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# **AVAYA Call Center: Basics and Beyond**

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## Basic Call Center Features

- Call Center Packages
- Call Center Components
- Agent Call Handling
- VDN Variables
- Vectoring

## Virtual Routing

- Best Service Routing (BSR)
- Look-Ahead Interflow (LAI)

## Advanced Call Center Features

- What's New with Call Center 3.0 (August 2005)
- What's New with Call Center 4.0 (February 2007)
- What's New with Call Center 5.0 (January 2008)
- What's New with Call Center 5.2 (April 2009)

## Skills Don't Cut it Anymore

- Service Level Maximizer (SLM)
- Business Advocate



## Call Center Packages

Call Center 5.0 is available in the following packages:

- **Basic:** Features bundled with Communication Manager Basic
  - ACD without Call Vectoring operation and related features
- **Introductory:** Low entry with a maximum of 50 agents
  - Has all the existing features of the previously offered Deluxe Package including Basic Call Management System (BCMS) but it does not include Best Service Routing (BSR)
- **Elite:** Includes Expert Agent Selection (EAS), all of the features included with the previously offered Deluxe package and:
  - Local treatment for BSR (for Multi-site BSR)
  - Variables in Vectors
  - Service Level Maximizer (SLM)
  - Network Call Redirection (NCR)
  - C and D Tones (DTMF Feedback Tones to VRUs)
  - BCMS

## Expert Agent Selection

- Provides the best possible telephone service to callers
- Matches a caller's needs with the skills or talents of the agents
  - reduces transfers and call holding time
  - Increases customer satisfaction
  - Increases employee satisfaction

## Customer Benefits with EAS

- EAS allows for classification of agents according to their specific skills (skill number) and ranks them by ability or experience within each skill (skill level).
- EAS provides options for selecting among available agents with the same skill (for instance most-idle versus most-skilled).
- EAS reduces customer call transfers and call-holding time increasing customer satisfaction and service.
- EAS improves agent performance and satisfaction because agents handle calls with which they are most familiar.
- EAS improves agent performance because supervisors have the option to have agents handle calls based on either skill level or greatest need. For agents, it offers an opportunity to learn new skills.
- EAS provides the ability to track the number of calls handled by VDN skill. You can see whether vectors are performing as expected.

## Call Center Components

- Hunt Groups
- Agents
- Announcements
- Vector
- Vector Directory Number - VDN's

A **Hunt Group** is a group of extensions that receive calls according to the programmed call distribution method.

- Outside caller calls an advertised number or an internal caller calls the group extension number, the system connects the call to one of the extensions in the group
- Associate an extension with a Hunt Group or an agent with an ACD split by adding their extension number to the Hunt Group form

- **Split** – A hunt group is referred to as a Split when it is set-up as an ACD Hunt group and EAS is not turned on.
- **Skill** – A hunt group is referred to as a Skill when it is set-up as an ACD hunt group and EAS is turned on.

When a call Arrives and agents are available and the agent selection is:	Then the Communication Server selects:
EAD-MIA	The highest skill level, most idle agent
UCD-MIA	The most idle agent, without regard to skill level
EAD-LOA	The highest skill level agent with the lowest occupancy
UCD-LOA	The least occupied agent, without regard to skill level

## Skill Level Example:

- An agent has “Skill-Level” set as the Call Handling Preference on their Agent Login ID form.
- The agent is assigned 3 skills: Skill 1, Skill 2, Skill 3
- All 3 skills have calls in queue at the same priority

AGENT LOGINID

Direct Agent Skill:

Call Handling Preference:  Local

	SN	RL	SL		SN	RL	SL		SN	RL	SL
1:	<input type="text" value="1"/>	<input type="text"/>	<input type="text" value="1"/>	16:	<input type="text"/>	<input type="text"/>	<input type="text"/>	31:	<input type="text"/>	<input type="text"/>	<input type="text"/>
2:	<input type="text" value="2"/>	<input type="text"/>	<input type="text" value="1"/>	17:	<input type="text"/>	<input type="text"/>	<input type="text"/>	32:	<input type="text"/>	<input type="text"/>	<input type="text"/>
3:	<input type="text" value="3"/>	<input type="text"/>	<input type="text" value="2"/>	18:	<input type="text"/>	<input type="text"/>	<input type="text"/>	33:	<input type="text"/>	<input type="text"/>	<input type="text"/>
4:	<input type="text"/>	<input type="text"/>	<input type="text"/>	19:	<input type="text"/>	<input type="text"/>	<input type="text"/>	34:	<input type="text"/>	<input type="text"/>	<input type="text"/>

From the calls listed below, which call will the agent receive when he becomes available?

