



Avaya Solution & Interoperability Test Lab

Application Notes for Enghouse Interactive Communications Center 12.1 with Avaya Aura® Communication Manager 10.1 using Avaya Aura® Application Enablement Services 10.1 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Enghouse Interactive Communications Center 12.1 to interoperate with Avaya Aura® Communication Manager 10.1 using Avaya Aura® Application Enablement Services 10.1. Enghouse Interactive Communications Center is a multi-channel and multi-contact solution that can handle voice, fax, web, SMS, activity, and email contacts.

The compliance testing focused on the voice integration with Avaya Aura® Communication Manager via Avaya Aura® Application Enablement Services Telephony Services Application Programming Interface and Device, Media, and Call Control interfaces.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the configuration steps required for Enghouse Interactive Communications Center (EICC) 12.1 to interoperate with Avaya Aura® Communication Manager 10.1 using Avaya Aura® Application Enablement Services 10.1. EICC is a multi-channel and multi-contact solution that can handle voice, fax, web, SMS, activity, and email contacts.

The compliance testing focused on the voice integration with Communication Manager via Application Enablement Services Telephony Services Application Programming Interface (TSAPI) and Device, Media, and Call Control (DMCC) interfaces.

In the compliance testing, agents and supervisors were configured as H.323 station users on Communication Manager and have desktop computers running the Enghouse Interactive TouchPoint client application. The ACD functionality such as log in/out, work modes, queuing, and announcements were provided by EICC.

The TSAPI interface was used by EICC to monitor agent and supervisor station extensions, provide screen pops and call control from agent desktops, route incoming calls using adjunct routing capability, and support enable/disable of call forwarding and message waiting lamp using set value capability. In addition, TSAPI single step conference was used to support the supervisor monitor feature, which can be activated from the supervisor desktop running the TouchPoint application.

The DMCC interface was used by EICC to support voicemail, announcement, and basic call recording features via DMCC softphones. The DMCC softphones were registered by EICC with Communication Manager. Voicemail and announcement calls were redirected by EICC to available DMCC softphones to terminate to EICC, and recording was accomplished by intruding a DMCC softphone via TSAPI single step conference onto the active call to pick up media for on demand recording.

2. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of the EICC application, the application automatically used TSAPI to query device name, request device monitoring, and register for VDN routing. The application also automatically used DMCC to register the DMCC softphones.

For the manual part of the testing, incoming calls were made to the general routing VDNs. The EICC server used query results and event reports to track agent states, and specified calls to be routed to available agents or to call treatment VDNs. Manual call controls from the TouchPoint client application were exercised to verify call control features such as answering and transferring of calls.

Voicemail was tested by not answering call at the agent and have call cover to EICC with proper leaving of voice message and activation of agent message waiting lamp. Manual call was then made from agent to the voicemail VDN to retrieve voice message and verify proper deactivation of message waiting lamp.

The serviceability test cases were performed manually by disconnecting and reconnecting the Ethernet connection to the EICC server and clients.

The verification of tests included human checking of proper states at the agent desktops and telephones, and of capturing and analyzing the TSAPI and DMCC message traces from the EICC server.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the interface between Application Enablement Services and EICC did not include use of any specific encryption features as requested by Enghouse Interactive.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on EICC:

- Use of TSAPI query service to query device names.
- Use of TSAPI event report service to monitor agents, supervisor, and DMCC softphones.
- Use of TSAPI routing service to route incoming calls.
- Use of TSAPI set value service to activate/deactivate call forwarding and message waiting lamp.
- Use of TSAPI call control service to support manual call control actions initiated from TouchPoint, call control for DMCC softphones, and adding DMCC softphones to existing calls for media capture.
- Use of DMCC services to register, un-register, and monitor the DMCC softphones.
- Proper handling of call scenarios involving screen pop, inbound, outbound, ACD, non-ACD, drop, hold/reconnect, voicemail, message waiting lamp, blind/attended transfer, attended conference, call forwarding, supervisor monitor, multiple agents, multiple calls, queuing, send DTMF, long duration, and recording of basic calls.

The serviceability testing focused on verifying the ability of EICC to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to the EICC server and to the TouchPoint client.

2.2. Test Results

All test cases were executed and verified. The following were observations on EICC from the compliance testing.

- By design, EICC creates separate DMCC session for each DMCC softphone.
- For an inbound attended conference scenario, after the PSTN drops, one remaining agent's screen reflected his/her name instead of name of the other agent.
- For an outbound transfer scenario, after the transfer completes, the transfer-to agent's screen reflected his/her name and extension instead of the other party.

2.3. Support

Technical support on EICC can be obtained through the following:

- **Phone:** (800) 513-2810
- **Web:** www.enghouseinteractive.com
- **Email:** usa.support@enghouse.com

3. Reference Configuration

The configuration used for the compliance testing is shown in **Figure 1**. The detailed administration of basic connectivity between Communication Manager and Application Enablement Services is not the focus of these Application Notes and will not be described.

The devices used in the compliance testing are shown in the table below. In the compliance testing, the agent and supervisor station extensions were monitored by EICC.

Device Type	Device Number/Extension
Agent stations	65001, 65002
Supervisor & failure covering station	65000

