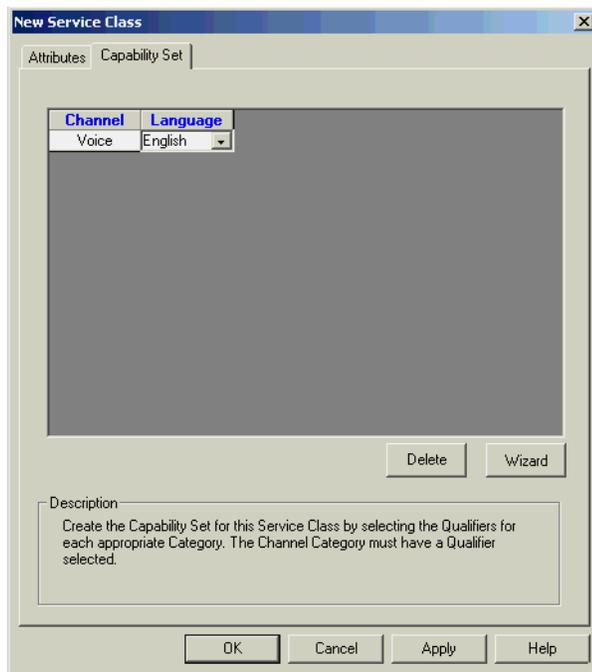
You cannot create two service classes with the same qualifier set. If you try to create a duplicate service class, Advocate Supervisor warns you that the service class already exists. You must delete the original service class before you can create the new service class.

To assign qualifiers to a service class, perform the steps in one of the following sections:

- Use the Capability Set dialog box to assign a qualifier to a service class, as described in [Using the Capability Set tab to assign a qualifier to a service class](#) on page 111.
- Use the Capability Wizard to simultaneously assign multiple qualifiers, as described in [Using the Capability Wizard to assign multiple qualifiers to a service class](#) on page 112.

Using the Capability Set tab to assign a qualifier to a service class

You can use the fields of the Capability Set tab, shown in the following figure, to assign a qualifier to a service class.



Managing service classes

To use the fields of the Capability Set tab to assign a qualifier to a service class:

1. Select the **Capability Set** tab of the **New Service Class** dialog box.
2. To assign a qualifier to the service class:
 - a. Select the empty field below each column.
 - b. Select a value for each item from the drop-down list.
 - Role
 - Activation
 - Display name
 - Channel
 - If desired, one or more columns that represent a qualifier category

Repeat this step for each qualifier that you want to assign to the service class.

3. Select **Apply** after you assign all qualifiers to the service class.

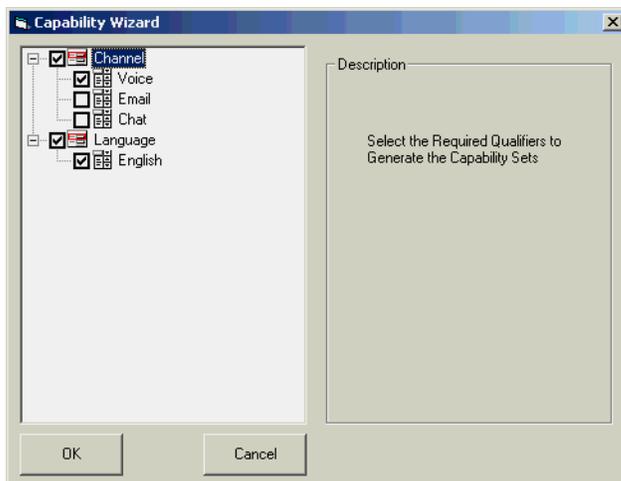
Advocate Supervisor saves the changes to the database and validates your selections. If all selections are valid, Business Advocate updates the changes in real-time.

Advocate Supervisor highlights all rows that contain errors. For example, Advocate Supervisor highlights a row if you did not make a selection in a required column.

4. Select **OK**.

Using the Capability Wizard to assign multiple qualifiers to a service class

You can use the Capability Wizard, shown in the following figure, to assign multiple qualifiers to a service class.



To use the Capability Wizard to assign multiple qualifiers to a service class:

1. Select the **Capability Set** tab of the **New Service Class** dialog box.
2. Select **Wizard**.
3. In the **Capability Wizard** dialog box:
 - a. Select a box to add a checkmark next to each qualifier that you want to include in this service class.

Tip:

Select the **+** sign next to a category to see the available qualifiers in that category.

- b. When you have selected all the qualifiers in the service class, click **OK**.
4. In the **Capability Set** tab, select **Apply**.
5. Select **OK**.

Modifying a service class

You can modify a service class to change the attributes or change one or more qualifiers in the qualifier set.

When you change a qualifier in a service class, you delete the original service class and create a new service class with the same name.

 **Important:**

Business Advocate updates service classes in real-time. As a result, a change to the qualifier set can affect whether a contact in queue matches the service class. If contacts in queue do not match a service class, Business Advocate dynamically creates a service class for those contacts.

To modify a service class:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Service Levels > Service Classes**.
2. In the results pane, double-click the service class that you want to modify.
3. To change the attributes of a service class, select the **Attributes** tab.
4. Change one or more of the fields on the tab.

For more information about the fields, see [Assigning attributes to a service class](#) on page 108.

5. To change the qualifiers in a service class, select the **Capability Set** tab.

Managing service classes

6. Perform one or more of the following steps:

- To add a qualifier to the service class, follow the steps in [Assigning qualifiers to a service class](#) on page 111.
- To delete a qualifier from the service class:
 - i. Select the qualifier in the list of qualifiers.
 - ii. In the first column, select the blank field from the drop-down list.

7. Select **Apply**.

8. Select **OK**.

Advocate Supervisor updates the service class and displays the modified service class in the results pane.

Examples: modifying a service class

The following table shows the changes you can make to a service class.

Change	Result
Change a field that affects how Business Advocate matches a contact with the service class, such as the qualifier set for Service Class A with no contacts in queue.	Business Advocate does the following: <ul style="list-style-type: none">● Deletes the original Service Class A● Creates a new Service Class A with the new settings
Change a field that affects how Business Advocate matches a contact with the service class, such as the qualifier set, for Service Class A with contacts in queue.	Business Advocate does the following: <ul style="list-style-type: none">● Dynamically creates a service class with default goals, EAHT, and qualifiers● Transfers contacts from the original Service Class A to the new service class● Deletes the original Service Class A● Creates a new Service Class A with the new settings
Change one or more of the following fields for Service Class A whether or not there are contacts in queue: <ul style="list-style-type: none">● Name● Description● Initial EAHT● Service goal● Agent selection Note: Changes to these fields do not affect how Business Advocate matches contacts to agents.	The requested changes are made to Service Class A.

Deleting a service class

Do not delete a service class if a queue includes contacts in that service class.

If you delete a service class which has contacts in queue, Business Advocate dynamically recreates the service class. This dynamic service class uses default service goals and EAHT. Business Advocate does not automatically delete the dynamic service class when the contacts have been matched with agents.

**CAUTION:**

When you delete a service class, you do not delete an associated custom service goal.

To delete a service class:

1. Customize the mapping of qualifiers in the qualification workflow to make sure that Business Advocate does not qualify a new contact with the service class to be deleted.
2. Make sure that no contacts in the service class remain in a queue waiting to be matched to an agent.
3. Delete the service class:
 - a. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Service Levels > Service Classes**.
 - b. In the results pane, select the service class from the list.
 - c. Select **Delete**.
 - d. In the confirmation dialog box, select **Yes** to confirm that you want to delete the service class permanently.

The service class disappears from the results pane list when you refresh the view.

Managing service classes

■ ■ ■ ■ ■ ■

Chapter 7: Configuring core Business Advocate components

To configure the core components that Business Advocate requires, review and complete the steps in the following sections:

1. [Prerequisites for configuring core components](#) on page 117.
2. [Configuring database connections](#) on page 118.
3. [Configuring customer profile attributes](#) on page 134.
4. [Configuring Directory servers](#) on page 136.
5. [Logical Resource Manager](#) on page 136.
6. [Resource Manager server](#) on page 139.

Prerequisites for configuring core components

Before you configure the core components for Business Advocate, do the following:

1. Plan your Avaya IC system with Business Advocate, including the following:
 - Server distribution
 - Supported media
 - Required qualifiers and service classes

For more information, see [Business Advocate components](#) on page 41 and *IC Installation Planning and Prerequisites*.

2. Complete all prerequisites for the components in your Avaya IC system. For more information, see *IC Installation Planning and Prerequisites*.
3. Install and configure your Avaya IC system, including all media in your system. For more information, see *IC Installation and Configuration*.

Configuring core Business Advocate components

4. Install and configure at least one agent or administration desktop with the ListQ application. For more information, see *IC Installation and Configuration*.
5. Install the Business Advocate components on the machines that host your Resource Manager server and Advocate Supervisor. For more information, see *IC Installation and Configuration*.

Configuring database connections

To provide access between the Avaya IC databases and the Business Advocate database, configure database connections. The steps you perform are the same whether you host your Business Advocate database on the same machine as the Avaya IC databases or on a different machine.

 **Important:**

You do not need to reconfigure the Avaya IC databases when you configure database connections for Business Advocate.

This section describes how to configure a connection from the Business Advocate database and the Avaya IC databases. This section includes the following topics:

1. [Creating a Data server for the Business Advocate database](#) on page 119.
2. [Configuring the IC Repository database connection](#) on page 120.
3. [Configuring the IC Repository connection set](#) on page 125.
4. [Regenerating the IC Repository application](#) on page 125.
5. [Configuring the CCQ database connection](#) on page 126.
6. [Configuring the CCQ connection set](#) on page 131.
7. [Regenerating the Interaction Center application](#) on page 132.

Creating a Data server for the Business Advocate database

Avaya recommends that you create a dedicated Data server for Avaya IC to use for connections to the Business Advocate database.

 **Important:**

This step is not optional if you use a different type of database for the Business Advocate database than you use for the Avaya IC databases. For example, if you use DB2 for the Avaya IC databases and SQL Server for the Business Advocate database, you cannot use the same Data server for these databases.

To create a Data server for the Business Advocate database.

1. In IC Manager, select the **Server** tab, then:
 - a. Select **Server > New**.
 - b. Select one of the servers in the following table from the list of servers.

Server	Purpose
DataServerMSSQL	If you use Microsoft SQL Server for your Business Advocate database.
DataServerOracle	If you use Oracle for your Business Advocate database.

- c. Select **OK**.

2. Select the **General** tab and complete the fields as shown in the following table.

Field	Recommended entry	Notes
Name	Enter one of the following: <ul style="list-style-type: none"> ● DataServerMSSQL OR <ul style="list-style-type: none"> ● DataServerOracle 	Make sure this server name includes the type of database in your Avaya IC system. You need this name to configure the Business Advocate connection.
Domain	Select the domain of your secondary Data server from the drop-down list.	–

Configuring core Business Advocate components

Field	Recommended entry	Notes
Host	Select the machine's IP address from the drop-down list, or type in the IP address if it is not in the list.	When you select the host, IC Manager fills in the fields for Directory, Port, and Executable.
AutoStart	Check this property.	–

3. Select the **DataServer** tab and complete the fields as shown in the following table.

Field	Recommended entry	Notes
DBA Login	Enter your DBA user name.	For example, enter sa . Important: Enter a DBA login ID for the database server. Do not use the DBA login for a database client.
DBA Password	Enter your DBA password.	–

4. Select **OK** to save the Data server configuration.

5. In IC Manager, start the new Data server.

Configuring the IC Repository database connection

To configure the IC Repository database connection:

1. In Database Designer, select **File > Open**.

2. Open the IC Repository ADL file.

You can find this ADL file in

`IC_INSTALL_DIR\IC70\design\repository\repository.adl`

If you have enabled Database Designer for localization, Select **OK** and ignore the warning about the missing ALF file. Database Designer will automatically generate the ALF file when you save the ADL file.

3. Expand **Components > Physical DB Connections** and select **advocateDBConnection** in the tree pane.

4. In the DB Connection **Properties** tab, complete the fields in the General group as shown in the following table.

Property	Recommended entry	Notes
Timeout (sec)	Enter the maximum number of seconds that the client application waits for a response to a database request before the application assumes the connection to the Data server is lost.	Default value is 60 seconds. If no response is returned within the specified time, the client application closes the connection to the Data server and returns an error. The client application attempts to create a new connection to the database on the next database request.
Description	Enter a description of the database connection, if desired.	You can leave this field empty.
Display Time	Select the display time setting.	The display time option determines how Avaya IC handles the difference in time between the agent desktop machine and the time as reported by the Database for all database activities, such as select, insert, and update. The display time options are: <ul style="list-style-type: none"> ● DBMSTIME – Select this option if you want the DateTime data to display as database time, and not adjusted to local time. With DBMSTIME, Avaya IC ignores the difference in time and does not apply the difference to any database activity. ● LOCALTIME if you want the DateTime data to display as adjusted to local time on the client. With LOCALTIME, Avaya IC uses the difference in time, rounds it to the nearest half hour, and applies this difference to all database activity that involves date and time information. ● HOSTTIME if you want the DateTime data to display as adjusted to the local host time, including small differences between system clocks. With HOSTTIME, Avaya IC uses the difference in time and applies this difference to all database activity that involves date and time information.

5. From the Database Type drop-down menu, select the type of database to which you want to connect.

Database Designer uses the selected database type to generate a SQL statement which can be applied to the database.

Configuring core Business Advocate components

6. Complete the Mandatory fields for your database, as shown in the following table.

Database type	Property	Recommended entry	Notes
All database types	Data Server Type/Alias	Enter the name of the primary Data server.	You created this server in Creating a Data server for the Business Advocate database on page 119. For example, defaults are: <ul style="list-style-type: none"> ● DataServerMSSQL ● DataServerOracle
SQL Server	Database server	Enter the host name of the machine that hosts your database server.	For the default database instance, enter the host name. For another database instance, enter <code><machine>\<db_name></code> .
	Database Name	Enter the name of the Business Advocate database.	Avaya recommends that you use advocate to reduce the possibility of a migration impact.
Oracle	TNS Name	Enter the server alias from the tnsnames.ora file	For example, enter support.xyzcorp.com .
	Database Name	Enter the name of the Oracle user for the Advocate database. For example, advocate .	Avaya recommends that you use advocate to reduce the possibility of a migration impact.
	Client Library Home Directory	Enter the full directory path for the Oracle client on the machine that hosts the Data server.	For example, enter an <code><oracle_install_dir>/</code> such as opt/oracle/8.1.7

7. If necessary, complete the Optional fields for your database, as shown in the following table.

Database type	Property	Recommended entry	Notes
SQL Server	Database Location	Leave field blank.	Identifies the logical space where the named database is stored. The SQL Server DBMS specifies the database location.
	Database Size	Leave field blank.	The size of the database location specifies the amount of space that the configured application database occupies. The SQL Server RDBMS specifies the database size.
	Log Location	Leave field blank.	Database-generated log files store cumulative transaction information. The SQL Server RDBMS specifies a default location for the database log.
	Log Size	Leave this field blank.	The size of the location for database log files specifies the amount of space that the database-generated log files can occupy. The SQL Server RDBMS specifies a default size for the database log.

Configuring core Business Advocate components

Database type	Property	Recommended entry	Notes
Oracle	Default tablespace name	Enter the name of the default tablespace where objects are created for the Avaya IC databases. For example, enter IC_TS .	The database location identifies the logical space where the named database is stored. If you leave this field blank, and the Oracle RDBMS does not specify a database location, Oracle uses the "system" space to define the database. Caution: Configuring a database in the system space can crash your database.
	Default tablespace size	Enter the number of bytes for the size of the default tablespace.	The size of the database location specifies the amount of space that the configured application database occupies. Caution: If you do not specify a size for the database location, and your RDBMS does not specify a default database size, the database location can use all available space.
	Temp tablespace name	Enter the name of the tablespace that stores temporary files. For example, enter T_CI_TEMP .	Temporary tables store database-generated intermediate sorting files and client session information for Oracle databases. If you do not specify a location for temporary tables, the location is specified by the Oracle RDBMS.
	Temp tablespace size	Enter the number of bytes for the size of the tablespace that includes temporary tables.	The size of the location for temporary tables in Oracle databases specifies the amount of space that the temporary tables can occupy. If you do not specify the amount of space to be allocated for temporary tables, the size is specified by the Oracle RDBMS.

8. Select **File > Save** to save the ADL file. Do not close the file.

Configuring the IC Repository connection set

To configure the connection set for IC Repository:

1. In Database Designer, expand **DB Connection Sets** and select **DefaultDBConnectionSet** in the tree pane.
2. Select **Advocate** from the **Logical DB Connections** list in the Connection Set **Properties** tab.
3. Make sure the properties are set as shown in the following table.

Field	Recommended entry
Physical DB Connection	Select advocateDBConnection .
Primary	Do not check this box.
Use External Database	Check this box.
Database Name	Enter advocate . This name must be the exact name that you gave the Business Advocate database for the first Logical Resource Manager.

4. Select **Repository** from the **Logical DB Connections** list.
5. Make sure the properties are set as shown in the following table.

Field	Recommended entry
Physical DB Connection	Select repositoryDBConnection .
Primary	Check this box.

6. Select **File > Save** to save the ADL file. Do not close the file.

Regenerating the IC Repository application

To regenerate the IC Repository application:

1. In Database Designer, select **File > Generate Windows Application**.
2. Check the following boxes to load the files to the database:
 - Messages
 - IC Scripts

Configuring core Business Advocate components

3. Select **repository** from the **Name** list.
4. Enter the path for the directory where you want Database Designer to store the application files.
For example, enter `C:\Program Files\Avaya\IC61\apps`.
If you do not know the directory path, select the **Ellipsis (...)** button and navigate to the directory.
5. From the **DB Connection Set** drop-down list, select **defaultDBConnectionSet**.
6. If necessary, enter your IC Manager account and password.
7. Select **OK**.
8. Select **OK** to confirm that you want to replace the application files.
Database Designer updates the IC Repository application with the Business Advocate database connection information.
9. Select **File > Close** to close the IC Repository ADL file.

Configuring the CCQ database connection

To configure the CCQ database connection:

1. In Database Designer, select **File > Open**.
2. Open the CCQ ADL file.
You can find this ADL file in
`IC_INSTALL_DIR\IC70\design\CallCenterQ\ccq.adl`
If you have enabled Database Designer for localization, Select **OK** and ignore the warning about the missing ALF file. Database Designer will automatically generate the ALF file when you save the ADL file.
3. Expand **Components > Physical DB Connections** and select **advocateDBConnection** in the tree pane.

4. In the DB Connection **Properties** tab, complete the fields in the General group as shown in the following table.

Property	Recommended entry	Notes
Timeout (sec)	Enter the maximum number of seconds that the client application waits for a response to a database request before the application assumes the connection to the Data server is lost.	Default value is 60 seconds. If no response is returned within the specified time, the client application closes the connection to the Data server and returns an error. The client application attempts to create a new connection to the database on the next database request.
Description	Enter a description of the database connection, if desired.	You can leave this field empty.
Display Time	Select the display time setting.	The display time option determines how Avaya IC handles the difference in time between the agent desktop machine and the time as reported by the Database for all database activities, such as select, insert, and update. The display time options are: <ul style="list-style-type: none"> ● DBMSTIME – Select this option if you want the DateTime data to display as database time, and not adjusted to local time. With DBMSTIME, Avaya IC ignores the difference in time and does not apply the difference to any database activity. ● LOCALTIME if you want the DateTime data to display as adjusted to local time on the client. With LOCALTIME, Avaya IC uses the difference in time, rounds it to the nearest half hour, and applies this difference to all database activity that involves date and time information. ● HOSTTIME if you want the DateTime data to display as adjusted to the local host time, including small differences between system clocks. With HOSTTIME, Avaya IC uses the difference in time and applies this difference to all database activity that involves date and time information.

5. From the Database Type drop-down menu, select the type of database to which you want to connect.

Database Designer uses the selected database type to generate a SQL statement which can be applied to the database.

Configuring core Business Advocate components

6. Complete the Mandatory fields for your database, as shown in the following table.

Database type	Property	Recommended entry	Notes
All database types	Data Server Type/Alias	Enter the name of the primary Data server.	You created this server in Creating a Data server for the Business Advocate database on page 119. For example, defaults are: <ul style="list-style-type: none"> ● DataServerMSSQL ● DataServerOracle
SQL Server	Database server	Enter the host name of the machine that hosts your database server.	For the default database instance, enter the host name. For another database instance, enter <code><machine>\<db_name></code> .
	Database Name	Enter the name of the Business Advocate database.	Avaya recommends that you use advocate to reduce the possibility of a migration impact.
Oracle	TNS Name	Enter the server alias from the tnsnames.ora file	For example, enter support.xyzcorp.com .
	Database Name	Enter the name of the Oracle user for the Business Advocate database.	Avaya recommends that you use advocate to reduce the possibility of a migration impact.
	Client Library Home Directory	Enter the full directory path for the Oracle client on the machine that hosts the Data server.	For example, enter an <code><oracle_install_dir>/</code> such as opt/oracle/8.1.7

7. If necessary, complete the Optional fields for your database, as shown in the following table.

Database type	Property	Recommended entry	Notes
SQL Server	Database Location	Leave field blank.	Identifies the logical space where the named database is stored. The SQL Server DBMS specifies the database location.
	Database Size	Leave field blank.	The size of the database location specifies the amount of space that the configured application database occupies. The SQL Server RDBMS specifies the database size.
	Log Location	Leave field blank.	Database-generated log files store cumulative transaction information. The SQL Server RDBMS specifies a default location for the database log.
	Log Size	Leave this field blank.	The size of the location for database log files specifies the amount of space that the database-generated log files can occupy. The SQL Server RDBMS specifies a default size for the database log.

Configuring core Business Advocate components

Database type	Property	Recommended entry	Notes
Oracle	Default tablespace name	Enter the name of the default tablespace where objects are created for the Avaya IC databases. For example, enter IC_TS .	The database location identifies the logical space where the named database is stored. If you leave this field blank, and the Oracle RDBMS does not specify a database location, Oracle uses the "system" space to define the database. Caution: Configuring a database in the system space can crash your database.
	Default tablespace size	Enter the number of bytes for the size of the default tablespace.	The size of the database location specifies the amount of space that the configured application database occupies. Caution: If you do not specify a size for the database location, and your RDBMS does not specify a default database size, the database location can use all available space.
	Temp tablespace name	Enter the name of the tablespace that stores temporary files. For example, enter T_CI_TEMP .	Temporary tables store database-generated intermediate sorting files and client session information for Oracle databases. If you do not specify a location for temporary tables, the location is specified by the Oracle RDBMS.
	Temp tablespace size	Enter the number of bytes for the size of the tablespace that includes temporary tables.	The size of the location for temporary tables in Oracle databases specifies the amount of space that the temporary tables can occupy. If you do not specify the amount of space to be allocated for temporary tables, the size is specified by the Oracle RDBMS.

8. Select **File > Save** to save the ADL file. Do not close the file.

Configuring the CCQ connection set

To configure the CCQ connection set:

1. In Database Designer, expand **DB Connection Sets** and select **DefaultDBConnectionSet** in the tree pane.
2. Select **Advocate** from the **Logical DB Connections** list and make sure the properties are set as shown in the following table.

Field	Recommended entry
Physical DB Connection	Select advocateDBConnection .
Primary	Do not check this box.
Use External Database	Check this box.
Database Name	Enter advocate . This name must be the exact name that you gave the Business Advocate database for the first Logical Resource Manager.

3. Select **CallCenterQ** from the **Logical DB Connections** list in the Connection Set **Properties** tab and make sure the properties are set as shown in the following table.

Field	Recommended entry
Physical DB Connection	Select ccqDBConnection .
Primary	Check this box.

4. Select **File > Save** to save the ADL file. Do not close the file.

Regenerating the Interaction Center application

To regenerate the Interaction Center application:

1. In Database Designer, select **File > Generate Windows Application** to open the **Generate Windows Application** dialog box.
2. Complete the fields as shown in the following table.

Field	Recommended entry
Messages	Check this box.
IC Scripts	Check this box.
Forms	Check this box.

3. If the Avaya IC system includes Avaya Agent and you used the Interaction Center application to upload the Avaya Agent layout, complete the fields as shown in the following table.

Field	Recommended entry
Avaya Agent Layout	<ul style="list-style-type: none"> ● Check this box. ● Enter the path and file name for the layout file, as follows: <code><install_dir>\IC61\design\QConsole\avaya_agent_<lang>.cdl</code> where <code><lang></code> is the language of the agent desktop. For example, if Avaya Agent is in English, select <code>avaya_agent_en.cdl</code>
EDU Layout	<ul style="list-style-type: none"> ● Check this box. ● Enter the path and file name for the layout file, as follows: <code><install_dir>\IC61\design\QConsole\eduviewer_<lang>.xsl</code> where <code><lang></code> is the language on the agent desktop. For example, if Avaya Agent is in English, select <code>eduviewer_en_US.xsl</code>

4. Select **interaction_center** from the **Name** list.
5. Enter the path for the directory where you want Database Designer to store the application files.

For example, enter `C:\Program Files\Avaya\IC61\apps`.

If you do not know the directory path, select the **Ellipsis (...)** button and navigate to the directory.

6. From the **DB Connection Set** drop-down list, select **defaultDBConnectionSet**.
You do not need to re-enter your IC Manager account and password.
7. Select **OK**.
8. Select **OK** to confirm that you want to replace the application files.
Database Designer creates a new folder with the same name as the application in the target directory. This folder contains the Interaction Center ADL files.
9. Select **File > Save** to save the ADL file. Do not close the file.

Generating the ListQ application

You use ListQ to configure the customer profile attributes used by Business Advocate qualification workflows. You generate ListQ from the CCQ ADL file.

 **Important:**

If you have already generated the ListQ application, you must regenerate the application for Business Advocate.

To generate the ListQ application:

1. If you have not already done so, in Database Designer, select **File > Open** and open the CCQ ADL file.
2. Select **File > Generate Windows Application** to open the **Generate Windows Application** dialog box.
3. Complete the fields as shown in the following table.

Field	Recommended entry
Messages	Check this box.
IC Scripts	Check this box.
Forms	Check this box.

4. Select **listq** from the **Name** list.
5. Enter the path for the directory where you want Database Designer to store the application files.
For example, enter `C:\Program Files\Avaya\IC70\apps`.
If you do not know the directory path, select the **Ellipsis (...)** button and navigate to the directory.

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6. From the **DB Connection Set** drop-down list, select **defaultDBConnectionSet**.
You do not need to re-enter your IC Manager account and password.
7. Select **OK**.
8. Select **OK** to confirm that you want to replace the application files.
Database Designer creates a new folder with the same name as the application in the target directory. This folder contains the ListQ files.
9. Select **File > Save** to save the ADL file.
10. Select **File > Exit** to close Database Designer.

Configuring customer profile attributes

The Business Advocate qualification workflows use customer profile attributes to qualify a contact. You configure the customer attributes in the Profile Administration form and Customer form of the ListQ application.

This section includes the following topics with the steps that you must perform to configure customer attributes:

1. [Creating customer profile attributes](#) on page 134.
2. [Assigning customer profile attributes to customer records](#) on page 135.

Creating customer profile attributes

Create customer profile attributes in the Profile Administration form of ListQ.

 **Important:**

The customer attributes are case sensitive and do not accept spaces. Enter them exactly as set out below.

To create customer profile attributes.

1. From ListQ, open the **Customer/List Administration** focus.
2. Select **Profile Admin**.
3. In the **Profile Admin** form, select **New**.
4. In the **Profile Attribute** group:
 - a. Select the **Customer** checkbox.
 - b. Select the **Organization** checkbox.

- c. In the **Name** field, enter **customertype**.
 - d. In the **Description** field, enter a description of the attribute.
5. Select **Update**.

Repeat Steps 3 through 5 and enter the following attributes in the Name field:
preferredagent and **language**.

6. Do not close the Profile Admin form.

Assigning customer profile attributes to customer records

Assign customer profile attributes in the Customer Profile form of ListQ.

To create customer profile attributes.

1. From ListQ, open the **Customer/List Administration** focus.
2. Select **Customer Profile**.
3. Enter the search criteria to find the customers for a profile attribute and select **Search**.
4. In the browser at the top of the page, select a Customer record.
5. Select **Change**.
6. In the **Customer Profile** group:
 - a. Select the Attribute column of a blank attribute row.
 - b. Select a profile attribute and assign a value in the value field as shown in the following table.

Profile attribute	Value
customertype	Enter the qualifier value for the customertype category that applies to this customer. For example, if you use the customertype values for the sample workflows, enter a value of gold, silver, or bronze.
language	Enter the two character ISO-639-1 code that matches the preferred language of this customer. For example, enter en for English or de for German.
preferredagent	A valid login ID for the Avaya IC agent preferred by this customer.

7. After you have assigned all of the relevant profile attributes to the customer, select **Update**.

Repeat these steps for each customer in the contact center.

Configuring Directory servers

CAUTION:

You must perform the following steps on every Directory server in your Avaya IC system. If you omit this step for a Directory server, Business Advocate cannot work properly.

To configure a Directory server for Business Advocate:

1. In IC Manager, select the **Server** tab.
2. Double-click the Directory server in the list of servers.
3. Select the **Advocate** tab.
4. Check the **Enable Advocate** box.
5. Select **Apply**.
6. Select **OK**.
7. Stop and restart the Directory server.
8. When the Alarm Monitor indicates that the Directory server has started properly, select **Manager > Refresh**.

Logical Resource Manager

Business Advocate requires a Logical Resource Manager for every active Resource Manager server. Other Business Advocate components, such as the Telephony Services Adaptor server and the Web Advocate Adaptor server, use the Logical Resource Manager to access a Resource Manager server.

This section describes the possible configurations for Logical Resource Managers, and the steps to create and configure Logical Resource Managers. This section includes the following topics:

- [Guidelines for the Logical Resource Manager](#) on page 137.
- [Creating a Logical Resource Manager](#) on page 137.

- [Modifying a Logical Resource Manager](#) on page 138.
- [Deleting a Logical Resource Manager](#) on page 139.

Guidelines for the Logical Resource Manager

A Logical Resource Manager can be one of the following:

- A pair of Resource Manager servers, with one active Resource Manager server and one standby Resource Manager server. Designate one Resource Manager server as the active server, and the other Resource Manager server as a standby. The standby Resource Manager server becomes the active Resource Manager server if the active server fails.
- A single Resource Manager server that distributes work to all agents. Only use this configuration for a Logical Resource Manager if the Business Advocate does not require any fault tolerance.

After you create the Logical Resource Manager, you create and assign Resource Manager servers.

Creating a Logical Resource Manager

You create a Logical Resource Manager in the **Configuration** tab of IC Manager. The Resource Manager node is below the Tables node in the left pane of the Configuration tab.

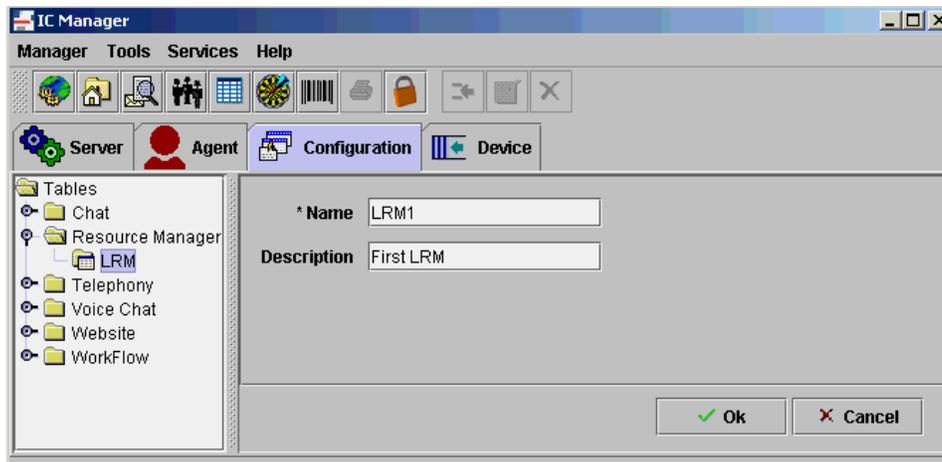
To create a Logical Resource Manager:

1. In IC Manager, select the **Configuration** tab.
2. In the left pane, select **Tables > Resource Manager > LRM** to navigate to the LRM node.

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3. Right-click on the LRM node and select **New**.

The right pane, shown in the following figure, displays the fields you must complete to create a Logical Resource Manager.



4. In the **Name** field, enter a unique name for the Logical Resource Manager.
5. In the **Description** field, enter a description of the Logical Resource Manager.

The description field is required.

6. Select **Apply**.
7. Select **OK**.
8. Select **Manager > Refresh**.

If you do not receive a Success message, restart the machine that hosts the Directory server, then repeat this step.

Modifying a Logical Resource Manager

If you have already assigned Resource Manager servers to the Logical Resource Manager, start the assigned Resource Manager servers before you modify the Logical Resource Manager.

If the Logical Resource Manager does not have any assigned Resource Manager servers, you do not need to start any Resource Manager servers.

To modify a Logical Resource Manager:

1. In IC Manager, click the **Configuration** tab.
2. If you cannot see the LRM node, select **Tables > Resource Manager > LRM** to navigate to the LRM node.
3. If necessary, select the LRM node to expand it.

4. Select the Logical Resource Manager that you want to modify.
5. Modify the entry in one or both of the following fields:
 - Name
 - Description.
6. Select **Apply**.
7. Select **OK**.

Deleting a Logical Resource Manager

You cannot delete a Logical Resource Manager that is associated with one of the following:

- Telephony Services Adaptor
- Web Advocate Adaptor
- Agent

Associate these components with another Logical Resource Manager before you delete a Logical Resource Manager.

To delete a Logical Resource Manager:

1. In IC Manager, click the **Configuration** tab.
2. If you cannot see the LRM node, select **Tables > Resource Manager > LRM** to navigate to the LRM node.
3. In the right pane, select the Logical Resource Manager that you want to delete.
4. Select **Delete**.
5. Select **OK**.

Resource Manager server

This section describes the possible configurations for Resource Manager servers, and the steps to create and configure Resource Manager servers. This section includes the following topics:

- [Adding a Resource Manager server](#) on page 140.
- [Shutting down a Resource Manager server](#) on page 142.
- [Modifying a Resource Manager server](#) on page 147.
- [Deleting a Resource Manager server](#) on page 148.

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For guidelines on how to plan and deploy the Resource Manager servers in your Business Advocate system, see *IC Installation Planning and Prerequisites*.