Call Queued to Skill	Current Wait Time
1	30 seconds
2	45 seconds
3	60 seconds

## Greatest Need Example

- An agent has “Greatest-Need” set as the Call Handling Preference on their Agent Login ID form.
- The agent is assigned 3 skills: Skill 1, Skill 2, Skill 3
- All 3 skills have calls in queue at the same priority

AGENT LOGINID

Direct Agent Skill:

Call Handling Preference:  Local

	SN	RL	SL		SN	RL	SL		SN	RL	SL
1:	1		1	16:				31:			
2:	2		1	17:				32:			
3:	3		2	18:				33:			

From the calls listed below, which call will the agent receive when he becomes available?

Call Queued to Skill	Current Wait Time
1	30 seconds
2	45 seconds
3	60 seconds



**Agent Call Handling** allows you to administer functions that Automatic Call Distribution (ACD) agents use to answer and process ACD calls.

## You Define the Following Agent Capabilities:

- Agent login and logout
- ACD work modes: Auxiliary Work (AUX Work), auto-in, manual-in, or ACW
- Timed ACW
- Agent answering options: Automatic Answer (zip tone) or Manual Answer
- Agent request for supervisor assistance
- ACD call disconnect (Release button)
- Stroke counts
- Call work codes
- Forced entry of stroke counts and call work codes

At any given time, an agent can be in one of four work modes:

- **Auxiliary Work (AUX)** – Unavailable to receive ACD calls
- **Auto-In** - Available to receive ACD calls
- **Manual-In** - Available to receive ACD calls
- **After Call Work (ACW)** - Unavailable to receive ACD calls due to wrap-up of a previous call.

## Examples of Announcements:

- forced recordings that callers hear as a greeting or thanking them for calling
- recordings that explain a delay in queue and encourage them to wait longer
- recordings that provide options for the callers to select from.

## Prompting Announcements move callers through a specified call flow by asking them to select:

- menu options
- leave messages
- enter extensions

## Vector Directory Numbers (VDNs)

Extensions used to access Vectors now to include:

- VDN Variables
- 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> Skill Entries
- VDN Time Zone Offset

**VDN Variables** provide more opportunities for VDNs to use a smaller set of vectors. You can:

- Assign up to five variable fields, V1 through V5, on the **VDN** form
- Use the VDN Variables in all vector commands that support vector variables except as a **for** parameter with the **collect-digits** command
- Use up to 16-digits to assign a number to the VDN variable and use up to 15 characters to describe the VDN variable
- Use VDN Variables as indirect references to announcement extensions and other numerical values in vector commands

- Adjunct Routing
- Announcement
- Busy
- Check
- Collect Digits
- Consider Location
- Consider Split/Skill
- Converse-on Split
- Disconnect
- Goto step
- Messaging Split
- Queue-to unconditionally
- Queue-to attd-group
- Queue-to attendant
- Queue-to-hunt group
- Reply-best
- Route-to Digits
- Route-to Number
- Stop
- Wait-Time

**VDN (extension=4020 name="Customer Serv" vector=20)**

Vector 20:

1. wait 0 secs hearing silence
2. goto vector 29 at step 1 if time-of-day is all 17:00 to all 08:00
3. goto vector 29 at step 1 if time-of-day is fri 17:00 to mon 08:00
4. goto step 10 if calls-queued in skill 1 pri m > 10
5. queue-to skill 1 pri m
6. announcement 3521 (*All agents are busy...*)
7. wait-time 45 seconds hearing music
8. announcement 3522 (*Thank you for holding...*)
9. goto step 7 if unconditionally
10. busy

**VDN (extension=4021 name="Priority Cust Serv" vector=22)**

Vector 22:

1. wait 0 secs hearing silence
2. goto vector 29 at step 1 if time-of-day is all 17:00 to all 08:00
3. goto vector 29 at step 1 if time-of-day is fri 17:00 to mon 08:00
4. goto step 14 if calls-queued in split 1 pri h > 10
5. queue-to skill 1 pri h
6. announcement 3521
7. wait-time 10 seconds hearing music
8. check skill 2 pri h if oldest-call-wait < 20
9. check skill 3 pri h if oldest-call-wait < 20
- 10.announcement 3522
- 11.wait-time 60 seconds hearing music
- 12.goto step 7 if unconditionally
- 13.stop
- 14.route-to number 0 with cov n if unconditionally

## No VDN

Vector 29:

1. Wait 0 secs hearing silence
2. disconnect after announcement 3529 (*Customer Service is currently closed...*)
3. stop

## Call Prompting - Menu Options Example:

1. wait-time 0 seconds hearing ringback
2. collect 1 digits after announcement 3501 (*Thank you for calling the Widget Company. For a New Order, press 1. For an existing order, press 2.*)
3. route-to number 4031 with cov n if digit = 1
4. route-to number 4033 with cov n if digit = 2
5. route-to number 4033 with cov n if unconditionally
6. stop

## Call Prompting – Routing Destination Example:

1. wait-time 0 seconds hearing ringback
2. collect 4 digits after announcement 3502 (*Thank you for calling the Widget Company. If you know your party's 4-digit extension, please dial it now or stay on the line for the operator.*)
3. route-to digits with coverage y
4. route-to number 0 with coverage y if unconditionally
5. stop

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- Virtual Routing
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- Skills don't cut it anymore
  - Service Level Maximizer (SLM)
  - Business Advocate

- Call Center Support for Enterprise Survivable Server (ESS)
- Call Center Capacity Increase
- Call Center Options By Agent
- Forced Agent Logout from ACW
- Call Center Support for Locally Sourced Music and Announcements
- Call Center Location Preference Distribution

## Call Center Vectoring Enhancements

- New Vector Subroutines
- New VDN Variables
- New “set” /counter command
- New Gateway Registered/Unregistered conditionals
- New VDN Time-Zone Offset
- Holiday Tables increased from 10 to 99
- AUX Work Reason Codes expanded from 10 to 100

## Agent Enhancements

- Forced Agent Logout by Clock Time
- Service Observing with Multiple Observers

## Capacity Increases

- Max simultaneous logged-in agents: 5,200 → 7,000
- Max agents logged-in to a skill: 3,000 → 7,000
- Max agents with 60 skills: 1,000 → 1,666
- Active collect local vector variable: 8k → 12k
- Active subroutine return destinations: 8k → 12k

## Second pair of MIS links

Dial plan expansion: max 7 digits → 13 digits

## Call Center Vectoring Enhancements

- New duplicate vector command
- Service Hours Table Routing
- Vector steps increased from 32 to 99
- VDN Variables increased from 5 to 9
- Vector Variables increased from 26 to 702
- Vector comments

- NCR and UUI over SIP trunks
- Avaya Agent Deskphone 16CC
- Third party call control of SIP endpoints

- Interruptible Aux Work
- Percentage Allocation Routing
- Agent Call Routing by Skill Level
- Multinational CPN Prefixes

- Best Service Routing (Pre-Queue)
- Look-Ahead Interflow (Post-Queue)

## Single Site



Routes call to best local skill

## Multi-Site



Routes call to best skill across all sites

- Avaya Advanced Contact Center Solution
- Compares Specified Skills to Determine Which Will Provide Best Service and Delivers Call to that Skill
- Call Surplus – Looks at “Best” Adjusted Expected Wait Time
- Agent Surplus – Looks at Agent Strategies

## What Happens When Your Contact Center Goes Virtual?

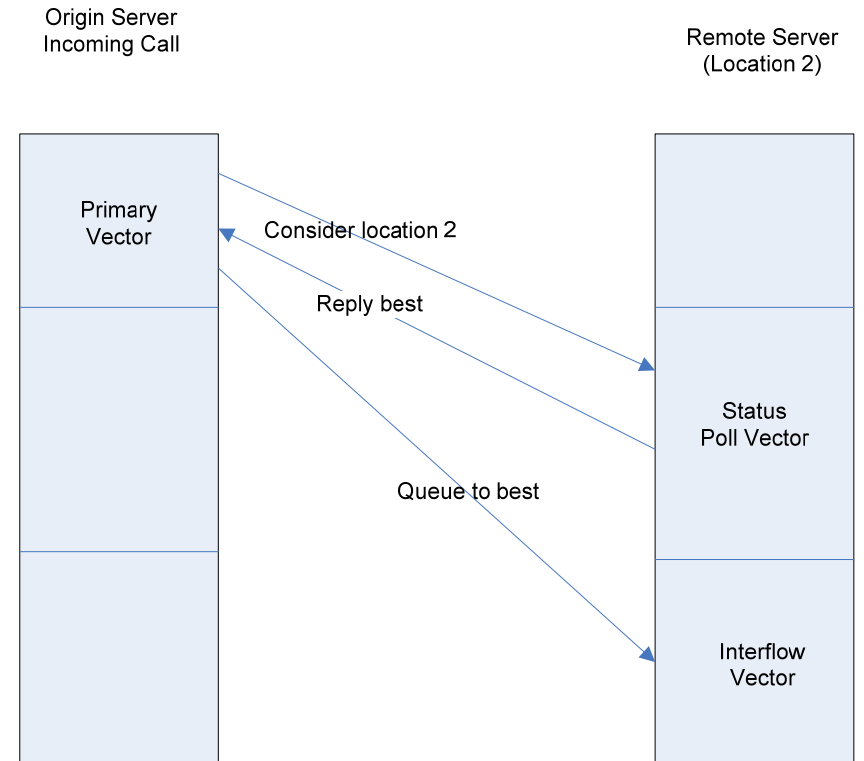
- Will see decrease in ASAs, Maximum Delays, and Abandons Across All Locations
- Workloads Balance Amongst Multiple Locations Thereby Improving Customer Satisfaction and Agent Throughput