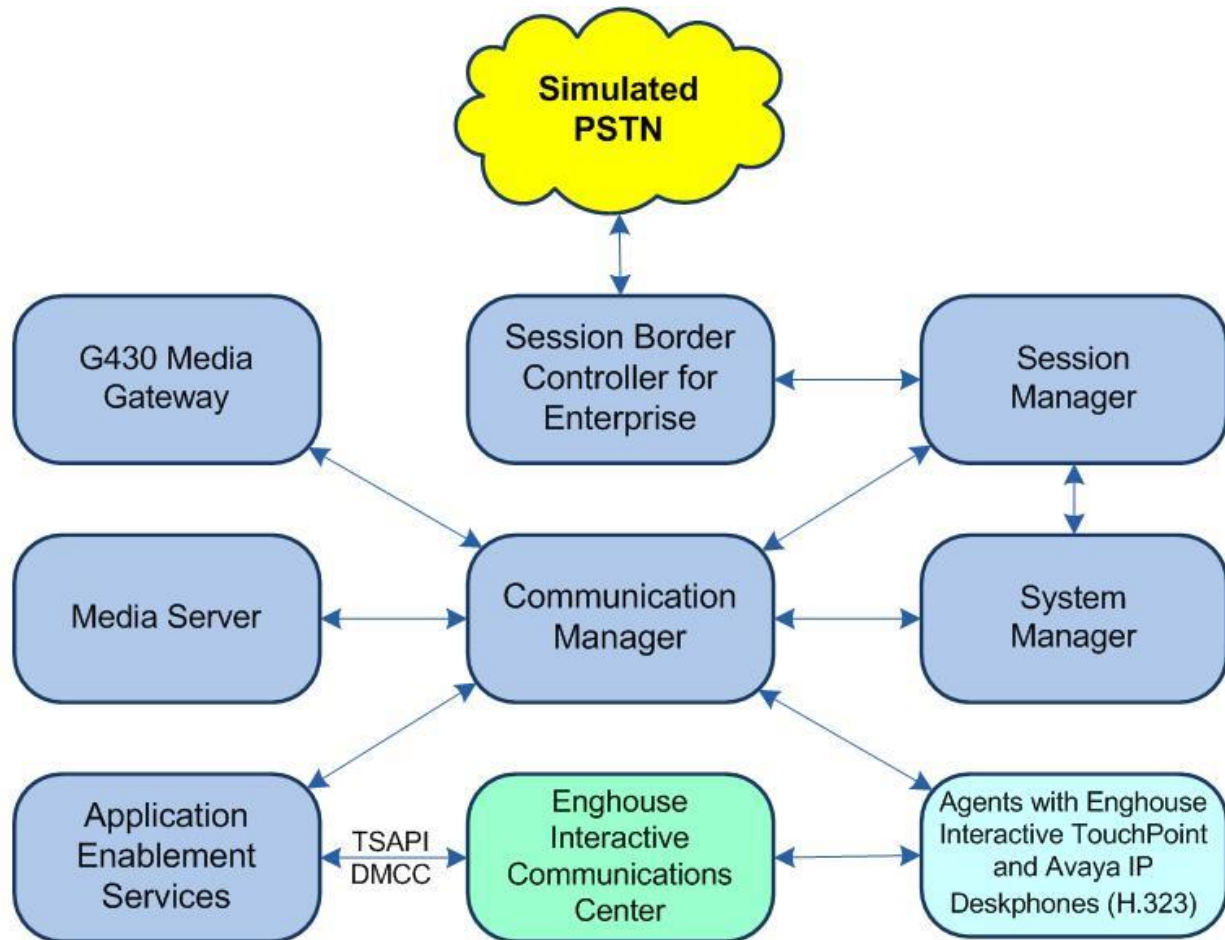


Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

The following equipment and software were used for the sample configuration provided:

Equipment/Software	Release/Version
Avaya Aura® Communication Manager in Virtual Environment	10.1 (10.1.0.1.0.974.27372)
Avaya G430 Media Gateway	42.8.0
Avaya Aura® Media Server in Virtual Environment	10.1.0.77
Avaya Aura® Application Enablement Services in Virtual Environment	10.1 (10.1.0.1.0.7-0)
Avaya Aura® Session Manager in Virtual Environment	10.1.0.1 (10.1.0.1.1010105)
Avaya Aura® System Manager in Virtual Environment	10.1.0.1 (10.1.0.1.0614394)
Avaya Session Border Controller for Enterprise in Virtual Environment	10.1 (10.1.0.0-32-21432)
Avaya 9611G, J159, J179 IP Deskphones (H.323)	6.8532
Enghouse Interactive Communications Center on Windows Server 2019 <ul style="list-style-type: none">Avaya TSAPI Windows Client (csta32.dll)Avaya DMCC XML	12.1.0.52868 Standard 7.1.0.67 6.1
Enghouse Interactive TouchPoint on Windows 10	12.1.0.52868 Pro

5. Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Communication Manager. The procedures include the following areas:

- Verify license
- Administer CTI link
- Administer vectors and VDNs
- Administer voicemail coverage path
- Administer agents and supervisors
- Administer DMCC softphones

5.1. Verify License

Log in to the System Access Terminal to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the **display system-parameters customer-options** command to verify that the **Computer Telephony Adjunct Links** customer option is set to **y** on **Page 4**. If this option is not set to **y**, then contact the Avaya sales team or business partner for a proper license file.

display system-parameters customer-options		Page 4 of 12
OPTIONAL FEATURES		
Abbreviated Dialing Enhanced List? y	Audible Message Waiting? y	
Access Security Gateway (ASG)? n	Authorization Codes? y	
Analog Trunk Incoming Call ID? y	CAS Branch? n	
A/D Grp/Sys List Dialing Start at 01? y	CAS Main? n	
Answer Supervision by Call Classifier? y	Change COR by FAC? n	
ARS? y	Computer Telephony Adjunct Links? y	
ARS/AAR Partitioning? y	Cvg Of Calls Redirected Off-net? y	
ARS/AAR Dialing without FAC? n	DCS (Basic)? y	
ASAI Link Core Capabilities? y	DCS Call Coverage? y	
ASAI Link Plus Capabilities? y	DCS with Rerouting? y	

Navigate to **Page 7** and verify that the **Vectoring (Basic)** customer option is set to **y**.

display system-parameters customer-options		Page 7 of 12
CALL CENTER OPTIONAL FEATURES		
Call Center Release: 10.1n		
ACD? y	Reason Codes? y	
BCMS (Basic)? y	Service Level Maximizer? n	
BCMS/VuStats Service Level? y	Service Observing (Basic)? y	
BSR Local Treatment for IP & ISDN? y	Service Observing (Remote/By FAC)? y	
Business Advocate? n	Service Observing (VDNs)? y	
Call Work Codes? y	Timed ACW? y	
DTMF Feedback Signals For VRU? y	Vectoring (Basic)? y	
Dynamic Advocate? n	Vectoring (Prompting)? y	
Expert Agent Selection (EAS)? y	Vectoring (G3V4 Enhanced)? y	
EAS-PHD? y	Vectoring (3.0 Enhanced)? y	

5.2. Administer CTI Link

Add a CTI link using the **add cti-link n** command where **n** is an available CTI link number. Enter an available extension number in the **Extension** field. Note that the CTI link number and extension number may vary. Enter **ADJ-IP** in the **Type** field, and a descriptive name in the **Name** field. Default values may be used in the remaining fields.

add cti-link 1		Page 1 of 3
CTI LINK		
CTI Link: 1		
Extension: 60111		
Type: ADJ-IP		
Name: AES CTI Link		COR: 1
Unicode Name? n		

5.3. Administer Vectors and VDNs

Administer a set of vectors and VDNs per EICC installation document [3]. These vectors and VDNs provide general routing and different call treatments to incoming calls. The vectors and VDNs that were used for the compliance testing are shown below.

VDN	Vector	Purpose
67701	701	Ring treatment
67702	702	Music treatment
67703	703	Busy treatment
67704	704	Failure coverage
67705	705	Voicemail routing
67706	700	General routing for the Sales application
67707	700	General routing for the Support application
67708	708	Hold treatment

5.3.1. Failure Coverage

Modify a vector using the **change vector n** command where **n** is an available vector number. This vector will provide failure coverage and routing to the CTI link defined in **Section 5.2**. Note that the vector **Number** and **route-to number** may vary, and that the **route-to number** is used as the covering point in case of failure from the adjunct routing step.

In the compliance testing, the supervisor extension from **Section 3** was used as the covering point. As shown below, use **SC Fail** as the vector **Name**, with the wait treatment and remaining vector steps as specified in the EICC installation document [3].

```
change vector 704                                     Page 1 of 6
                                                    CALL VECTOR
Number: 704      Name: SC Fail
Multimedia? n    Attendant Vectoring? n    Meet-me Conf? n    Lock? n
Basic? y          EAS? y    G3V4 Enhanced? y    ANI/II-Digits? y    ASAI Routing? y
Prompting? y      LAI? y    G3V4 Adv Route? y    CINFO? y    BSR? y    Holidays? y
Variables? y      3.0 Enhanced? y
01 adjunct      routing link 1
02 wait-time    5 secs hearing silence
03 route-to     number 65000      with cov n if unconditionally
04 stop
05
```

Add a VDN using the **add vdn n** command where **n** is an available extension. Associate this VDN with the newly added vector from above. Enter the following values for the specified fields and retain the default values for the remaining fields.