For more information about the Resource Manager server, see [Resource Manager server](#) on page 42.

Adding a Resource Manager server

To add a Resource Manager server, you must create the Resource Manager server, then specify its role. This section includes the following topics:

1. [Creating a Resource Manager server](#) on page 140.
2. [Assigning the initial role to the Resource Manager server](#) on page 141.

Creating a Resource Manager server

To create a Resource Manager server:

1. In IC Manager, select **Server > New**.
2. Select Resource Manager from the list of servers.
3. Select **OK**.
4. On the **General** tab, complete the fields shown in the following table.

Field	Recommended entry	Notes
Name	ResourceManager_<domain>	Include the domain in the server name to identify the server.
Domain	Select the Avaya IC domain for the server from the drop-down list.	The Resource Manager server needs to be in a unique Avaya IC domain, such as RM_Helper1 . The domain with the Resource Manager server should failover to itself, to the Default domain, and to all other domains that include a License server. For more information, see <i>IC Installation Planning and Prerequisites</i> .
Host	Select the IP address of the machine from the drop-down list, or type in the IP address if it is not in the list.	When you select the host, IC Manager fills in the fields for Directory, Port, and Executable.

5. On the **Resource Manager** tab, select the name of the Logical Resource Manager for the Resource Manager from the **LRM** drop-down list.

You cannot assign a Logical Resource Manager to more than two Resource Manager servers: the primary server and the standby server. IC Manager displays an error message if you attempt to assign a third Resource Manager server to the same Logical Resource Manager.

6. Select **Apply**.
7. Select **OK**.

Assigning the initial role to the Resource Manager server

Use the Business Advocate Component Manager to assign the initial role to the Resource Manager server. The role designates the tasks that the Resource Manager server performs for the Logical Resource Manager.

The following table describes the roles of the Resource Manager servers.

Role	Description
Primary	The active Resource Manager server. This server performs all tasks for the Logical Resource Manager. If the Logical Resource Manager contains only one Resource Manager server, assign it primary role.
Secondary	A standby Resource Manager server. This server is in standby mode unless the primary Resource Manager server fails. If the primary server fails, this Resource Manager server becomes the primary server. When the failed server restarts, that server becomes the secondary server.

Tip:

The roles of Resource Manager servers are dynamic. If the active Resource Manager server fails, Business Advocate automatically changes the role of the standby server.

To assign an initial role to the Resource Manager server:

1. In the console tree of Advocate Administration, expand **Advocate Component Manager**.
2. Double-click the machine which hosts the Resource Manager server.
3. In the results pane, right-click the entry for Resource Manager and select **Availability Config**.
4. In the **High Availability Config** dialog box:
 - a. Select one of the following options:

Configuring core Business Advocate components

- Primary
 - Secondary
- b. Select **OK**.
5. If you selected the Secondary role in Step 4:
- a. Right-click the entry for the machine and select **Properties**.
 - b. In the **Component Properties** dialog box, check the **Enable** box.
 - c. Select **OK**.

Viewing the role of a Resource Manager server

You can view the role of the Resource Manager server in IC Manager. If you want to change the role of the Resource Manager server, use Component Manager.

To view the role of a Resource Manager server:

1. In IC Manager, double-click the Resource Manager server in the list of servers.
2. Select the **Advanced** tab.
3. Select **Server Status**.
4. In the status dialog box:
 - a. Select the **HighAvailabilityRole** property.
 - b. The **Value** field will display one of the values shown in the following table.

Value	Description
Primary	This Resource Manager server is the active server in the Logical Resource Manager.
Secondary	This Resource Manager server is the standby server in the Logical Resource Manager.

- c. Select **OK** to close the status dialog box.
5. Select **OK** to close the server editor for the Resource Manager server.

Shutting down a Resource Manager server

When you shut down a Resource Manager server, Business Advocate considers that Resource Manager server to be inactive. The effect of an inactive Resource Manager server on the qualification of incoming contacts is determined by the following:

- The media channel of the incoming contacts
- The role of the Resource Manager server in a Logical Resource Manager

This section includes the following topics that describe the impact of shutting down a Resource Manager server on contacts in the different media channels:

- [Impact of server shutdown on the qualification of voice contacts](#) on page 143.
- [Impact of server shutdown on the qualification of chat contacts](#) on page 144.
- [Impact of server shutdown on the qualification of email contacts](#) on page 145.
- [Stopping a Resource Manager server](#) on page 146.

Impact of server shutdown on the qualification of voice contacts

Business Advocate matches voice contacts with available, qualified agents. To receive voice contacts, the agents must be logged in to Business Advocate through their assigned Logical Resource Manager.

The following table describes what happens to incoming voice contacts if you shut down a Resource Manager server.

Role of Resource Manager server	Impact on incoming voice contacts
Active Resource Manager server in a Logical Resource Manager with two servers.	Business Advocate activates the standby Resource Manager server. Business Advocate continues to qualify and match voice contacts with available agents who are assigned to the Logical Resource Manager. Note: The qualification of voice contacts with this Logical Resource Manager might suffer a minor interruption of service until the standby server is completely active.
Standby Resource Manager server in a Logical Resource Manager with two servers.	No effect on the Logical Resource Manager unless the active Resource Manager server fails. Business Advocate continues to qualify and match voice contacts with available agents who are assigned to the Logical Resource Manager.

Configuring core Business Advocate components

Role of Resource Manager server	Impact on incoming voice contacts
<ul style="list-style-type: none"> ● Both Resource Manager servers in a Logical Resource Manager with two servers. ● Active Resource Manager server in a Logical Resource Manager with one server. 	<p>Logical Resource Manager fails with the following consequences:</p> <ul style="list-style-type: none"> ● All TSA servers that are assigned to this Logical Resource Manager notify their Telephony servers that the Logical Resource Manager has failed. ● The Telephony server shuts down the associated link to make sure that all voice contacts on that link failover to the switch. ● Any agents who service failover queues for the failed links receive voice contacts from the switch. If the link groups for the agents are configured correctly, the agents do not receive contacts from Business Advocate while they service the failover queues.

Impact of server shutdown on the qualification of chat contacts

Business Advocate matches chat contacts with available, qualified agents. To receive chat contacts, the agents must be logged in to Business Advocate through their assigned Logical Resource Manager.

The following table describes what happens to chat contacts if you shut down a Resource Manager server.

Role of Resource Manager server	Impact on incoming chat contacts
<p>Active Resource Manager server in a Logical Resource Manager with two servers.</p>	<p>Business Advocate activates the standby Resource Manager server.</p> <p>Business Advocate continues to qualify and match chat contacts with available agents who are assigned to the Logical Resource Manager.</p> <p>Note: The qualification of chat contacts with this Logical Resource Manager might suffer a minor interruption of service until the standby server is completely active.</p>
<p>Standby Resource Manager server in a Logical Resource Manager with two servers.</p>	<p>No effect on the Logical Resource Manager unless the active Resource Manager server fails.</p> <p>Business Advocate continues to qualify and match chat contacts with available agents who are assigned to the Logical Resource Manager.</p>

Role of Resource Manager server	Impact on incoming chat contacts
<ul style="list-style-type: none"> ● Both Resource Manager servers in a Logical Resource Manager with two servers. ● Active Resource Manager server in a Logical Resource Manager with one server. 	<p>Logical Resource Manager fails with the following consequences:</p> <ul style="list-style-type: none"> ● Business Advocate cannot qualify and match chat contacts with agents assigned to the failed Logical Resource Manager. ● If all of the available agents for a service class are assigned to the failed Logical Resource Manager, Business Advocate sends contacts in those service classes to an exception workflow.

Impact of server shutdown on the qualification of email contacts

Business Advocate can match an email contact with any agent defined in the Avaya IC system who is qualified to handle the service class of the email contact. The agent does not have to be logged in to receive an email contact.

The following table describes what happens to email contacts if you shut down a Resource Manager server.

Role of Resource Manager server	Impact on incoming email contacts
Active Resource Manager server in a Logical Resource Manager with two servers.	<p>Business Advocate activates the standby Resource Manager server.</p> <p>Business Advocate continues to qualify and match email contacts with agents who are assigned to the Logical Resource Manager.</p> <p>Note: The qualification of email contacts with this Logical Resource Manager might suffer a minor interruption of service until the standby server is completely active.</p>
Standby Resource Manager server in a Logical Resource Manager with two servers.	<p>No effect on the Logical Resource Manager unless the active Resource Manager server fails.</p> <p>Business Advocate continues to qualify and match email contacts with agents who are assigned to the Logical Resource Manager.</p>

Configuring core Business Advocate components

Role of Resource Manager server	Impact on incoming email contacts
<ul style="list-style-type: none">● Both Resource Manager servers in a Logical Resource Manager with two servers.● Active Resource Manager server in a Logical Resource Manager with one server.	<p>Logical Resource Manager fails with the following consequences:</p> <ul style="list-style-type: none">● Business Advocate cannot qualify and match email contacts with agents assigned to the failed Logical Resource Manager.● If the system includes another Logical Resource Manager with qualified agents who are logged in, Business Advocate matches contacts with those agents.● If all of the agents with capability sets that include a service class are assigned to the failed Logical Resource Manager, Business Advocate does not send the email contacts to an exception workflow. Business Advocate holds the email contacts in those service classes until the failed Resource Manager server can confirm whether it includes agents qualified for that service class.

Stopping a Resource Manager server

If you need to stop a Resource Manager server that will cause the Logical Resource Manager to fail:

- For all types of contacts, you can avoid an interruption in service by temporarily reassigning all agents to another Logical Resource Manager.
- For email contacts, if you expect the Resource Manager server to be inactive for only a short period of time, you can allow Business Advocate to hold email contacts until the Logical Resource Manager is restored.

To stop a Resource Manager server:

1. In the **Server** tab of IC Manager, select the Resource Manager server in the list of servers.
2. Right-click the server and select **Stop**.

Modifying a Resource Manager server

You can only modify the following properties of a Resource Manager server:

- Name
- Logical Resource Manager

 **Important:**

If you want to change the Logical Resource Manager for a Resource Manager server, you must make sure that you have not assigned a Telephony Services Adaptor server, Web Advocate Adaptor server, or any agents to the Resource Manager server.

When you change the name of the Resource Manager server, Business Advocate automatically updates the Logical Resource Manager with the new name.

If you want to change another property, you must delete the Resource Manager and create a new one.

To modify a Resource Manager server:

 **CAUTION:**

Do not modify the Resource Manager server if you have not stopped the server. Before you stop the Resource Manager server, see [Shutting down a Resource Manager server](#) on page 142.

1. In IC Manager, stop the Resource Manager server.
2. Double-click the Resource Manager server in the list of servers.
3. To change the name:
 - a. Select the **General** tab.
 - b. Change the entry in the **Name** field.
4. To change the Logical Resource Manager:
 - a. Select the **Resource Manager** tab.
 - b. Select a Logical Resource Manager for the Resource Manager from the **LRM** drop-down list.
5. Select **Apply**.
6. Select **OK**.
7. Re-start the Resource Manager server.

Deleting a Resource Manager server

You cannot delete an active Resource Manager server. You must stop the Resource Manager server before you delete it.

Before you stop or delete a Resource Manager server, see [Shutting down a Resource Manager server](#) on page 142.

To delete a Resource Manager server:

1. In IC Manager, select the **Server** tab.
2. Right-click on the Resource Manager server and select **Stop**.
After the Alarm Monitor displays a message confirming that the server has stopped correctly, continue with the next step.
3. Right-click on the Resource Manager server and select **Delete**.
4. In the confirmation message box, Select **OK** to confirm that you want to delete the server.

■ ■ ■ ■ ■ ■

Chapter 8: Configuring qualification for voice contacts

Business Advocate can qualify and match only inbound voice contacts and transferred voice contacts. Business Advocate does not handle outbound voice contacts.

This section describes how Business Advocate qualifies voice contacts, and what you need to do to configure Business Advocate to qualify voice contacts. This section includes the following topics:

- [Qualification in the voice channel](#) on page 149.
- [Prerequisites for configuring the voice channel](#) on page 155.
- [Qualify Voice workflow](#) on page 155.
- [Telephony Services Adaptor server](#) on page 159.
- [Parking devices for the voice channel](#) on page 170.
- [Telephony server](#) on page 182.
- [Creating a Workflow server for the voice channel](#) on page 185.
- [Link groups](#) on page 187.
- [Optional configurations for the voice channel](#) on page 191.

For information about failover, see [Failover and recovery for voice contacts](#) on page 51.

Qualification in the voice channel

This section describes how the Business Advocate components qualify a voice contact to an agent. This section includes the following topics:

- [Components used to qualify a voice contact](#) on page 150.
- [Qualification and routing process for a voice contact](#) on page 151.
- [Transfer process for a voice contact](#) on page 153.

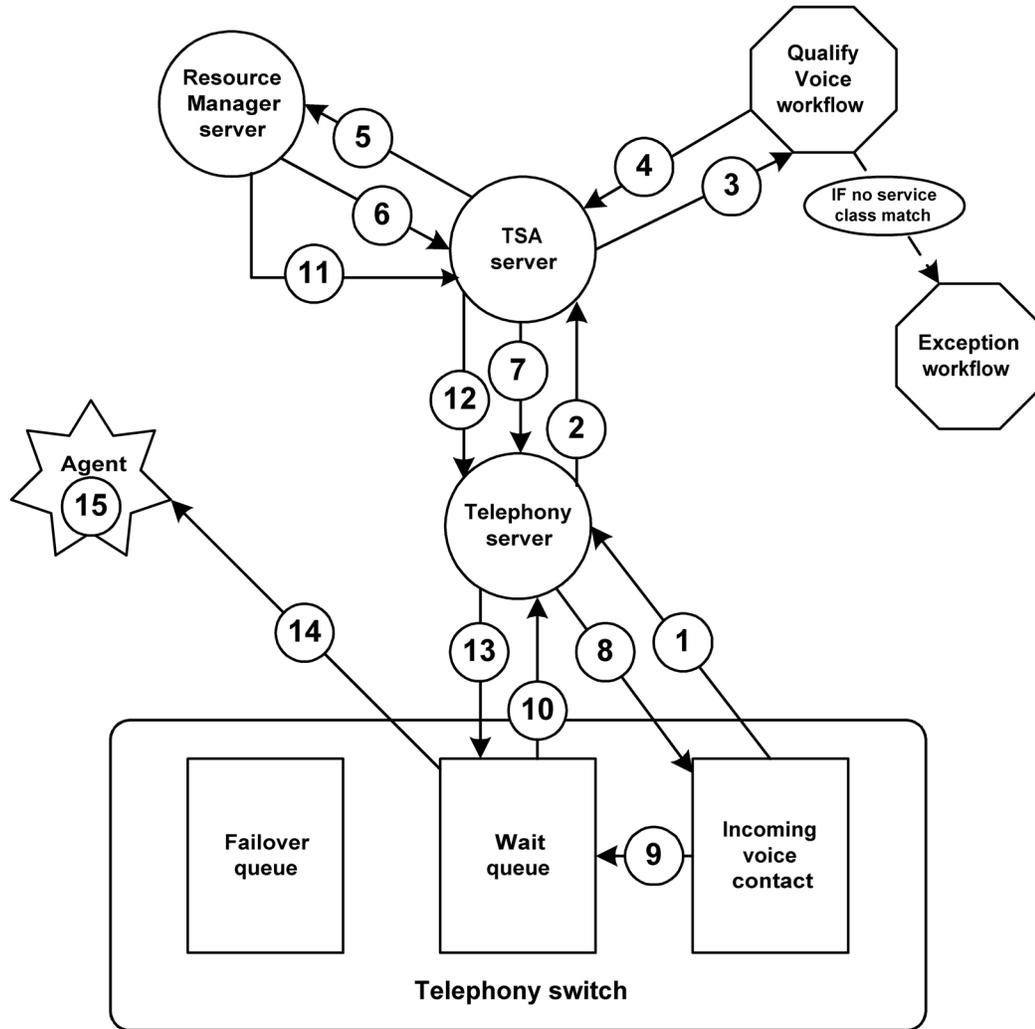
Components used to qualify a voice contact

The following table describes the components that Business Advocate uses to qualify and route a voice contact.

Component	Function
Telephony switch	<ul style="list-style-type: none"> ● Sends a route request to the Telephony server when a voice contact arrives. ● Parks the voice contact on a wait queue, if necessary. ● Plays a wait treatment for the voice contact, if necessary. ● Delivers the voice contact to the agent.
Telephony server	<ul style="list-style-type: none"> ● Receives the route request from the switch. ● Requests and receives responses from the switch and the Telephony Services Adaptor (TSA) server.
Telephony Services Adaptor (TSA) server	<ul style="list-style-type: none"> ● Receives the route request from the Telephony server. ● Requests and receives responses from the Telephony server, the Resource Manager server, and one or more Workflow servers.
Workflow server	<ul style="list-style-type: none"> ● Receives the route request from the TSA server. ● Runs the assigned voice qualification workflow. The sample qualification workflow is the Qualify Voice workflow. ● Can also run an exception workflow or a transfer workflow.
Resource Manager server	<ul style="list-style-type: none"> ● Receives the route request from the TSA server. ● Notifies the TSA server if and when a qualified agent is available.
Agent	<ul style="list-style-type: none"> ● Receives the voice contact and speaks to the customer.

Qualification and routing process for a voice contact

The following figure shows the qualification and routing process for a voice contact.



The following table describes the steps in the qualification and routing process for a voice contact, as shown in the above figure.

Step	Description
1	When a voice contact arrives at the Telephony switch, the switch sends an IncomingCall event to the Telephony server.
2	The Telephony server sends the IncomingCall event for the voice contact to the TSA server.

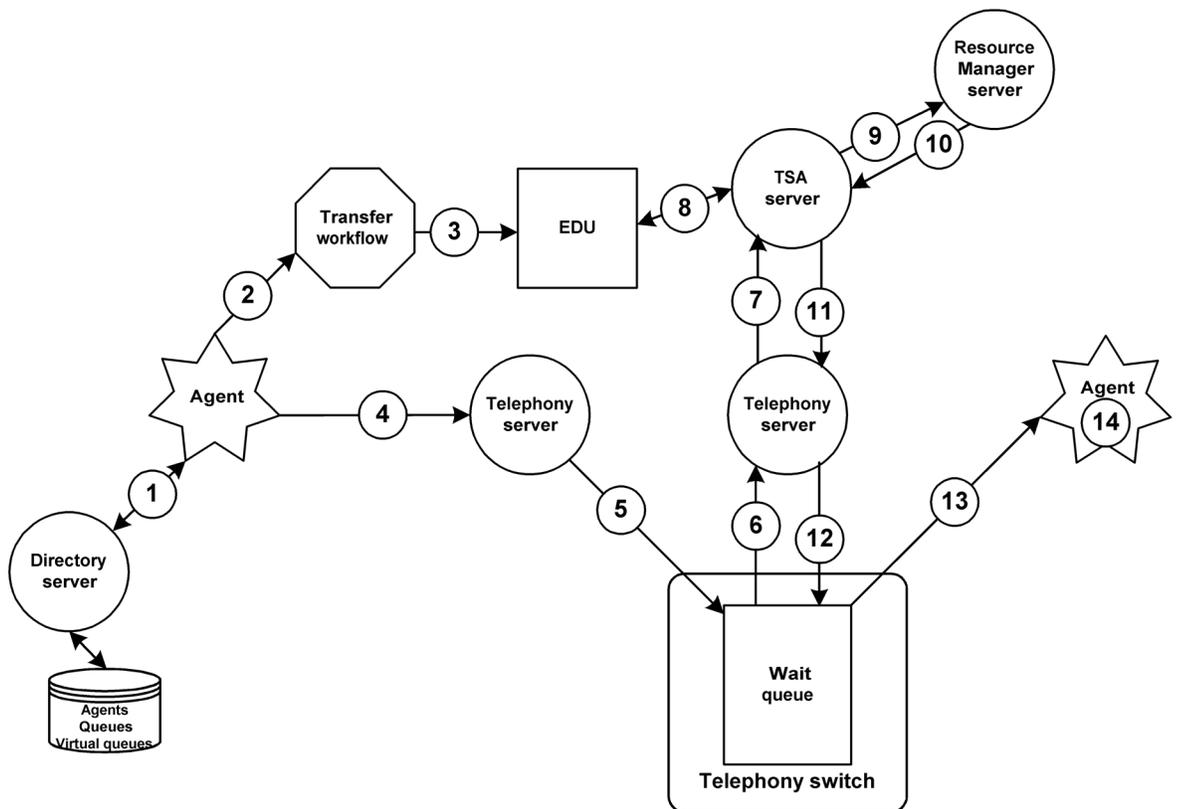
Configuring qualification for voice contacts

Step	Description
3	The TSA server sends a request to qualify to the Workflow server that runs the voice qualification workflow.
4	<p>The voice qualification workflow qualifies the voice contact and transmits the following qualification information about the voice contact to the TSA server:</p> <ul style="list-style-type: none"> ● EDU ID ● Service class ● Wait treatment ● Preferred agent, if specified ● Logical Resource Manager, if preferred agent specified <p>Note: If the qualifier set on the voice contact does not match an existing service class, the TSA server dynamically creates a service class. If no agents are configured with a capability set that matches the qualifiers in that service class, the TSA server starts an exception workflow.</p>
5	The TSA server sends a request for an agent with the information about the voice contact to the Logical Resource Manager.
6	<p>The primary Resource Manager server in the Logical Resource Manager runs the Business Advocate algorithms to compare the available agents, if any, with the contacts in the queues, then tells the TSA server if an agent is immediately available to handle the voice contact.</p> <p>If no agent is available, the Resource Manager server continues to monitor the agents and the contacts in the queues.</p> <p>Note: If there is an agent available, go to Step 11.</p>
7	The TSA server tells the Telephony server that an agent is not available and to park the voice contact on a wait queue that matches the wait treatment specified by the Workflow server during qualification.
8	The Telephony server tells the switch to route the voice contact to the wait queue specified by the TSA server.
9	The switch moves the voice contact to the appropriate wait queue.
10	The switch confirms to the Telephony server that the voice contact is on a wait queue.
11	The Resource Manager server matches the contact to an available agent, and notifies the TSA server of the login ID for the agent.
12	The TSA server sends a route response to the Telephony server with the EDU ID of the voice contact and the login ID of the agent.

Step	Description
13	The Telephony server tells the switch to route the voice contact to the agent.
14	The Telephony switch routes the contact to the agent. If your contact center includes screen pops, the Telephony server sends the EDU information to the agent application. The agent application uses the screen pop to display information about the customer to the agent. The agent answers the telephone and speaks to the customer.

Transfer process for a voice contact

The following figure shows the transfer process for a voice contact.



Configuring qualification for voice contacts

The following table describes the steps in the transfer process for a voice contact, as shown in the above figure. This example includes steps for a virtual queue. Business Advocate follows the same transfer process to transfer a voice contact to another agent.

Step	Description
1	In the Unified Agent Directory, an agent selects a virtual queue as the transfer point for a voice contact.
2	Agent desktop application sends the virtual queue information to the transfer workflow.
3	Transfer workflow determines the qualifiers and the wait treatment, then stores the qualifier information in the EDU for the voice contact.
4	Agent desktop application sends the destination DN for the transfer wait queue to the Telephony server that handles voice contacts for that agent.
5	The Telephony server for the agent sends the voice contact to the CTI link on the switch. The CTI link moves the voice contact to the appropriate wait queue with wait treatment style 1.
6	The switch tells the destination Telephony server that the voice contact is on a wait queue.
7	The destination Telephony server sends an IncomingCall event for the voice contact to the TSA server.
8	The TSA server sends a request for information to the EDU and retrieves the qualifiers for the voice contact.
9	The TSA server sends a request for an agent with the information about the voice contact to the Logical Resource Manager.
10	The Resource Manager server matches the contact to an available agent, and notifies the TSA server of the login ID for the agent.
11	The TSA server sends a route response to the Telephony server with the EDU ID of the voice contact and the login ID of the agent.
12	The Telephony server tells the switch to route the voice contact to the agent.
13	The Telephony switch routes the contact to the agent. If your contact center includes screen pops, the Telephony server sends the EDU information to the agent application. The agent application uses the screen pop to display information about the customer to the agent. The agent answers the telephone and speaks to the customer.

Prerequisites for configuring the voice channel

Before you configure the voice channel, do the following:

1. Complete all configuration on your switches, as described in *IC Telephony Connectors Programmer Guide*, including:
 - All destination DNs
 - For a supported Avaya Definity or Communication Manager switch, enable the Increased Adjunct Route Capacity feature, which increases the number of outstanding route requests allowed from 2000 to 4000.
2. Install and configure the Avaya IC voice channel, including all prerequisites, as described in the *IC Installation and Configuration*.
3. Configure the Business Advocate core servers, as described in [Configuring core Business Advocate components](#) on page 117.

Qualify Voice workflow

By default, Business Advocate uses the sample Qualify Voice workflow to qualify voice contacts. You can find the Qualify Voice workflow in the following directory:

```
IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate\qualifyvoice_adv
```

Tip:

You can customize the sample Qualify Voice workflow to meet the needs of your contact center. For more information, see *Avaya IC Media Workflow Reference*.

For information about how to use Workflow Designer, see *Avaya Workflow Designer User Guide*.

This section describes the steps you must perform to use the Qualify Voice workflow to qualify voice contacts with Business Advocate. This section includes the following topics:

1. [Prerequisites for the Qualify Voice workflow](#) on page 156.
2. [Configuring the Qualify Voice workflow](#) on page 156.
3. [Configuring database settings for the workflow](#) on page 158.
4. [Building the flowset](#) on page 158.

Prerequisites for the Qualify Voice workflow

Before you compile the Qualify Voice workflow, perform the steps in the following table.

Step	Description
Create qualifiers.	<p>Some blocks in the Qualify Voice workflow use qualifiers. For more information about these qualifiers, see Sample qualifiers on page 78.</p> <p>Use these qualifiers to test the Qualify Voice workflow. Create additional qualifiers and configure the workflow to use those qualifiers, including the properties of the following blocks:</p> <ul style="list-style-type: none"> ● Map to Qualifier ● Set Qualifier <p>For more information, see <i>Avaya IC Media Workflow Reference</i>.</p>

Configuring the Qualify Voice workflow

The following table describes the blocks that you must configure before you can compile and build the flowset for the Qualify Voice workflow. Avaya recommends that you create additional qualifiers and configure Map to Qualifier and Set Qualifier blocks with values for these additional qualifiers.

Block	Description
Map to Qualifier (DNIS)	Specifies up to 4 possible DNIS values for incoming voice contacts and maps these values to a text string. The workflow uses the text string as the qualifier value for the intent category.
Set Voice Wait Treatment	Specifies the wait treatment for each DNIS value in the Map to Qualifier (DNIS) block.

 **Important:**

Create qualifiers with the category intent and a qualifier value for each of the DNIS values you enter into Qualifier_1 through Qualifier_4 in the Map to Qualifier (DNIS) block. For more information, see [Creating a qualifier](#) on page 79.

To configure the voice qualification workflow:

1. In Workflow Designer, select **File > Open Project** and open the Advocate project.

You can find the Advocate project in the following directory:

IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate

2. Double-click `qualifyvoice_adv` in the **Project** pane.
3. Configure the Map to Qualifier (DNIS) block:
 - a. Select the block to open the block properties in the Property Sheet.
 - b. In the Property Sheet, select the **Basic** tab.
 - c. Set the properties in the following table.

Property	Description
Qualifier_1 through Qualifier_4	Enter the values for the qualifiers for the DNIS. For example, enter: <ul style="list-style-type: none"> ● sales ● support
Value_1 through Value_4	Enter the DNIS values that map to the qualifier values in Qualifier_1 to Qualifier_4. For example, if you use sales as Qualifier_1, then in Value_1 enter the DNIS value for the internal route point where sales voice contacts are delivered.

4. Configure the Set Voice Wait Treatment block:
 - a. Select the block to open the block properties in the Property Sheet.
 - b. In the Property Sheet, select the **Basic** tab.
 - c. Set the properties in the following table.

Property	Description
Criteria_1 through Criteria_4	Enter the values for the qualifiers for the DNIS from the Map to Qualifiers (DNIS) block. For example, if you use sales as Qualifier_1, then enter sales as Criteria_1.
WaitTreatment_1 through WaitTreatment_4	Enter the number for the wait treatment that you want the switch to play when a voice contact for the criteria is in queue. For example, if you want to play wait treatment 2 for all contacts that have sales as a DNIS value, then in WaitTreatment_1 enter WT_STYLE_02.

5. Select **File > Save**. Do not close the workflow in Workflow Designer.

Configuring database settings for the workflow

After you configure the blocks for the voice qualification workflow, configure the database settings that Workflow Designer needs to build the workflow.

To configure the database settings:

1. In Workflow Designer, select **Project > Settings**.
2. Select the **Database** tab of the **Project Settings** dialog box.
3. Enter the name of your Interaction Center Data Source in the **IC Data Source** field.
For example, enter `interaction_center`. All sample workflows provided with Avaya IC use the Interaction Center data source. If you created custom flows that point to a different data source, enter that data source here.
4. Enter a valid Avaya IC Administrator account in the **Login ID** field.
5. Enter the password for the account in the **Password** field.
6. Select **OK**. Do not close the workflow in Workflow Designer.

Building the flowset

When you build a workflow, Workflow Designer:

- Compiles the workflow
- Converts the workflow to XML format

 **Important:**

You must export the qualifiers from Advocate Supervisor to the `IC_INSTALL_DIR\IC70\etc` directory on the machine that hosts Workflow Designer before you can build the flowset and compile your workflows. For more information, see [Exporting qualifiers to Workflow Designer](#) on page 83.

To build the flowset and load the flows:

1. Select **Build > Verify Active Flow**.
2. Review the results of the build in the **Output** bar.
Double-click an error to open the workflow and highlight the block or connector with the error.
3. After you correct all errors, select **Build > Build Flow Set**.
4. Select **File > Exit** to close Workflow Designer.

Telephony Services Adaptor server

The Telephony Services Adaptor (TSA) server manages server interactions for Business Advocate that occur in the voice channel. Business Advocate requires a TSA server for every switch in your Avaya IC system.

This section describes the function of the TSA server in the voice channel, and how to create, configure, and administer the TSA server. This section includes the following topics that you need to create and configure a TSA server:

1. [Guidelines for a TSA server](#) on page 159.
2. [Creating a TSA server](#) on page 160.
3. [Assigning a Logical Resource Manager](#) on page 161.
4. [Setting up contact handling](#) on page 165.
5. [Assigning a transfer exception workflow](#) on page 167.

This section also includes the following topics:

- [Modifying a TSA server](#) on page 168.
- [Deleting a TSA server](#) on page 169.

Guidelines for a TSA server

This section includes the following topics with information on the TSA server:

- [Required TSA servers](#) on page 160.
- [TSA servers and other Avaya IC servers](#) on page 160.
- [TSA servers and redirect on no answer](#) on page 160.

Required TSA servers

Business Advocate requires the following TSA servers:

- One TSA server for each Telephony server that handles incoming voice contacts from a link on the associated switch.
- If the switch does not have a link for incoming voice contacts, one TSA server to handle transfers of voice contacts between agents.
- If the configuration includes a backup link for the primary incoming link, configure the same destination DN on the following TSA servers:
 - One TSA server that handles incoming voice contacts from the destination DN as a primary link.
 - One TSA server that handles voice contacts from the destination DN as a backup link.

TSA servers and other Avaya IC servers

The TSA server handles interactions for the following Avaya IC servers:

- Telephony servers
- Resource Manager servers
- Workflow servers that process voice contacts

TSA servers and redirect on no answer

The TSA server is a critical component of redirect on no answer (RONA) for Business Advocate. RONA lets you redirect voice contacts if an agent does not answer within a designated number of rings.

RONA places the voice contact back into the queue at the same priority.

Creating a TSA server

To create a TSA server:

1. In IC Manager, select **Server > New**.
2. Select TSA from the list of servers.
3. Select **OK**.

4. In the **General** tab, complete the fields shown in the following table.

Field	Recommended entry	Notes
Name	TSA_<domain>	Include the domain in the server name to identify the server.
Domain	Select the Avaya IC domain for the server from the drop-down list.	The TSA server must be in the same domain as the Telephony server that the TSA server services. For example, select Voice from the drop-down list if the Telephony server is in the Voice domain.
Host	Select the IP address of the machine from the drop-down list, or type in the IP address if it is not in the list.	When you select the host, IC Manager fills in the fields for Directory, Port, and Executable.

5. Select **Apply**.

Do not close IC Manager or the Server Editor for the TSA server. Continue with the next step, [Assigning a Logical Resource Manager](#).

Assigning a Logical Resource Manager

The configuration for each TSA server includes an ordered list of Logical Resource Managers.

This section explains the significance of the order of the Logical Resource Manager servers in the list, provides examples of when to assign a Logical Resource Manager to the list, and describes how to assign a Logical Resource Manager. This section includes the following topics:

- [TSA server and the Home Logical Resource Manager](#) on page 162.
- [TSA server and additional Logical Resource Managers](#) on page 162.
- [Example: when to assign an additional Logical Resource Manager](#) on page 162.
- [Example: When not to assign an additional Logical Resource Manager](#) on page 163.
- [TSA server and failover](#) on page 164.
- [Adding a Logical Resource Manager to the ordered list](#) on page 164.

TSA server and the Home Logical Resource Manager

The first Logical Resource Manager in the ordered list for a TSA server is known as the Home Logical Resource Manager. A TSA server sends all requests for a qualified agent to match with an incoming voice contact to the Home Logical Resource Manager.

If the Home Logical Resource Manager fails, the TSA server notifies the associated Telephony server to take down its link.

You must assign a Home Logical Resource Manager to every TSA server.

TSA server and additional Logical Resource Managers

In a system with multiple Logical Resource Managers, you can assign additional Logical Resource Managers to the ordered list of a TSA server. The TSA server does not send requests for agents to the additional Logical Resource Managers. The TSA server monitors the additional Logical Resource Managers in the list for possible failures. If one of the additional Logical Resource Managers fails, the TSA server notifies the associated Telephony server to take down its link.

You do not have to add an additional Logical Resource Manager to the ordered list. If one Logical Resource Manager fails, you might want the other Logical Resource Managers to continue to distribute voice contacts from the link on the TSA server without interruption. See the following examples for more information about when to add an additional Logical Resource Manager to the ordered list of a TSA server.

Example: when to assign an additional Logical Resource Manager

In this example, a single Telephony switch has two links: link_1 and link_2. The TSA server for each link has a different Home Logical Resource Manager. All of the agents on this switch handle all the failover queues for both links. So each agent has the same link group that contains both link_1 and link_2.