- Intelligently Polls every Avaya Communication Manager to Find the Qualified Skill with the Lowest Adjusted Expected Wait Time
- Allows Distributed Contact Centers to Truly Act as a Single Entity, Balancing Loads Between Entities

**Primary Vector**  
01) consider skill 20 pri m adjust by 0  
02) consider location 2 adjust by 0  
03) queue-to-best

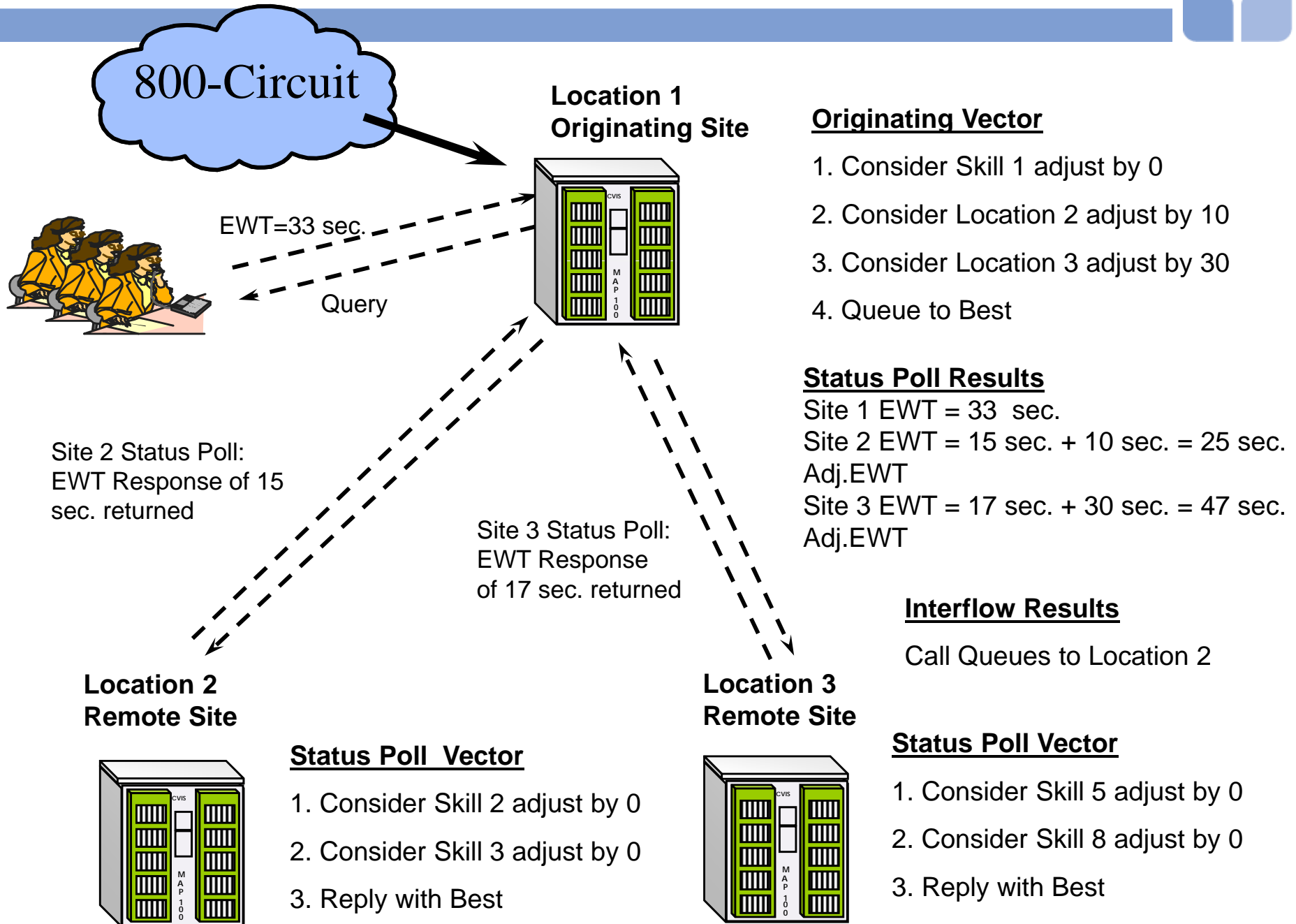
**Status Poll Vector**  
01) consider skill 20 pri m adjust by 0  
02) reply-best