- **Name:** “SC Fail”
- **Destination:** “Vector Number”
- **Vector Number:** The “SC Fail” vector number from above.

```
add vdn 67704                                     Page 1 of 3
                                                    VECTOR DIRECTORY NUMBER
Extension: 67704      Unicode Name? n
Name*: SC Fail
Destination: Vector Number      704
Attendant Vectoring? n
Meet-me Conferencing? n
Allow VDN Override? n
COR? 1
TN*: 1
Measured: none      Report Adjunct Calls as ACD*? n
```

5.3.2. General Routing

Modify a vector using the **change vector n** command, where **n** is an available vector number. This vector will provide general routing to the CTI link defined in **Section 5.2**. Note that the vector **Number** and **route-to number** may vary, and that the **route-to number** is used as the covering point in case of failure from the adjunct routing step and set to the failure coverage VDN from **Section 5.3.1**.

Enter a descriptive name for the vector **Name** field and configure the remaining vector steps as specified in reference [3].

change vector 700	CALL VECTOR	Page 1 of 6
Number: 700 Name: EICC User Q		
Multimedia? n	Attendant Vectoring? n	Meet-me Conf? n Lock? n
Basic? y	EAS? y G3V4 Enhanced? y	ANI/II-Digits? y ASAI Routing? y
Prompting? y	LAI? y G3V4 Adv Route? y	CINFO? y BSR? y Holidays? y
Variables? y	3.0 Enhanced? y	
01 adjunct	routing link 1	
02 wait-time	2 secs hearing silence	
03 route-to	number 67704	with cov y if unconditionally
04 stop		
05		

For each incoming call application, add a VDN using the **add vdn n** command, where **n** is an available extension. Associate this VDN with the newly added vector from above. For the compliance testing, two VDNs were added with pertinent parameters shown below.

- **Name:** A descriptive name.
- **Destination:** “Vector Number”
- **Vector Number:** The “EICC User Q” vector number from above.

add vdn 67706	VECTOR DIRECTORY NUMBER	Page 1 of 2
Extension: 67706 Unicode Name? n		
Name: EICC Sales		
Destination: Vector Number 700		
Attendant Vectoring? n		

add vdn 67707	VECTOR DIRECTORY NUMBER	Page 1 of 2
Extension: 67707 Unicode Name? n		
Name: EICC Support		
Destination: Vector Number 700		
Attendant Vectoring? n		

5.3.3. Ring Treatment

Modify a vector using the **change vector n** command, where **n** is an available vector number. This vector will provide ring treatment and routing to the CTI link defined in **Section 5.2**. Note that the vector **Number** and **route-to number** may vary, and that the **route-to number** is used as the covering point in case of failure from the adjunct routing step, and set to the failure coverage VDN from **Section 5.3.1**.

Enter a descriptive name for the vector **Name** field and configure the remaining vector steps as specified in reference [3].

change vector 701	Page 1 of 6
CALL VECTOR	
Number: 701 Name: SC Ring	
Multimedia? n	Attendant Vectoring? n Meet-me Conf? n Lock? n
Basic? y	EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y
Prompting? y	LAI? y G3V4 Adv Route? y CINFO? y BSR? y Holidays? y
Variables? y	3.0 Enhanced? y
01 adjunct	routing link 1
02 wait-time	60 secs hearing ringback
03 route-to	number 67704 with cov n if unconditionally
04 stop	
05	

Add a VDN using the **add vdn n** command where **n** is an available extension. Associate this VDN with the newly added vector from above.

- **Name:** “SC Ring”
- **Destination:** “Vector Number”
- **Vector Number:** The “SC Ring” vector number from above.

add vdn 67701	Page 1 of 2
VECTOR DIRECTORY NUMBER	
Extension: 67701	Unicode Name? n
Name: SC Ring	
Destination: Vector Number	701
Attendant Vectoring? n	

5.3.4. Music Treatment

Modify a vector using the **change vector n** command, where **n** is an available vector number. This vector will provide music treatment and routing to the CTI link defined in **Section 5.2**. Note that the vector **Number** and **route-to number** may vary, and that the **route-to number** is used as the covering point in case of failure from the adjunct routing step and set to the failure coverage VDN from **Section 5.3.1**.

Enter a descriptive name for the vector **Name** field and configure the remaining vector steps as specified in reference [3].

change vector 702		Page 1 of 6	
CALL VECTOR			
Number: 702		Name: SC Music	
Multimedia? n	Attendant Vectoring? n	Meet-me Conf? n	Lock? n
Basic? y	EAS? y	G3V4 Enhanced? y	ANI/II-Digits? y
Prompting? y	LAI? y	G3V4 Adv Route? y	ASAI Routing? y
Variables? y	3.0 Enhanced? y	CINFO? y	BSR? y
		Holidays? y	
01 adjunct	routing link 1		
02 wait-time	60 secs hearing music		
03 route-to	number 67704 with cov n if unconditionally		
04 stop			
05			

Add a VDN using the **add vdn n** command where **n** is an available extension. Associate this VDN with the newly added vector from above.

- **Name:** “SC Music”
- **Destination:** “Vector Number”
- **Vector Number:** The “SC Music” vector number from above.

add vdn 67702		Page 1 of 2	
VECTOR DIRECTORY NUMBER			
Extension: 67702		Unicode Name? n	
Name: SC Music			
Destination: Vector Number		702	
Attendant Vectoring? n			

5.3.5. Busy Treatment

Modify a vector using the **change vector n** command, where **n** is an available vector number. This vector will provide busy treatment and routing to the CTI link defined in **Section 5.2**. Note that the vector **Number** may vary.

Enter a descriptive name for the vector **Name** field and configure the remaining vector steps as specified in reference [3].

```
change vector 703                                     Page 1 of 6
CALL VECTOR
Number: 703      Name: SC Busy
Multimedia? n    Attendant Vectoring? n    Meet-me Conf? n    Lock? n
Basic? y        EAS? y    G3V4 Enhanced? y    ANI/II-Digits? y    ASAI Routing? y
Prompting? y    LAI? y    G3V4 Adv Route? y    CINFO? y    BSR? y    Holidays? y
Variables? y    3.0 Enhanced? y
01 adjunct      routing link 1
02 busy
03
```

Add a VDN using the **add vdn n** command where **n** is an available extension. Associate this VDN with the newly added vector from above.

- **Name:** “SC Busy”
- **Destination:** “Vector Number”
- **Vector Number:** The “SC Busy” vector number from above.

```
add vdn 67703                                         Page 1 of 2
VECTOR DIRECTORY NUMBER
Extension: 67703                                     Unicode Name? n
Name: SC Busy
Destination: Vector Number                           703
Attendant Vectoring? n
```

5.3.6. Voicemail Routing

Modify a vector using the **change vector n** command, where **n** is an available vector number. This vector will provide voicemail routing to the CTI link defined in **Section 5.2**. Note that the vector **Number** may vary.