The following table provides an overview of this configuration.

Link	TSA server	Home Logical Resource Manager	Link groups
link_1	TSA_1	LRM_1	Link group for agents on LRM_1: <ul style="list-style-type: none">● link_1● link_2
link_2	TSA_2	LRM_2	Link group for agents on LRM_2: <ul style="list-style-type: none">● link_1● link_2

If LRM_1 fails the following happens:

1. TSA_1, which has LRM_1 as the Home Logical Resource Manager, tells its Telephony server to take down link_1.
2. When link_1 fails, Business Advocate takes all of the agents with link_1 in their link group out of service. All of these agents receive contacts from the failover queues on the switch.

In this scenario, LRM_2 and link_2 are still active. However, even though link_2 is able to handle contacts, all of the agents for that link have been taken out of service by Business Advocate. These agents no longer receive contacts from Business Advocate. They now receive contacts from the failover queues for link_1.

If LRM_2 and link_2 remain active, contacts will continue to queue on LRM_2 and eventually customers will abandon because they are not connected with an agent.

To make sure that contacts from link_2 do not queue on LRM_2 when no agents are available, add LRM_1 to the ordered list of TSA_2. With this configuration, if LRM_1 fails, the following happens:

1. The TSA servers tell their Telephony servers to take down the links:
 - TSA_1, which has LRM_1 as the Home Logical Resource Manager, tells its Telephony server to take down link_1.
 - TSA_2, which has LRM_1 as an additional Logical Resource Manager, tells its Telephony server to take down link_2.
2. Business Advocate takes all of the agents with link_1 in their link group out of service. All of these agents receive contacts from the failover queues on the switch.

Example: When not to assign an additional Logical Resource Manager

In this example, a single Telephony switch has two links: link_1 and link_2. The TSA server for each link has a different Home Logical Resource Manager. Half of the agents who receive contacts from link_2 also handle the failover queues for link_1. The other half of the agents who receive contacts from link_2 do not handle the failover queues for link_1.

The following table provides an overview of this configuration.

Link	TSA server	Home Logical Resource Manager	Link groups
link_1	TSA_1	LRM_1	Link group for agents on LRM_1: <ul style="list-style-type: none"> • link_1 • link_2
link_2	TSA_2	LRM_2	Link group 1 for LRM_2: <ul style="list-style-type: none"> • link_1 • link_2 Link group 2 for LRM_2: <ul style="list-style-type: none"> • link_2

Configuring qualification for voice contacts

If LRM_1 fails the following happens:

1. TSA_1, which has LRM_1 as the Home Logical Resource Manager, tells its Telephony server to take down link_1.
2. When link_1 fails, Business Advocate takes all of the agents with link_1 in their link group out of service. All of these agents receive contacts from the failover queues on the switch. Agents who do not have link_1 in their link group continue to receive contacts from Business Advocate.

In this scenario, LRM_2 and link_2 are still active. Half of the agents assigned to LRM_2 do not receive contacts from Business Advocate. The other half of the agents continue to receive contacts from Business Advocate.

To make sure that link_2 and LRM_2 can continue to route requests to Avaya IC, do not add LRM_1 to the ordered list of TSA_2. With this configuration, the only effect of the failure of LRM_1 and link_1 on LRM_2 and link_2 is that Business Advocate has fewer agents available to receive contacts.

TSA server and failover

You must also understand the difference between link groups and the ordered list of a TSA server for failover scenarios.

Link groups identify which agents Business Advocate should take out of service when a link fails. The ordered list of the TSA servers identifies which links need to be taken down if a Logical Resource Manager fails.

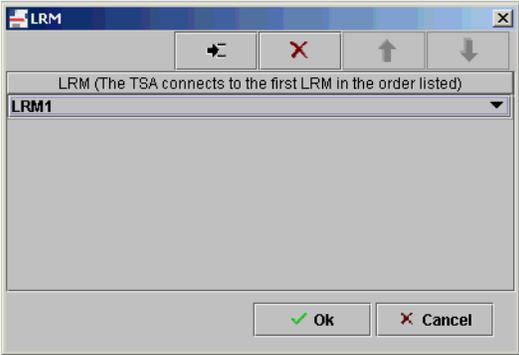
The failure of a Logical Resource Manager causes a Telephony server to take down a link. When the link fails, Business Advocate takes any agent who has that link or links in their link group out of service.

Adding a Logical Resource Manager to the ordered list

To assign a Logical Resource Manager to the TSA server:

1. In the Server Editor for the TSA server, select the **TSA** tab.
2. Select the **Ellipsis (...)** button next to the **LRM** field.

- 3. In the **LRM** dialog box, shown in the following figure, do the following:
 - a. Select **New**.
 - b. Select a Logical Resource Manager from the drop-down list.
 - c. Select **OK**.



If you want to assign multiple Logical Resource Managers to the TSA server, repeat Steps 3a to 3c for each Logical Resource Manager. To change the order of the Logical Resource Managers in the list, use the up arrow and the down arrow.

- 4. Select **Apply** in the Server Editor.
Do not close IC Manager or the Server Editor for the TSA server. Continue with the next step: [Setting up contact handling](#).

Setting up contact handling

When you configure the TSA server, you assign a voice qualification workflow and exception workflow to each destination DN that you want the TSA server to monitor on the CTI link.

The following table describes how the TSA server uses these components.

Source of information	Purpose of information
Destination DN	Each destination DN represents a different telephone number that customers use to call in to the contact center. The TSA server uses the destination DN to identify which incoming voice contacts the TSA server should process.
Workflows	The voice qualification workflow and exception workflow qualify contacts and handle exceptions for the TSA servers. The TSA server uses these workflows to process voice contacts.

Configuring qualification for voice contacts

Example: Consistent contact handling for all voice contacts

If you want the TSA server to handle voice contacts received at all destination DNs in the same way, you can use the same voice qualification workflow and exception workflow for all destination DNs. For example, if your contact center uses several different telephone numbers, but agents at all sites can handle contacts from all telephone numbers, assign the same workflows to all destination DNs on the TSA server.

Example: Unique contact handling for certain voice contacts

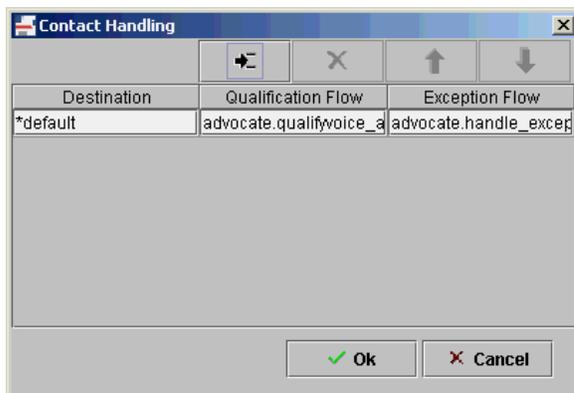
If you want the TSA server to handle voice contacts received at different destination DNs uniquely, you can configure the TSA server as follows:

- Assign different voice qualification workflows and exception workflows to each destination DN. For example, if your contact center uses different telephone numbers for sales and service, you can create and assign different workflows for each destination DN.
- Customize each voice qualification workflow to use the telephone number that the customer dialed as a qualifier to determine how the TSA server processes the contact.

For more information about Business Advocate workflows, see *Media Workflow Reference*.

Configuring contact handling

Configure contact handling in the **Contact Handling** dialog box, which is available from the **TSA** tab of the TSA server. The following figure shows the **Contact Handling** dialog box.



To configure contact handling:

1. If you have not already done so, select the **TSA** tab in the Server Editor for the TSA server.
2. Select the **Ellipsis (...)** button next to the **Contact Handling** field.
3. In the **Contact Handling** dialog box:
 - a. Select **New**.
 - b. In the **Destination** field, enter a DN that you want the TSA server to monitor or use the default.

If you select default, the TSA server handles incoming contacts received by the Telephony server in the same domain if these contacts have not been specifically assigned with a Destination DN.
 - c. In the **Qualification Flow** field, accept the default or enter a custom voice qualification workflow that sets qualifiers for the voice contact.

The default is the sample voice qualification workflow, `advocate.qualifyvoice_adv`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.
 - d. In the **Exception Flow** field, accept the default or enter the exception workflow for the TSA to use for voice contacts from the DN.

The default workflow is the sample exception workflow, `advocate.handle_exception`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.
 - e. Select **OK**.
4. Select **Apply** in the Server Editor for the TSA server.

Do not close IC Manager or the TSA Server Editor. Continue with the next step, [Assigning a transfer exception workflow](#) on page 167.

Assigning a transfer exception workflow

You must assign a transfer exception workflow to the TSA server. The transfer exception workflow determines how Business Advocate handles a transferred contact that cannot be delivered to a qualified agent.

By default, Avaya IC assigns the sample exception workflow to the TSA server. You can create a separate transfer exception workflow to handle exceptions for transferred contacts, if desired.

Configuring qualification for voice contacts

Assign a transfer exception workflow on the **TSA** tab, shown in the following figure.



To assign a transfer exception workflow to a TSA server:

1. If you have not already done so, click the **TSA** tab in the Server Editor for the TSA server.
2. In the **Transfer Exception Flow** field, accept the default exception workflow or enter the name of a custom workflow.

The default workflow is the sample exception workflow, `advocate.exception_advocate`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.

3. Select **Apply**.
4. Select **OK** to complete the TSA configuration

Modifying a TSA server

The TSA server obtains its configuration data when the server starts. You must restart the TSA server for any changes to take effect.

CAUTION:

You must stop a TSA server before you modify that server. If you have not configured a backup link for the TSA server, the link between the TSA server and the Telephony server fails when you stop the TSA server. If the link fails, Business Advocate automatically fails over qualification and routing for that link to the switch until you restore the TSA server.

To modify a TSA server:

1. In IC Manager, select the **Server** tab.
2. Stop the TSA server:
 - a. Right-click the TSA server in the list of servers.
 - b. Select **Stop**.

3. Double-click the TSA server in the list of servers.
4. Make the desired changes to the configuration.
5. Select **Apply**.
6. Select **OK**.
7. Restart the TSA server:
 - a. Right-click the TSA server in the list of servers.
 - b. Select **Start**.

Deleting a TSA server

Before you delete a TSA server, you must review all parking devices that are assigned to the TSA server and do one of the following:

- Delete the parking device.
- Reassign the parking device to another TSA server.

For more information, see [Parking devices for the voice channel](#) on page 170.

To delete a TSA server:

1. In IC Manager, select the **Server** tab.
2. Stop the TSA server:
 - a. Right-click the TSA server in the list of servers.
 - b. Select **Stop**.

After the Alarm Monitor displays a message confirming that the server has stopped correctly, continue with the next step.

3. Right-click on the TSA server and select **Delete**.
4. In the confirmation message box, Select **OK** to confirm that you want to delete the server.

Parking devices for the voice channel

You must configure at least one parking device for each TSA server in your voice channel. However, a TSA server frequently has more than one parking device. Each parking device associated with a TSA server must use a different wait treatment style.

 **Important:**

Business Advocate reserves wait treatment style 1 for transferred voice contacts. For each TSA server, configure a parking device with wait treatment style 1.

This section describes how Business Advocate uses parking devices with wait treatments on the switch, and how to create and configure a parking device. This section includes the following topics:

- [About parking devices](#) on page 170.
- [About wait treatment styles](#) on page 171.
- [Example: configuring parking devices](#) on page 172.
- [Prerequisites for a parking device](#) on page 173.
- [Creating a parking device for an Avaya switch](#) on page 173.
- [Creating a parking device for an Aspect switch](#) on page 175.
- [Creating a parking device for a Nortel Meridian switch](#) on page 179.
- [Changing a parking device](#) on page 182.

About parking devices

Parking devices perform the following functions for a TSA server:

- Hold voice contacts until a qualified agent is available
- Play a wait treatment message for all voice contacts on the parking device

You need to create a parking device for every wait treatment message that you want to play for the customers who are on hold in queues that are on the CTI links that process incoming voice contacts. You can assign multiple parking devices to a TSA server.

For example, a contact center has two links that process incoming voice contacts. The contact center wants customers to hear three different wait treatment messages when they wait on hold. To configure this in Business Advocate, the contact center creates a TSA

server for each link, then creates three parking devices for each TSA server. Each parking device on a link plays a different message.

You cannot associate a parking device with more than one TSA server. Each TSA server must have its own unique set of parking devices.

Note:

If you configure a backup link for the TSA server, assign the same parking devices to the TSA server that monitors the backup link.

About wait treatment styles

A wait treatment is whatever a customer hears when the customer is on hold. The wait treatment can be one or more announcements, music, or silence. The switch plays and stores the wait treatments.

In Avaya IC, a wait treatment style is a number that represents a wait treatment on a switch. Each parking device has a unique wait treatment style.

For example, a contact center has three Telephony switches. Each switch is at a different site. The contact center creates the same announcement on each switch. The wait treatment and wait treatment style for each announcement is the same, as follows:

- Wait treatment 2 for the switch in New York
- Wait treatment 2 for the switch in Chicago
- Wait treatment 2 for the switch in Montreal is the same announcement in French

The contact center then associates each wait treatment with a queue in the switch. When a voice contact is added to the queue, the switch runs the vector program that plays the announcement.

When Business Advocate qualifies a voice contact, the Qualify Voice workflow does not need to know the location of each queue to ensure that the voice contact is added to the queue in the correct location. The Qualify Voice workflow only needs to know the wait treatment name. For a voice contact in Chicago, the Qualify Voice workflow tells the TSA server at that site to send the voice contact to the queue associated with wait treatment 2. The same process occurs in New York and Montreal.

The parking devices at each site associate the wait treatment style number with the appropriate destination DN on the switch at each site. The same wait treatment style number can play a different style of wait treatment on each switch.

Example: configuring parking devices

In this example, a contact center has five possible wait treatment messages that a customer can hear. The type of wait treatment message that the customer should hear depends on what type of service the customer wants.

The contact center also uses two TSA servers. The TSA server must be able to route incoming voice contacts for all customers.

The following table shows the parking devices that this configuration requires.

TSA server	Parking device	Wait treatment style	Wait treatment
TSA 1	TSA1_transfer	1	Message about transferring a voice contact
	TSA1_premiumsupport	2	Message about the information that agents need to handle a support call
	TSA1_regsupport	3	Continuous loop of messages about the information that support agents need, and about the benefits of premium support
	TSA1_sales	4	Message about current sales promotions
	TSA1_info	5	Continuous loop of messages about the company and about the different products
TSA 2	TSA2_transfer	1	Message about transferring a voice contact
	TSA2_premiumsupport	2	Message about the information that agents need to handle a support call
	TSA2_regsupport	3	Continuous loop of messages about the information that support agents need, and about the benefits of premium support
	TSA2_sales	4	Message about current sales promotions
	TSA2_info	5	Continuous loop of messages about the company and about the different products

Prerequisites for a parking device

Before you create a parking device, you must do the following:

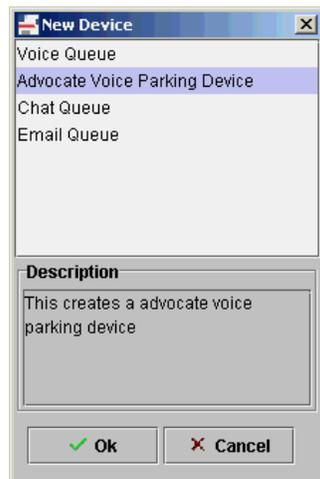
- Configure the voice channel, including all TSA servers, as described in [Configuring qualification for voice contacts](#) on page 149.
- Administer the VDN, CDN, or CCT on each link of the switch with the appropriate wait treatment style. For more information, see *IC Telephony Connectors Programmer Guide* and the documentation provided by the switch manufacturer.

Creating a parking device for an Avaya switch

Use these instructions if you need to create a parking device for a supported Avaya Definity or Avaya Communication Manager. For more information about administering devices in IC Manager, see *IC Administration Volume 2: Agents, Customers, & Queues*.

To create a parking device for an Avaya switch:

1. In IC Manager, click the **Device** tab.
2. Select **Device > New**.
3. In the **New Device** dialog box, shown in the following figure:
 - a. Select **Advocate Voice Parking Device**.
 - b. Select **OK**.



Configuring qualification for voice contacts

4. In the Device Editor, complete the fields in the following table.

Field	Recommended entry	Notes
ID	Enter the destination DN.	The ID must be numeric. This field is the destination VDN where the Telephony server sends contacts for this parking device.
Site	Select the Avaya IC site for the server from the drop-down list.	–
ACD Name	Select an ACD name from the drop-down list.	Use the same ACD name that you configured in the Telephony server assigned to the same TSA server as the parking device.
Name	Enter the name of the parking device.	Do not include spaces in the name of the parking device.
Media	IC Manager automatically sets the value in this field.	You cannot change this field.
Wait Treatment Style	Enter the number for the wait treatment style.	You can enter any number for the wait treatment style. However, you must enter 1 if Business Advocate uses this parking device to hold transferred voice contacts. You enter this same number in the Wait Style block of the workflow that uses this parking device.
Wait Treatment Type (Nortel only)	Leave this field blank.	This field is only used for Nortel Meridian switches.
Wait Announcement ID (Nortel/Aspect only)	Leave this field blank.	This field is only used for Aspect switches and Nortel Meridian switches.
Wait Ring Back ID (Nortel/Aspect only)	Leave this field blank.	This field is only used for Aspect switches and Nortel Meridian switches.

Field	Recommended entry	Notes
Announcement length (Nortel/Aspect only)	Leave this field blank.	This field is only used for Aspect switches and Nortel Meridian switches.
TSA	Select the TSA server for this parking device from the drop-down list.	You cannot assign a parking device to more than one TSA server.

5. Select **OK**.
6. If the following servers are running, restart them:
 - Telephony server
 - TSA server
 - All workflow servers that run workflows for Business Advocate

Creating a parking device for an Aspect switch

Use these instructions if you need to create a parking device for a supported Aspect switch. For more information about administering devices in IC Manager, see *IC Administration Volume 2: Agents, Customers, & Queues*.

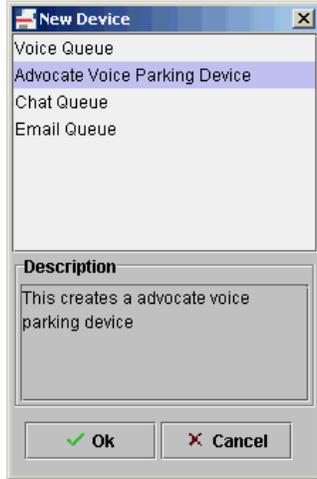
The parking device uses different CCTs for the wait announcement ID and for the wait ring back ID.

To create a parking device for the voice channel:

7. In IC Manager, click the **Device** tab.
8. Select **Device > New**.
9. In the **New Device** dialog box, shown in the following figure:
 - a. Select **Advocate Voice Parking Device**.

Configuring qualification for voice contacts

b. Select **OK**.



10. In the Device Editor, complete the fields in the following table.

Field	Recommended entry	Notes
ID	Enter the destination DN.	The ID must be numeric. This field is the destination CCT where the Telephony server sends contacts for this parking device.
Site	Select the Avaya IC site for the server from the drop-down list.	–
ACD Name	Select an ACD name from the drop-down list.	Use the same ACD name that you configured in the Telephony server assigned to the same TSA server as the parking device.
Name	Enter the name of the parking device.	Do not include spaces in the name of the parking device.
Media	IC Manager automatically sets the value in this field.	You cannot change this field.

Field	Recommended entry	Notes
Wait Treatment Style	Enter the number for the wait treatment style.	You can enter any number for the wait treatment style. However, you must enter 1 if Business Advocate uses this parking device to hold transferred voice contacts. You enter this same number in the Wait Style block of the workflow that uses this parking device.
Wait Treatment Type (Nortel only)	Leave this field blank.	This field is only used for Nortel Meridian switches.
Wait Announcement ID (Nortel/Aspect only)	Enter a CCT where the switch plays a wait announcement for contacts on this parking device.	<i>Optional.</i> If the expected wait time for the voice contact is longer than the length of the announcement, the contact is transferred to the wait announcement ID where the customer can listen to the announcement while waiting. Create the wait announcement ID on the switch first and configure the switch to return the contact to the queue ID after the announcement.
Wait Ring Back ID (Nortel/Aspect only)	Enter the CCT where the switch plays ring back for contacts on this parking device.	<i>Optional.</i> If the expected wait time for the voice contact is shorter than the length of the announcement, the contact is transferred to the wait ring back ID where the customer listens to the sounds determined by the wait treatment type. Create the wait ringback ID on the switch first.

Configuring qualification for voice contacts

Field	Recommended entry	Notes
Announcement length (Nortel/Aspect only)	Enter the length of the announcement in seconds.	Required only if you enter a CCT in the Wait Announcement ID field. Avaya IC uses this time to determine how long to wait for the voice contact to return the queue ID. Caution: If the announcement plays for a longer period of time than the length in this field and the contact does not return to the queue ID within the specified length of time, Avaya IC will treat the voice contact as abandoned.
TSA	Select the TSA server for this parking device from the drop-down list.	You cannot assign a parking device to more than one TSA server.

11. Select **OK**.

12. If the following servers are running, restart them:

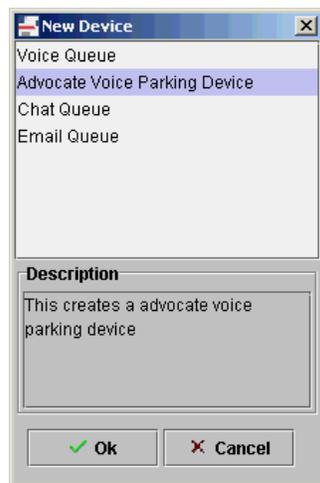
- Telephony server
- TSA server
- All workflow servers that run workflows for Business Advocate

Creating a parking device for a Nortel Meridian switch

Use these instructions to create parking devices for a supported Nortel Meridian switch. For more information about administering devices in IC Manager, see *IC Administration Volume 2: Agents, Customers, & Queues*.

To create a parking device for a Nortel Meridian switch:

1. In IC Manager, click the **Device** tab.
2. Select **Device > New**.
3. In the **New Device** dialog box, shown in the following figure:
 - a. Select **Advocate Voice Parking Device**.
 - b. Select **OK**.



4. In the Device Editor, complete the fields in the following table.

Field	Recommended entry	Notes
ID	Enter the destination DN.	The ID must be numeric. This field is the destination CDN where the Telephony server sends contacts for this parking device.
Site	Select the Avaya IC site for the server from the drop-down list.	—

Configuring qualification for voice contacts

Field	Recommended entry	Notes
ACD Name	Select an ACD name from the drop-down list.	Use the same ACD name that you configured in the Telephony server assigned to the same TSA server as the parking device.
Name	Enter the name of the parking device.	Do not include spaces in the name of the parking device.
Media	IC Manager automatically sets the value in this field.	You cannot change this field, it is automatically set to "Voice".
Wait Treatment Style	Enter the number for the wait treatment style.	This entry should correlate to the wait treatment style in the Quality Voice workflow. You must enter 1 if Business Advocate uses this parking device to hold transferred voice contacts. Enter this same number in the Wait Style block of the workflow that uses this parking device.
Wait Treatment Type (Nortel only)	Enter the type of wait treatment that the switch plays for contacts on this parking device.	The type of wait treatment that the Nortel switch plays on the CDN of the queue ID. Enter "R" for the CDN to play ringback. Enter "S" for the CDN to play silence. Enter the music source ID in a hex number, such as x88, for the CDN to play music identified by the hex number in the Nortel system. For Symposium, this is the 2 digit route number converted into hex and preceded by the # sign. If you have a single digit route, prepend the number with a 0 (zero) before converting into hex.

Field	Recommended entry	Notes
Wait Announcement ID (Nortel/Aspect only)	Enter the CDN number that contains the announcement. Only on a Meridian Link using a Ran card, this CDN number is associated with the script that provides the route to Ran announcements.	<i>Optional.</i> If the expected wait time for the voice contact is longer than the length of the announcement, the contact is transferred to the wait announcement ID where the customer can listen to the announcement while waiting. Create the wait announcement ID on the switch first and configure the switch to return the contact to the queue ID after the announcement.
Wait Ring Back ID (Nortel/Aspect only)	Enter the CDN on the Nortel switch where the switch plays ring back for contacts on this parking device.	<i>Optional.</i> If the expected wait time for the voice contact is shorter than the length of the announcement, the contact is transferred to the wait ring back ID where the customer listens to the sounds determined by the wait treatment type. Create the wait ringback ID on the switch first.
Announcement length (Nortel/Aspect only)	Enter the maximum length of the announcement in seconds.	Required only if you enter a QDN in the Wait Announcement ID field. Avaya IC uses this time to determine how long to wait for the voice contact to return the queue ID. Caution: If the announcement plays for a longer period of time than the length in this field and the contact does not return to the queue ID within the specified length of time, Avaya IC will treat the voice contact as abandoned.
TSA	Select the TSA server for this parking device from the drop-down list.	You cannot assign a parking device to more than one TSA server.

5. Select **OK**.

6. If the following servers are running, restart them:

- Telephony server

Configuring qualification for voice contacts

- TSA server
- All workflow servers that run workflows for Business Advocate

Changing a parking device

If you change a parking device, you must restart the following servers:

- Telephony server
- TSA server
- All workflow servers that run workflows for Business Advocate

Telephony server

You must enable the Telephony server for Business Advocate and assign the Telephony server to a TSA server. Business Advocate also requires that you configure the Avaya IC domains for the Telephony server as follows:

- For every Telephony server, create a separate Avaya IC domain and only place one Telephony server and one TSA server in that domain
- For every agent domain with Business Advocate agents who handle voice contacts, configure that agent domain to failover to a domain that includes a Telephony server and TSA server pair.

To configure a Telephony server for Business Advocate, perform the steps in the following sections:

1. [Configuring a Telephony server](#) on page 182 (required).
2. [Configuring a backup link](#) on page 184 (optional).

Configuring a Telephony server

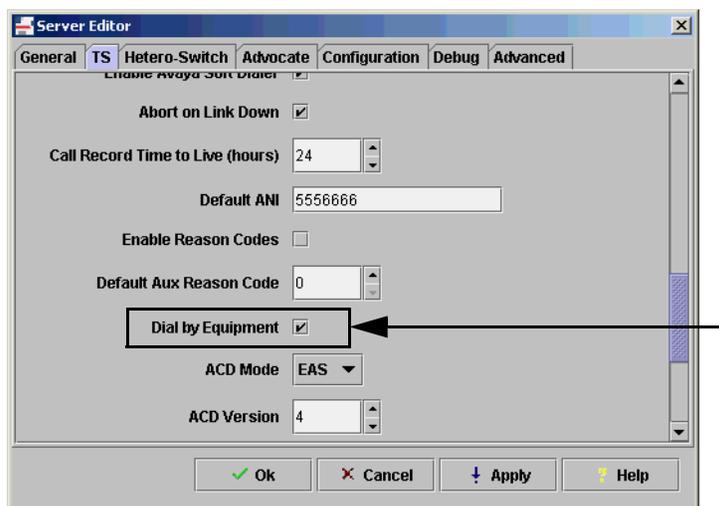
To configure a Telephony server for Business Advocate:

1. In IC Manager, select the **Server** tab.
2. Stop the Telephony server:
 - a. Right-click the Telephony server that you want to configure for Business Advocate.
 - b. Select **Stop**.

3. Double-click the Telephony server in the list of servers.
4. In the Server Editor, select the **Advocate** tab and do the following:
 - a. Select the **Enable Advocate** box to add a checkmark in that box.
IC Manager displays the remaining fields for Business Advocate.
 - b. From the **Default RONA Destination** drop-down list, select a parking device on the same ACD as the server.

The Telephony server uses this parking device to route a voice contact under the following the following circumstances:
 - If this Telephony server is not paired with a TSA server.
 - If this Telephony server is paired with a TSA server and that TSA server fails.
 The selected parking device must be monitored by a TSA server. The server uses this parking device for unanswered voice contacts that are returned to the queue.

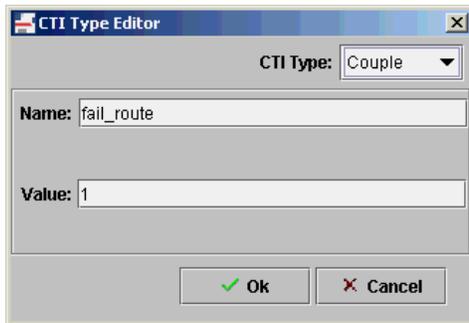
The drop-down list includes only parking devices with a wait treatment of 1. The list can include parking devices on a different ACD from the server. For more information about parking devices, see [Parking devices for the voice channel](#) on page 170.
 - c. Select **Apply**.
5. Select the **TS** tab, shown in the following figure:
 - a. Right-click in the tab and select **Show Advanced Properties**.
 - b. Scroll down and select the **Dial-by Equipment** check box.
 - c. Select **Apply**.



6. Select the **Configuration** tab:
 - a. Select **New** to open the **CTI Type Editor** dialog box, shown in the following figure:

Configuring qualification for voice contacts

- b. From the **CTI Type** drop-down list, select **Couple**.
- c. In the **Name** field, enter fail_route.
- d. In the **Value** field, enter 1.
- e. Select **OK**.



7. Select **OK**.
8. If you do not want to configure a backup link, right-click the Telephony server in the list of servers and select **Start**.

If your Avaya IC system includes an Avaya switch with Communication Manager software, you can specify a backup link for high reliability in your Business Advocate system. If you want to configure a backup link, continue with the next step, [Configuring a backup link](#) on page 184.

Configuring a backup link

A backup link is a link that you configure on your Telephony switch. If the primary link fails, the backup link handles all voice contacts for your primary link. For more information about how to configure the switch, see *IC Telephony Connectors Programmer Guide*.

If your Avaya IC system includes a switch with Avaya Definity or Communication Manager software, you can specify a backup link for high reliability in your Business Advocate system.

Nortel switches do not support backup links.

Without a backup link, Business Advocate stops distributing incoming contacts to agents associated with the failed link.

If you configure a backup link and the primary link fails, the switch begins to send all new incoming voice contacts to the backup link. Business Advocate can continue to route those voice contacts to Business Advocate agents. However, you must move voice contacts that were parked before the link failed to failover queues.

Agents who have the primary link in their link group must handle the contacts in the failover queues before they can receive new incoming contacts from the backup link. Agents who

do not handle contacts from the failover queues on the switch and who do not have that link in their link group can handle new incoming contacts on the backup link immediately.

To configure a backup link:

1. If necessary, double-click the Telephony server in the list of servers.
2. Select the **Advocate** tab.
3. In the **Optional Backup Link for Advocate** field, select a Telephony server to act as backup for this Telephony server.

The backup Telephony server must have the same ACD name as this Telephony server.

You cannot use the current Telephony server as its own backup. Therefore, the drop-down list does not include this Telephony server.

4. Select **Apply**.
5. Select **OK**.
6. Start the Telephony server:
 - a. Right-click the Telephony server.
 - b. Select **Start**.

Creating a Workflow server for the voice channel

You must create and configure at least one Workflow server to qualify voice contacts for Business Advocate. If you expect a TSA server to handle a high volume of voice contacts, create and configure multiple Workflow servers for that TSA server and the associated Telephony server.

To create a Workflow server:

1. In IC Manager, select **Server > New**.
2. Select **Workflow** from the list of servers.
3. Select **OK**.

Configuring qualification for voice contacts

4. Select the **General** tab, and complete the fields as shown in the following table.

Field	Recommended entry	Notes
Name	Workflow_<domain>	Include the domain in the name to identify the server in the list of servers. For example, enter Workflow_VoiceA.
Domain	Select the Avaya IC domain for the server from the drop-down list.	For example, select VoiceA from the drop-down list if the server is in the VoiceA domain.
Host	Select the machine's IP address from the drop-down list, or type in the IP address if it is not in the list.	When you select the host, IC Manager fills in the fields for Directory, Port, and Executable.

5. In the Server Editor for the voice qualification Workflow server, select the **Channels** tab.

6. Select **New Channel**.

7. In the **Channel Editor** dialog box, shown in the following figure:

a. Complete the fields as shown in the following table.

Field	Recommended entry
Global	Do not check this field.
By Server	Check this field. When you check this field, the Workflow server can only communicate with the TSA server that you select from the Service drop-down list. If you need this Workflow server to communicate with another TSA server, create an additional channel for that server. Warning: If you check this field and the TSA server is named "TSA", the Workflow server will not be able to communicate with the TSA server.
Channel Range	Completed by IC Manager
Service	Select the TSA server with which you want this Workflow server to communicate.
Criteria	voice.qualify

b. Select **OK**.

If this Workflow server handles requests from multiple TSA servers, repeat Step 4 to create a channel for each TSA server that is associated with this Workflow server.



8. Select **OK**.

Link groups

A link is the adjunct routing connection between your Telephony switch and the Telephony server. A link group represents a group of links on the switch.

If you want agents to service failover queues on the switch when a link fails, identify the agents as servicing voice contacts from that link, as follows:

1. Create a link group
2. Assign agents to the link group

If you do not want agents to service failover queues when a link fails, do not assign those agents to a link group.

Important:

If an agent who is assigned to a link group cannot successfully log into the voice channel, that agent will not be available for chat or email.

Avaya recommends that you configure some agents with link groups and log those agents into failover queues on the switch. With this configuration, if a failure occurs, a contact center does not lose voice contacts.

This section includes the following topics:

- [About link groups](#) on page 188.
- [Prerequisites for link groups](#) on page 188.
- [Example: Using a link group](#) on page 189.
- [Creating link groups](#) on page 189.

- [Modifying a link group](#) on page 190.
- [Deleting a link group](#) on page 191.

About link groups

Each Telephony server is associated with a link on the switch. When an agent who handles voice contacts logs in to Avaya IC, that agent is also logged in to a Telephony server and to the switch. Avaya IC uses the Telephony server where an agent logs in to associate the agent with a link.

A link group represents a group of links on the switch. You define a link group in Avaya IC by the Telephony servers that represent those links.

A link group can include multiple Telephony servers which are configured for different links on the switch. To ensure that failover occurs properly, a contact center administration who knows the configuration of the VDNs, skills/queues, and the agent skill administration should match the switch configuration to the link group configuration in Avaya IC.

When a link fails, Business Advocate uses the link groups that include the failed link to identify which agents need to service failover queues. The agents who have the failed link in their link group do not receive contacts from Business Advocate until the link recovers and the failover queues do not contain any more voice contacts.