**Interflow Vector**  
01) consider skill 20 pri m adjust by 0  
02) queue-to-best



## BSR Available Agent Strategies

- 1<sup>st</sup> Found – Call Delivered to First Available Agent Found.
- UCD-MIA – Call Delivered to Agent Idle the Longest. All Locations Checked.
- EAD-MIA – Call Delivered to Most Idle Agent With Highest Skill Level. All Locations Checked.
- UCD-LOA – Call Delivered to Least Occupied Agent. All Locations Checked.
- EAD-LOA – Call Delivered to Least Occupied Agent With Highest Skill Level. All Locations Checked.
- Adjustments Can Be Administered to Skills to Affect the “Best” Decision (Does Not Affect Actual Time)
- Elapsed Time in VDN (Time the Call Has Already Spent at the Originating Site) is Sent to the CMS
- For R11 or later. All “switches” must be R11 or later
- BSR polling can be configured so that the use of B Channel is not required
- Improves trunk efficiencies
- Reduces hardware requirements



800-Circuit

Location 1  
Originating Site

**Originating Vector**

1. Consider Skill 1 adjust by 0
2. Consider Location 2 adjust by 10
3. Consider Location 3 adjust by 30
4. Queue to Best

**Status Poll Results**

Site 1 EWT = 33 sec.  
 Site 2 EWT = 15 sec. + 10 sec. = 25 sec.  
 Adj.EWT  
 Site 3 EWT = 17 sec. + 30 sec. = 47 sec.  
 Adj.EWT

**Interflow Results**

Call Queues to Location 2

Site 2 Status Poll:  
EWT Response of 15  
sec. returned

Site 3 Status Poll:  
EWT Response  
of 17 sec. returned

Location 2  
Remote Site

Location 3  
Remote Site

**Status Poll Vector**

1. Consider Skill 2 adjust by 0
2. Consider Skill 3 adjust by 0
3. Reply with Best

**Status Poll Vector**

1. Consider Skill 5 adjust by 0
2. Consider Skill 8 adjust by 0
3. Reply with Best

EWT=33 sec.