Enter a descriptive name for the vector **Name** field and configure the remaining vector steps as specified in reference [3].

change vector 705				Page 1 of 6	
CALL VECTOR					
Number: 705		Name: SC Voicemail			
Multimedia? n	Attendant Vectoring? n	Meet-me Conf? n	Lock? n		
Basic? y	EAS? y	G3V4 Enhanced? y	ANI/II-Digits? y	ASAI Routing? y	
Prompting? y	LAI? y	G3V4 Adv Route? y	CINFO? y	BSR? y	Holidays? y
Variables? y	3.0 Enhanced? y				
01 adjunct	routing link 1				
02 wait-time	120 secs hearing ringback				
03 stop					
04					

Add a VDN using the **add vdn n** command where **n** is an available extension. Associate this VDN with the newly added vector from above.

- **Name:** “SC Voicemail”
- **Destination:** “Vector Number”
- **Vector Number:** The “SC Voicemail” vector number from above.

add vdn 67705		Page 1 of 2
VECTOR DIRECTORY NUMBER		
Extension: 67705		Unicode Name? n
Name: SC Voicemail		
Destination: Vector Number		705
Attendant Vectoring? n		

5.3.7. Hold Treatment

Modify a vector using the **change vector n** command, where **n** is an available vector number. This vector will provide hold treatment and routing to the CTI link defined in **Section 5.2**. Note that the vector **Number** and **route-to number** may vary, and that the **route-to number** is used as the covering point in case of failure from the adjunct routing step and set to the failure coverage VDN from **Section 5.3.1**.

Enter a descriptive name for the vector **Name** field and configure the remaining vector steps as specified in reference [3].

change vector 708	CALL VECTOR	Page 1 of 6
Number: 708 Name: SC Hold		
Multimedia? n	Attendant Vectoring? n	Meet-me Conf? n Lock? n
Basic? y	EAS? y G3V4 Enhanced? y	ANI/II-Digits? y ASAI Routing? y
Prompting? y	LAI? y G3V4 Adv Route? y	CINFO? y BSR? y Holidays? y
Variables? y	3.0 Enhanced? y	
01 adjunct	routing link 1	
02 wait-time	60 secs hearing music	
03 route-to	number 67704	with cov n if unconditionally
04 stop		
05		

Add a VDN using the **add vdn n** command where **n** is an available extension. Associate this VDN with the newly added vector from above.

- Name: “SC Hold”
- Destination: “Vector Number”
- Vector Number: The “SC Hold” vector number from above.

add vdn 67708	VECTOR DIRECTORY NUMBER	Page 1 of 2
Extension: 67708		Unicode Name? n
Name: SC Hold		
Destination: Vector Number		708
Attendant Vectoring? n		

5.4. Administer Voicemail Coverage Path

Add a coverage path using the **add coverage path n** command where **n** is an available coverage path number.

For the **Point1** field, enter **v67705** to designate as the first coverage point, where **67705** is the voicemail VDN extension from **Section 5.3.6**.

add coverage path 7		Page 1 of 1	
COVERAGE PATH			
Coverage Path Number: 7			
Cvg Enabled for VDN Route-To Party? n		Hunt after Coverage? n	
Next Path Number:		Linkage	
COVERAGE CRITERIA			
Station/Group Status	Inside Call	Outside Call	
Active?	n	n	
Busy?	y	y	
Don't Answer?	y	y	Number of Rings: 2
All?	n	n	
DND/SAC/Goto Cover?	y	y	
Holiday Coverage?	n	n	
COVERAGE POINTS			
Terminate to Coverage Pts. with Bridged Appearances? n			
Point1: v67705	Rng:	Point2:	
Point3:		Point4:	
Point5:		Point6:	

5.5. Administer Agents and Supervisors

Use the **change station n** command where **n** is first existing agent station extension from **Section 3**. In the **Coverage Path 1** field, enter the voicemail coverage path number from **Section 5.4**.

change station 65001		Page 1 of 5
STATION		
Extension: 65001	Lock Messages? n	BCC: 0
Type: 9611	Security Code: *	TN: 1
Port: S00103	Coverage Path 1: 7	COR: 1
Name: CM Station 1	Coverage Path 2:	COS: 1
Unicode Name? n	Hunt-to Station:	Tests? y
STATION OPTIONS		
Time of Day Lock Table:		
Loss Group: 19	Personalized Ringing Pattern: 1	
	Message Lamp Ext: 65001	
Speakerphone: 2-way	Mute Button Enabled? y	
Display Language: english	Button Modules: 0	
Survivable GK Node Name:		
Survivable COR: internal	Media Complex Ext:	
Survivable Trunk Dest? y	IP SoftPhone? n	
	IP Video Softphone? n	
	Short/Prefixed Registration Allowed: default	

Repeat this section for all agents and supervisors. In the compliance testing, two agents and one supervisor were configured as shown below.

list station 65000 count 3									
STATIONS									
Ext/ Hunt-to	Port/ Type	Name/ Surv GK NN	Move	Cable	Room/ Jack	Cv1/ Cv2	COR/ COS	TN	
65000	S000009	CM Supervisor				7	1		
	9611		no				1	1	
65001	S000102	CM Station 1				7	1		
	9611		no				1	1	
65002	S000118	CM Station 2				7	1		
	9611		no				1	1	

5.6. Administer DMCC Softphones

Add a DMCC softphone using the **add station n** command where **n** is an available extension number. Enter the following values for the specified fields and retain the default values for the remaining fields.

- **Type:** “4624”
- **Name:** A descriptive name.
- **Security Code:** A desired value.
- **IP SoftPhone:** “y”

```

add station 67791
                                     Page 1 of 6
                                     STATION
Extension: 67791                    Lock Messages? n                    BCC: 0
  Type: 4624                        Security Code: 123456                TN: 1
  Port: IP                          Coverage Path 1:                  COR: 1
  Name: EICC DMCC 1                 Coverage Path 2:                  COS: 1
                                     Hunt-to Station:                  Tests? y

STATION OPTIONS
      Location:                      Time of Day Lock Table:
      Loss Group: 19                 Personalized Ringing Pattern: 1
                                     Message Lamp Ext: 67791
      Speakerphone: 2-way            Mute Button Enabled? y
      Display Language: english
Survivable GK Node Name:
      Survivable COR: internal        Media Complex Ext:
Survivable Trunk Dest? y              IP SoftPhone? y

                                     IP Video Softphone? n
                                     Short/Prefixed Registration Allowed: default

```

Repeat this section to administer the desired number of DMCC softphones using sequential extension numbers and same security code value. In the compliance testing, two DMCC softphones were administered as shown below.

```
list station 67791 count 2
```

STATIONS									
Ext/ Hunt-to	Port/ Type	Name/ Surv GK NN	Move	Cable	Room/ Jack	Cv1/ Cv2	COR/ COS	TN	
67791	S00003	EICC DMCC 1					1		
	4624		no				1	1	
67792	S00004	EICC DMCC 2					1		
	4624		no				1	1	

6. Configure Avaya Aura® Application Enablement Services

This section provides the procedures for configuring Application Enablement Services. The procedures include the following areas:

- Launch OAM interface
- Verify license
- Administer TSAPI link
- Administer H.323 gatekeeper
- Administer EICC user
- Administer security database
- Administer ports
- Administer TCP settings
- Restart server
- Obtain Tlink name

6.1. Launch OAM Interface

Access the OAM web-based interface by using the URL **https://ip-address** in an Internet browser window, where **ip-address** is the IP address of the Application Enablement Services server.