For example, if a link fails, the switch moves parked voice contacts on that link to failover queues. If the Avaya IC system does not include a backup link for the failed link, the switch also sends all new voice contacts to failover queues. If you configure the agents assigned to the link to be logged into the failover queues, the agents can receive voice contacts from those queues as soon as the switch moves contacts to the queues.

When the link is restored, these agents continue to service the failover queues until the queues are empty. When the agents stop receiving voice contacts from the failover queues, Business Advocate takes control of the agents again.

For information about failover, see [Failover and recovery without backup link](#) on page 52.

Prerequisites for link groups

Configure an agent on a switch to make sure that agent can receive voice contacts from the failover queues for the links in a link group in case of link or system failure. For more information, see *IC Telephony Connectors Programmer Guide*.

Example: Using a link group

To use a link group:

1. Configure a link group in Avaya IC.
2. Assign the link group to all of the agents who will service failover queues for the links in that group.

For example, a contact center has three links: link_1, link_2, and link_3. The contact center also has a group of agents who will service failover queues for only link_1 and link_2.

To configure this in Avaya IC, the contact center:

1. Creates a link group that includes the Telephony servers for link_1 and link_2.
2. Assigns that link group to each agent in the group that will service the failover queues for those links.

Creating link groups

When you create a link group, you add the name of the Telephony server that handles the CTI link to the group table in Avaya IC.

All Telephony servers in the link group must have the same ACD name and belong to the same switch. Do not create a link group that includes Telephony servers that belong to more than one switch.

To create a link group:

1. In IC Manager, select the **Configuration** tab.
2. In the left pane, select **Tables > Telephony > Link Group** to navigate to the Link Group node.
3. Right-click on the Link Group node and select **New**.

The right pane displays the fields that you must complete to create a link group.

4. In the **Name** field, enter a unique name for the link group.
5. In the **Description** field, enter a description of the link group.

The description is required.

6. Select the **Ellipsis (...)** button next to the **Group** field.
7. In the **Link Group** dialog box, shown in the following figure:

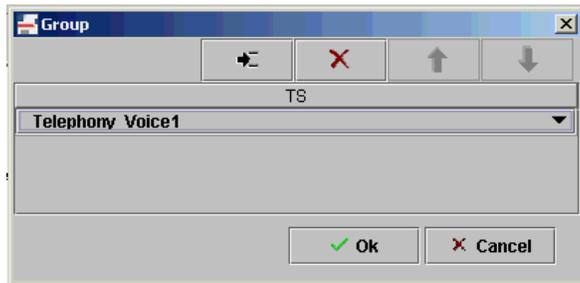
- a. Select **New**.

IC Manager adds a row to the table.

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- b. Select the down arrow on the right side of the new field to display a list of the available Telephony servers.
- c. Select the server name in the list to add that server to the link group.
- d. Select **OK** to add the Telephony server to the link group.

Repeat these steps to assign additional servers to the link group.



Note:

You do not need to stop a Telephony server to add that server to a link group.

8. Select **OK** to complete the link group process.

IC Manager displays the names of the link group in the left pane.

9. Select **Manager > Refresh**.

For information about how to assign an agent to a link group, see [Activating an agent for Business Advocate](#) on page 247.

Modifying a link group

To modify a link group:

1. In IC Manager, select the **Configuration** tab.
2. In the left pane, select **Tables > Telephony > Link Group** to navigate to the Link Group node.
3. If necessary, select the Link Group node to expand it.
4. Right-click on the name of the link group that you want to modify, and select **Edit**.
The right pane displays the link group.
5. Make the desired changes to the configuration.
6. Select **Apply**.
7. Select **OK**.
8. Select **Manager > Refresh** to refresh the Directory server.

Deleting a link group

You cannot delete a link group if that link group is in use. Before you delete a link group:

- You must stop all Telephony servers in a link group before you delete the link group.
- All agents in the link group must log out of Avaya IC.

Avaya recommends that you create a new link group, move all agents and servers to the new link group, then delete the original link group.

To delete a link group:

1. In IC Manager, select the **Configuration** tab.
2. In the left pane, select **Tables > Telephony > Link Group** to navigate to the Link Group node.
3. If necessary, select the Link Group node to expand it.
4. Right-click on the name of the link group that you want to delete, and select **Delete**.
5. Select **OK**.
6. Select **Manager > Refresh** to refresh the Directory server.

Optional configurations for the voice channel

You can find information about how to set up the following optional configurations for the voice channel, see *IC Telephony Connectors Programmer Guide*:

- Return on no answer (RONA) for voice.
- Playing the estimated wait time for customers who are on hold.

Configuring qualification for voice contacts

■ ■ ■ ■ ■ ■

Chapter 9: Configuring qualification for chat contacts

Business Advocate can qualify and route chat contacts and voice chat contacts.



Important:

After you complete the qualification for chat contacts, including the configuration of the WebACD server, only Business Advocate agents can receive chat contacts and voice chat contacts.

This section describes how Business Advocate qualifies chat contacts, and what you need to do to configure Business Advocate to qualify and route chat contacts. This section includes the following topics:

- [Qualification and routing in the chat channel](#) on page 193.
- [Voice chat](#) on page 197
- [Prerequisites for configuring the chat channel](#) on page 197.
- [Qualify Chat workflow](#) on page 197.
- [Web Advocate Adaptor server for chat contacts](#) on page 201.
- [Configuring the WebACD server](#) on page 206.
- [Configuring a Workflow server for the chat channel](#) on page 208.

For information about failover, see [Failover for chat contacts](#) on page 54. For information on how to set up RONA for the chat channel, see *IC Administration Volume 2: Agents, Customers, & Queues*.

Qualification and routing in the chat channel

This section describes how the Business Advocate components qualify and route a chat contact to an agent. This section includes the following topics:

- [Components used to qualify a chat contact](#) on page 194.
- [Qualification and routing process for a chat contact](#) on page 195.

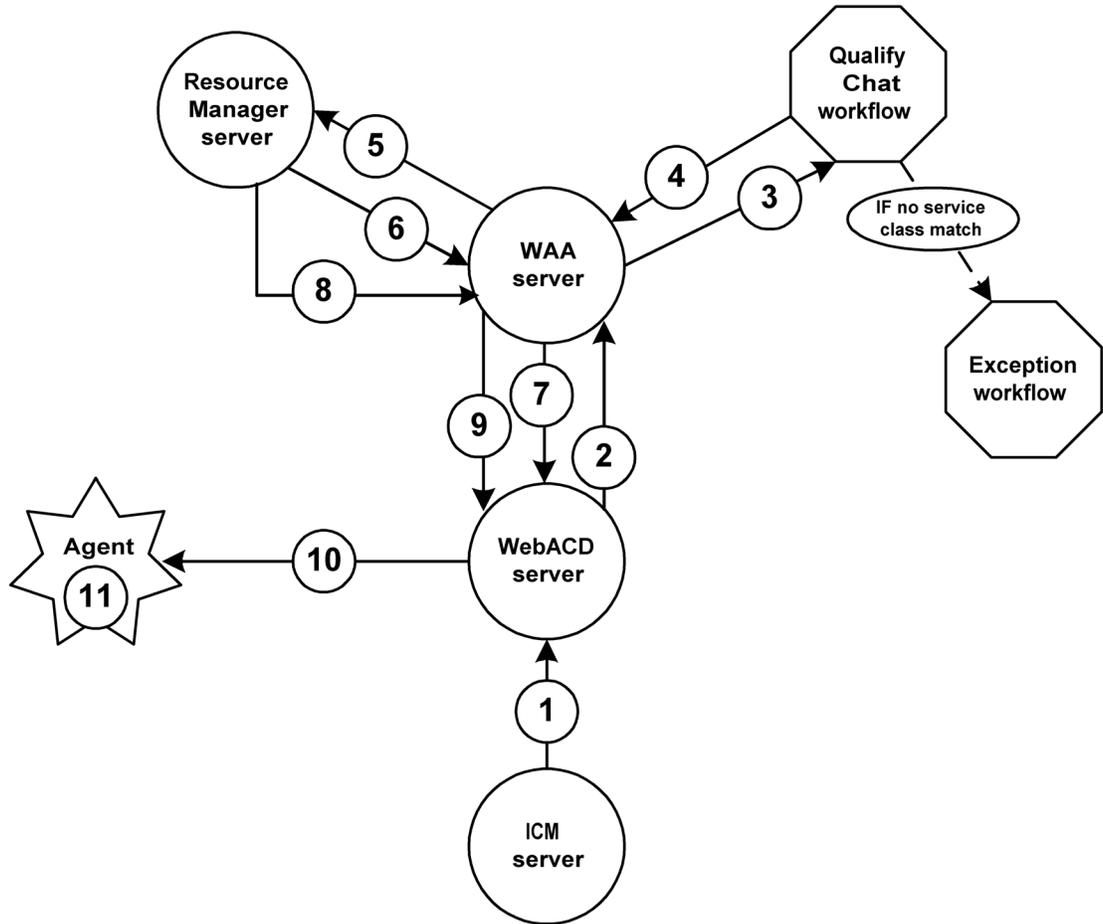
Components used to qualify a chat contact

The following table describes the components that Business Advocate uses to qualify and route a chat contact.

Component	Function
ICM server	<ul style="list-style-type: none">● Sends a route request to the WebACD server when a chat contact arrives.
WebACD server	<ul style="list-style-type: none">● Receives the route request from the ICM server.● Requests and receives responses from the Web Advocate Adaptor (WAA) server.● Delivers the chat contact to an agent.
Web Advocate Adaptor (WAA) server	<ul style="list-style-type: none">● Receives the route request from the WebACD server.● Requests and receives responses from the WebACD server, the Resource Manager server, and one or more Workflow servers.
Workflow server	<ul style="list-style-type: none">● Receives the route request from the WAA server.● Runs the assigned chat qualification workflow. The sample qualification workflow is the Qualify Chat workflow.● Can also run an exception workflow or a transfer workflow.
Resource Manager server	<ul style="list-style-type: none">● Receives the route request from the WAA server.● Notifies the WAA server if and when a qualified agent is available.
Agent	<ul style="list-style-type: none">● Receives the chat contact.

Qualification and routing process for a chat contact

The following figure shows the qualification and routing process for a chat contact.



The following table describes the steps in the qualification and routing process for a chat contact, as shown in the above figure.

Step	Description
1	The ICM server sends an incoming chat event for the chat contact to the WebACD server.
2	The WebACD server sends an incoming chat event for the chat contact to the WAA server.
3	The WAA server sends a request to qualify to the Workflow server that runs the Qualify Chat workflow.

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Step	Description
4	<p>The Qualify Chat workflow qualifies the chat contact and transmits the following qualification information about the chat contact to the WAA server:</p> <ul style="list-style-type: none"> ● EDU ID ● Service class ● Wait treatment information: text, time to wait, and URL to display ● Preferred agent, if specified ● Logical Resource Manager, if preferred agent specified <p>Note: If the qualifier set on the chat contact does not match an existing service class, Business Advocate dynamically creates a service class.</p>
5	<p>The WAA server sends a request for an agent with the information about the chat contact to the Resource Manager server.</p>
6	<p>The Resource Manager server runs the Business Advocate algorithms to compare the available agents, if any, with the contacts in the queues, then tells the WAA server if an agent is immediately available to handle the chat contact. If no agent is available, the Resource Manager server continues to monitor the agents and the contacts in the queues.</p> <p>Note: If there is an agent available, go to Step 8.</p>
7	<p>The WAA server tells the WebACD server that an agent is not available and to hold the chat contact. The WebACD server sends the wait treatment assigned by the Qualify Chat contact to customer.</p>
8	<p>The Resource Manager server matches the contact to an available agent, and notifies the WAA server of the login ID for the agent.</p>
9	<p>The WAA server sends a route response to the WebACD server with the EDU ID of the chat contact and the login ID of the agent.'</p>
10	<p>The WebACD server routes the contact to the agent. If your contact center includes screen pops, the WebACD server sends the EDU information to the agent application. The agent application uses the screen pop to display information about the customer to the agent. The agent answers the chat contact and chats with the customer.</p>

Voice chat

To enable an agent for voice chat, create the qualifiers in the following table, and include those qualifiers in the capability set of the agent.

Type of voice chat	Description	Qualifier category	Qualifier value
Chat & Phone	Voice chat contact is initiated from a chat session. The customer uses VOIP. The agent uses a telephone.	multimedia	pvchat
Chat & VOIP	Voice chat contact is initiated from a chat session. The customer and the agent use a telephone.	multimedia	ivchat

Prerequisites for configuring the chat channel

Before you configure the chat channel, complete the following steps:

1. Install and configure the Avaya IC chat channel, including all prerequisites, as described in the *IC Installation and Configuration*.
2. Configure the Business Advocate core servers, as described in [Configuring core Business Advocate components](#) on page 117.
3. If you want to include voice chat, configure the voice channel for Business Advocate, including all prerequisites, as described in [Configuring qualification for voice contacts](#) on page 149.

Qualify Chat workflow

By default, Business Advocate uses the sample Qualify Chat workflow to qualify chat contacts. You can find the Qualify Chat workflow in the following directory:

`IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate\qualifychat_adv`

Tip:

You can customize the sample Qualify Chat workflow to meet the needs of a contact center. For information, see *Avaya IC Media Workflow Reference*.

Configuring qualification for chat contacts

For information about Workflow Designer, see *Avaya Workflow Designer User Guide*.

This section describes the steps you must perform to use the Qualify Chat workflow to qualify and match chat contacts with Business Advocate. This section includes the following topics:

1. [Prerequisites for the Qualify Chat workflow](#) on page 198.
2. [Customizing the Qualify Chat workflow](#) on page 199.
3. [Configuring database settings for the workflow](#) on page 200.
4. [Building the flowset](#) on page 200.

Prerequisites for the Qualify Chat workflow

Before you compile the Qualify Chat workflow, perform the steps in the following table.

Step	Description
Create qualifiers.	<p>Some blocks in the Qualify Chat workflow use qualifiers. For more information about these qualifiers, see Sample qualifiers on page 78.</p> <p>Use these qualifiers to test the Qualify Chat workflow. Create additional qualifiers and configure the workflow to use those qualifiers, including the properties of the following blocks:</p> <ul style="list-style-type: none">● Map to Qualifier● Set Qualifier <p>For more information, see <i>Avaya IC Media Workflow Reference</i>.</p>
Create routing hints.	<p>Create at least one routing hint that uses the DefaultChatQueue@DefaultTenant queue.</p> <p>Avaya IC maintains routing hints in the RoutingHint table of the Directory server.</p> <p>Create routing hints in the Configuration tab of IC Manager. For more information, see the following:</p> <ul style="list-style-type: none">● <i>Avaya IC Media Workflow Reference</i>● <i>IC Installation and Configuration</i>.
Associate Web Self-Service documents with routing hints.	<p>When a customer requests a chat contact with an agent, Web Management records the last document that the customer viewed on the Website. If that document has an associated routing hint, the Qualify Chat workflow uses that hint to map a qualifier for the chat contact.</p> <p>Associate routing hints with documents in the Web Self-Service console. For more information, see <i>IC Installation and Configuration</i>.</p>

Customizing the Qualify Chat workflow

You do not need to configure the sample Qualify Chat workflow before you use the workflow to test a Business Advocate system. However, Avaya recommends that you create qualifiers to meet the business needs of your contact center. If you create custom qualifiers, you must customize the workflow to use those qualifiers.

The following table describes the blocks that Avaya recommends you customize in the Qualify Chat workflow.

Block	Description
Map to Qualifier	Specifies values for incoming chat contacts and maps these values to a text string. The workflow uses the text string as the qualifier value for the category.
Set Qualifier	Sets qualifiers from the text string set in the Map to Qualifier block. If no valid qualifier exists, you can set a default qualifier in a DefaultQualifier value on the Basic tab.
Set Chat Wait Treatment	<p>Lets you build a scripted sequence of wait treatment responses to the chat contact. Use the following three properties on the Basic tab to create the step in the sequence that the current block represents:</p> <ul style="list-style-type: none"> ● PushURL – The URL of a web page to push to the Web browser of the customer waiting to chat with an agent. ● SayText – A text string, typically in the form of a sentence to push to the chat application window of a customer waiting to chat with an agent. ● WaitTime – The time in seconds that you want Web Management to display this sequence. For example, enter a value of '-1' if you want Web Management to show the sequence indefinitely. <p>This block collects these values into the sequence couple property ChatWaitSequence. Add more Set Chat Wait Treatment blocks to create a complex wait treatment script.</p>

To customize the Qualify Chat workflow:

1. In Workflow Designer, select **File > Open Project** and open the Advocate project.
You can find the Advocate project in the following directory:
`IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate`
2. Double-click `qualifychat_adv` in the **Project** pane.
3. Select the block that you want to customize and open the block properties in the Property Sheet.

Configuring qualification for chat contacts

4. In the Property Sheet:
 - a. Select the **Basic** tab.
 - b. Configure the block properties.
5. Select **File > Save**. Do not close the workflow in Workflow Designer.

Configuring database settings for the workflow

After you complete the prerequisites for the Qualify Chat workflow, configure the database settings that Workflow Designer needs to build the workflow.

To configure the database settings:

1. In Workflow Designer, select **File > Open Project** and open the Advocate project.

You can find the Advocate project in the following directory:

`IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate`

2. Double-click `qualifychat_adv` in the **Project** pane.
3. Select **Project > Settings**.
4. Select the **Database** tab of the **Project Settings** dialog box.
5. Enter the name of your Interaction Center Data Source in the **IC Data Source** field.

For example, enter `interaction_center`. All sample workflows provided with Avaya IC use the Interaction Center data source. If you created custom flows that point to a different data source, enter that data source here.
6. Enter a valid Avaya IC Administrator account in the **Login ID** field.
7. Enter the password for the account in the **Password** field.
8. Select **OK**. Do not close the workflow in Workflow Designer.

Building the flowset

When you build a workflow, Workflow Designer:

- Compiles the workflow
- Converts the workflow to XML format

 **Important:**

You must export the qualifiers from Advocate Supervisor to the `IC_INSTALL_DIR\IC70\etc` directory on the machine that hosts Workflow Designer before you can build the flowset and compile your workflows. For more information, see [Exporting qualifiers to Workflow Designer](#) on page 83.

To build the flowset and load the flows:

1. Select **Build > Verify Active Flow**.
2. Review the results of the build in the **Output** bar.
Double-click an error to open the workflow and highlight the block or connector with the error.
3. After you correct all errors, select **Build > Build Flow Set**.
4. Select **File > Exit** to close Workflow Designer.

Web Advocate Adaptor server for chat contacts

The Web Advocate Adaptor (WAA) server manages server interactions for Business Advocate that occur in the chat channel and the email channel.

This section describes the function of the WAA server in the chat channel, and how to create, configure, and administer the WAA server. This section includes the following topics that you need to create and configure a WAA server for chat:

1. [WAA server and the chat channel](#) on page 202.
2. [Requirements for the WAA server](#) on page 202.
3. [Creating a WAA server](#) on page 203.
4. [Configuring a WAA server for the chat channel](#) on page 204.

This section also includes the following topics:

- [Modifying a WAA server](#) on page 205.
- [Deleting a WAA server](#) on page 205.

WAA server and the chat channel

The following table describes the Avaya IC servers that interact with the WAA server in the chat channel.

Avaya IC server	Description
WebACD server	The WAA server routes and queues all chat contacts for the WebACD server. With Business Advocate, the WebACD server does not use internal queues for chat contacts.
Resource Manager servers	The WAA server sends a qualified service class for a contact to the Resource Manager server and requests a qualified agent. If a qualified agent is available, the Resource Manager server provides the agent information to the WAA server. If no qualified agent is available, the Resource Manager server tells the WAA server to wait and notifies the WAA server when an agent becomes available. If no qualified agent is logged in to Avaya IC, the Resource Manager server advises the WAA server to route the contact to an exception workflow. The Resource Manager servers maintain the chat queues.
Workflow servers for chat contacts	The WAA server connects to the Workflow server and starts the assigned chat qualification workflow. The sample qualification workflow is the Qualify Chat workflow. The WAA server can also start the following workflows in the Workflow server: <ul style="list-style-type: none">● An exception handling workflow● A transfer workflow

Requirements for the WAA server

The WAA server in your Avaya IC system must meet the following requirements:

- The WAA server has a one-on-one relationship with the WebACD server. You can have only one WAA server for the WebACD server in your Avaya IC system.
- You must assign the WAA server to the same Avaya IC domain as the WebACD server.
- You must configure the WAA server to handle both chat contacts and email contacts if your Avaya IC system includes both media channels.

Creating a WAA server

To create a WAA server:

1. In IC Manager, select **Server > New**.
2. Select WAA from the list of servers.
3. Select **OK**.
4. Select the **General** tab.
5. Complete the fields shown in the following table.

Field	Recommended entry	Notes
Name	WAA_<domain>	Include the domain in the server name to identify the server.
Domain	Select the Avaya IC domain for the server from the drop-down list.	The WAA server must be in the same Avaya IC domain as the WebACD server. For example, select Web from the drop-down list if the server is in the Web domain.
Host	Select the machine's IP address from the drop-down list, or type in the IP address if it is not in the list.	When you select the host, IC Manager fills in the fields for Directory, Port, and Executable.

6. Select **Apply**.

Do not close IC Manager or the Server Editor for the WAA server. Continue with the next step.

- If your Business Advocate system includes the chat channel, continue with [Configuring a WAA server for the chat channel](#) on page 204
- If your Business Advocate system does not include the chat channel, but does include the email channel, continue with [Configuring a WAA server for the email channel](#) on page 221.

Configuring a WAA server for the chat channel

You can assign only one Logical Resource Manager for chat in your Avaya IC system. However, if the system includes more than one Logical Resource Manager, and you assign chat agents to another Logical Resource Manager, the Distributed Business Advocate feature allows the agent pool for each Logical Resource Manager to handle chat contacts.

For information about what happens if this Logical Resource Manager is not available, see the following topics:

- [Failover for chat contacts](#) on page 54.
- [Impact of server shutdown on the qualification of chat contacts](#) on page 144.

 **CAUTION:**

You must specify a Logical Resource Manager for the chat channel in the WAA server. If you do not specify a Logical Resource Manager, you cannot complete the configuration of the WAA server, and Business Advocate cannot qualify chat contacts.

The default workflows are the sample chat workflows for Business Advocate installed with Workflow Designer. For more information about the sample workflows, see *IC Media Workflow Reference*.

To configure the WAA server for the chat channel:

1. In the Server Editor for the WAA server, select the **Chat** tab.
2. In the **Configure Advocate for Chat Channel** field, select the box to add a checkmark.

After you check the box, IC Manager displays the remaining fields required to configure the chat channel.
3. From the **Chat LRM** drop-down list, select the Logical Resource Manager that handles chat contacts.
4. In the **Chat Qualification Flow** field, accept the default workflow or enter a custom workflow for the WAA to use to qualify chat contacts.

The default is the sample chat qualification workflow, `advocate.qualifychat_adv`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.

5. In the **Chat Routing Exception Flow** field, accept the default workflow or enter a custom workflow for the WAA to use for chat contacts.

The default is the sample chat routing exception workflow, `advocate.route_exception`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.

6. In the **Chat Transfer Exception Flow** field, accept the default workflow or enter a custom workflow for the WAA to use for chat contacts.

The default is the sample transfer exception workflow, `advocate.route_exception`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.

7. Select **Apply**.
8. Select **OK** to complete the configuration of the WAA server for the chat channel.

Modifying a WAA server

You can modify the name of the WAA server. The WAA server obtains its configuration data when the server starts. You must restart the WAA server for any changes to take effect.

To modify a WAA server:

1. In IC Manager, select the **Server** tab.
2. Stop the WAA server:
 - a. Right-click on the WAA server.
 - b. Select **Stop**.After the Alarm Monitor displays a message confirming that the server has stopped correctly, continue with the next step.
3. Double-click the WAA server in the list of servers.
4. Make the desired changes to the configuration.
5. Select **Apply**.
6. Select **OK**.
7. Right-click on the WAA server and select **Start** to restart the WAA server.

Deleting a WAA server

To delete a WAA server:

1. In IC Manager, select the **Server** tab.
2. Right-click on the WAA server and select **Stop** to stop the WAA server.
3. After the Alarm Monitor displays a message confirming that the server has stopped correctly, right-click on the WAA server and select **Delete**.
4. In the confirmation message box, Select **OK** to confirm the deletion.

Configuring the WebACD server

Configure the WebACD server if your Avaya IC system uses Business Advocate to qualify chat contacts or email contacts. After you configure the WebACD server for Business Advocate, the WebACD server no longer uses its own internal system for queues. In a Business Advocate system, the WebACD server relies on Business Advocate to queue chat contacts and email contacts.

This section includes the following topics:

- [Queuing parameters for the WebACD server](#) on page 206.
- [Consequences of configuring the WebACD server](#) on page 207.
- [Configuring the WebACD server for Business Advocate](#) on page 207.

Queuing parameters for the WebACD server

When you configure the WebACD server, you add queuing parameters. These parameters determine how many seconds the WebACD server should wait before requeuing an undelivered chat contact or email contact to Business Advocate.

The following table describes the queuing parameters for the WebACD server.

Queuing parameters	Default values in seconds
Advocate_Requeue_Time_Chat	30
Advocate_Requeue_Time_Email	3600

For chat contacts, the WebACD server uses the queuing parameter if no qualified agent is logged in to Avaya IC. For email contacts, the WebACD server uses the queuing parameter if no qualified agent is defined in Business Advocate.

For example, Business Advocate qualifies an email contact as Email/Spanish, but the system does not include an agent with a capability set for Email/Spanish. The WebACD server raises an alarm in the Alarm Monitor of IC Manager. The WebACD server waits for an hour to give a contact center supervisor time to define a capability set of Email/Spanish for an agent. After the hour has elapsed, the WebACD server requeues the email contact.

Consequences of configuring the WebACD server

You must stop and restart the WebACD server after you configure the server for Business Advocate.

When the WebACD server restarts:

1. The WebACD server no longer uses its own internal system for queues.
2. Agents can receive chat contacts and email contacts only through Business Advocate.
3. If a WebACD queue includes email contacts, the WebACD server removes those email contacts from the queues and sends those contacts to the Workflow server that handles email contacts for requalification.
4. The Workflow server requalifies all email contacts with the Qualify Email workflow for Business Advocate.
5. The Qualify Email workflow sends the email contacts to Business Advocate to be placed back in a queue or matched with an available agent.
6. After the Workflow server completes the requalification, Business Advocate matches new email contacts that arrived in the system during the requalification.

This requalification can take a significant amount of time, if the queue contains a large number of email contacts. The WebACD server is not available when the Workflow server requalifies the email contacts.

Configuring the WebACD server for Business Advocate

To configure the WebACD server for Business Advocate:

1. In IC Manager, select the **Server** tab.
2. Stop the WebACD server:
 - a. Right-click on the WebACD server.
 - b. Select **Stop**.
3. After the Alarm Monitor displays a message confirming that the server has stopped correctly, double-click the WebACD server.
4. Select the **Advocate** tab.
 - a. Select the **Enable Advocate** box to add a checkmark in that box.
 - b. Select **Apply**.
 - c. In the Warning message, review the warning and select **Yes** to continue.

Configuring qualification for chat contacts

5. Select the **Configuration** tab:
 - a. Select **New** to open the **CTI Type Editor** dialog box.
 - b. From the **CTI Type** drop-down list, select **Couple**.
 - c. In the **Name** field, enter `Advocate_Requeue_Time_Email`.
 - d. In the **Value** field, enter 3600.
 - e. Select **OK**.
6. In the **Configuration** tab:
 - a. Select **New** to open the **CTI Type Editor** dialog box.
 - b. From the **CTI Type** drop-down list, select **Couple**.
 - c. In the **Name** field, enter `Advocate_Requeue_Time_Chat`.
 - d. In the **Value** field, enter 30.
 - e. Select **OK**.
7. Start the WebACD server:
 - a. Right-click the WebACD server.
 - b. Select **Start**.

 **Important:**

After you select **Apply** you cannot stop Business Advocate from requalifying all email contacts when you restart the WebACD server. Even if you uncheck the **Enable Advocate** checkbox before you restart the WebACD server, Business Advocate requalifies all email contacts in queue.

Configuring a Workflow server for the chat channel

You must configure at least one Workflow server to qualify chat contacts for Business Advocate. If you expect Business Advocate to handle a high volume of chat contacts, you can create and configure multiple Workflow servers.

For information on how to create a Workflow server, see *IC Installation and Configuration*.

To configure a Workflow server for the chat channel:

1. In IC Manager, double-click the chat qualification Workflow server in the list of servers.
2. Select the **Channels** tab.
3. Select **New Channel**.

4. In the **Channel Editor** dialog box:
 - a. Complete the fields as shown in the following table.

Field	Recommended entry
Global	Do not check this field.
By Server	Check this field. Warning: If you check this field and the WAA server is named "WAA", the Workflow server will not be able to communicate with the WAA server.
Channel Range	Completed by IC Manager
Service	Select the WAA server from the drop-down list.
Criteria	chat.qualify

- b. Select **OK**.
5. Select **OK**.

Configuring qualification for chat contacts

■ ■ ■ ■ ■ ■

Chapter 10: Configuring qualification for email contacts

Business Advocate can qualify and route both inbound email contacts and outbound email contacts.

Important:

After you complete the qualification for email contacts, including the configuration of the WebACD server, only Business Advocate agents can receive email contacts.

This section describes how Business Advocate qualifies email contacts, and what you need to do to configure Business Advocate to qualify email contacts. This section includes the following topics:

- [Qualification and routing in the email channel](#) on page 211.
- [Prerequisites for configuring the email channel](#) on page 214.
- [Qualify Email workflow](#) on page 215.
- [Web Advocate Adaptor server for email contacts](#) on page 219.
- [Configuring a Workflow server for the email channel](#) on page 222.
- [Retrieving email contacts from an agent](#) on page 223.

For information about failover, see [Failover for email contacts](#) on page 54. For information on how to set up RONA for the email channel, see *IC Administration Volume 2: Agents, Customers, & Queues*.

Qualification and routing in the email channel

This section describes how the Business Advocate components qualify and route an email contact to an agent. This section includes the following topics:

- [Components used to qualify an email contact](#) on page 212.
- [Qualification and routing process for an email contact](#) on page 213.

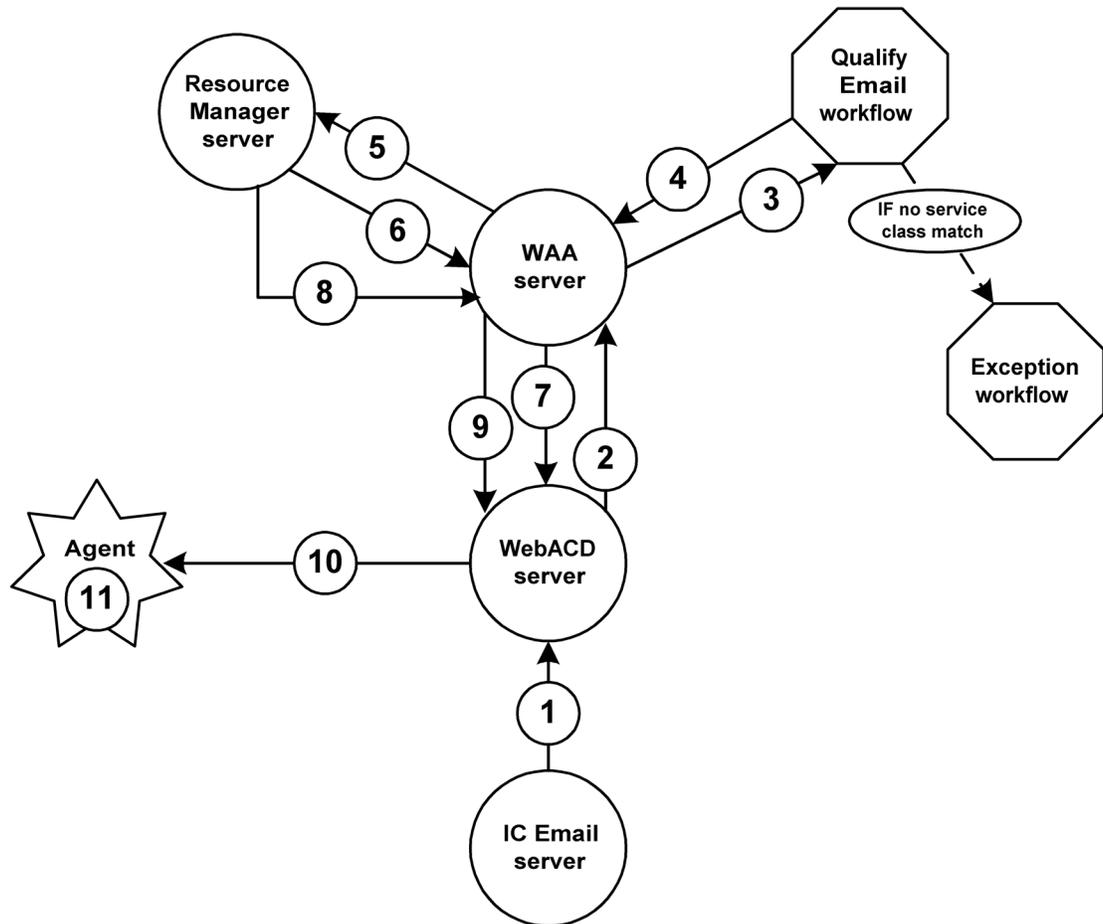
Components used to qualify an email contact

The following table describes the components that Business Advocate uses to qualify and route an email contact.

Component	Function
Email server	<ul style="list-style-type: none">● Sends a route request to the WebACD server when an email contact arrives.
WebACD server	<ul style="list-style-type: none">● Receives the route request from the Email server.● Requests and receives responses from the Web Advocate Adaptor (WAA) server.● Delivers email contact to agent.
Web Advocate Adaptor (WAA) server	<ul style="list-style-type: none">● Receives the route request from the WebACD server.● Requests and receives responses from the WebACD server, the Resource Manager server, and one or more Workflow servers.
Workflow server	<ul style="list-style-type: none">● Receives the route request from the WAA server.● Runs the assigned email qualification workflow. The sample qualification workflow is the Qualify Email workflow.● Can also run an exception workflow or a transfer workflow.
Resource Manager server	<ul style="list-style-type: none">● Receives the route request from the WAA server.● Notifies the WAA server if and when a qualified agent is available.
Agent	<ul style="list-style-type: none">● Receives the email contact.