Query

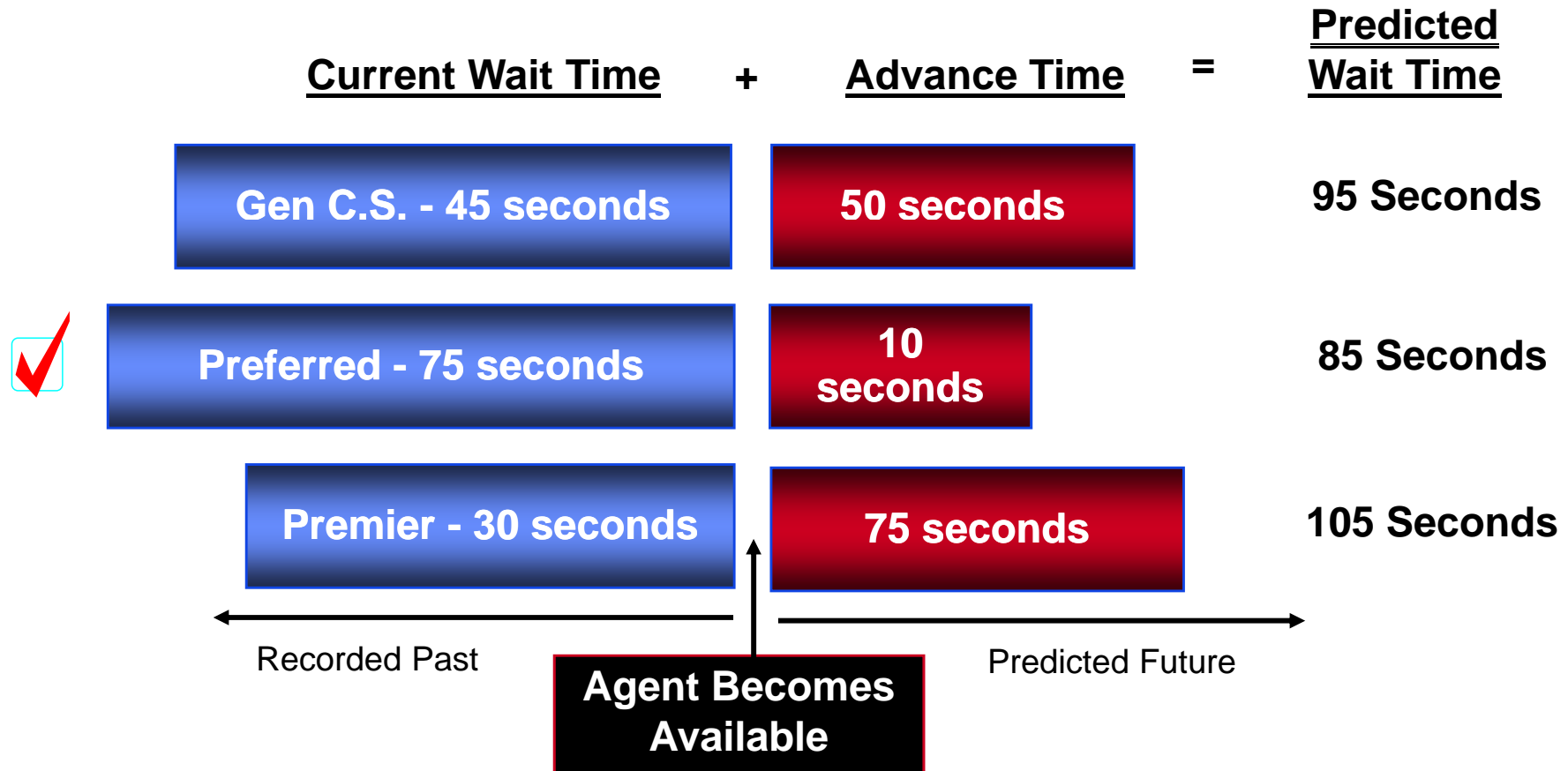
## Service Level Maximizer

- Call Selection Measurement – Predictive Wait Time
- ART – Actual service level Relative to Target service level
- Auto Reserve Agents
- Maximum Agent Occupancy (MAO)