The **Please login here** screen is displayed. Log in using the appropriate credentials.



The screenshot shows the Avaya Application Enablement Services Management Console login interface. At the top left is the Avaya logo. To its right, the text "Application Enablement Services" and "Management Console" is displayed. A red horizontal bar spans the width of the page, with a "Help" link on the right. Below this bar is a central login box with the text "Please login here:" followed by a "Username" label and a text input field. A "Continue" button is positioned below the input field. At the bottom of the page, a red horizontal bar is present, and below it, the copyright notice "Copyright © 2009-2022 Avaya Inc. All Rights Reserved." is displayed.

The **Welcome to OAM** screen is displayed next.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo and the title "Application Enablement Services Management Console". A welcome message in the top right corner provides user information: "Welcome: User", "Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20", "Number of prior failed login attempts: 0", "HostName/IP: aes7/10.64.101.239", "Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE", "SW Version: 10.1.0.1.0.7-0", "Server Date and Time: Tue Oct 25 11:45:14 EDT 2022", and "HA Status: Not Configured". The left sidebar contains a navigation menu with options: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. The main content area is titled "Welcome to OAM" and contains a paragraph explaining the OAM Web's purpose and a bulleted list of administrative domains: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. A note at the bottom states: "Depending on your business requirements, these administrative domains can be served by one administrator for all domains, or a separate administrator for each domain."

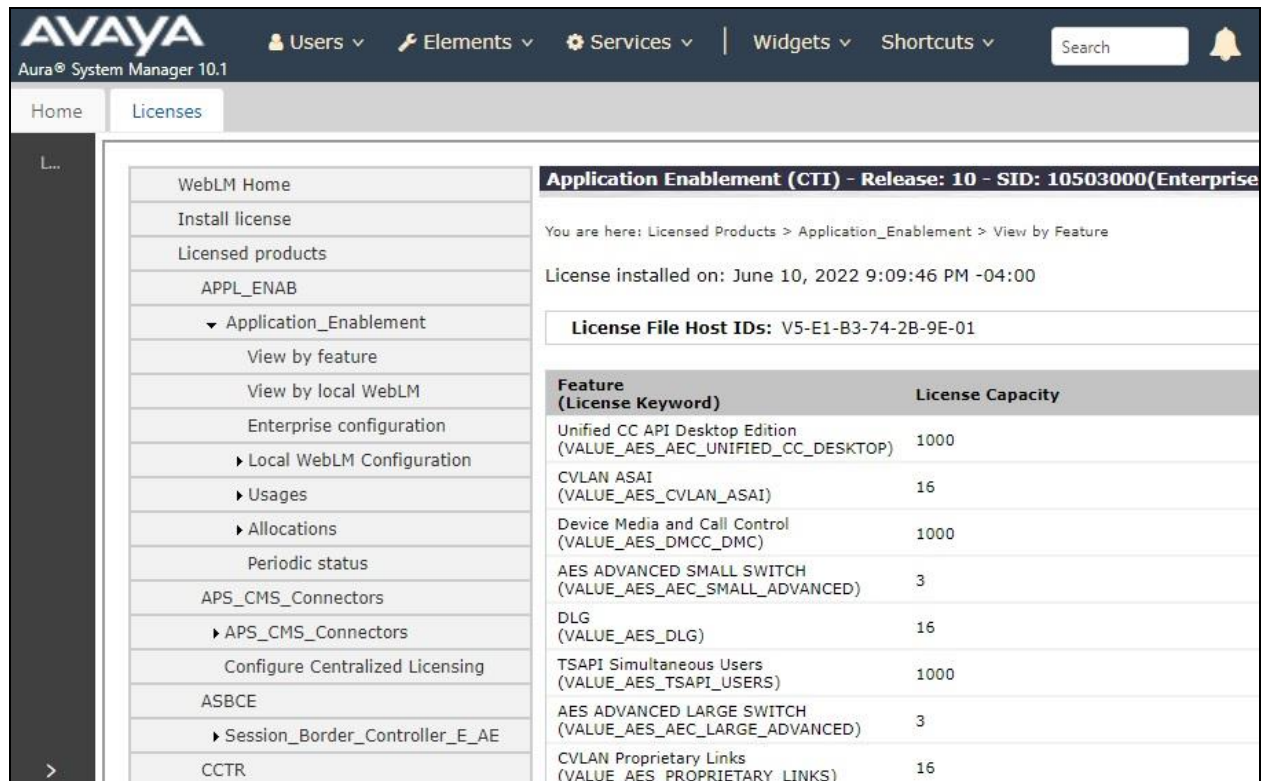
6.2. Verify License

Select **Licensing** → **WebLM Server Access** in the left pane, to display the applicable WebLM server log in screen (not shown). Log in using the appropriate credentials and navigate to display installed licenses (not shown).

The screenshot displays the Avaya Application Enablement Services Management Console with the "Licensing | WebLM Server Access" page selected. The top header and welcome message are identical to the previous screenshot. The left sidebar navigation menu is updated: "Licensing" is expanded, and "WebLM Server Access" is highlighted. The main content area is titled "WebLM Server Access" and contains a paragraph explaining its purpose and a bulleted list of instructions: "If you are using a local Avaya WebLM server, the AE Services management console redirects you to the Web License Manager page for WebLM configuration." and "If you are using a standalone WebLM server, you must manually log in to the WebLM server for WebLM configuration."

Select **Licensed products** → **APPL_ENAB** → **Application_Enablement** in the left pane, to display the **Application Enablement (CTI)** screen in the right pane.

Verify that there are sufficient licenses for **TSAPI Simultaneous Users** and **Device Media and Call Control**, as shown below. The TSAPI license is used for device monitoring and the DMCC license is used for the virtual IP softphones. Also verify that there is an applicable advanced switch license, in this case **AES ADVANCED LARGE SWITCH**, which is needed for adjunct routing.



AVAYA
Aura® System Manager 10.1

Users ▾ Elements ▾ Services ▾ | Widgets ▾ Shortcuts ▾ Search 🔍

Home Licenses

L...