Qualification and routing process for an email contact

The following figure shows the qualification and routing process for an email contact.



The following table describes the steps in the qualification and routing process for an email contact, as shown in the above figure.

Step	Description
1	The IC Email server sends an incoming email event for the email contact to the WebACD server.
2	The WebACD server sends an incoming email event for the email contact to the WAA server.
3	The WAA server sends a request to qualify to the Workflow server that runs the Qualify Email workflow.

Configuring qualification for email contacts

Step	Description
4	<p>The Qualify Email workflow qualifies the email contact and transmits the following qualification information about the email contact to the WAA server:</p> <ul style="list-style-type: none">● EDU ID● Service class● Preferred agent, if specified● Logical Resource Manager, if preferred agent specified <p>Note: If the qualifier set on the email contact does not match an existing service class, Business Advocate dynamically creates a service class.</p>
5	<p>The WAA server sends a request for an agent with the information about the email contact to the Resource Manager server.</p>
6	<p>The Resource Manager server runs the Business Advocate algorithms to compare the available agents, if any, with the contacts in the queues, then tells the WAA server if an agent is immediately available to handle the email contact. If no agent is available, the Resource Manager server continues to monitor the agents and the contacts in the queues.</p> <p>Note: If there is an agent available, go to Step 8.</p>
7	<p>The WAA server tells the WebACD server that an agent is not available and to hold the email contact.</p>
8	<p>The Resource Manager server matches the contact to an available agent, and notifies the WAA server of the login ID for the agent.</p>
9	<p>The WAA server sends a route response to the WebACD server with the EDU ID of the email contact and the login ID of the agent.</p>
10	<p>The WebACD server routes the contact to the agent:</p> <ul style="list-style-type: none">● If the agent is available, delivers the email contact to the Email task list for the agent.● If the agent is not available, holds the email contact in a queue until the agent is available to receive the contact. <p>If your contact center includes screen pops, the WebACD server sends the EDU information to the agent application. The agent application uses the screen pop to display information about the customer to the agent.</p>

Prerequisites for configuring the email channel

Before you configure the email channel, complete the following steps:

1. Install and configure the Avaya IC email channel, including all prerequisites, as described in the *IC Installation and Configuration*.

2. Configure the Business Advocate core servers, as described in [Configuring core Business Advocate components](#) on page 117.
3. Create the Web Advocate Adaptor server, as described in [Creating a WAA server](#) on page 203.
4. Configure the WebACD server for Business Advocate, as described in [Configuring the WebACD server](#) on page 206.

Qualify Email workflow

Business Advocate uses the Qualify Email workflow to qualify email contacts. You can find the Qualify Email workflow in the following directory:

```
IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate\qualifyemail_ad  
v
```

For detailed information about the Qualify Email workflow, see *Avaya IC Media Workflow Reference*. For information about how to use Workflow Designer, see *Avaya Workflow Designer User Guide*.

This section describes the steps you must perform to use the Qualify Email workflow to qualify email contacts with Business Advocate. This section includes the following topics:

1. [Prerequisites for the Qualify Email workflow](#) on page 216.
2. [Customizing the Qualify Email workflow](#) on page 216.
3. [Configuring the Qualify Email workflow](#) on page 217.
4. [Configuring database settings for the workflow](#) on page 218.
5. [Building the flowset](#) on page 219.

Prerequisites for the Qualify Email workflow

Before you compile the Qualify Email workflow, perform the steps in the following table.

Step	Description
Create qualifiers.	<p>Some blocks in the Qualify Email workflow use qualifiers. For more information about these qualifiers, see Sample qualifiers on page 78.</p> <p>Use these qualifiers to test the Qualify Email workflow. Create additional qualifiers and configure the workflow to use those qualifiers, including the properties of the following blocks:</p> <ul style="list-style-type: none"> ● Map to Qualifier ● Set Qualifier <p>For more information, see <i>Avaya IC Media Workflow Reference</i>.</p>
Determine whether to use email analysis workflows to pre-qualify email contacts.	<p>Specify whether to use email analysis on the Analysis tab of the Email server. You can qualify email contacts for Business Advocate without email analysis.</p> <p>Avaya IC provides two types of email analysis to pre-qualify email contacts:</p> <ul style="list-style-type: none"> ● Analysis with keywords, which uses keywords to set the intent qualifier according to a match with a keyword ● Analysis with Avaya Content Analyzer (Content Analyzer), which analyzes the body of the email contact to set categories and confidence scores. <p>For more information about email analysis flows, see <i>Avaya IC Media Workflow Reference</i>. For more information about Content Analyzer, see <i>IC Administration Volume 1: Servers & Domains</i>.</p>

Customizing the Qualify Email workflow

You do not need to configure the sample Qualify Email workflow before you use the workflow to test a Business Advocate system. However, Avaya recommends that you create qualifiers to meet the business needs of your contact center. If you create custom qualifiers, you must customize the workflow to use those qualifiers.

The following table describes the blocks that Avaya recommends you customize in the Qualify Email workflow.

Block	Description
Map to Qualifier	Specifies values for incoming email contacts and maps these values to a text string. The workflow uses the text string as the qualifier value for the category.
Set Qualifier	Sets qualifiers from the text string set in the Map to Qualifier block. If no valid qualifier exists, you can set a default qualifier in a DefaultQualifier value on the Basic tab.

Configuring the Qualify Email workflow

If your Avaya IC system does not use email analysis workflows to prequalify email contacts, configure the Map to Qualifier (toaddress) blocks with valid email addresses that will be used by inbound email contacts.

Important:

Create qualifiers with the category intent and a qualifier value for each of the To address values you enter into Qualifier_1 through Qualifier_4 in the Map to Qualifier (toaddress) block. For more information, see [Creating a qualifier](#) on page 79.

To configure the Qualify Email workflow:

1. In Workflow Designer, select **File > Open Project** and open the Advocate project.
You can find the Advocate project in the following directory:
`IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate`
2. Double-click `qualifyemail_adv` in the **Project** pane.
3. Configure the Map to Qualifier (toaddress) block:
 - a. Select the block to open the block properties in the Property Sheet.
 - b. In the Property Sheet, select the **Basic** tab.

Configuring qualification for email contacts

c. Set the properties in the following table.

Property	Description
Qualifier_1 through Qualifier_4	Enter intent values for the qualifiers which map to the To address. For example, enter: <ul style="list-style-type: none">● sales● support
Value_1 through Value_4	Enter the To address values that map to the qualifier values in Qualifier_1 to Qualifier_4. For example, if you use sales as Qualifier_1, then in Value_1 enter the email address where sales email contacts are sent.

4. Select **File > Save**. Do not close the workflow in Workflow Designer.

Configuring database settings for the workflow

After you complete the prerequisites for the Qualify Email workflow, configure the database settings that Workflow Designer needs to build the workflow.

To configure the database settings:

1. In Workflow Designer, select **File > Open Project** and open the Advocate project.

You can find the Advocate project in the following directory:

`IC_INSTALL_DIR\IC70\design\IC\Flows\Avaya\Advocate`

2. Double-click `qualifyemail_adv` in the **Project** pane.

3. Select **Project > Settings**.

4. Select the **Database** tab of the **Project Settings** dialog box.

5. Enter the name of your Interaction Center Data Source in the **IC Data Source** field.

For example, enter `interaction_center`. All sample workflows provided with Avaya IC use the Interaction Center data source. If you created custom flows that point to a different data source, enter that data source here.

6. Enter a valid Avaya IC Administrator account in the **Login ID** field.

7. Enter the password for the account in the **Password** field.

8. Select **OK**. Do not close the workflow in Workflow Designer.

Building the flowset

When you build a workflow, Workflow Designer:

- Compiles the workflow
- Converts the workflow to XML format

 **Important:**

You must export the qualifiers from Advocate Supervisor to the `IC_INSTALL_DIR\IC70\etc` directory on the machine that hosts Workflow Designer before you can build the flowset and compile your workflows. For more information, see [Exporting qualifiers to Workflow Designer](#) on page 83.

To build the flowset and load the flows:

1. Select **Build > Verify Active Flow**.
2. Review the results of the build in the **Output** bar.
Double-click an error to open the workflow and highlight the block or connector with the error.
3. After you correct all errors: select **Build > Build Flow Set**.
4. Select **File > Exit** to close Workflow Designer.

Web Advocate Adaptor server for email contacts

The Web Advocate Adaptor (WAA) server manages server interactions for Business Advocate that occur in the chat channel and the email channel.

This section describes the function of the WAA server in the email channel, and how to configure the WAA server for email. This section includes the following topics that you need to create and configure a WAA server for email:

1. [WAA server and the email channel](#) on page 220.
2. [Requirements for the WAA server](#) on page 220.
3. [Configuring a WAA server for the email channel](#) on page 221.

For information about how to administer the WAA server, see [Web Advocate Adaptor server for chat contacts](#) on page 201.

WAA server and the email channel

The following table describes the Avaya IC servers that interact with the WAA server in the email channel.

Avaya IC server	Description
WebACD server	The WAA server routes and queues all email contacts for the WebACD server. With Business Advocate, the WebACD server does not use internal queues for email contacts.
Resource Manager servers	The WAA server sends a qualified service class for a contact to the Resource Manager server and requests a qualified agent. If a qualified agent is available, the Resource Manager server provides the agent information to the WAA server. If no qualified agent is available, the Resource Manager server tells the WAA server to wait and notifies the WAA server when an agent becomes available. If no qualified agent is defined in Avaya IC to handle email contacts in the service class, the Resource Manager server advises the WAA server to send the contact to an exception workflow. The Resource Manager servers maintain the email queues.
Workflow servers for chat contacts	The WAA server triggers the Workflow server to run the following workflows for email contacts: <ul style="list-style-type: none">● Qualify Email workflow● Exception handling workflows● Transfer workflows

Requirements for the WAA server

The WAA server in your Avaya IC system must meet the following requirements:

- The WAA server has a one-on-one relationship with the WebACD server. You can have only one WAA server for the WebACD server in your Avaya IC system.
- You must assign the WAA server to the same Avaya IC domain as the WebACD server.
- You cannot configure the WAA server to failover to a WAA server in another domain.
- You must configure the WAA server to handle both chat contacts and email contacts if your Avaya IC system includes both media channels.

Configuring a WAA server for the email channel

If you have not already created the WAA server, see [Creating a WAA server](#) on page 203.

You can assign only one Logical Resource Manager for email in your Avaya IC system. However, if the system includes more than one Logical Resource Manager, and you assign email agents to another Logical Resource Manager, the Distributed Business Advocate feature allows the agent pool for each Logical Resource Manager to handle email contacts.

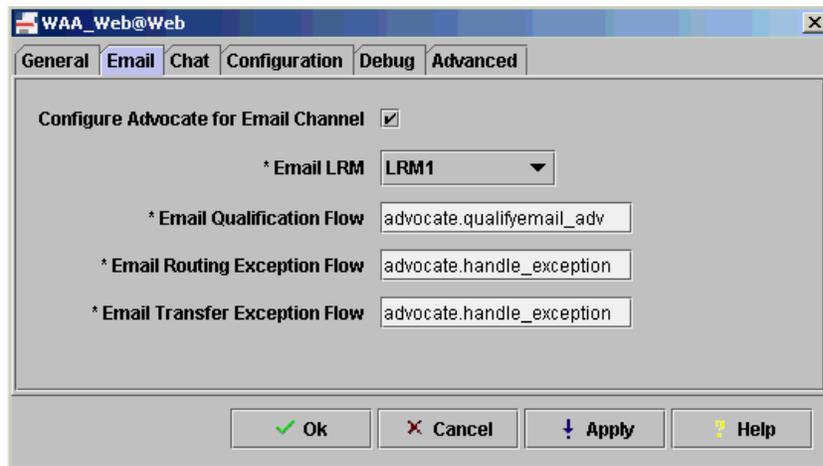
For information about what happens if this Logical Resource Manager is not available, see the following topics:

- [Failover for email contacts](#) on page 54.
- [Impact of server shutdown on the qualification of email contacts](#) on page 145.

The default workflows are the sample email workflows for Business Advocate installed with Workflow Designer. For more information about the sample workflows, see *IC Media Workflow Reference*.

To configure the WAA server for email:

1. In the Server Editor for the WAA server, select the **Email** tab, shown in the following figure.



2. In the **Configure Advocate for Email Channel** field, select the box to add a checkmark.

After you check the box, IC Manager displays the remaining fields required to configure the email channel.

3. From the **Email LRM** drop-down list, select the Logical Resource Manager that the Web Advocate Adaptor server will communicate with for email contacts.

Configuring qualification for email contacts

4. In the **Email Qualification Flow** field, accept the default workflow or enter a custom workflow for the WAA to use to qualify email contacts.

The default is the sample email qualification workflow, `advocate.qualifyemail_advocate`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.

5. In the **Email Routing Exception Flow** field, accept the default workflow or enter a custom workflow for the WAA to use for email contacts.

The default is the sample email routing exception workflow, `advocate.route_exception`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.

6. In the **Email Transfer Exception Flow** field, accept the default transfer exception workflow or enter a custom workflow for the WAA to use for email contacts.

The default is the sample transfer exception workflow, `advocate.route_exception`. To use a custom workflow, enter `<workflow_project>.<workflow>`. This field is case-sensitive. Use all lower case letters.

7. Select **Apply**.
8. Select **OK**.

Configuring a Workflow server for the email channel

You must configure at least one Workflow server to qualify email contacts for Business Advocate. If you expect Business Advocate to handle a high volume of email contacts, you can create and configure multiple Workflow servers.

For information on how to create a Workflow server, see *IC Installation and Configuration*.

To configure a Workflow server for the email channel:

1. In IC Manager, double-click the email qualification Workflow server in the list of servers.
2. Select the **Channels** tab.
3. Select **New Channel**.
4. In the **Channel Editor** dialog box, shown in the following figure:

a. Complete the fields as shown in the following table.

Field	Recommended entry
Global	Do not check this field.
By Server	Check this field. Warning: If you check this field and the WAA server is named "WAA", the Workflow server will not be able to communicate with the WAA server.
Channel Range	Completed by IC Manager
Service	Select the WAA server from the drop-down list.
Criteria	email.qualify

b. Select **OK**.

The screenshot shows a 'Channel Editor' dialog box with the following fields and settings:

- Channel Range: 1
- Global:
- Service: WAA_Web (dropdown menu)
- By Server:
- Criteria: email.qualify

Buttons at the bottom:

5. Select **OK**.

Retrieving email contacts from an agent

The steps to retrieve an email contact from an agent depend upon whether the email contact is in the Email task list or in a wait queue.

This section includes the following topics that describe how to retrieve email contacts:

- [Retrieving email contacts from a wait queue](#) on page 224.
- [Retrieving email contacts from an Email task list](#) on page 224.

Retrieving email contacts from a wait queue

After Business Advocate matches an email contact with an agent, the email contact remains in a wait queue if the agent is logged out or already has the maximum allowed number of email contacts in the Email task list.

To retrieve email contacts from a wait queue:

1. If the agent has not already done so, have the agent log out of Avaya IC.
2. In IC Manager, set the agent status to Out of Office, as described in [Marking an agent as out of office](#) on page 257.

Business Advocate retrieves all email contacts from the agent and sends the contacts to an exception workflow. Business Advocate then requalifies all of the email contacts and matches them with qualified agents.

 **Important:**

Do not change the agent status until Business Advocate has requalified all email contacts and delivered them to agents. If you reactivate the agent before that happens, Business Advocate might route an email contact back to the original agent.

Retrieving email contacts from an Email task list

After Business Advocate matches an email contact with an agent, Business Advocate delivers the email contact to the Email task list in Avaya Agent if the agent is logged in and has not yet reached the maximum allowed number of email contacts in the task list.

Use the IC Web Administration Tool in IC Manager to retrieve email contacts from the Email task list. For more information, see *IC Administration Volume 1: Servers & Domains*.



Chapter 11: Configuring virtual queues

Business Advocate uses virtual queues for internal transfers of voice contacts and email contacts to agents qualified for a service class. Business Advocate does not use virtual queues for internal transfers of contacts directly to a specific agent.

This section describes virtual queues and how to create and configure them. This section includes the following topics:

1. [Virtual queues](#) on page 225.
2. [Prerequisites for virtual queues](#) on page 226.
3. [Restrictions on virtual queue names](#) on page 226.
4. [Example: configuring a virtual queue](#) on page 226.
5. [Creating a virtual queue](#) on page 227.

Virtual queues

For Business Advocate, a virtual queue is a destination where an agent can transfer voice contacts and email contacts. The service classes that you assign to a virtual queue determine which qualified agent or group of agents can receive transferred contacts from the virtual queue.

For Business Advocate, a virtual queue can be one of the following:

- A collection of service classes for a Business Advocate only virtual queue
- A collection of service classes and queues for a combination of Business Advocate and non-Advocate qualification and routing

A virtual queue can include one or more service classes.

Prerequisites for virtual queues

You must create the following items before you can create a virtual queue:

- Qualifiers, as described in [Creating a qualifier](#) on page 79.
- Service classes, as described in [Creating a service goal](#) on page 104.

Restrictions on virtual queue names

Every virtual queue in an Avaya IC system must have a unique name. You cannot use the same name for virtual queues in different Avaya IC tenants.

The Unified Agent Directory only displays the name of the virtual queue to the agent, not the tenant. If you use the same name for two virtual queues, then agents will not be able to identify which queue they need to use to transfer a contact.

Example: configuring a virtual queue

A virtual queue can contain queues or service classes in each media but cannot contain a queue and service class for the same media. For example, a virtual queue can contain one or more service classes for the voice channel, or one or more queues for the voice channel, but cannot contain a service class for voice and a queue for voice.

A virtual queue can contain one or more service classes for the voice channel and one or more service classes for the email channel.

For example, a contact center for an HR department includes agents who can handle voice contacts and email contacts. The contact center creates a virtual queue named HR. The HR virtual queue includes the following service classes:

- Voice/HR to route voice contacts
- Email/HR to route email contacts

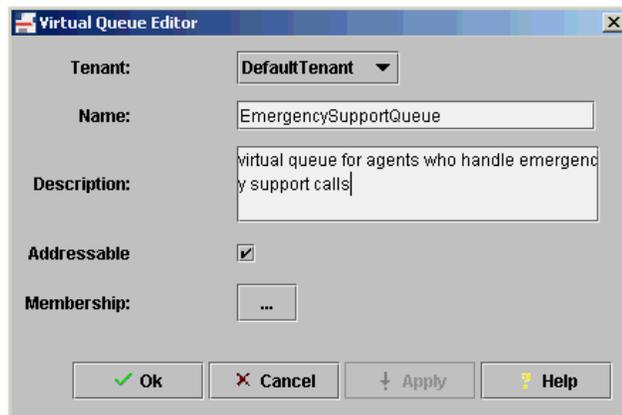
If a virtual queue includes more than one service class, the transfer workflow selects the correct service class to route the contacts in each media to the correct destination. For example, the transfer workflow selects the voice service class if an agent transfers a voice contact.

Creating a virtual queue

Tip:

If a virtual queue includes more than one service class for the same media, or more than one queue, you must customize the transfer flow to select the correct service class and queue.

Create virtual queues in the Virtual Queue Editor, shown in the following figure.



To create a virtual queue:

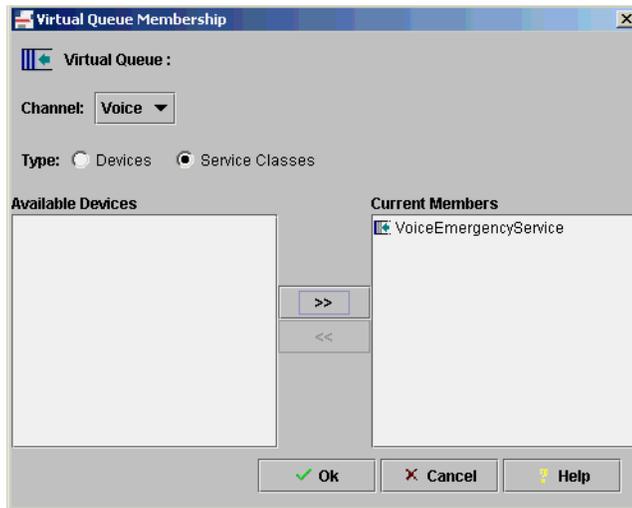
1. In IC Manager, select the **Device** tab.
2. Select **Device > New Virtual Queue**.
3. In the Virtual Queue Editor, complete the fields in the following table.

Field	Recommended entry	Notes
Tenant	Select a tenant from the drop-down list.	For Business Advocate, service classes do not require tenants. Select a default tenant for the channel.
Name	Enter a unique name for the virtual queue.	Do not include spaces in the name. Do not use more than 32 characters in the name. Enter a name that is meaningful to the agents. The agents see this name for the virtual queue in the Unified Agent Directory.

Configuring virtual queues

Field	Recommended entry	Notes
Description	Enter a description for the virtual queue.	
Addressable	Check this box if you want agents to see the virtual queue in the Unified Agent Directory.	In a production system, do not check this box until you want agents to use the virtual queue.

4. Select the **Ellipsis (...)** button next to the **Membership** field.
5. In the **Membership** dialog box, shown in the following figure:



- a. Do at least one of the steps shown in the following table.

Step	Procedure
To add a service class to the virtual queue.	<p>Do the following:</p> <ol style="list-style-type: none"> 1. Select one of the following options to specify the channel for the service classes: <ul style="list-style-type: none"> - Voice - Email 2. Select Service Classes. 3. Select the desired service classes from the Available Service Classes list. 4. Select the >> button to add the service classes to the Current Members list.

Step	Procedure
<p>To assign devices to the virtual queue. Note: You cannot add a device for the same channel as the service classes.</p>	<p>Do the following:</p> <ol style="list-style-type: none"> 1. Select one of the following options to specify the channel for the device: <ul style="list-style-type: none"> - Voice - Email 2. Select Devices. 3. Select the desired device in the Available Devices list. 4. Select the >> button to add the device to the Current Members list.

b. Select **OK** to complete the membership assignment.

6. Select **OK**.

7. To allow agents to transfer contacts to a new virtual queue, do one of the following for every Workflow server in a user domains that runs workflows for the Unified Agent Directory:

- Manually run the sys_transfer.update_vq_cache workflow
- Restart each Workflow server

Configuring virtual queues

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Chapter 12: Using profiles

Profiles define a group of capability sets. When you assign the profile to an agent, you assign all of the capability sets in the profile to that agent.

This section describes how Business Advocate uses profiles, and how to assign agents to profiles. This section includes the following topics:

- [Profiles](#) on page 231.
- [Profile Plus](#) on page 232.
- [Creating a profile](#) on page 233.
- [Defining a capability set for a profile](#) on page 234.
- [Assigning an agent to a profile](#) on page 237.
- [Removing an agent from a profile](#) on page 239.
- [Copying a profile](#) on page 239.
- [Renaming a profile](#) on page 240.
- [Deleting a profile](#) on page 240.

Profiles

A profile defines one or more capability sets that include all of the qualifiers that you want to assign to one or more agents. When you assign an agent to a profile, you automatically assign the capability sets in the profile to that agent.

You can use a profile to assign the same capability sets to multiple agents. With a profile, you do not need to select the qualifiers and define the capability sets in each individual agent record. Therefore, if you want to assign the same capability sets to several agents, profiles can substantially reduce the amount of time that you need to configure and update the agent records.

When you update a profile, Advocate Supervisor automatically updates the capability sets for all agents that you have assigned to the profile. You cannot use a profile to change the

Using profiles

capability sets for only some agents assigned to the profile. For information on how to do that, see [Profile Plus](#) on page 232.

You can also change the capability sets for an agent by assigning the agent to a different profile.

Tip:

Avaya recommends that you create a different profile for each group of agents in your contact center.

Profile Plus

You can use Profile Plus to add one or more qualifiers to the capability sets in a profile for one agent. If you use Profile Plus, you do not need to create a new profile, nor do you need to change the capability sets for all agents assigned to the profile.

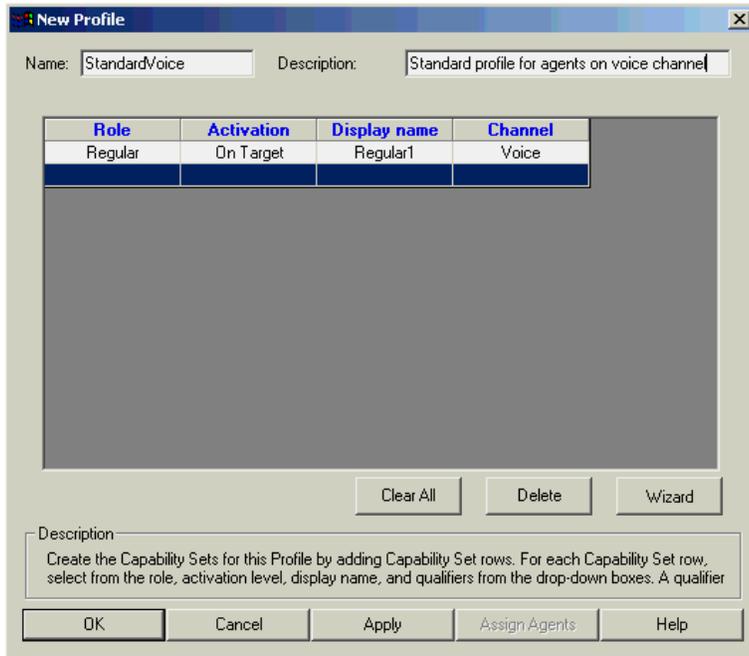
For example, a contact center divides the agents into a Sales group and a Service group. All agents in the Sales group speak only English, except one agent who speaks Japanese and English. The contact center wants take advantage of this additional capability, and have the agent handle any Japanese language contacts for the Sales group. The contact center uses Profile Plus to add service classes with the Japanese qualifier to the agent who speaks Japanese without changing the profile.

You cannot use Profile Plus to remove qualifiers from one or more capability sets in a profile.

If you configure an agent with Profile Plus, you can add capability sets to the record for that agent. You cannot delete capability sets from a profile with Profile Plus. For more information, see [Assigning a capability set to an agent](#) on page 250.

Creating a profile

You create a new profile in the **New Profile** dialog box, shown in the following figure.



! Important:

To use Advocate Supervisor, log in to the machine with an Active Directory Domain account that has local administrator privileges.

To create a profile:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
2. Right-click **Profiles** and select **New Profile** from the right-click menu.
3. In the **New Profile** dialog box, complete the fields as shown in the following table.

Field	Recommended entry	Description
Name	Enter a name for the profile.	Assign a unique name for the profile.
Description	Enter a description for the profile.	The description should reflect the contents of the profile.

4. Select **Apply**.

Do not close the profile record. Continue with [Defining a capability set for a profile](#) on page 234.

Defining a capability set for a profile

To define a capability set for a profile, perform the steps in one of the following sections:

- Use the Profile Properties dialog box to define a capability set, as described in [Using the Profile Properties dialog box to define a capability set for a profile](#) on page 235.
- Use the Capability Wizard to simultaneously define multiple capability sets, as described in [Using the Capability Wizard to define multiple capability sets for a profile](#) on page 236.

The following table shows the menu items that you select to define a capability set for a profile.

Menu item	Description
Role	<p>Defines the activation type for this qualifier set. For each qualifier set, a profile can assign an agent one of the following activation types:</p> <ul style="list-style-type: none"> ● Regular ● Reserve ● Backup <p>For more information, see Activation types for agents on page 242.</p>
Activation	<p>Defines the activation level for this service class. The activation level determines what the service state must be for Business Advocate to activate the agents with this profile for this qualifier set.</p> <p>For example, the default activation levels are:</p> <ul style="list-style-type: none"> ● Regular - On Target ● Reserve - On Target - Future Risk ● Backup - On Target <p>For more information about activation levels, see Service states on page 96. If you configure an agent with a critical activation level and do not set a critical threshold for that service class, the agent will never be activated for that service class.</p>
Display Name	<p>Defines the name of the qualifier set.</p>

Menu item	Description
Channel	Defines the channel for the qualifier set.
Qualifier categories	Defines the categories for qualifiers that you include in the set. Business Advocate adds a column for every category that you create for the qualifiers in your Business Advocate system. You decide whether to include the qualifier in the qualifier set. For more information, see Creating a qualifier on page 79.

Using the Profile Properties dialog box to define a capability set for a profile

Use this procedure if you want to define only a small number of capability sets. If you have a large number of possible qualifiers, see [Using the Capability Wizard to define multiple capability sets for a profile](#) on page 236.

To define a capability set for a profile:

1. If you do not already have the **New Profile** dialog box open:
 - a. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
 - b. Right-click the profile for which you want to define a capability set and select **Properties**.
2. To assign a qualifier to the capability set:
 - a. Select the empty field below each column.
 - b. Select a value for each item from the drop-down list.
 - Role
 - Activation
 - Display name
 - Channel
 - If desired, one or more columns that represent a qualifier category

Repeat this step for all capability sets that you want to assign to the profile.

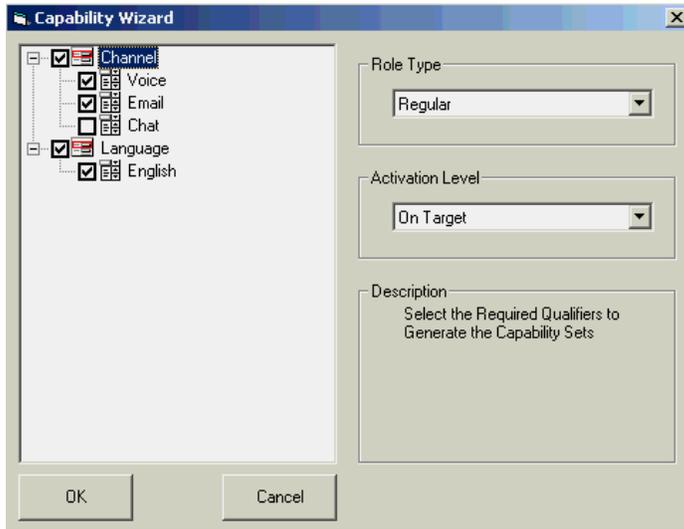
3. Select **Apply** after you define all of the capability sets to this profile.

Advocate Supervisor saves the changes to the database and validates your selections. If all selections are valid, Business Advocate updates the changes in real-time. Advocate Supervisor highlights all rows that contain errors. For example, Advocate Supervisor highlights a row if you did not make a selection in a required column.

4. Select **OK**.

Using the Capability Wizard to define multiple capability sets for a profile

You can use the Capability Wizard, shown in the following figure, to select the qualifiers for multiple capability sets in a profile.



In the Capability Wizard, you select a series of qualifier values that have the same activation level and activation type. Advocate Supervisor automatically generates capability sets with all possible complete combinations of a category and value. The Capability Wizard then displays the capability sets in the **Profile Properties** dialog box.

If you want to add another group of capability sets with a different activation type or activation level, you must run the Capability Wizard again.

If you add more than one group of capability sets to a profile, the Capability Wizard can generate duplicate qualifiers or duplicate capability sets. You must delete the duplicates before Advocate Supervisor can validate the capability sets in the profile.

For example, the Capability Wizard can generate duplicate qualifiers if you run the Capability Wizard twice, and make the following selections:

- Channel/voice plus all values in the Customer category
- Customer/bronze plus all values in the Channel category

In this example, the Capability Wizard generates a qualifier with Channel/voice and Customer/bronze each time. You would need to delete one of these qualifiers before you can update the capability sets in the profile.

To use the Capability Wizard to define multiple capability sets for a profile:

1. If you do not already have the **New Profile** dialog box open:
 - a. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
 - b. Right-click the profile for which you want to define capability sets and select **Properties**.
2. Select **Wizard**.
3. In the **Capability Wizard** dialog box, complete the following steps:
 - a. In the left pane, select the appropriate boxes to add a checkmark next to each qualifier value that you want to include in the capability sets.
 - b. From the **Role Type** drop-down list, select the activation type for the qualifiers.
 - c. From the **Activation Level** drop-down list, select the activation level for the qualifiers.
 - d. Select **OK**.

Repeat this step for any qualifiers with a different activation type or activation level that you want to include in the capability sets.
4. Select **Apply** in the **Profile Properties** dialog box.

Advocate Supervisor saves the changes to the database and validates your selections. If all selections are valid, Business Advocate updates the changes in real-time.

Advocate Supervisor highlights all rows that contain errors. For example, Advocate Supervisor highlights a row if you did not make a selection in a column or added a duplicate qualifier set.
5. Select **OK**.

Assigning an agent to a profile

After you create a profile, you can assign one or more agents to the profile. You can assign additional agents to a profile at any time.

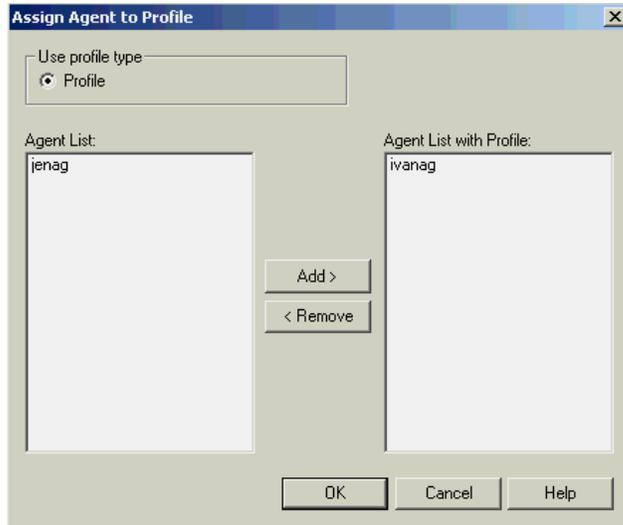
You can also assign a profile to an individual agent in the **Attributes** tab of the **Agent Properties** dialog box. For more information, see [Configuring Business Advocate attributes for an agent](#) on page 248.

You must create and configure agents for Business Advocate before you can assign an agent to a profile. You can also assign a profile to an agent when you assign attributes to an agent. For more information, see [Configuring Business Advocate attributes for an agent](#) on page 248.

Using profiles

When you assign an agent to a profile, Business Advocate automatically updates the profile information in the agent attributes.

The following figure shows the **Assign Agent to Profile** dialog box.



To assign an agent to a profile:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
2. In the results pane, right-click a profile and select **Properties**.
3. Select **Assign Agents**.
4. In the **Assign Agent to a Profile** dialog box:
 - a. Select the **Profile** option.
 - b. Select an agent in the **Agent List** field.
 - c. Select **Add>** to move the agent to the **Agent List with Profile** field.
Repeat these steps to assign additional agents to the profile.
 - d. Select **OK**.