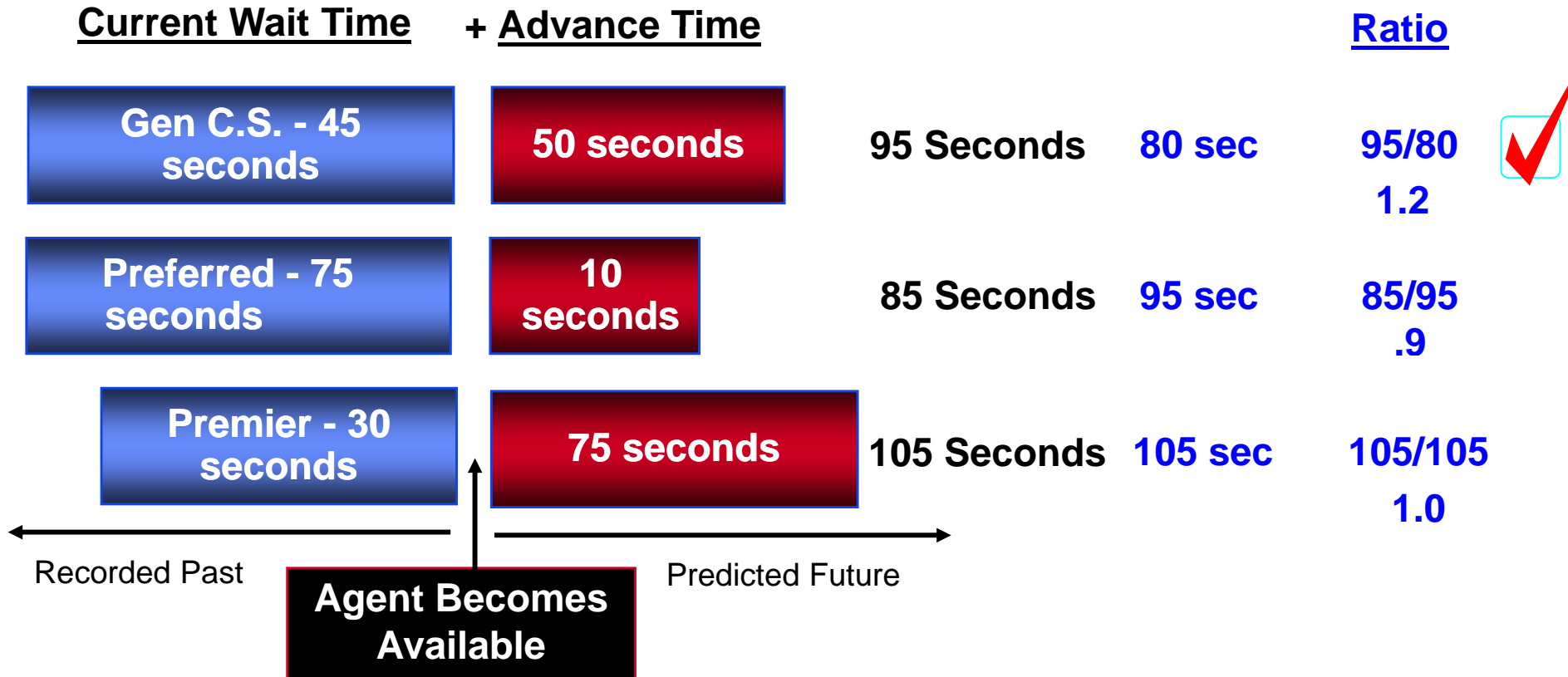


## Business Advocate

- Call Selection
  - Call Selection Measurement – Predictive Wait Time\*
  - Call Selection Methods
    - Service Objective
    - Call Selection Override
    - Percent Allocation
    - Dynamic Queue Position
- Agent Selection
  - Agent Selection Option – Percent Allocation Distribution (PAD)
- Automated Agent Staffing Adjustments
  - Service Level Supervisor
    - Overload threshold and reserve agents
    - Dynamic Threshold Adjustment
    - Dynamic Percentage Adjustment
    - Auto Reserve Agents\*



**NEW: Prediction made: How Much longer will the Caller Wait?**



**NEW: Select the Call That Minimizes the Deviation from the Business Plan**

**Below is an example using the Predicted Wait Time measurement in conjunction with Skill Level and Service Objective:**

An agent becomes available and must choose the next call to answer from queue:

Skill Number	Agent's skill level	Skill's Service Objective (in seconds)	Predicted Wait Time (in seconds)	PWT/SO Ratio
1	1	20	45	2.25
2	1	45	90	2
3	2	20	50	2.5

In the above scenario, the agent would receive the call waiting in skill 1. Advocate first identifies the call waiting for the agent's highest skill level. If there is more than one, Advocate then selects the call that has the highest ratio of PWT to administered Service Objective (PWT/SO).

**Below is an example using the Predicted Wait Time measurement in conjunction with Skill Level, Service Objective, and Call Selection Override:**

Skill Number	Agent's skill level	Skill's SO (in seconds)	Overload Threshold	PWT (in seconds)	PWT/SO Ratio
1	1	20	20	5	.25
2	1	45	40	10	.22
3	2	20	20	45	2.25

In this example, the agent will receive the call from skill 3 because it is in an over-threshold state, and Call Selection Override selects calls from over-threshold skills first, regardless of skill level.



**Preferred Call**  
PWT = 0:12



**Premier Call**  
PWT = 0:10



**Worldnet Call**  
PWT = 1:14

<b>Agent 1234: Joe Smith</b>
<b>Skill 1 Worldnet</b>
<b>Skill 2: Preferred</b>
<b>Skill 3: Premier</b>