- WebLM Home
- Install license
- Licensed products
- APPL_ENAB
- ▼ Application_Enablement
 - View by feature
 - View by local WebLM
 - Enterprise configuration
 - ▶ Local WebLM Configuration
 - ▶ Usages
 - ▶ Allocations
 - Periodic status
- APS_CMS_Connectors
 - ▶ APS_CMS_Connectors
- Configure Centralized Licensing
- ASBCE
 - ▶ Session_Border_Controller_E_AE
- CCTR

Application Enablement (CTI) - Release: 10 - SID: 10503000(Enterprise)

You are here: Licensed Products > Application_Enablement > View by Feature

License installed on: June 10, 2022 9:09:46 PM -04:00

License File Host IDs: V5-E1-B3-74-2B-9E-01

Feature (License Keyword)	License Capacity
Unified CC API Desktop Edition (VALUE_AES_AEC_UNIFIED_CC_DESKTOP)	1000
CVLAN ASAI (VALUE_AES_CVLAN_ASAI)	16
Device Media and Call Control (VALUE_AES_DMCC_DMC)	1000
AES ADVANCED SMALL SWITCH (VALUE_AES_AEC_SMALL_ADVANCED)	3
DLG (VALUE_AES_DLG)	16
TSAPI Simultaneous Users (VALUE_AES_TSAPI_USERS)	1000
AES ADVANCED LARGE SWITCH (VALUE_AES_AEC_LARGE_ADVANCED)	3
CVLAN Proprietary Links (VALUE_AES_PROPRIETARY_LINKS)	16

6.3. Administer TSAPI Link

Select **AE Services** → **TSAPI** → **TSAPI Links** from the left pane of the **Management Console**, to administer a TSAPI link. The **TSAPI Links** screen is displayed, as shown below. Click **Add Link**.

The screenshot shows the AVAYA Application Enablement Services Management Console. The top right corner displays user information: Welcome: User, Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20, Number of prior failed login attempts: 0, HostName/IP: aes7/10.64.101.239, Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE, SW Version: 10.1.0.1.0.7-0, Server Date and Time: Tue Oct 25 11:48:46 EDT 2022, HA Status: Not Configured. The left navigation pane shows 'AE Services' expanded, with 'TSAPI' selected and 'TSAPI Links' highlighted. The main content area is titled 'TSAPI Links' and contains a table with columns: Link, Switch Connection, Switch CTI Link #, ASAI Link Version, and Security. Below the table are buttons for 'Add Link', 'Edit Link', and 'Delete Link'.

The **Add TSAPI Links** screen is displayed next. The **Link** field is only local to the Application Enablement Services server and may be set to any available number.

For **Switch Connection**, select the relevant switch connection from the drop-down list, in this case **cm7**. For **Switch CTI Link Number**, select the CTI link number from **Section 5.2**.

Retain the default value for **ASAI Link Version** and set **Security** to the appropriate value, in this case **Both** to allow for both encrypted and non-encrypted connections.

The screenshot shows the AVAYA Application Enablement Services Management Console with the 'Add TSAPI Links' screen. The left navigation pane is the same as the previous screenshot. The main content area is titled 'Add TSAPI Links' and contains a form with the following fields: 'Link' (value: 1), 'Switch Connection' (value: cm7), 'Switch CTI Link Number' (value: 1), 'ASAI Link Version' (value: 12), and 'Security' (value: Both). At the bottom of the form are buttons for 'Apply Changes' and 'Cancel Changes'.

6.4. Administer H.323 Gatekeeper

Select **Communication Manager Interface** → **Switch Connections** from the left pane. The **Switch Connections** screen shows a listing of the existing switch connections.

Locate the connection name associated with relevant Communication Manager, in this case **cm7**, and select the corresponding radio button. Click **Edit Signaling Details**.

The screenshot shows the Avaya Application Enablement Services Management Console. The top right corner displays user information: Welcome: User, Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20, Number of prior failed login attempts: 0, HostName/IP: aes7/10.64.101.239, Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE, SW Version: 10.1.0.1.0.7-0, Server Date and Time: Tue Oct 25 11:50:11 EDT 2022, HA Status: Not Configured. The main header is "Communication Manager Interface | Switch Connections" with links for Home, Help, and Logout. The left sidebar shows a navigation menu with "Communication Manager Interface" expanded, and "Switch Connections" selected. The main content area is titled "Switch Connections" and contains a table with the following data:

Connection Name	Processor Ethernet	Msg Period	Number of Active Connections
<input checked="" type="radio"/> cm7	Yes	30	1

Below the table are buttons for "Edit Connection", "Edit PE/CLAN IPs", "Edit Signaling Details", "Delete Connection", and "Survivability Hierarchy".

The **Edit H.323 Gatekeeper** screen is displayed next. Enter the IP address of a C-LAN circuit pack or the Processor C-LAN on Communication Manager to use as the H.323 gatekeeper, in this case **10.64.101.236** as shown below. Click **Add Name or IP**.

The screenshot shows the Avaya Application Enablement Services Management Console. The top right corner displays user information: Welcome: User, Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20, Number of prior failed login attempts: 0, HostName/IP: aes7/10.64.101.239, Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE, SW Version: 10.1.0.1.0.7-0, Server Date and Time: Tue Oct 25 11:52:12 EDT 2022, HA Status: Not Configured. The main header is "Communication Manager Interface | Switch Connections" with links for Home, Help, and Logout. The left sidebar shows a navigation menu with "Communication Manager Interface" expanded, and "Switch Connections" selected. The main content area is titled "Switch Connections" and contains a form for "Edit H.323 Gatekeeper - cm7". The form has a text input field containing "10.64.101.236", a button for "Add Name or IP", and a button for "Delete IP".

6.5. Administer EICC User

Select **User Management** → **User Admin** → **Add User** from the left pane, to display the **Add User** screen in the right pane.

Enter desired values for **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password**. For **CT User**, select **Yes** from the drop-down list. Retain the default value in the remaining fields.

AVAYA Application Enablement Services
Management Console

Welcome: User
Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 10.1.0.1.0.7-0
Server Date and Time: Tue Oct 25 11:54:26 EDT 2022
HA Status: Not Configured

User Management | User Admin | Add UserHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▶ Status

▼ User Management

▶ Service Admin

▼ User Admin

▪ Add User

▪ Change User Password

▪ List All Users

▪ Modify Default Users

▪ Search Users

▶ Utilities

▶ Help

Add User

Fields marked with * can not be empty.

* User Id

* Common Name

* Surname

* User Password

* Confirm Password

Admin Note

Avaya Role

Business Category

Car License

CM Home

Css Home

CT User

Department Number

Display Name

Employee Number

Employee Type

Enterprise Handle

Given Name

6.6. Administer Security Database

Select **Security** → **Security Database** → **Control** from the left pane, to display the **SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services** screen in the right pane. Uncheck both fields below.

In the event that the security database is used by the customer with parameters already enabled, then follow reference [2] to configure access privileges for the EICC user from **Section 6.5**.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo and the title "Application Enablement Services Management Console". A welcome message and system information are shown in the top right corner. The main navigation pane on the left lists various services, with "Security" expanded to show "Security Database" and "Control" selected. The main content area displays the "SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services" configuration page, which contains two unchecked checkboxes and an "Apply Changes" button.