Advocate Supervisor saves the changes to the database and validates your selections. If all selections are valid, Business Advocate updates the changes in real-time.

Removing an agent from a profile

You can remove one or more agents from a profile if you want to change the capability sets for the agents.

You can also remove an individual agent from a profile in the **Attributes** tab of the **Agent Properties** dialog box. For more information, see [Configuring Business Advocate attributes for an agent](#) on page 248.

To remove an agent from a profile:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
2. In the results pane, right-click a profile and select **Properties**.
3. Select **Assign Agents**.
4. In the **Assign Agent to a Profile** dialog box:
 - a. Select the **Profile** option.
 - b. Select an agent in the **Agent List with Profile** field.
 - c. Select **<Remove** to move the agent to the **Agent List** field.

Repeat these steps to remove additional agents from the profile.

- d. Select **OK**.

Advocate Supervisor saves the changes to the database and validates your selections. If all selections are valid, Business Advocate updates the changes in real-time.

Copying a profile

You can copy a profile, then make minor changes to create a similar profile.

To copy a profile:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
2. In the results pane, right-click a profile and select **Copy Profile**.

Advocate Supervisor displays a new profile named "Copy of <profile_name>."
3. Right-click the new profile and select **Rename**.

Using profiles

4. Type in the new name or edit the existing name.
5. Press the Enter key or click your mouse outside the name edit box.

Advocate Supervisor displays the new name in the results pane. You can now change the qualifier sets assigned to the profile. For more information, see [Defining a capability set for a profile](#) on page 234.

Renaming a profile

You can rename a profile in the results pane. If you rename a profile that is in use, Advocate Supervisor automatically updates the profile name for all agents assigned that profile.

To rename a profile:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
2. In the results pane, right-click a profile and select **Rename**.
3. Type in the new name or edit the existing name.
4. Press the Enter key or click your mouse outside the name edit box.

Advocate Supervisor displays the new name in the results pane and updates the profile name in the agent records.

Deleting a profile

You cannot delete a profile if you have not removed all agents from that profile. To remove agents from a profile, see [Removing an agent from a profile](#) on page 239.

To delete a profile:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Profiles**.
2. In the results pane, right-click a profile and select **Delete**.
3. Select **Yes** to confirm that you want to delete the profile.

Advocate Supervisor removes the profile from the list in the results pane. If the profile is still visible, refresh the view and check again.

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Chapter 13: Managing agents

Agents are the primary resources that Advocate Supervisor manages. Agent records include activation types and capability sets that you can assign to individual agents, or to groups of agents.

This section describes the Business Advocate properties that you need to set for each agent, and describes how to create and configure agent records. This section includes the following topics:

- [Activation types for agents](#) on page 242.
- [Activation levels](#) on page 243.
- [Capability sets for an agent](#) on page 245.
- [Reacting to changes in agent configuration](#) on page 246.
- [Creating an agent](#) on page 246.
- [Activating an agent for Business Advocate](#) on page 247.
- [Refreshing agent records](#) on page 248.
- [Configuring Business Advocate attributes for an agent](#) on page 248.
- [Assigning a capability set to an agent](#) on page 250.
- [Making an agent inactive](#) on page 257.
- [Returning an agent to active status](#) on page 259.
- [Deleting an agent](#) on page 260.

Tip:

If you make changes to an agent in Advocate Supervisor, Business Advocate updates the agent configuration in real-time. For example, if you add a new capability set to an agent record, the agent can immediately receive contacts from the service class with identical qualifiers to the capability set.

Activation types for agents

You must assign an activation type to each service class that you assign to an agent. Activation types refine how Business Advocate matches agents with contacts. Activation types let you create an agent pool for a service class, and define when an agent can receive contacts for a service class. For example, Business Advocate uses the activation types to dynamically increase the agent pool when a service class reaches the activation level for reserve agents.

The following table describes the activation types that you can assign to agents.

Activation type	Description
Regular	<p>Contacts in a service class with a Regular activation type are the preferred contacts for an agent to handle.</p> <p>The agent typically handles these contacts during a shift.</p> <p>Regular agents can handle contacts in the service class at any time unless the service state for the service class is Ahead of Target.</p> <p>The default activation level for regular agents is On Target.</p>
Backup	<p>Contacts in a service class with a Backup activation type are the contacts that an agent handles if no service class for which the agent is qualified has:</p> <ul style="list-style-type: none"> ● A Regular activation type ● A Reserve activation type for which the agent has been activated <p>An agent only handles these contacts during a shift if the Backup service class reaches the service state that matches the agent activation level.</p> <p>Backup agents can have an activation level of On Target or higher.</p>
Reserve	<p>Contacts in a service class with a Reserve activation type are the contacts that the agent only receives if the service class is having difficulty meeting its service goals.</p> <p>If the Reserve service class reaches the specified activation level, this service class competes with the Regular service class for delivery to an agent. Contacts in the Reserve service class do not take precedence if the Regular service class has a worse service state.</p> <p>Reserve agents can have an activation level of Future Risk or higher.</p>

Activation levels

Activation levels are service states. When you configure the capability sets for an agent, you select an activation type and an activation level. When a service class reaches or passes the service state that matches the activation level, Business Advocate activates that agent to handle contacts in the service class.

For details of the service states that you can use as activation levels, see [Identifying the types of service states](#) on page 97.

Example: setting activation levels

The agent in this example is very good at sales, and frequently sells additional items to customers. The agent has a lot of experience with telephone sales. However, the agent has just learned how to conduct chat sessions with customers.

The agent works in the sales group of the contact center.

Customers of the contact center in this example can contact agents through the voice channel, the email channel, or the chat channel. The contact center divides the customers into two groups. Premium customers typically make large purchases and require expert knowledge and fast service from agents. Regular customers typically make smaller purchases and can receive slower service from agents.

This section includes the following topics:

- [Qualifiers in the capability sets](#) on page 243.
- [Activation type for each service class](#) on page 244.
- [Activation level for each activation type](#) on page 244.

Qualifiers in the capability sets

In this example, an agent can handle contacts in five service classes that have the following sets of qualifiers:

1. Channel/voice, Customer/premium, CustomerType/sales
2. Channel/email, Customer/premium, CustomerType/sales
3. Channel/voice, Customer/regular, CustomerType/sales
4. Channel/email, Customer/regular, CustomerType/sales
5. Channel/chat, Customer/regular, CustomerType/sales

Activation type for each service class

The administrator of the contact center reviews the skills of the agent and decides that the agent should work as follows:

- The agent should concentrate on telephone sales and email sales to premium customers.
- The agent does not have enough experience to receive chat contacts from premium customers.
- The agent can handle email contacts from regular customers if the agent has no other work.
- The agent can handle voice contacts from regular customers if this service class might miss its service goal.
- The agent can receive chat contacts from regular customers if this service class is in serious jeopardy of missing its service goal.

Therefore, the administrator of the contact center sets the activation types for each qualifier set, as shown in the following table.

Service class	Activation type
Channel/voice, Customer/premium, CustomerType/sales	Regular
Channel/email, Customer/premium, CustomerType/sales	Regular
Channel/voice, Customer/regular, CustomerType/sales	Reserve
Channel/email, Customer/regular, CustomerType/sales	Backup
Channel/chat, Customer/regular, CustomerType/sales	Reserve

Activation level for each activation type

The administrator reviews the service states available for each activation type and sets the activation level, as shown in the following table.

Service class	Activation type	Activation level
Channel/voice Customer/premium CustomerType/sales	Regular	On Target
Channel/email Customer/premium CustomerType/sales	Regular	On Target

Service class	Activation type	Activation level
Channel/voice Customer/regular CustomerType/sales	Reserve	On Target - Immediate Risk
Channel/email Customer/regular CustomerType/sales	Backup	On Target
Channel/chat Customer/regular CustomerType/sales	Reserve	Behind Target

Capability sets for an agent

An agent can have one or more capability sets. Each capability set should include the same qualifiers as a service class that you want the agent to handle. Business Advocate uses the capability sets to match a contact with the agent. If the qualifiers in a capability set match the qualifiers in the service class for a contact, Business Advocate matches the contact to the agent.

If even one qualifier on the contact is missing from a capability set, Business Advocate assumes that the agent is not able to handle the contact and looks for another agent.

Avaya IC associates agents with their capability sets every time they log in.

A capability set for an agent includes the following:

- Activation type
- Activation level
- Channel qualifier
- Other selected qualifiers

Reacting to changes in agent configuration

If you change the configuration for an agent in Business Advocate Supervisor, Business Advocate immediately uses the new configuration to match the agent with a contact. The agent does not have to log in or log out to make the change effective.

However, certain changes to the configuration of an agent require an agent to log out, then log back in again for the changes to take effect. An agent must log out if you:

- Change an agent property in IC Manager.
- Activate the agent for Business Advocate.
- Deactivate the agent for Business Advocate.
- Assign the agent to another Logical Resource Manager.

Creating an agent

You create all agents in IC Manager. You cannot create an agent in Advocate Supervisor.

After you activate an agent for Business Advocate in IC Manager, you can use Advocate Supervisor to configure Business Advocate options for the agent.

For more information on how to create an agent, see *IC Administration Volume 2: Agents, Customers, & Queues*.

 **Important:**

If your Avaya IC system includes agents that use Business Advocate and Outbound Contact, each of those agents must have two agent records in Avaya IC. One agent record must have a login ID for Business Advocate. The second agent record must have a different login ID for Outbound Contact. The agent cannot use both components simultaneously.

Activating an agent for Business Advocate

If you did not perform this step when you created the agent in IC Manager, you must now activate the agent for Business Advocate.

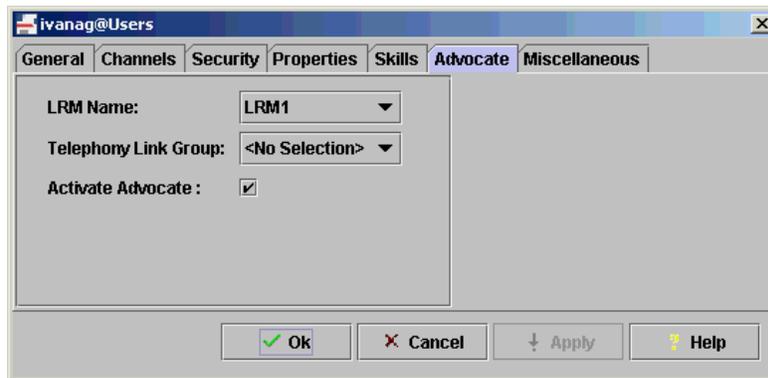
Note:

If you do not activate an agent for Business Advocate in IC Manager, you cannot see that agent in Advocate Supervisor.

If you no longer want a Business Advocate agent to receive contacts from Business Advocate, you must deactivate the agent. After you deactivate an agent for Business Advocate, the agent will receive contacts from non-Advocate routing. For more information, see [Deactivating an agent for Business Advocate](#) on page 258.

To activate an agent for Business Advocate:

1. In IC Manager, select the **Agent** tab.
2. Double-click the agent in the list of agents.
3. In the Agent Editor, select the **Advocate** tab, shown in the following figure.



4. Select the **Activate Advocate** box to place a checkmark in the box.
IC Manager displays the remaining fields for Business Advocate.
5. From the **LRM** drop-down list, select a logical resource manager for the agent.
6. If desired, from the **Telephony Link Group** drop-down list, select a link group.
For more information about link groups, see [Link groups](#) on page 187.
7. Select **OK**.

The agent record displays in Advocate Supervisor with the login ID and full name of the agent.

Refreshing agent records

Each time you add an agent or change an agent record in IC Manager, you must refresh the agent records in Advocate Supervisor.

To refresh agent records in Advocate Supervisor:

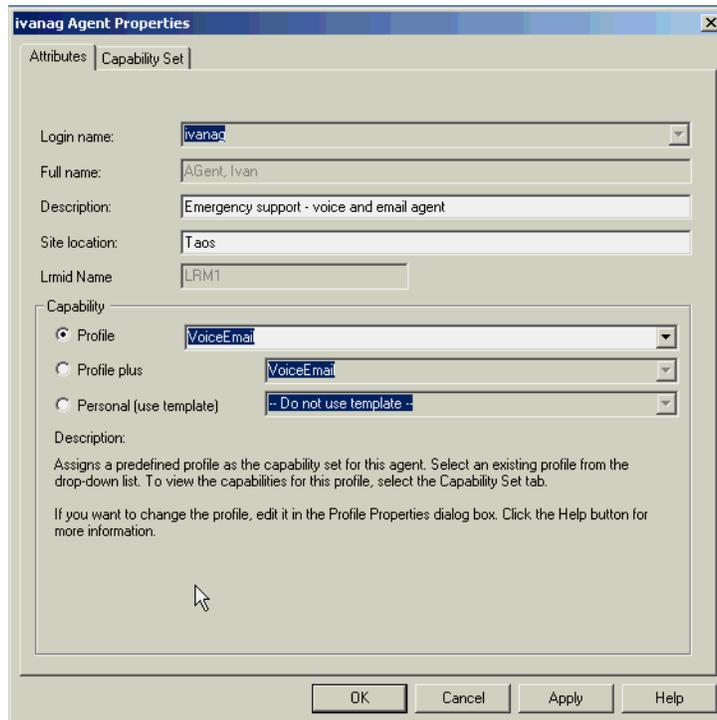
1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Agents**.
2. In the left pane, right-click **Agents** and select **Refresh**.

Configuring Business Advocate attributes for an agent

You cannot configure all Business Advocate attributes for an agent in Advocate Supervisor. You configure some agent attributes in IC Manager. The following table shows those agent attributes.

Field	Description
Login name	Displays the information from the Login ID field in IC Manager. You must configure this field in IC Manager.
Full name	Displays the information from the Full Name field in IC Manager. You must configure this field in IC Manager.
Description	Identifies the agent. For example, the description can include information such as region, shift, employee group, or name.
Site location	Identifies the work site location for the agent. If your contact center has more than one site, this information helps to identify an agent. The site location is typically the name of a region, such as a city or state. The site location does not have to match the network domain or Avaya IC domain for the agent. Note: Business Advocate does not limit the contacts that an agent can handle to those contacts that arrive in the same site. To use site to restrict the contacts that an agent can handle, create qualifiers for the different sites and assign a site qualifier to the agent.

The **Attributes** tab of the **Agent Properties** dialog box displays the Business Advocate attributes for an agent, as shown in the following figure.



The screenshot shows the 'Ivanag Agent Properties' dialog box with the 'Attributes' tab selected. The 'Capability Set' sub-tab is also visible. The fields are filled with the following information:

- Login name: ivanag
- Full name: AGent, Ivan
- Description: Emergency support - voice and email agent
- Site location: Taos
- Lrmid Name: LRM1

The 'Capability' section has three radio buttons: 'Profile' (selected), 'Profile plus', and 'Personal (use template)'. The 'Profile' dropdown is set to 'VoiceEmail', 'Profile plus' is also 'VoiceEmail', and 'Personal (use template)' is '-- Do not use template --'. Below this, a description reads: 'Assigns a predefined profile as the capability set for this agent. Select an existing profile from the drop-down list. To view the capabilities for this profile, select the Capability Set tab. If you want to change the profile, edit it in the Profile Properties dialog box. Click the Help button for more information.'

Buttons at the bottom: OK, Cancel, Apply, Help.

Important:

To use Advocate Supervisor, log in to the machine with an Active Directory Domain account that has local administrator privileges.

To configure Business Advocate attributes for an agent:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Agents**.
2. In the results pane, right-click an agent and select **Properties**.
3. Select the **Attributes** tab.
4. In the **Description** field, enter a description for the agent.
5. In the **Site Location** field, enter a location for the agent.
6. Select **Apply** to apply the attributes to the agent.
7. Select **OK** to complete the agent attributes, or continue with [Determining the profile for an agent](#) on page 250.

Assigning a capability set to an agent

Avaya recommends that you use profiles to configure and administer all Business Advocate agents.

 **CAUTION:**

For each service class in use in your Business Advocate system, create a capability set with the same qualifier set. Business Advocate might not be able to match a contact to an agent if the qualifiers on the contact do not match a capability set defined for an agent. If a capability set does not match a service class, Business Advocate sends the contact to an exception workflow.

To assign a capability set to an agent, perform the steps the following sections:

1. [Determining the profile for an agent](#) on page 250.
2. Perform the steps in one of the following sections:
 - Use the agent record to assign a small number of capability sets to an individual agent, as described in [Defining a capability set for one agent](#) on page 252.
 - Use the Capability wizard to assign multiple capability sets to an individual agent, as described in [Using the Capability Wizard to define multiple capability sets](#) on page 254.
 - Use a profile to assign one or more capability sets to multiple agents, as described in [Creating a profile](#) on page 233.

Determining the profile for an agent

If you want to assign a profile or Profile Plus to multiple agents, see [Assigning an agent to a profile](#) on page 237.

To determine the profile for an agent:

1. If you do not already have the **Agent Properties** dialog box open:
 - a. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Agents**.
 - b. Right-click the agent to which you want to assign a profile and select **Properties**.
2. If necessary, select the **Attribute** tab.

3. Select one of the Capability options in the following table. After you select one of these options, the other options are unavailable.

Option	Description
Profile	To assign a profile: <ol style="list-style-type: none"> 1. Select the Profile option. 2. Select a profile from the drop-down list for the agent. Advocate Supervisor automatically applies all profile changes to the agent. For more information, see Using profiles on page 231.
Profile Plus	To assign Profile Plus: <ol style="list-style-type: none"> 1. Select the Profile Plus option. 2. Select a profile from the drop-down list for the agent. If you select Profile Plus, you can add one or more capability sets for the agent. You cannot modify capability sets in the profile. For more information, see Profile Plus on page 232,
Personal	Select this option if: <ul style="list-style-type: none"> ● You do not want to use a profile for the agent. ● You want to use a profile from the drop-down list as a template for the capability sets. You can modify capability sets in the profile. Note: Advocate Supervisor will not apply changes to the profile to this agent.

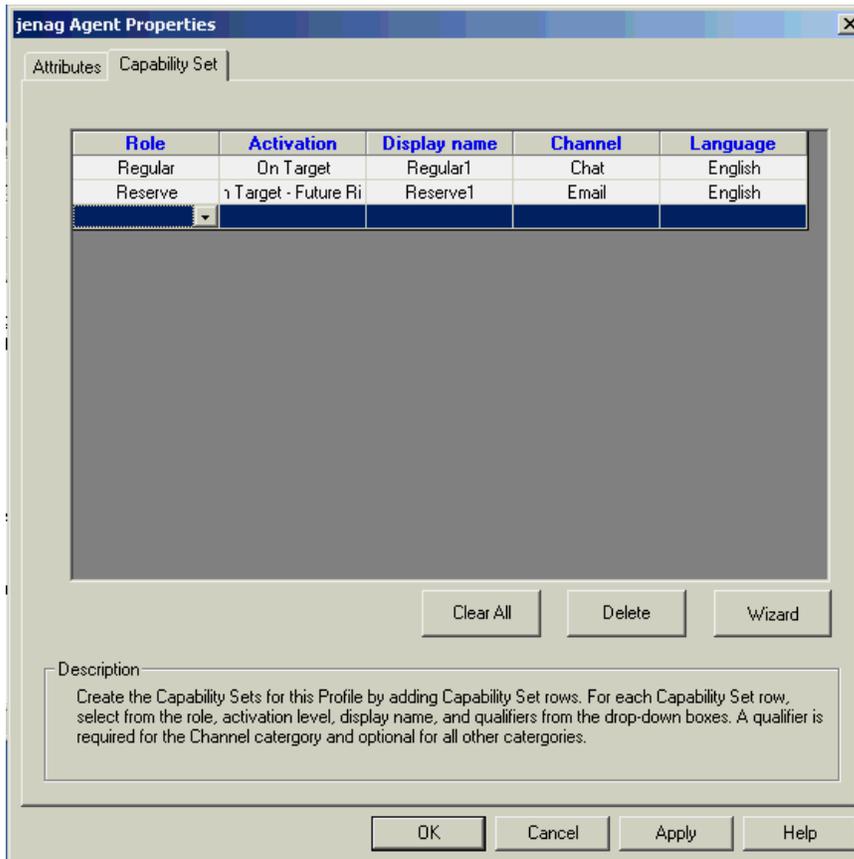
4. Select **Apply**.

5. If you selected:

- a. Profile Plus or Personal as the Capability option, continue with one of the following:
 - Use the agent record to assign a small number of capability sets to an individual agent, as described in [Defining a capability set for one agent](#) on page 252.
 - Use the wizard to assign multiple capability sets to an individual agent, as described in [Using the Capability Wizard to define multiple capability sets](#) on page 254.
- b. Profile as the Capability option, Select **OK**.

Defining a capability set for one agent

You define a capability set in the **Capability Set** tab of the **Agent Properties** dialog box, shown in the following figure.



The **Capability Set** tab displays the columns shown in the following table.

Column	Description
Role	<p>Defines the activation type for this capability set. For each capability set, an agent can have one of the following activation types:</p> <ul style="list-style-type: none"> ● Regular ● Reserve ● Backup <p>For more information, see Activation types for agents on page 242.</p>
Activation	<p>Defines the activation level for this capability set. The activation level determines what the service state must be for Business Advocate to activate an agent.</p> <p>For example, the default activation levels are:</p> <ul style="list-style-type: none"> ● Regular - On Target ● Reserve - On Target - Future Risk ● Backup - On Target <p>For more information about activation levels, see Service states on page 96. If you configure an agent with a critical activation level and do not set a critical threshold for that service class, the agent will never be activated for that service class.</p>
Display Name	Defines the name of the capability set.
Channel	Defines the channel for the capability set.
<custom_category>	<p>Defines additional categories for qualifier values that you can include in the capability set.</p> <p>Advocate Supervisor adds a column to the Capability Set tab for every category that you create for the qualifiers in your Business Advocate system. You must decide whether to include qualifiers from the category in the capability set.</p> <p>For more information, see Creating a qualifier on page 79.</p>

To define a capability set for an agent:

1. If you do not already have the **Agent Properties** dialog box open:
 - a. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Agents**.
 - b. Right-click the agent to which you want to assign a profile and select **Properties**.
2. Select the **Capability Set** tab.
3. Click in the following columns in an empty row and select a value from the drop-down list:
 - Role
 - Activation
 - Display name
 - Channel

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- If desired, one or more columns that represent a custom qualifier category

Repeat this step for every capability set that you want to define for the agent.

4. Select **Apply** after you defined add all of the capability sets for the agent.

Advocate Supervisor saves the changes to the database and validates your selections. If all selections are valid, Business Advocate updates the changes in real-time.

Advocate Supervisor highlights all rows that contain errors. For example, Advocate Supervisor highlights a row if you did not make a selection in a column or added a duplicate service class.

5. Select **OK**.

Using the Capability Wizard to define multiple capability sets

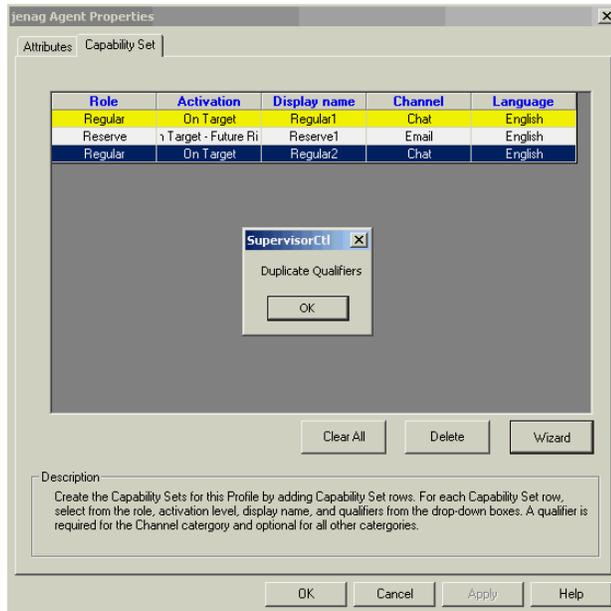
You can use the Capability Wizard to select the qualifiers that define multiple capability sets for an agent. Use the Capability Wizard to easily assign multiple qualifiers with the same activation level and activation type.

In the Capability Wizard, you select a series of qualifier values that have the same activation level and activation type. Advocate Supervisor automatically generates capability sets with all possible complete combinations of a category and value. The Capability Wizard then displays the capability sets in the **Capability Set** tab.

If you want to add more capability sets with a different activation type or activation level, you need to run the Capability Wizard again.

If you add more than one group of capability sets to an agent, the Capability Wizard can generate duplicate qualifiers or duplicate capability sets. You must delete the duplicates

before Advocate Supervisor can validate the capability sets in the profile. The following figure shows an example of duplicate qualifiers in an agent capability set.



To use the Capability Wizard to define multiple capability sets:

1. If you do not already have the **Agent Properties** dialog box open:
 - a. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Agents**.
 - b. Right-click the agent to which you want to assign a profile and select **Properties**.
2. Select the **Capability Set** tab.
3. Select **Wizard**.
4. In the **Capability Wizard** dialog box, complete the following steps:
 - a. In the left pane, select the appropriate boxes to add a checkmark next to each qualifier value that you want to include in the capability sets.
 - b. From the **Role Type** drop-down list, select the activation type for the qualifiers.
 - c. From the **Activation Level** drop-down list, select the activation level for the qualifiers.
 - d. Select **OK**.

Repeat this step for any qualifiers with a different activation type or activation level that you want to include in capability sets.

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5. Select **Apply**.

Advocate Supervisor saves the changes to the database and validates your selections. If all selections are valid, Business Advocate updates the changes in real-time.

Advocate Supervisor highlights all rows that contain errors. For example, Advocate Supervisor highlights a row if you did not make a selection in a column or added a duplicate qualifier set.

6. Select **OK**.

Deleting one capability set

To delete one capability set from an agent:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Agents**.
2. In the results pane, right-click the agent and select **Properties**.
3. Select the **Capability Set** tab
4. Click in the row for the qualifier that you want to delete.
5. Select **Delete**.
6. Select **OK**.

Deleting all capability sets

To delete all capability sets for an agent:

1. In the console tree of Advocate Administration, select and expand **Advocate Supervisor > Resources > Agents**.
2. In the results pane, right-click an agent and select **Properties**.
3. Select the **Capability Set** tab.
4. Select **Clear All**.
5. Select **OK**.

Making an agent inactive

You use IC Manager to make an agent inactive for Business Advocate.

To make an agent inactive in Business Advocate, perform the steps in one of the sections described in the following table.

Procedure	Purpose
Marking an agent as out of office on page 257	Makes sure that Business Advocate does not match contacts with an agent, such as email contacts, when the agent is not logged in.
Deactivating an agent for Business Advocate on page 258	Makes sure that Business Advocate does not match contacts with the agent, even if the agent logs in to Avaya IC.

Note:

You cannot delete an agent from Advocate Supervisor. You must delete the agent from IC Manager. For more information, see *IC Administration Volume 2: Agents, Customers, & Queues*.

Marking an agent as out of office

When agents are configured to handle email contacts but are not currently logged in to Avaya IC, Business Advocate holds email contacts in service class queues until a qualified agent logs in. Business Advocate will hold email contacts directed to a specific agent or that have a preferred agent qualifier indefinitely, waiting until that agent logs in.

Business Advocate releases the email contact from queue and matches it with the agent when that agent logs in. If an agent is temporarily out of the office for vacation, sick day, or some other reason, you can mark the agent as "out of the office" to ensure that Business Advocate does not hold email contacts for that agent.

After you mark an agent as out of the office, Advocate Supervisor moves that agent to the Inactive folder. You must return the agent to "in office" status if you want to make that agent active. For more information, see [Marking an agent in the office](#) on page 259.

When you mark an agent out of the office, that agent does not receive any more contacts from Business Advocate. In addition, Business Advocate releases all email contacts that are being held in queue for that agent, then requalifies the contacts so other agents can service them.

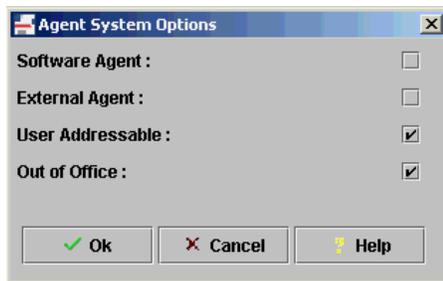
However, the out of office feature does not requeue contacts that have already been delivered to the agent. You can retrieve email contacts that are in the Email task list of

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Avaya Agent. For more information, see [Retrieving email contacts from an agent](#) on page 223.

To mark an agent out of the office:

1. In IC Manager, select the **Agent** tab.
2. Double-click the agent in the list of agents.
3. Select the **General** tab.
4. Select the **Ellipsis (...)** button next to the **Options** field.
5. In the **Options** dialog box, shown in the following figure:
 - a. Select the **Out of Office** box to place a checkmark in that box.
 - b. Select **OK**.



6. Select **OK**.

Deactivating an agent for Business Advocate

If you do not want a Business Advocate agent to handle contacts qualified by Business Advocate, you need to deactivate the agent for Business Advocate. After you deactivate an agent for Business Advocate:

- Advocate Supervisor moves the agent to the Inactive folder. The agent retains all of the attributes and qualifier sets that you assigned.
- Business Advocate stops matching contacts with the agent.
- If you have configured non-Advocate routing, Avaya IC uses that configuration to route contacts to the agent.
- If you have not configured non-Advocate routing, Avaya IC does not route any contacts to the agent.

To deactivate an agent:

1. In IC Manager, select the **Agent** tab.
2. Double-click the agent in the list of agents.

3. Select the **Advocate** tab.
4. Select the **Activate Advocate** box to remove the checkmark from the box.
5. Select **Apply**.
6. Select **OK**.

Returning an agent to active status

If you make an agent inactive, you must return the agent to active status before that agent can receive contacts from Business Advocate.

Note:

If you deleted an agent from IC Manager, you must create a new record for that agent in IC Manager. For more information, see *IC Administration Volume 2: Agents, Customers, & Queues*.

To return an agent to active status in Business Advocate, perform the steps in one of the sections described in the following table.

Procedure	Purpose
Marking an agent in the office on page 259	Returns the agent to active status after a temporary absence. You must follow these steps if you marked the agent as out of office.
Activating an agent for Business Advocate on page 247	Reactivates an agent for Business Advocate. You must follow these steps if you deactivated the agent from Business Advocate.

Marking an agent in the office

When an agent returns to the office after a temporary absence, you must mark the agent as in the office, if you want that agent to receive contacts from Business Advocate.

To mark an agent in the office:

1. In IC Manager, select the **Agent** tab.
2. Double-click the agent in the list of agents.
3. Select the **General** tab.
4. Select the **Ellipsis (...)** button next to the **Options** field.

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5. In the **Options** dialog box:
 - a. Select the **Out of Office** box to remove the checkmark from that box.
 - b. Select **OK**.
6. Select **Apply**.
7. Select **OK**.

Deleting an agent

You can only delete an agent in IC Manager. For more information, see *IC Administration Volume 2: Agents, Customers, & Queues*.

When you delete an agent, all attributes and qualifier sets that you assigned to the agent are also deleted. If you want to make an agent unavailable for Business Advocate, but retain all Business Advocate configuration for that agent, you need to deactivate the agent for Business Advocate. For more information, see [Deactivating an agent for Business Advocate](#) on page 258.

■ ■ ■ ■ ■ ■

Appendix A: Configuring Telephony switches for Business Advocate

This section provides the information necessary to configure switches to work with Business Advocate. It explains how Avaya IC processes Business Advocate calls and how to set up CTI links and switch queues to process calls.

Before performing the steps in this chapter, make sure you have configured the Telephony server (TS) for:

- Monitoring calls as described in the Telephony Server chapter of the *Telephony Connectors Programmer Guide*.
- Multi site heterogeneous switch functionality as described in the Multi Site Heterogeneous Switch chapter of the *Telephony Connectors Programmer Guide*.

This chapter includes the following sections:

- [Overview](#) on page 262
- [RONA considerations](#) on page 263
- [Best Services Routing \(BSR\) option](#) on page 263
- [Call processing](#) on page 264
- [Agents and Link Groups](#) on page 266
- [Avaya Definity/Communication Manager](#) on page 267
- [Nortel Meridian](#) on page 282
- [Aspect CallCenter](#) on page 287
- [Ericsson MD110](#) on page 295

Overview

Business Advocate includes an Automatic Call Distributor (ACD). The Business Advocate ACD queues contacts in a universal queue within the Resource Manager server on Avaya IC. The Telephony Services Adapter (TSA server) works closely with the Telephony server (TS) to control voice call behavior through a CTI link to the switch. The TSA server monitors incoming calls sent by the switch, then Business Advocate matches the calls to qualified IC agents. If none of these agents are available to handle the call, the TS routes the call to a directory number holding area on the switch identified by Business Advocate, where wait treatment can be applied to the call.

This holding area can be a:

- Vector Directory Number (VDN) on an Avaya DEFINITY/Communication Manager
- Control Directory Number (CDN) on a Nortel Meridian
- Call Control Table (CCT) on an Aspect CallCenter
- CTI Group on an Ericsson MD110

This holding area is referred to as a wait treatment queue. A wait treatment queue plays announcements, music, silence, or ringing to the caller while the caller waits for an agent. When an agent is available, Business Advocate tells the TS to route the call from the holding area on the switch to the agent using CTI commands.

The Telephony Queue Statistics server (TSQS) is not required for Business Advocate statistics. Business Advocate statistics are not taken from the switch queues, they are recorded by the Resource Manager server and the TSA server from queues in Business Advocate.

The TSA server is needed for links that handle incoming calls to ask the Resource Manager to find the best agent match for incoming calls and route those calls there. In a call transfer, the call waits to be transferred on the originating switch, a TSA server is required on that switch. For this reason, a TSA server must be configured for every switch, even if there are no Business Advocate agents configured on that switch, to enable you to transfer calls from non-Business Advocate agents to Business Advocate agents.

Note:

If you have an incoming link with so many agents that you want to split them up, you can assign some of the agents to a TSA server with no incoming link and the remaining agents to the TSA server that handles the incoming link. In this scenario, you would have a TSA server for a group of agents with no incoming link.

RONA considerations

Avaya IC supports RONA (Redirect on No Answer) for each of the supported media channels. RONA returns an offered, but not accepted, contact back to the system so it can be delivered to an available agent. The agent who failed to accept the contact is automatically placed into the Aux state and excluded from system work distribution until the agent manually transitions into an Available state.