<b>% Time: Plan</b>
<b>20%</b>
<b>50%</b>
<b>30%</b>

<b>% Time: Actual</b>
<b>23%</b>
<b>45%</b>
<b>32%</b>



**New! Assign % Time that an agent can spend working in a skill**



**Expected  
Wait 70 sec.**



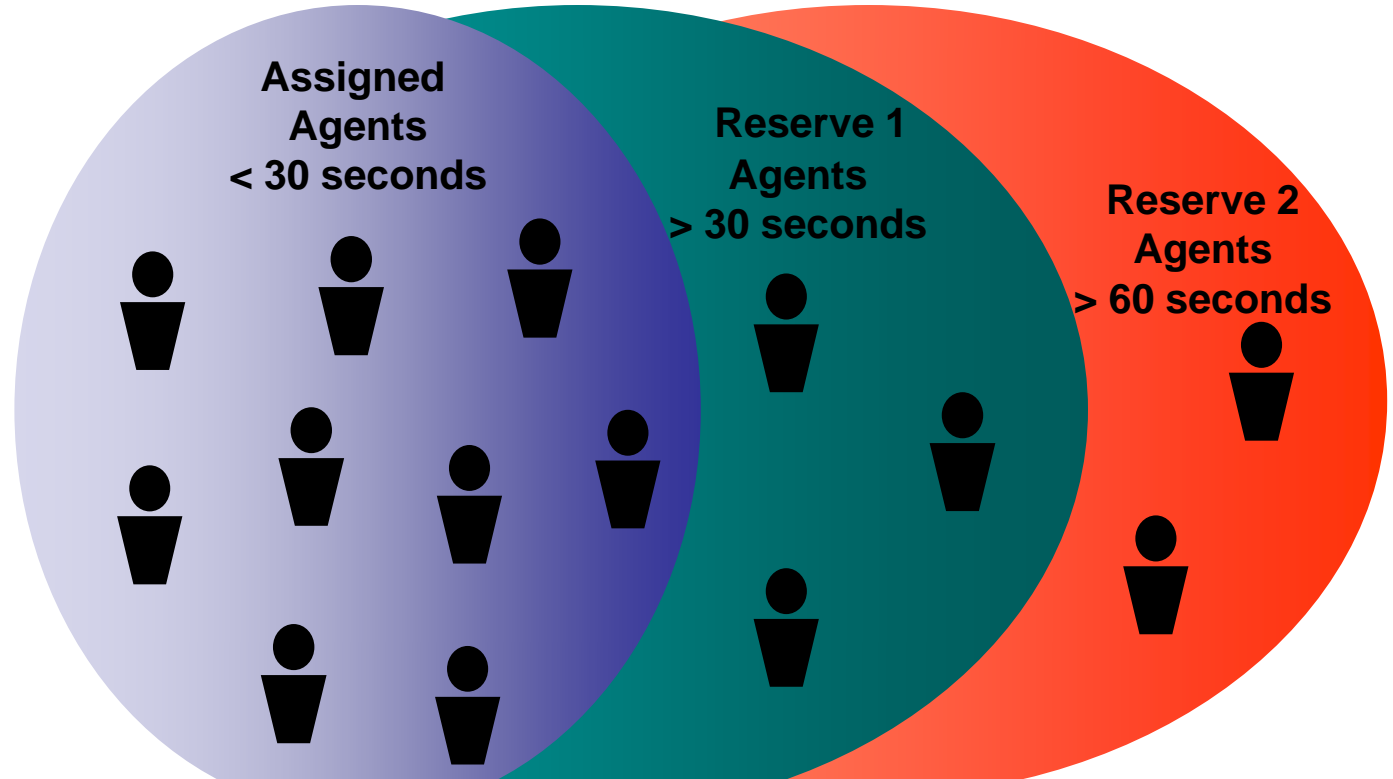
**Expected  
Wait 35 sec.**



**Expected  
Wait 28 sec.**



**Expected  
Wait 15 sec.**



**If expected wait times exceed pre-defined thresholds, reserve agents are automatically activated as needed to service calls**

# Compare SLM vs. Advocate

CALL SELECTION	SKILLS	SERVICE LEVEL MAXIMIZER	BUSINESS ADVOCATE		
			Service Objective	Service Level Supervisor	Percent Allocation
Calls can be selected based on skill level assignment	✓		✓	✓	
Calls can be selected on greatest need – oldest call waiting	✓		✓	✓	
Priority queuing – ability to differentiate service	✓	*	*	*	*
Change skill assignments while staffed	✓	**	**	**	**
Call selection based on predictive algorithms		✓	✓	✓	✓
Call selection accounts for different skill sizes and holding times		✓	✓	✓	✓
Calls selected based on target		✓	✓	✓	✓
- type of target		X% in Y sec	Y sec	Threshold 1 and 2	% Allocation
- target on skill		✓	✓	✓	✓
- target on VDN			✓		

# Compare SLM vs. Advocate



CALL SELECTION	SKILLS	SERVICE LEVEL MAXIMIZER	BUSINESS ADVOCATE		
			Service Objective	Service Level Supervisor	Percent Allocation
Target auto-adjusted to meet goal				X% in Y sec	X% in Y sec
Calls selected based on time until next available agent			✓	✓	
Calls selected based on target % for agent					✓
Auto-reserve agent for next call		✓			✓
- based on not meeting target		✓			
- based on percentage allocated					✓
- agents rotated into auto-reserve based on occupancy		✓			

# Compare SLM vs. Advocate

AGENT SELECTION	SKILLS	SERVICE LEVEL MAXIMIZER	BUSINESS ADVOCATE		
			Service Objective	Service Level Supervisor	Percent Allocation
Select agents based on most idle (historic)	✓		✓	✓	
Select agents based on least occupied (most fair)	✓		✓	✓	
Select agents based on highest skill level (most expert)	✓		✓	✓	
Select agent based on meeting service level target (highest business value)		✓			*
Select agent based on percentage allocated (most control)					✓
Ignore agent over maximum occupancy (less burnout)	✓	✓	✓	✓	✓
Reserve agents added when over threshold				✓	
Agent selection based on predictive algorithms		✓			✓