Welcome: User
Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 10.1.0.1.0.7-0
Server Date and Time: Tue Oct 25 11:55:07 EDT 2022
HA Status: Not Configured

Security | Security Database | Control Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
Security
Account Management
Audit
Certificate Management
Enterprise Directory
Host AA
PAM
Security Database
Control

SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services

☐ Enable SDB for DMCC Service
☐ Enable SDB for TSAPI Service, JTAPI and Telephony Web Services
Apply Changes

6.8. Administer TCP Settings

Select **Networking** → **TCP/TLS Settings** from the left pane, to display the **TCP/TLS Settings** screen in the right pane. For **TCP Retransmission Count**, select **TSAPI Routing Application Configuration (6)**, as shown below.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo, the title "Application Enablement Services Management Console", and a welcome message for the user. The left navigation pane shows a tree structure with "Networking" expanded, and "TCP/TLS Settings" selected. The main content area shows the "TCP / TLS Settings" configuration page. It includes sections for "TLSv1 Protocol Configuration" with checkboxes for TLSv1.0, TLSv1.1, TLSv1.2, and TLSv1.3. The "TCP Retransmission Count" section has two radio button options: "Standard Configuration (15)" and "TSAPI Routing Application Configuration (6)". Below these are buttons for "Apply Changes", "Restore Defaults", and "Cancel Changes". A note explains that a smaller TCP Retransmission Count reduces the wait time for a TCP acknowledgement. A warning states that the setting applies to all TCP and TLS sockets and should be used with caution.

Welcome: User
Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 10.1.0.1.0.7-0
Server Date and Time: Tue Oct 25 11:56:09 EDT 2022
HA Status: Not Configured

Networking | TCP / TLS Settings Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
AE Service IP (Local IP)
Network Configure
Ports
TCP/TLS Settings
Security
Status
User Management
Utilities
Help

TCP / TLS Settings

TLSv1 Protocol Configuration

- ☐ Support TLSv1.0 Protocol
- ☐ Support TLSv1.1 Protocol
- ☒ Support TLSv1.2 Protocol
- ☒ Support TLSv1.3 Protocol

TCP Retransmission Count

- ☐ Standard Configuration (15)
- ☒ TSAPI Routing Application Configuration (6)

Apply Changes Restore Defaults Cancel Changes

Note: A smaller TCP Retransmission Count reduces the amount of time that the AE Services server waits for a TCP acknowledgement before closing the socket. Select the Standard Configuration setting unless this AE Services server is used by TSAPI routing applications.

Warning: This setting applies to all TCP and TLS sockets on the AE Services Server and so it should be used with caution.

6.9. Restart Server

Select **Maintenance** → **Service Controller** from the left pane, to display the **Service Controller** screen in the right pane. Click on **Restart AE Server** to restart the server.

AVAYA **Application Enablement Services**
Management Console

Welcome: User
Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 10.1.0.1.0.7-0
Server Date and Time: Tue Oct 25 11:57:23 EDT 2022
HA Status: Not Configured

Maintenance | Service ControllerHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

High Availability

▶ Licensing

▼ Maintenance

Date Time/NTP Server

▶ Security Database

Service Controller

▶ Server Data

▶ Networking

▶ Security

▶ Status

Service Controller

Service	Controller Status
<input type="checkbox"/> ASAI Link Manager	Running
<input type="checkbox"/> DMCC Service	Running
<input type="checkbox"/> CVLAN Service	Running
<input type="checkbox"/> DLG Service	Running
<input type="checkbox"/> Transport Layer Service	Running
<input type="checkbox"/> TSAPI Service	Running

For status on actual services, please use [Status and Control](#)

StartStopRestart ServiceRestart AE ServerRestart LinuxRestart Web Server

6.10. Obtain Tlink Name

Select **Security** → **Security Database** → **Tlinks** from the left pane. The **Tlinks** screen shows a listing of the Tlink names. A new Tlink name is automatically generated for the TSAPI service. Locate the Tlink name associated with the relevant switch connection, which would use the name of the switch connection as part of the Tlink name.

Make a note of the pertinent Tlink name, to be used later to configure EICC. In this case, the pertinent Tlink name for the non-encrypted connection is **AVAYA#CM7#CSTA#AES7**, as shown below.

The screenshot displays the Avaya Application Enablement Services Management Console. The top header includes the Avaya logo, the title "Application Enablement Services Management Console", and a welcome message for the user. The main navigation pane on the left lists various services, with "Security" expanded to show "Security Database" and "Tlinks" selected. The main content area shows the "Tlinks" configuration page, which includes a "Tlink Name" section with two radio buttons: "AVAYA#CM7#CSTA#AES7" (selected) and "AVAYA#CM7#CSTA-S#AES7". A "Delete Tlink" button is also present.

Welcome: User
Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 10.1.0.1.0.7-0
Server Date and Time: Tue Oct 25 12:01:58 EDT 2022
HA Status: Not Configured

Security | Security Database | Tlinks Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
Security
Account Management
Audit
Certificate Management
Enterprise Directory
Host AA
PAM
Security Database
Control
CTI Users
Devices
Device Groups
Tlinks

Tlinks
Tlink Name
☒ AVAYA#CM7#CSTA#AES7
☐ AVAYA#CM7#CSTA-S#AES7
Delete Tlink

7. Configure Enghouse Interactive Communications Center

This section provides the procedures for configuring the EICC server. The procedures include the following areas:

- Administer phone system type
- Administer phone system data
- Administer queues
- Administer agent login class
- Administer agents and supervisors
- Administer mailboxes
- Administer lines

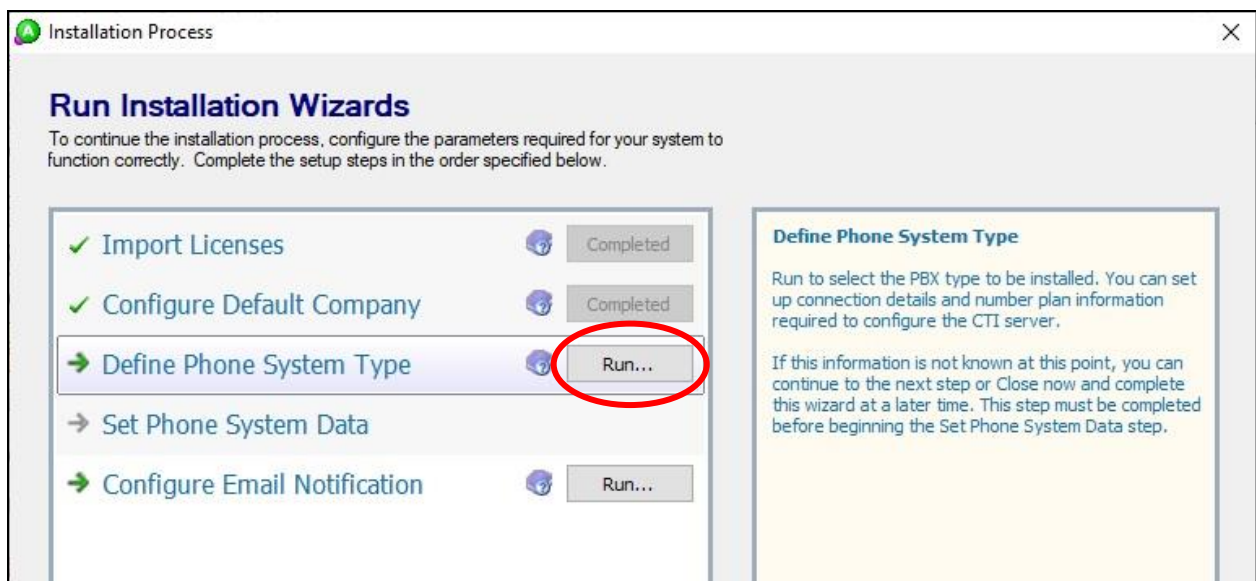
The configuration of EICC is typically performed by Enghouse Interactive installation technicians or third-party resellers. The procedural steps are presented in these Application Notes for informational purposes.