When using Business Advocate on a voice channel, RONA functionality provided by the switch should be disabled for all Business Advocate agents. If the switch performs RONA on calls delivered by Business Advocate, the Business Advocate agent gets stuck, internal to Business Advocate, in an Unavailable state and would not be able to receive new calls until the Business Advocate agent toggles the state to Unavailable then back the Available.

Refer to *IC Administration Volume 2: Agents, Customers, & Queues* for instructions on disabling RONA functionality for Business Advocate agents.

Best Services Routing (BSR) option

If you are using the Best Services Routing (BSR) option on your Avaya DEFINITY switch to transfer IC related calls, you must ensure that you have ISDN trunk lines configured between each switch and that you are passing UUI (User to User Information) on the D Channel to the remote switch. Avaya IC uses the UUI field to send and receive the EDUID of the call at each endpoint.

Refer to Chapter 10 in the *Telephony Connectors Programmer Guide* for more information.

For more information about Best Services Routing, refer to the *DEFINITY ECS <release> Call Vectoring/ EAS Guide (555-230-521)*.

Call processing

The following scenario describes how Avaya IC processes Business Advocate voice calls through a single site environment:

Step	Description
1	Notification of incoming voice calls is received by the Telephony server (TS).
2	The TS sends the notification of the incoming call to the Telephony Server Adapter (TSA server).
3	The TSA server sends the call to the Workflow server for qualification.
4	The Workflow server qualifies the call, selecting an appropriate service class and wait treatment. (The Workflow server is configured to associate the customer's attributes and the intent of the contact with various wait treatment styles, not queues, so callers can be parked in the appropriate wait treatment queue on the switch.)
5	The Workflow server sends the service class and wait treatment for the call to the TSA server. The call resides on the switch and does not move at this point.
6	The TSA server sends a request to the Resource Manager server to find a qualified agent for this call.
7	The Resource Manager server informs the TSA server where and when a qualified agent is available. The agent does not have to be assigned to the TS that received the call. The agent can be located at any site, anywhere on the network.
8	If a qualified agent is available, the TSA server tells the TS to inform the switch to route the call to that agent, skip to step 10.
9	If a qualified agent is not immediately available, the call is routed to a wait treatment queue that plays the wait treatment style returned by the Workflow server when it qualified the call.
9a	The call remains in queue unless it is abandoned or the link fails prior to being routed to an agent by the switch through the TSA server. When a qualified agent becomes available, the Resource Manager tells the TSA server. The TSA server tells the TS to inform the switch to route the call to that agent.
9b	If the link fails, the call is routed to a failover queue. This action is programmed into the vector on the switch. The call remains in the failover queue until it is either abandoned by the caller or routed to an agent by the switch. (Once a call is in the failover queue, it is no longer in a directory number controlled by Avaya IC. The switch controls the call at this point.)
10	The agent answers the call.

Backup link failover and recovery

Avaya IC can be configured with a primary CTI link that handles all incoming calls and a backup link to which calls are routed in the event of a primary link failure. Each link can have multiple incoming queues and one set of wait treatment queues. On every link there is at least one directory (dialable) number for incoming calls on the link and a directory number for each wait treatment style on the link.

If the primary link fails and there is no backup link, program the directory numbers of the incoming calls to send the calls to a failover queue. The directory number program that is associated with the wait treatment queue sends the call to this failover queue.

If the primary link fails and there is a backup link, the directory number program associated with the incoming link sends calls to the backup link so Business Advocate can continue to service new incoming calls. The switch distributes the calls from the backup link to the agents who are logged into the failover queue.

Agents are assigned to failover queues by logging into the same skill as the failover queue. Agents are administered on the switch to service the failover skills. If the link fails, the switch distributes the calls that failover to the agents who are logged into the skill. Agents log into the failover queues when they log into Avaya IC.

If a primary link fails, agents first clear the failover queues of calls that have failed from wait treatment, then they handle calls through the backup link. Create link groups that associate agents with both primary and backup links to tell the Resource Manager not to send calls to the agents in the event of a link failure because these agents are getting the other calls from the failover queues. If there is no backup link, you must wait for the primary link to be restored for Business Advocate to start distributing calls to these agents again.

Agents and Link Groups

All agents who service calls on the failover queue for a CTI link when it fails must be identified as servicing calls from that link. This applies to all supported switches.

To identify these agents as servicing calls from a link:

- Create a link group
- Assign agents to the link group

Create a link group

Add the name of the TS that handles the CTI link to the group table on Avaya IC.

For procedures on creating link groups, refer to [Link groups](#) on page 187.

Assign agents to the link group

After you create a link group that contains the TS that services the CTI link, identify the agents that service calls on the failover queue for the CTI link and add them to the link group. If you have numerous agents who service the same failover queue for the CTI link, you can assign all of these agents to a link group at one time.

For procedures on assigning agent to link groups, refer to [Link groups](#) on page 187.

Avaya Definity/Communication Manager

This section describes how to configure the Avaya DEFINITY/Communication Manager switch to operate with Business Advocate on Avaya IC 7.0.

Configure the following on the Avaya DEFINITY/Communication Manager prior to performing the procedures in this section:

- Setup CTI Adjunct Links
- Setup Agent States
- Setup Adjunct Routing
- Define Adjunct Links

Refer to *IC Installation Planning and Prerequisites* for instructions.

Avaya DEFINITY configuration

This section describes how to configure the Avaya DEFINITY/Communication Manager for Business Advocate. Perform the following configuration steps in the following order to configure the Avaya DEFINITY/Communication Manager to process incoming voice calls with Business Advocate on Avaya IC.

- Configure Advanced Adjunct Routing
- Configure the switch to use a CTI link
- Program the incoming VDN
- Program the wait treatment VDN

Refer to *IC Installation Planning and Prerequisites* for additional instructions on configuring the Avaya DEFINITY/Communication Manager switch.

 **Important:**

If you are using Business Advocate, set the Dialby Equipment configuration parameter to true (check the check box on the TS tab) and the Fail_Route configuration parameter (on the Configuration tab) to 1 when you configure the Telephony Server. Refer to the Telephony server configuration for your switch in the *Telephony Connectors Programmer Guide*.

CTI link configuration

The Avaya DEFINITY/Communication Manager must be configured to deliver the calls to a CTI link using an incoming VDN. Each CTI link that processes incoming calls requires its own set of incoming VDNs and wait treatment VDNs. Avaya recommends the number of wait treatment VDNs be identical for each of the CTI links. The wait treatment styles (announcements, music, silence, ringing, etc.) should also be identical for each CTI link.

To configure the switch to the CTI link:

1. Start IC Manager if it is not already running.
2. From the main window, select the **Server** tab.
3. From the **Server Manager**, double-click on the **TS** that is servicing the link.
4. From the **Server Editor**, select the **TS** tab to display the server configuration parameters.
5. In the **ACD Link** field, enter the IP address of the CTI link.
6. Click **OK** to configure the switch to the CTI link.

Incoming VDN configuration

An incoming call VDN is either a VDN dialed by the caller or a VDN to which an IVR transfers the call for routing to an agent. An incoming VDN must be programmed to route a request to Avaya IC when it receives a call.

Incoming VDNs should also be programmed to send their calls to a switch skill in the event of a CTI link failure. Agents can log into these skills when they log into Avaya IC. If calls reach these skills, it means the CTI link has failed and Avaya IC no longer controls the calls. The switch distributes the calls to those agents who are logged into the failover skills. For more information, refer to [Backup link failover and recovery](#) on page 265.

Note:

You can program an incoming VDN to send incoming calls to a backup VDN in case of failover. Refer to [Backup CTI link configuration](#) on page 276.

Perform the following procedures to configure an incoming call VDN:

- Program the incoming call VDN
- Add the VDN directory number to the TSA server table

Program incoming call VDN

Program the incoming call VDN vector to request an adjunct route, then wait for at least 10 seconds. If there is no response, send the call to a failover switch queue on Avaya DEFINITY/Communication Manager.

The following example illustrates this scenario:

```
01 wait-time 0 secs hearing ringback //wait 0 seconds hearing ringback
02 adjunct routing link 39001 //Send a route request to link 39001
03 wait time 10 secs hearing ringing //wait 10 seconds while playing ringing
04 queue-to-skill 34 pri h //send call to fail over skill (34)
05 announcement "75002" //play announcement
06 wait-time 20 secs hearing music
07 goto step 5 if unconditionally
```

Add VDN directory number to table

Enter the directory number of the incoming call VDN in the Destination field of the Contact Handling table of the TSA server that is associated with the TS servicing the link. The TSA server and the TS are associated by being added to the same domain in IC Manager.

Refer to [Setting up contact handling](#) on page 165 for instructions on adding the VDN directory number to the Contact Handling table.

Wait treatment VDN configuration

The wait treatment VDN vector must be configured to make a second route request of the switch and hold the call while playing wait treatment until Business Advocate responds with the agent's phone address. Create a different wait treatment VDN on each link for each of the wait treatments (announcements, music, silence, ringing, etc.) used by the Avaya IC. There must also be a special wait treatment VDN for call transfers. When an agent transfers a call to a virtual queue that contains a service class, the call is placed on this special wait treatment VDN. This VDN is specified as a parking device with wait treatment style 1.

The vectors for wait treatment VDNs should also be programmed to send their calls to a switch skill in the event of a CTI link failure. Avaya IC agents can log into these skills when they log onto Avaya IC. If calls reach these skills, it means the CTI link has failed and Avaya IC no longer controls the calls. The switch distributes the calls to those agents who are logged into the failover skills. Refer to [Backup link failover and recovery](#) on page 265 for more information.

Perform the following procedures to configure a wait treatment VDN:

- Program the wait treatment VDN
- Configure the parking device with the wait treatment that corresponds to the VDN's program

Program wait treatment VDN (Enhanced adjunct routing)

Enhanced adjunct routing enables you to play wait and announcement treatments for an indefinite period of time while calls are queued by adjuncts (in this case, Avaya IC). It also provides failover backup treatment if either the adjunct or communication with the adjunct fails.

To service call transfers on Avaya IC, administer the VDN on the switch with the proper wait treatment. Program the vector assigned to the wait treatment VDN to request an adjunct route using the CTI link followed by playing the wait treatment. Then, repeat the wait treatment steps in a program loop.

Avaya Communication Manager enables you to play multiple wait treatments and loop when working with Avaya IC. You can include multiple wait treatments following the adjunct routing step while the route request is pending on Avaya Communication Manager Release 1.2 or later when the links are setup for CTI Adjunct Links capability with agent states and IC Adjunct Routing is set to active. Refer to the Switch Administration appendix in *IC Installation Planning and Prerequisites* for more details.

This capability provides an "enhanced" adjunct operation that allows any number of announcement, wait and unconditional goto (that loop/branch backward) vector steps to appear after the adjunct routing command while still retaining the failover backup capability in case of link or application failure. Under this capability, the steps following the last adjunct routing command in a sequence will be skipped until a step that is not an announcement, wait, unconditional loop back goto or intervening blank step is reached if a link down or adjunct not responding condition is detected when the adjunct routing step is executed or while waiting for a route request response. When a failure condition is detected, processing of the current announcement, wait or unconditional loop back goto step is terminated and the following announcement, wait, unconditional loop back goto and intervening blank steps are skipped falling through to the failure backup treatment. This operation works across vectors with vector chaining.

A single conditional goto step immediately following the adjunct routing command is also allowed. This step is always executed and it could branch to another announcement, wait and unconditional loopback goto step sequence. If the link is in failure when the adjunct routing command is executed, the conditional goto is executed. If it branches, the first series of announcement, wait, unconditional loopback goto and blank steps in the branched to sequence are skipped. If the conditional doesn't branch, the following announcement, wait and unconditional loopback goto steps are skipped.

The following is an example of a vector on Release 1.2 or later:

```
01 adjunct routing link 2           //Send a route request to link ID 2
02 announcement "75002"           //play announcement
03 wait-time 15 secs hearing music //wait 15 seconds listen to music
04 announcement "75003"           //play second announcement
05 goto step 3 if unconditionally //go to wait listen to music
06 queue-to skill 34 pri h         //send call to fail over skill (34)
07 announcement "75002"           //play announcement
08 wait-time 20 secs hearing music
```

Prior to Release 1.2 on Avaya DEFINITY or with IC Adjunct Routing set to no, you could only program a single wait treatment set at the maximum wait time while Avaya IC waits for an available agent. If the link fails, the vector moves to the next step to queue the call in the switch for failover coverage.

The following is an example of a vector prior to Release 1.2:

```
01 adjunct routing link 39001           //Send a route request to link ext 39001
02 wait-time 8 hours hearing music     //wait 8 hourss listen to music (see note)
03 queue-to skill 34 pri h             //send call to fail over skill (34)
04 announcement "75002"               //play announcement
05 wait-time 20 secs hearing music
06 goto step 4 unconditionally
```

Note:

The use of the wait command syntax for hours or minutes can only be administered through switch administration because these parameters are not supported by Avaya Call Management System Vector Administration.

The period of time the call remains in the wait treatment queue must be programmed in the vector. Configuring this parameter to 8 hours keeps the call waiting longer than any contact would possibly stay on hold, thus ensuring the call is not terminated while the contact is holding.

The enhanced adjunct route is required to support failover of calls parked on VDNs during the looped music and announcement treatments. This feature is usually used for Business Advocate wait treatment VDNs, but it can also be used by non-Business Advocate IC deployments.

The following example illustrates an enhanced adjunct route:

change system-parameters customer-options Page 9 of 11

```
ASAI ENHANCED FEATURES
  CTI Stations? n (is set to yes here)
  Increased Adjunct Route Capacity? n (option is not visible here)
  Phantom Calls? n (is set to n)
ASAI PROPRIETARY FEATURES
  Agent States? y (set to y)
```

add cti-link next Page 1 of 2

```
CTI LINK
CTI Link: 4 (test system is link 2)
Extension: (4811)
  Type: ADJLK or ADJ-IP (ASAI)
  Port:
  Name: (6.1 Test CTI Link) COR: 1 (8)
```

```
BRI OPTIONS
  XID? y      Fixed TEI? n (n)
  MIM Support? n (n)
  CRV Length: 2 (2)
```

```
add cti-link next
CTI LINK
FEATURE OPTIONS
  Event Minimization? n
  Special Character for Restricted Number? n
  IC Adjunct Routing? y
```

Configure transfer parking device

The wait treatment VDN is configured as a voice parking device for call transfers in IC Manager. To properly configure the parking device for call transfers:

- Use the same ACD name on the parking device and the incoming call VDN.
- Administer the parking device with "wait treatment style 1". Avaya IC reserves "wait treatment style 1" for transfers.
- Associate the parking device with the TSA server that is associated with the TS that is servicing the link.

For more information and procedures on configuring transfer parking devices, refer to [Parking devices for the voice channel](#) on page 170.

Configure parking device for wait treatment on incoming calls

Avaya IC configures a voice parking device to park calls on a wait treatment until an agent becomes available. This parking device is required if the caller requires a wait treatment that is different than the wait treatment that is delivered with the transfer parking device. Each parking device that gives a unique wait treatment should have a unique wait treatment style. With many wait treatments available, a voice parking device enables Avaya IC to select and play wait treatment that is unique to an incoming call VDN (caller) rather than play the same wait treatment for all incoming calls.

- Program the vector using the example in [Program wait treatment VDN \(Enhanced adjunct routing\)](#) on page 270, but make the wait treatment played unique to this VDN.
- Set up a voice parking device and associated VDN for each unique wait treatment that must be delivered to callers who are waiting for an available agent.

Important:

You must make the non-transfer wait treatment vectors separate from the transfer wait treatment vector because these wait treatment devices work differently with CTI backup links.

For more information and procedures on configuring parking devices for wait treatment on incoming calls, refer to [Parking devices for the voice channel](#) on page 170.

Switch Operation

This section describes how the Avaya DEFINITY/Communication Manager operates with Avaya IC to deliver voice calls to agents.

Calls are received by the switch on incoming queues and these incoming queues have associated programs. On the Avaya DEFINITY/Communication Manager, the associated program is a vector that is assigned to a Vector Directory Number (VDN). This vector gives the caller wait treatment (plays announcements, music, ringing, etc.) while Avaya IC qualifies the call. Call qualification determines who the call is from, the type of customer on the call, the language they speak, the reason for the call, etc.

To make Avaya IC aware of the call that just arrived, the vector associated with the incoming queue requests a route for the call from Avaya IC. The switch, through the vector, asks Avaya IC where to route the call while it holds the call and plays wait treatment for the caller. Contact centers usually configure Avaya IC to take 10 seconds to make its routing decision. The switch makes this request over a CTI link.

The following example illustrates a vector for an incoming route point:

```
01 adjunct routing link 39001           //Send a route request to link 39001
02 wait-time 10 sec hearing ringing    //wait 10 seconds while playing ringing
03 route to number "56066" wait cov n if unconditionally
                                         //if the 10 seconds expire, route the call
                                         to 56066, the failover queue (to handle
                                         failure)
```

Avaya IC qualifies the call and if an agent is available, Avaya IC tells the switch to route the call to that agent. If an agent is not available, Avaya IC tells the switch to route the call to a wait treatment queue. The vector associated with the wait treatment queue is set to play the required treatment and wait for as long a period of time as is allowed by the switch.

When the call reaches the wait treatment vector, the vector issues a route request to Avaya IC asking where to send the call.

The following example of a vector for the wait treatment VDN request is based on Avaya Communication Manager 1.2 or later with IC Adjunct Routing set to active:

```
01 wait-time 0 secs hearing ringback    //wait 0 seconds hearing ringback
02 adjunct routing link 2               //Send a route request to link 2
03 announcement "75002"                //play announcement
04 wait-time 15 secs hearing music      //wait 15 seconds listen to music
05 announcement "75003"                //play second announcement
06 goto step 4 if unconditionally       //go to wait listen to music
07 route to number 56066 wait cov n if unconditionally
                                         //if the 10 seconds expire, route the call
                                         to 56066, the failover queue (to handle
                                         failure)
```

When an agent becomes available, Avaya IC responds to the route request of the vector program associated with the wait treatment queue and routes the call to the available agent.

Switch configuration

For Business Advocate to work properly in an environment using an Avaya DEFINITY switch, the following conditions must exist:

- Direct calls are enabled for the agent's Class of Restriction (COR).
- Advocate agents and the VDNs used by Advocate use the COR for which direct agent calls are enabled.
- The agent's Hunt Club has the Queue option enabled and its Queue Length size is greater than 0.

Perform the procedures in this section in the order they are presented.

Enabling direct calls

To enable direct calls for the agent's COR:

1. Start the **Avaya Site Administrator**, if it is not already running.
2. Enter the **change cor<#>** command for the desired COR and press **send (return)**. For example, enter **change cor1** for Class of Restriction 1.
3. In the upper left corner of the **Class of Restrictions** screen, select tab **1**.
4. Change the **Direct Calls** setting to **y**.
5. Press **enter (f3)** to save this change.

Verifying Agent COR assignments

Make sure all Advocate agents are using the COR that you just enabled for direct calls.

To verify that Advocate agents are using the correct COR:

1. At the **Avaya Site Administrator**, enter the **list agent-loginID** command and press **send (return)**.
2. At the ensuing list of Advocate agents, check the **COR** column to make sure the COR value corresponds to the COR for which you enabled direct calls in the previous procedure. For example, if you entered **change cor1** in the previous procedure, the **COR** column should display **1**.
3. If the **COR** column does not match the COR in the first procedure, change it to match.
 - a. Enter the **change agent <loginID>** command and press **send (return)**.
 - b. At the **Agent LoginID** screen, change the **COR** field to match the COR for which you enabled direct calls.
 - c. Press **enter (f3)** to save this change.

Verifying VDN COR assignments

Make sure all the VDNs used by Advocate are using the COR that you just enabled for direct calls.

To verify the VDNs used by Advocate are using the correct COR:

1. At the **Avaya Site Administrator**, enter the **list vdn** command and press **send (return)**.
2. At the ensuing list of Advocate VDNs, check the **COR** column to make sure the COR value corresponds to the COR for which you enabled direct calls in the previous procedure.
For example, if you entered **change cor1** in the previous procedure, the **COR** column should display **1**.
3. If the **COR** column does not match the COR in the first procedure, you must change it to match using the **change vdn** command.
 - a. Enter the **change vdn <vdn>** command and press the **send (return)** button.
 - b. At the **VDN** screen, change the **COR** field to match the COR for which you enabled direct calls.
 - c. Press the **enter (f3)** button to save this change.

Enabling hunt club queues

Make sure the agent's Hunt Group's queues are configured.

To configure queue settings for the agent's Hunt Group:

1. At the **Avaya Site Administrator**, enter the **change hunt-group** command for the desired Hunt Group and press **send (return)**.
For example, enter **change hunt-group 1** for Hunt Group 1.

Note:

If you do not know the agent's Hunt Group, type **change agentloginID <loginID>** at the command line to display the **Agent LoginID** screen for that agent. The Hunt Club number is displayed in the first **SN** and **SL** fields at the bottom of the screen.

2. In the upper left corner of the **Hunt Club** screen, select tab **1**.
3. Change the **Queue** setting to **y**.
4. Enter a value **greater than 0** in the **Queue Length** field.
5. Press **enter (f3)** to save your changes.

Call Transfers

The agent client asks the Workflow server to qualify a call that is transferred to a virtual queue. The Workflow server determines that the call should be parked on wait treatment style 1 (style 1 is always used for transfers) on the switch where the agent who is transferring the call is located. When a call is transferred to a service class via a virtual queue, the call is first parked on the style 1 wait treatment queue until an agent is found. The call stays parked until the Resource Manager finds an agent that best matches the requirements of the call.

Backup CTI link configuration

This section describes how to configure backup links on an Avaya IC environment running an Avaya DEFINITY/Communication Manager. Backup links are CTI links to which calls are routed in the event the primary link fails.

To configure a backup link:

1. Add a secondary CTI link (backup link).
2. Modify the incoming call VDN vectors on the primary link.
3. Add a set of wait treatment voice parking devices and VDNs for the backup link. You must have at least one parking device/VDN for the transfer wait treatment style, which is always 1.
4. Program the backup link VDNs to failover to failover skills.
5. Add the backup link to link group of the primary link.
6. Add the backup link specifications to the TS that serves the primary link.

Note:

A backup link can also serve as a primary link. A primary link can have a backup link that is also a primary link. In this case, these two links can back up each other.

Add a backup CTI link

When you add the second CTI link to the switch, make sure the IP address of this link matches the ACD Name parameter of the TS that is servicing the link.

To add a backup CTI link to the switch:

1. From the main window in IC Manager, select the **Server** tab.
2. From the **Server Manager**, double-click on the **TS** that is servicing the link.
3. From the **Server Editor**, select the **TS** tab to display the server configuration parameters.
4. In the **ACD Link** field, enter the IP address of the CTI link.
5. Click **OK** to add the backup CTI link to the switch.

Modify incoming call VDNs

Modify the VDNs used for incoming calls to route calls to the backup link if the primary link fails.

In the following example, 1 is the primary link and 2 is the backup link:

```
01 adjunct routing link 1 //Send a route request to link 1
02 wait-time 10 secs hearing ringing //wait 10 seconds while playing ringing
03 adjunct routing link 2 //Send a route request to backup link 2
04 wait-time 10 secs hearing ringing //wait 10 seconds while playing ringing
05 queue-to skill 34 pri h //send call to fail over skill (34)
06 announcement "75002" //play announcement
07 wait 8 hours hearing music
```

Modify transfer parking device VDN

Modify the VDN used for the transfer parking device so it specifies routing the call to the transfer device of the backup link if the primary link fails.

In the following example, 1 is the primary link and 2 is the backup link:

```
01 adjunct routing link 1 //Send a route request to link 1
02 wait-time 999 secs hearing music //wait 999 seconds listen to music
03 route-to wait treatment VDN
```

Add transfer parking device

Add a parking device for call transfers to the backup link if it does not already have one. The following settings are required to add the parking device for transfers:

- Assign the same ACD name as the incoming call VDN to the parking device.
- Administer the parking device with "wait treatment style 1". Avaya IC reserves "wait treatment style 1" for transfers.
- Associate the parking device with the TSA server that is associated with the TS that is servicing the link.

To add a transfer parking device:

1. From the main window in IC Manager, select the **Device** tab.
2. From the **Device Manager**, double-click on the device associated with the TSA server that is associated with the TS servicing the link.
3. From the **Device Editor**, select the **General** tab.
 - a. In the **Id** field, enter the DN (directory number) of the VDN.
 - b. In the **ACD Name** field, enter the ACD name used by the incoming call VDN.
 - c. Click **OK** to save these new settings.
4. From the **Device Editor**, click on the **Voice** tab.
 - a. In the **Wait Treatment Style** field, enter **1**.
 - b. Click **OK** to save the wait treatment style setting and close the **Device Editor**.

Add wait treatment parking devices

Add a set of wait treatment voice parking devices and VDNs for the backup link if it does not already have a set. The number of voice parking devices and VDNs on the backup link must be equal to the number of voice parking devices and VDNs on the primary link and their wait treatment styles must be exactly the same as the wait treatment styles on the primary link. Each voice parking device wait treatment VDN on the backup link should play the same wait treatment as its counterpart on the primary link.

Follow the procedures in [Parking devices for the voice channel](#) on page 170 to add wait treatment parking devices to the backup link.

Playing estimated wait time

When Business Advocate is running on Avaya IC, calls controlled by Business Advocate do not have an estimated wait time (EWT) in the switch. Business Advocate has the EWT and passes it to the switch (in seconds) through the TS. Business Advocate determines the EWT for the call to be answered by an agent when the call is routed from the incoming queue VDN to the wait treatment VDN. The EWT can be played to the caller using pre-recorded announcements that speak the EWT (rounded to minutes) to the caller based on testing the current EWT provided by Business Advocate and branching it to the appropriate wait announcement.

The following steps describe the EWT operation:

1. The switch receives calls to the “incoming queue” VDNs in the same manner as previously discussed in [Avaya DEFINITY configuration](#) on page 267.
2. The “incoming queue” vector executes an adjunct routing command to make Avaya IC aware of the incoming call followed by a wait command playing ringback to the caller while Avaya IC qualifies the call.
3. Avaya IC either routes the call to an available agent or to a “wait treatment” VDN, if an agent is not available.
 - a. If the agent is immediately available and Avaya IC routes the call to that agent, the EWT will not be announced to the caller.
 - b. If an agent is not immediately available, Avaya IC routes the call to a “wait treatment/parking” VDN. Business Advocate (TSA server) includes the EWT in seconds (maximum of 5 digits always appended with a # character) in the message as dial-ahead digits (TS.routewithinfo(in string info)).

The “wait treatment” vector, prior to providing the wait treatment to the caller, collects the dial-ahead EWT digits followed by vector steps that test and play the wait time in addition to executing another adjunct routing command that allows Avaya IC to route the call to an agent when one becomes available.

Wait Treatment VDN-Vector

This section provides examples of VDN (500) Wait Treatment, vector 21 and 22, using announcement steps for playing of EWT. It is based on Avaya Communication Manager 1.2 or later with Adjunct Routing set to active for the link.

This is an example design. Additional wait time announcements (8 minutes, 10 minutes, etc.) and different graduations (by 2 minute increments, etc.) can be accomplished by using the same approach shown below. Use of more than one command (including the backward branching goto) following the adjunct routing command requires the IC Adjunct Routing capability as discussed in [Program wait treatment VDN \(Enhanced adjunct routing\)](#) on page 270.

VDN (5000) – Wait Treatment (Vector 21)

The following example illustrates the announcement steps for playing EWT on vector 21:

```
01 collect 6 digits after announcement none //collects the EWT provided as dial
                                           ahead digits discarding trailing
02 wait-time 0 secs hearing ringback //continues ringback to caller in
                                       case of delay in connecting a
                                       subsequent announcement
03 goto step 5 if digits = none //bypasses digit testing if not
                                 provided by IC
04 goto step 11 if digits > 60 //only play wait time if greater than
                                1 minute
05 adjunct routing link 2 //sends route request to IC to route
                           to agent
06 announcement 1015 "ABC Company. Please Wait. Your call may be monitored for
                      quality control purposes"
07 wait-time 15 secs hearing music
08 announcement 1020 "Please continue to wait. Your call is important to us."
09 goto 7 if unconditionally //loops to repeat music followed by
                              "please wait"
10 route-to number 5602 //routes to failover VDN under link
                        failure
11 goto vector 22 if digits > 180 //tests for longer than 3 minutes
12 goto step 20 if digits > 120 //tests for longer than 2 minutes
13 adjunct routing link 2
14 announcement 1007 "Thank you for calling the ABC Company. All our
                      representatives are currently busy handling other calls. Please wait; your call
                      will be handled in the order received. Your call may be monitored for quality
                      control purposes" [16 secs]
15 announcement 1002 "Your call should be answered within two minutes" [4 secs]
16 wait-time 15 secs hearing music
17 announcement 1020 "Please continue to wait. Your call is important to us."
18 goto step 16 if unconditionally
19 route-to number 5602
20 adjunct routing link 2
21 announcement 1007 "Thank you for calling the ABC Company. All our
                      representatives are currently busy handling other calls. Please wait; your call
                      will be handled in the order received. Your call may be monitored for quality
                      control purposes" [16 secs]
22 announcement 1003 "Your call should be answered within three minutes"
23 wait-time 15 secs hearing music
24 announcement 1020 "Please continue to wait. Your call is important to us."
25 goto step 23 if unconditionally
26 route-to number 5602
```

VDN (5000) – Wait Treatment (Vector 22)

The following example illustrates the announcement steps for playing EWT on vector 22, which is a continuation of wait treatment for wait times longer than 3 minutes:

```
01 goto step 9 if digits > 300           //tests for longer than 5 minutes
02 adjunct routing link 2
03 announcement 1007 "Thank you for calling the ABC Company. All our
    representatives are currently busy handling other calls. Please wait; your call
    will be handled in the order received. Your call may be monitored for quality
    control purposes" [16 secs]
04 announcement 1005 "Your call should be answered within five minutes"
05 wait-time 15 secs hearing music
06 announcement 1020 "Please continue to wait. Your call is important to us."
07 goto step 5 if unconditionally
08 route-to number 5602
09 adjunct routing link 2
10 announcement 1007 "Thank you for calling the ABC Company. All our
    representatives are currently busy handling other calls. Please wait; your call
    will be handled in the order received. Your call may be monitored for quality
    control purposes"
11 announcement 1006 "We apologize for the delay. Due to heavy call volume, you
    may have to wait longer than five minutes" [8 secs]
12 wait-time 15 secs hearing music
13 announcement 1020 "Please continue to wait. Your call is important to us."
14 goto step 12 if unconditionally
15 route-to number 5602
```

Nortel Meridian

This section describes how to configure the Nortel Meridian switch, using either Meridian Link or Symposium Call Center Server, to operate with Business Advocate on Avaya IC 7.0.

 **Important:**

If you are using Avaya Business Advocate, make sure the Dialby Equipment configuration parameter is set to true (by default this check box is checked) when configuring the Telephony Server for the Nortel Meridian switch. Refer to the Telephony server configuration for the Nortel switch in the Telephony Server chapter of the *Telephony Connectors Programmer Guide*.

Switch operation

The Nortel Meridian switch, using either Meridian Link or Symposium Call Center Server, receives calls on incoming CDNs (Control Directory Number). On the Nortel switch, the CDN is defined using the standard Nortel overlay interface.

 **Important:**

The CDN requires no special characteristics, but it is important to note that in a Symposium Call Center Server configuration, Symposium must NOT acquire the CDN, or the CDN will not be available for use by Avaya IC. Even acquiring and then de-acquiring a CDN may cause that CDN to be unusable by Avaya IC.

Setup Control DN (CDNs)

To configure the Nortel Meridian to process incoming voice calls with Business Advocate on Avaya IC, you need to setup a Control DN (CDN) for each of the following wait treatment parking devices to be used on the system. These parking devices are optional, Business Advocate works even if none of them are used. But, if you do use them, they must have CDNs to work properly.

- Announcement
- Music
- Ringback

The Nortel Meridian does not accept a route from an adjunct while playing a non-streaming announcement. This is because non-streaming announcements cannot be played from

CDNs and, therefore, must be parked on queues. For this reason, Business Advocate only parks the call on an announcement queue if the announcement length is shorter than the estimated wait time (EWT) calculated by Business Advocate.

Avaya IC checks the estimated wait time (EWT). If the EWT is shorter than the length of the announcement, the call is routed to ringback queue. If the EWT is longer than the length of the announcement, the call is routed to the announcement queue.

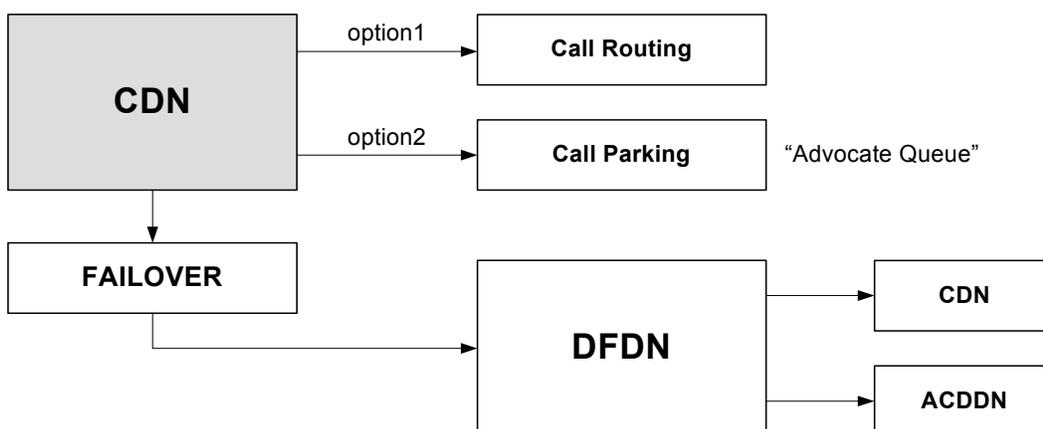
The Nortel Meridian switch automatically sends a route request to the first application that requests monitoring (TS.Assigns) on the CDN. The switch waits a maximum of 4 seconds before terminating the routing “availability window”. After the time-out, which is not configurable, the call is processed normally and queued to its default ACD group.

Configure CDNs

This section discusses call routing and call parking options supported by Nortel CDNs as well as CDN failover behavior. It also describes how to configure Nortel CDNs and ACD phone sets to work with Avaya IC.

- Call routing is the customary hard ACD usage that addresses Symposium Call Center Server scripts for further handling.
- Call parking is where call control is kept by Business Advocate for acquired CDNs and the switch holds the call awaiting routing information. Call control is kept by the switch software (Symposium Call Center Server) for non-acquired CDNs.
- During failover (link failure or route request timeout) calls are sent to the associated Default Directory Number (DFDN). The DFDN is a required field in CDN configuration, which can be another CDN or an ACD Directory Number (ACDDN).

The following diagram illustrates the relationship of these options to the CDN:



Acquired vs. Non-Acquired CDNs

Nortel CDNs can be acquired or controlled by external systems, which may be Symposium Call Center Server or, in this case, Business Advocate. There can only be one controlling system, so if Symposium Call Center Server controls a CDN which is used by Avaya IC, alarms are registered and further call handling by Business Advocate fails.

When configuring acquired CDNs, the following CDN settings are required for Business Advocate routing. These settings are particularly important for contact centers that are migrating to Business Advocate from "hard" ACD routing or previous non-Advocate routing:

```
TYPE CDN
CDN xxxx
CEIL 2047
OVFL NO
CNTL YES
OVTH 2047
DFDN ( depends on the local center's failover routing design)
```

In Business Advocate, calls are delivered to agent's stations using their DIRECT station lines. This differs from standard ACD routing which uses the ACD station lines.

Configure phone sets

For Avaya IC to control an ACD phone set, the AST and IAPG prompts must be properly configured on the phone set. This allows the Avaya TS to send the messages to the switch that enable phone sets to make calls, answer calls, hang up calls, etc.

- For digital phone sets, use Overlay 11 (LD 11)
- For analog phone sets, use Overlay 10 (LD 10)

AST prompt

The AST prompt associates the keys on a digital phone set that can be made controllable by the Avaya TS. Because this is an ACD phone set, KEY 00 is always used for the ACD key that allows agents to answer a queue call from the ACDDN. You can define another KEY XX, such as KEY 01, as a single-call ringing (SCR) or multi-call ringing (MCR) key that the agent can use to make calls. In this scenario, the AST prompt is set to "00 01".

IAPG prompt

The IAPG prompt controls the types of messages sent from the switch to the Avaya IC when the ACD phone set changes state. By default, when IAPG is set to "1", all the Nortel Meridian-1 messages about the ACD phone set state are sent to Avaya IC.

To configure digital phone sets:

1. From the Meridian-1 PBX console, go to Overlay 11 (LD 11).
2. Complete the fields on the screen to match the following example:

```

>"LD 11"
...
REQ "NEW"
TYPE "2616"          <<---- Enter the phone set's type.
TN "028 0 03 04"    <<---- Enter the phone set's TN.
...
CUST "0"            <<---- Enter the customer number for the phone set.
...
AST "00 01"         <<---- Keys 00 and 01 will be controllable.
IAGP "1"            <<---- Allows phone state messages to be sent to Avaya IC.
...
KEY "0 ACD 400 401" <<---- Key 0 must be the ACD agent. This example shows
                    Position ID 401 on ACD-DN 401.
KEY "1 MCR 123"     <<---- Multi-call ringing DN 123. This phone set can also
                    be dialed directly at DN 123.
...
REQ "END"

```

3. Save your changes.

Configure parking device for wait treatment

Avaya IC configures a voice parking device to park calls on a wait treatment until an agent becomes available. This parking device is required if the caller requires a wait treatment that is different than the wait treatment that is delivered with the transfer parking device. A voice parking device enables Avaya IC to play wait treatment that is unique to an incoming call CDN (caller) rather than play the same wait treatment for all incoming calls.

The Nortel Meridian switch plays music wait treatment when you specify the following:

```
#xx provides music from music source xx (where xx = a hex value)
```

Note:

#xx is the 2 digit route defined in the switch converted into hex with a # added at the beginning. If the route for the music source is 1 digit, add a zero as a placeholder before you convert the value to hex. For example, use 02 to represent a route of 2, then convert 02 to hex.

If nothing is specified here, the system plays ringback.

If you configure the switch to play music wait treatment, a compatible music source must be defined on the switch. The compatible music source can come from a RAN board, a Meridian Voice Mail board, or switch trunk connection to some external music source. If an incompatible music source is used, Advocate calls will failover to a switch queue.

For more information and procedures on configuring parking devices for wait treatment on incoming calls, refer to [Parking devices for the voice channel](#) on page 170.

Link Failure Processing

On link failure, the Nortel CDN will time-out and terminate its indefinite route wait interval. Upon such abnormal termination, the CDN continues with its normal processing and sends the call to its default ACD group, which should be staffed to provide call handling on link failure.

There is a known issue on the Nortel Meridian Link. When a link fails, its calls are placed on Parking CDNs and Transfer CDNs until the caller hangs up the call.

Aspect CallCenter

This section describes how to configure the Aspect CallCenter switch to operate with Business Advocate in Avaya IC 7.0.

Switch Operation

The Aspect CallCenter switch receives calls on incoming Call Control Tables (CCTs). On the Aspect CallCenter switch, the CCT is presented by a graphical representation of call handling instructions that describe a call flow. The CCT provides wait treatment in the form of a Set Music step. Optionally, the CCT can play a pre-announcement before it provides a route request to the TS.

The Business Advocate devices used by the Aspect version of the TS are the CCTs that are configured on the Aspect CallCenter switch and assigned a number by the Aspect switch CCT configuration software. Examples of these CCTs are provided in the Switch Administration appendix in *IC Installation Planning and Prerequisites*.

To alert Avaya IC to a call that just arrived, configure the CCT to execute a Send Data step with a subtype that is assigned for monitoring by the TS followed by a Receive Data step to wait for a routing destination from the TS. The wait time in the Receive Data step can be set per-link, meaning all of the CCTs that are sending and receiving data on a given link have the same timeout value. You need to have enough Received Data steps to wait for the longest waiting call in the queue. To be safe, we recommend a minimum of 3 Receive Data steps to provide 45 minutes of waiting time.

 **Important:**

The Business Advocate qualification CCT must have a numeric subtype because of Telephony Server Adapter (TSA server) configuration constraints on IC Manager. This subtype must be unique. Business Advocate wait treatment CCTs must have a subtype that is identical to its CCT ID as assigned by the Aspect eBusiness Architect when saving a new CCT.

Avaya IC qualifies the call and, if an agent is available, Avaya IC tells the switch to route the call to that agent. If an agent is not available, Avaya IC tells the switch to route the call to a wait treatment queue. The program associated with the wait treatment queue is set to play the required treatment and wait for as long a period of time as is allowed by the switch.

When the call reaches the wait treatment queue, the program associated with the queue issues a route request to Avaya IC asking where to route the call.

Configuring Telephony switches for Business Advocate

Avaya IC checks the estimated wait time (EWT). If the EWT is shorter than the length of the announcement, the call is routed to ringback queue. If the EWT is longer than the length of the announcement, the call is routed to the announcement queue.

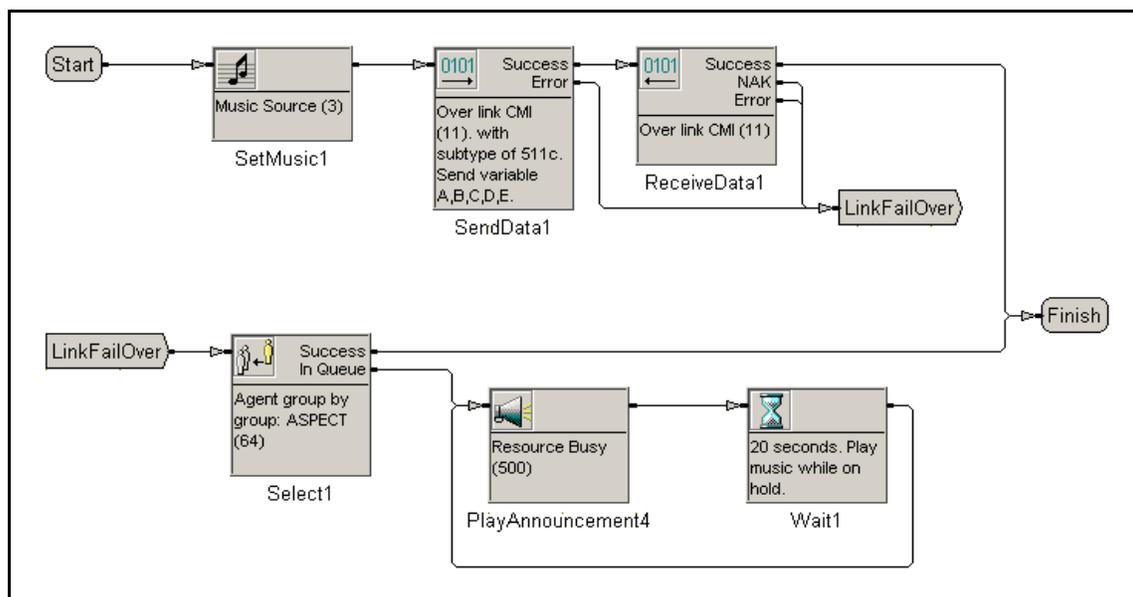
Aspect CCT configuration

This section describes the configuration of the Aspect CCTs that are used as Business Advocate devices on Avaya IC.

Parking CCT

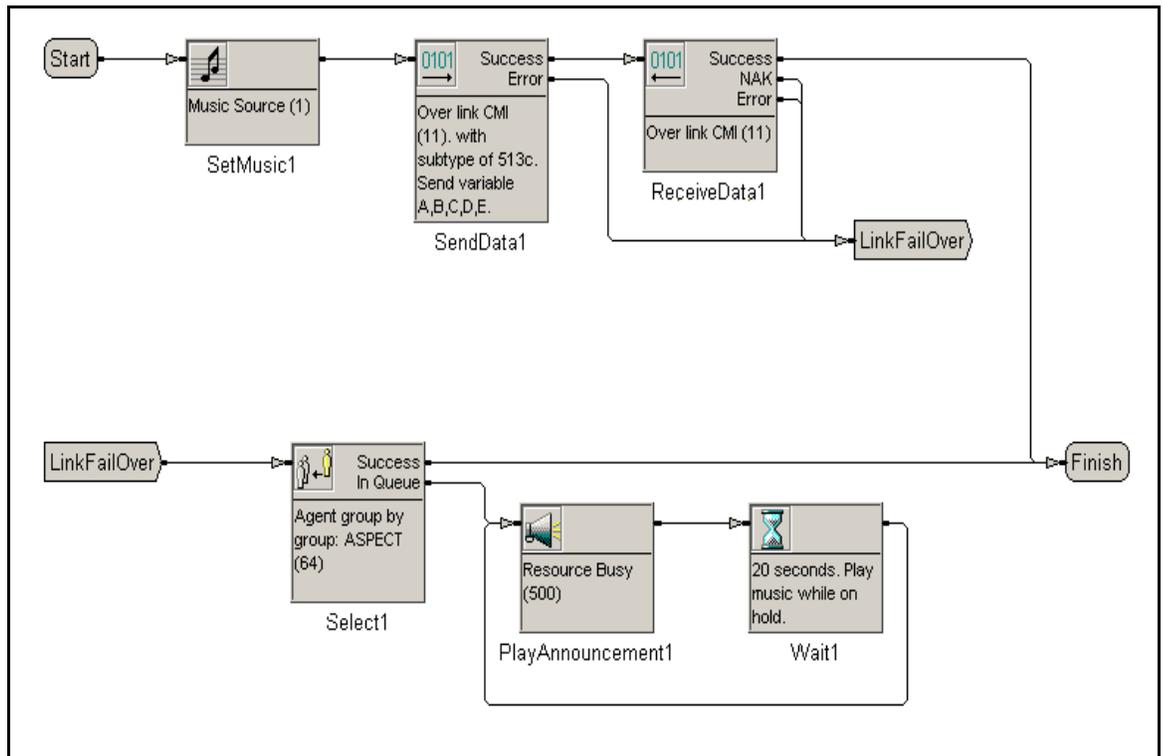
The Parking CCT begins with a SetMusic step, configured to play an announcement. If the call follows the success path, it goes through a SendData / ReceiveData pair of blocks, which provide routing on the Aspect. The PlayAnnouncement steps are used for CCT debugging. Note, they are all related to Error or NAK branches. Playing an announcement if an error or NAK condition is met enables you to debug what happened on the call.

In a production environment, you should configure the error branches in the SendData and ReceiveData steps to route the call to a CCT that does default agent selection.



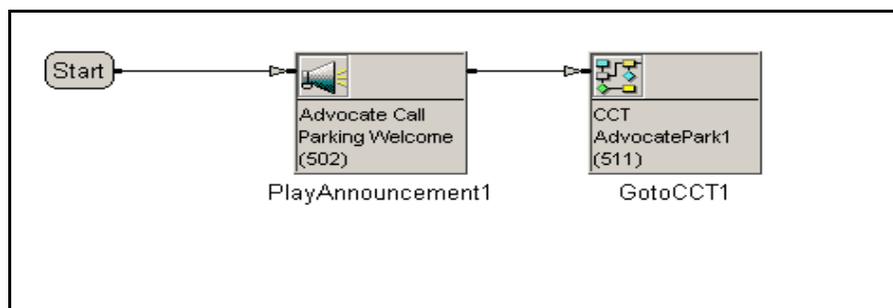
Transfer CCT

The Transfer CCT is very similar to the Parking CCT. This is a special Parking CCT, specified in Avaya IC to be used for call transfers and RONAs. The only difference is that the SetMusic step in the TransferCCT is configured to play music instead of an announcement.



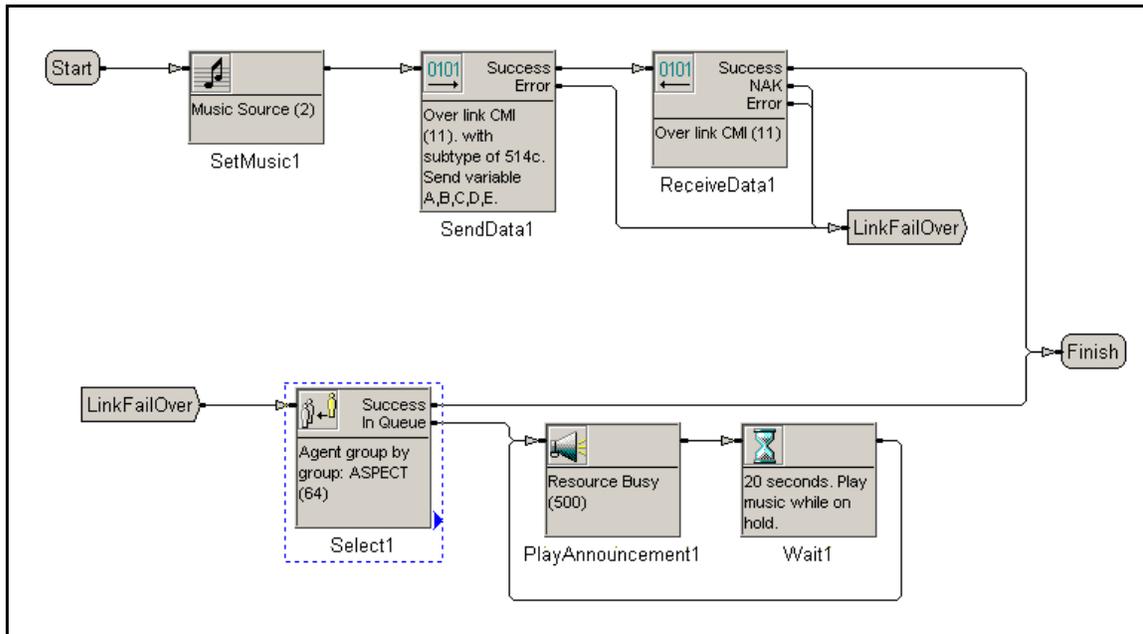
Announcement CCT

The Announcement CCT plays an announcement with a PlayAnnouncement step. It then sends the call back to the CCT that send the call to Announcement CCT in the first place. This is either the Parking CCT or the Transfer/RONA CCT.



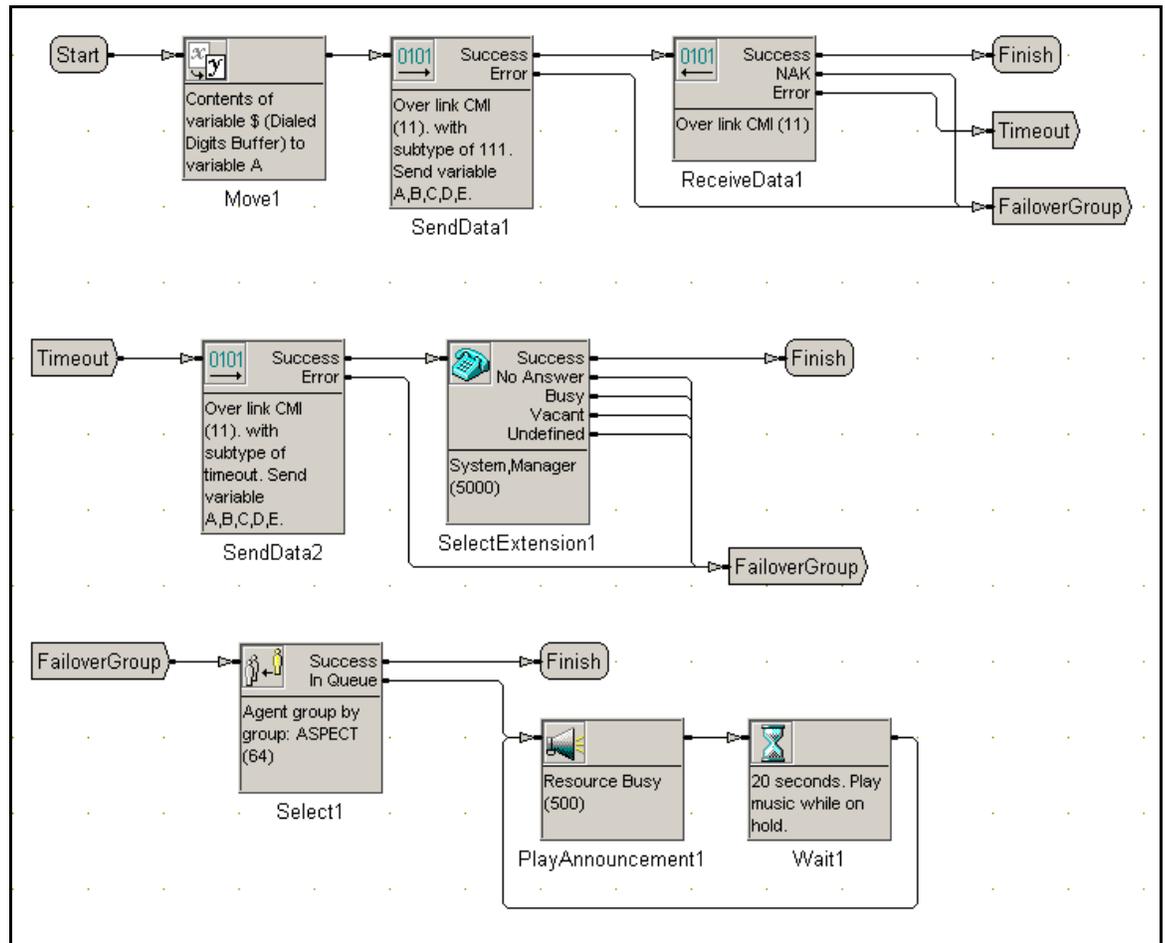
Ringback CCT

The Ringback CCT is similar in structure to the Parking CCT and the Transfer/RONA CCT. The only difference is that the SetMusic step in the Ringback CCT is configured to play a recording of ringback instead of an announcement or music. Ringback must be played via a recording because Aspect does not provide ringback.



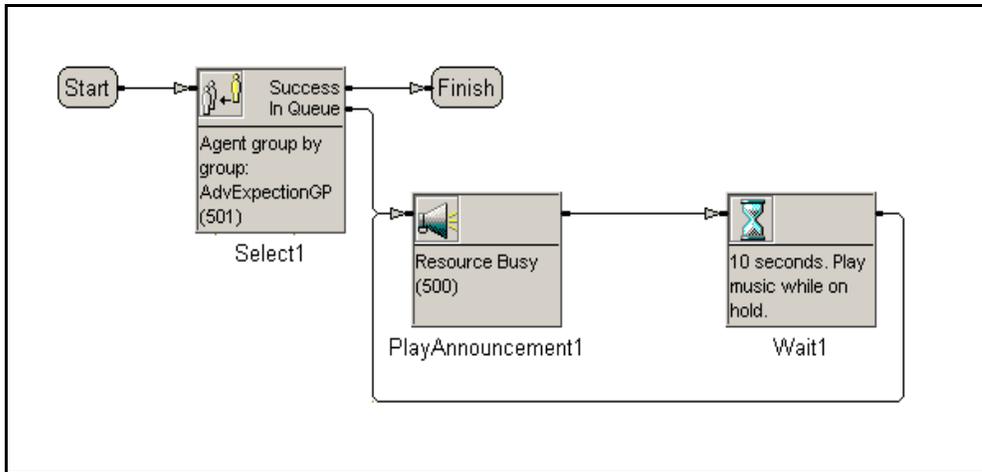
Incoming CCT

The Incoming CCT establishes the entry point of calls into Avaya IC. The Incoming CCT is set on the TS configuration tab, but Business Advocate uses it for RONA. To ensure RONA works properly, configure the Incoming CCT to have the No Answer branch of the SelectExtension step lead to a GotoCCT step. This sends the call to the appropriate Business Advocate Transfer CCT if the first agent does not answer the call.



Exception CCT

The Exception CCT is used to route calls when Advocate processing fails.



Backup Link

The Data Interlink number specified in the Aspect Send Data and Receive Data steps refers to a defined connection between the Aspect CallCenter system and an Aspect CMI server. Multiple Aspect CMI servers may be set up, each associated with a different Aspect Data Interlink. You must configure each of the Avaya Telephony servers with parameters that are necessary to connect to each of these Aspect CMI servers respectively.

Link Failover

There is a known issue with link failover on Business Advocate for the Aspect version of the TS.

If the CTI Link, the TS or the TSA server, goes down, currently parked Business Advocate calls are supposed to be automatically moved out of the parking device and sent to hard ACD agents. If the route failed due to a timeout, you should retry the route. If the route failed due to a link failure, you should shift the calls to an Aspect agent group.

In an Aspect environment, the CCT has no way of knowing if route failed due to a timeout or a link failure because call routing is done by Send Data and Receive Data blocks in the CCT. The Receive Data block has only one branch with which to process errors, the Error branch, so the CCT has no way differentiating the cause of the error, only that an error occurred.

You can use the Send Data step to detect the failure of the link between the Aspect CMI server and the switch. This requires that calls be routed in and out of a CCT with a Send Data step which checks for link failure every few seconds. This would require the Data Interlink Timeout parameter be set to a low value of approximately 10 seconds to ensure that if the link went down calls would be moved out of the CCT by the switch. Business Advocate would not function properly if the Data Interlink Timeout was set to such a low value.

Because there is no way to automatically move the calls out of the parking device in a link down scenario, you must do it manually.

The maximum period of time any call can wait in one Receive Data step is 999 seconds. If you want to park a call for longer than 999 seconds (15 minutes), multiple Receive Data steps must be linked together. The danger of this is that if the link goes down, the call is stuck in the Receive Data chain until all of the Receive Data steps timeout, at which time the call will take the error path of the last Receive Data step.

Manual solution

Currently, the only way to get calls out of the parking device when the link goes down is to shut down the Aspect CMI server. This causes the Receive Data step of the Parking CCT to timeout after the number of seconds set in the Data Interlink Timeout expire. When the Receive Data step times out, the call goes down the error branch of the Receive Data block. Put a GotoCCT or a SelectAgent block on this branch to send the call to another CCT or an agent group.

Business Advocate requires this timeout to be set to the highest possible value, 999 seconds. Calls will be waiting in park for over 15 minutes with no indication of what is happening.

Ericsson MD110

This section describes how to configure the Ericsson MD110 switch, using Ericsson Application Link Server 4.0, to operate with Avaya Business Advocate on Avaya IC.

Important:

When using Avaya Business Advocate, set the Dialby Equipment configuration parameter to true (check the check box) when you configure the Telephony server for the Ericsson MD110 switch. For more information, refer to the Telephony server configuration for the Ericsson MD110 switch in the Telephony Server chapter of the *Telephony Connectors Programmer Guide*.

Switch operation

The Ericsson MD110 switch receives incoming voice calls in a CTI group. A CTI group always has a queue associated with it, but it may not have agents associated with it. In other words, a CTI group is an ACD group without ACD members and is CTI classified.

For information about configuring CTI groups on the Ericsson MD110 switch, refer to Appendix A, Switch Administration in *IC Installation Planning and Prerequisites*.

CTI group configuration

To configure the Ericsson MD110 switch to process incoming voice calls with Business Advocate on Avaya IC, setup a CTI group for each of the following wait treatment parking devices on your system.

- Announcement
- Music
- Ringback

Business Advocate parks the call in an announcement queue if the announcement length is shorter than the estimated wait time (EWT) calculated by Business Advocate. Avaya IC checks the estimated wait time (EWT) and if the EWT is shorter than the length of the announcement, the call is routed to a ringback queue. If the EWT is longer than the length of the announcement, the call is routed to the announcement queue.

The Ericsson MD110 switch sends an incoming call event to applications that request monitoring (TS.Assigns) on the CTI group. The switch waits for the maximum queue time

Configuring Telephony switches for Business Advocate

(in seconds and configurable) for the CTI application to divert the call to a destination. If the CTI application does not respond within the maximum queue time, the call is dropped.

The Ericsson MD110 switch plays music wait treatment if the CTI group is configured for music on wait. If music on wait is not configured, the system plays ring back.

Note:

If you configure the Ericsson MD 110 switch to play music wait treatment, a compatible music source must be defined on the switch.

Configure parking device for wait treatment

Avaya IC configures a voice parking device to park calls on a wait treatment until an agent becomes available. This parking device is required if the caller requires a wait treatment that is different than the wait treatment that is delivered with the transfer parking device.

Ringback

To initiate a CTI group to act as a ringback parking device, start up the WINFIOL admin tool provided with the Ericsson MD110 switch and enter a command similar to the following example, using the pertinent information for your CTI group.

This example initiates CTI group 5501 to act as a ringback parking device:

```
<ACGRI:GRP=5501,LIM=1,SERV=1011,TRAF=15,SEL=11215,QUE=10150752525,ACTC=180;
```

The following example prints the configuration of CTI group 5501:

```
<ACGCP:GRP=5501>
ACD GROUP CALL DATA
GRP    LIM    SERV    TRAF    SEL    QUE          QIC    CUST    SAT    ACTC
5501   1      1011    15     11215  10150752525  NO     NO     NO     180
```

Play announcements

To initiate a CTI group for playing announcements, configure the CTI group such that when a call is received by the group, it plays an announcement and diverts the call back to the parking device. This CTI group is not be monitored by the Telephony server.

Link Failure Processing

On link failure, the CTI group does not send a link failure event notification to the CTI application nor is it capable of routing the queued calls to a destination. It continues to keep the call till the maximum queue wait time value is reached, then it drops the call. This is a known issue on the Ericsson MD110 Application Link Server 4.0.

To address this issue, you can manually route the calls to an ACD group where agents are logged in. Associate one or more ACD members to the CTI group and make these agents available in that group. This will divert the calls in the CTI group to the ADN associated with the group.

■ ■ ■ ■ ■ ■

Appendix B: Troubleshooting Business Advocate

This section includes the following troubleshooting information for Business Advocate:

- [Troubleshooting Logical Resource Managers](#) on page 298.
- [Troubleshooting Resource Manager servers](#) on page 299.
- [Troubleshooting link groups](#) on page 300.
- [Troubleshooting TSA servers](#) on page 301.
- [Troubleshooting parking devices](#) on page 302.
- [Troubleshooting channel availability issues](#) on page 303.
- [Troubleshooting email routing issues](#) on page 304.
- [Troubleshooting routing issues](#) on page 305.

Troubleshooting Logical Resource Managers

You might encounter the following problems with a Logical Resource Manager:

- [No Resource Manager server available](#) on page 298.
- [Cannot delete Logical Resource Manager](#) on page 298.

No Resource Manager server available

Error message - No Resource Manager available. Start the Resource Manager server before changing the LRM.

Problem - You cannot modify a Logical Resource Manager if you have not yet created and started a Resource Manager server.

Solution - Create and start a Resource Manager server. For more information, see [Resource Manager server](#) on page 139. If you have already created a Resource Manager server, make sure that the server is started.

Cannot delete Logical Resource Manager

Error message - The LRM is in use and cannot be deleted.

Problem - You cannot delete a Logical Resource Manager that you have assigned to either a Telephony Services Adaptor server, Web Advocate Adaptor server, or an agent.

Solution - Do the following:

1. Unassign the Logical Resource Manager from all components.
2. Delete the Logical Resource Manager.

Troubleshooting Resource Manager servers

You might encounter the following problem with a Resource Manager server:

Error message - Error received from Microsoft Message Queueing Service (MSMQ).
WARNING: Resource Manager won't be notified about administrative changes until the problem is corrected.

Problem - Resource Manager cannot access MSMQ during start up, and generates a High alarm in the Alarm Monitor of IC Manager.

This error message occurs when MSMQ is in an indeterminate state. This error message signifies a known problem with MSMQ, and does not signify a problem with Business Advocate or Avaya IC.

Solution - To resolve this issue:

1. Uninstall MSMQ.
2. Reinstall MSMQ.
3. Configure MSMQ.
4. Restart all machines that host Resource Manager servers.

For more information about how to install and configure MSMQ, see *IC Installation Planning and Prerequisites*.

If this solution does not work:

1. Remove the machine from the active directory domain.
2. Re-assign the machine to the active directory domain.

Troubleshooting link groups

You might encounter the following problems with a link group:

- [Link group name already exists](#) on page 300.
- [Link group not valid](#) on page 300.
- [Cannot delete link group](#) on page 300.

Link group name already exists

Error message - Name already exists. Enter a unique Link Group name.

Problem - The name that you entered in the **Name** field for the link group is already in use.

Solution - Enter a unique name for the link group. You cannot use a name that is already in use for an active link group in the Avaya IC system.

Link group not valid

Error message - Link Group not valid. The group of Telephony servers must be from the same switch.

Problem - You have attempted to create a link group that includes Telephony servers which belong to more than one switch.

Solution - Link groups can only include Telephony servers from the same switch.

Create separate link groups for Telephony servers from different switches. For more information, see [Link groups](#) on page 187.

Cannot delete link group

Error message - The Link Group is in use and cannot be deleted.

Problem - You have attempted to delete a link group that is currently being used.

Solution - Do the following:

1. Stop all Telephony servers in the link group.
2. Unassign the link group from all agents.
3. Delete the link group.

Troubleshooting TSA servers

You might encounter the following problems with a TSA server:

- [Cannot create TSA server - no LRM identified](#) on page 301.
- [Cannot create TSA server - no transfer exception workflows](#) on page 301.
- [Cannot create TSA server - workflows required for VDN](#) on page 301.

Cannot create TSA server - no LRM identified

Error message - No LRM identified. Select at least one LRM for this TSA.

Problem - You have attempted to create a TSA server, and have not assigned a Logical Resource Manager to the server.

Solution - Assign a Logical Resource Manager to the TSA server. For more information, see [Assigning a Logical Resource Manager](#) on page 161.

Cannot create TSA server - no transfer exception workflows

Error message - Value required for Transfer Exception Workflow.

Problem - You have attempted to create a TSA server, and have not specified a transfer exception workflow.

Solution - Specify a transfer exception workflow for the TSA server. For more information, see [Assigning a transfer exception workflow](#) on page 167.

Cannot create TSA server - workflows required for VDN

Error message - Qualification and exception workflows are both required for each VDN in Contact Handling.

Problem - You have attempted to create a TSA server, and have not specified an exception workflow or a qualification workflow.

Solution - Specify an exception workflow and qualification workflow for the TSA server. For more information, see [Setting up contact handling](#) on page 165.

Troubleshooting parking devices

You might encounter the following problems with a parking device:

- [Cannot create parking device - no wait treatment style](#) on page 302.
- [Cannot create parking device - no TSA server](#) on page 302.

Cannot create parking device - no wait treatment style

Error message - Value required for Wait Treatment Style.

Problem - You have attempted to create a parking device, and have not entered a wait treatment style.

Solution - Enter a wait treatment style on the Voice tab. For more information, see [Parking devices for the voice channel](#) on page 170.

Cannot create parking device - no TSA server

Error message - Value required for TSA.

Problem - You have attempted to create a parking device, and have not assigned a TSA server.

Solution - Assign a TSA server on the Voice tab. For more information, see [Parking devices for the voice channel](#) on page 170.

Troubleshooting channel availability issues

You might encounter the following problem with agent availability for channels:

Problem - An agent is configured to handle voice, chat, and email contacts. If the agent is unable to log in to the voice channel, the agent cannot become available for chat or email contacts.

Solution - Check whether the agent is assigned to a link group.

An agent who is assigned to a link group cannot become available for chat or email contacts unless that agent can log in to the voice channel.

If a link in the link group fails and you want the agent to handle chat and email contacts:

1. In IC Manager, select the **Agent** tab.
2. Double-click the agent in the list of agents.
3. In the Agent Editor, select the **Advocate** tab.
4. Select **<No Selection>** from the **Telephony Link Group** drop-down list.
5. Select **OK**.

 **Important:**

If you configure the switch to send contacts to an agent on failover and the agent is not assigned to a link group, the agent can receive voice, chat, and email contacts. However, Business Advocate cannot limit the number of contacts that the agent receives to the maximum number of contacts configured for that agent in IC Manager.

Troubleshooting email routing issues

The following table describes some problems that you can encounter with email contacts.

Problem	Recommended resolution
Email contacts are stuck in the Email Task list of an agent and need to be retrieved and delivered to a different agent to be answered.	Follow the instructions in Retrieving email contacts from an agent on page 223.
Email contacts are stuck in the wait queue of an agent and need to be retrieved and delivered to a different agent to be answered.	Follow the instructions in Marking an agent as out of office on page 257.

Troubleshooting routing issues

The following table describes some problems that you can encounter when an available agent does not receive contacts from Business Advocate.

Problem	Recommended resolution
Agents are available and qualified for service classes that have contacts in queue, but Business Advocate does not match agents with any contacts.	This issue can occur if you add a new ADU server to the Avaya IC system. Resource Manager servers do not automatically know about the new ADU server, or any of its events. To resolve this issue, restart the Resource Manager servers.

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