Prior to configuration, the relevant Avaya TSAPI client is assumed to be installed on the EICC server, and that the TSAPI client has been configured with the IP address of the Application Enablement Services server as part of installation.

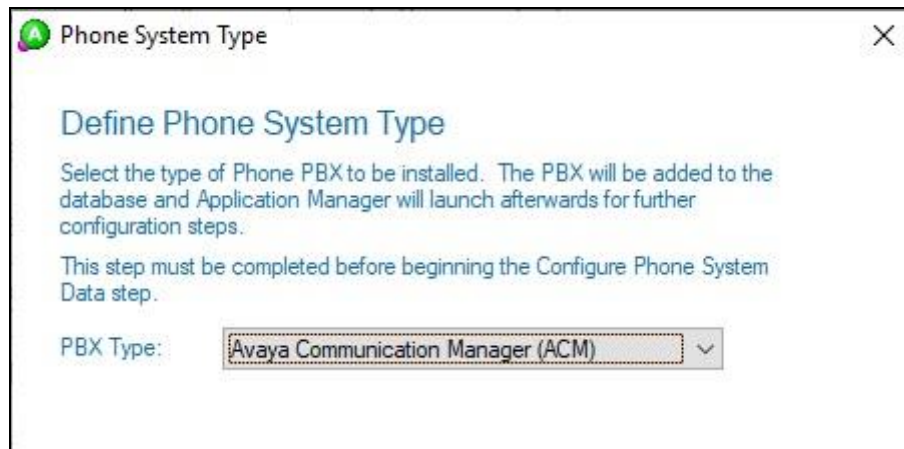
7.1. Administer Phone System Type

At the conclusion of installation, the **Installation Process** screen will be displayed by the Installation Wizard. Follow reference [3] to import licenses and configure the default company.

The **Installation Process** screen shown below is displayed next. Click the **Run** icon associated with **Define Phone System Type**.

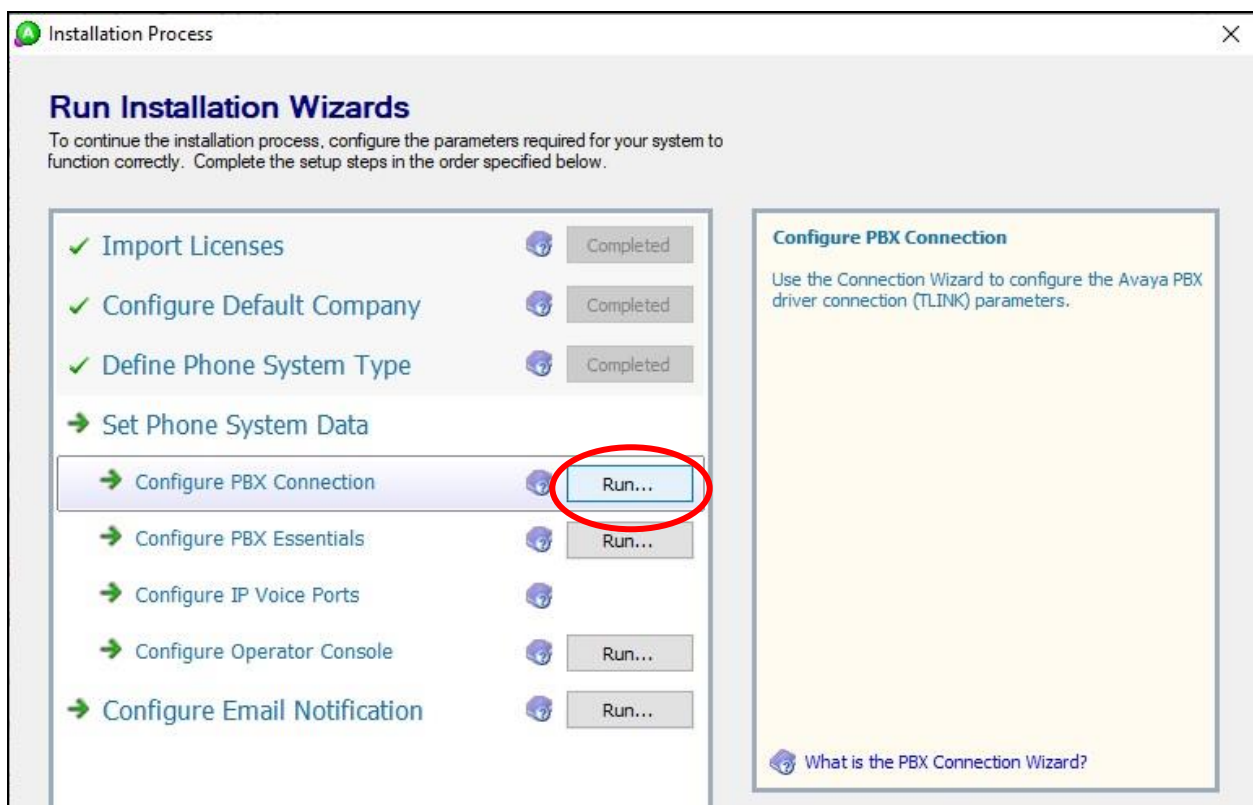


The **Phone System Type** screen is displayed. For **PBX Type**, select **Avaya Communication Manager (ACM)**.

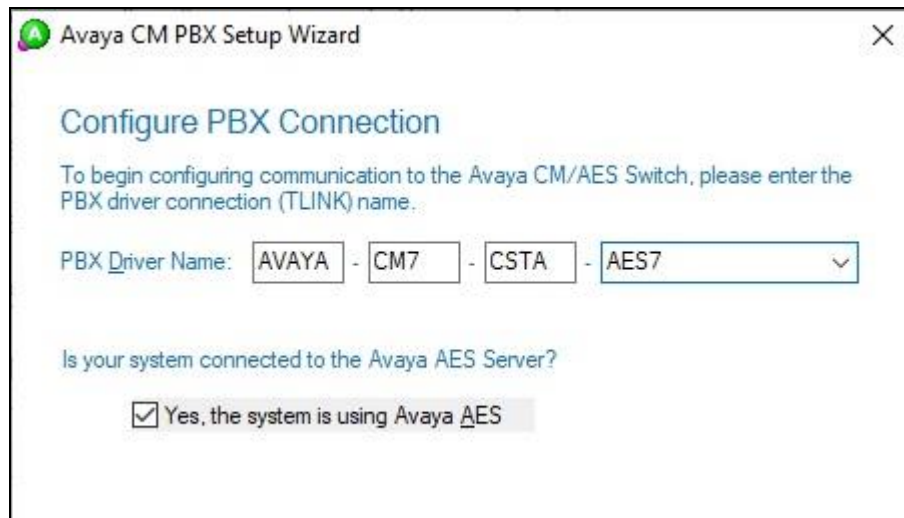


7.2. Administer Phone System Data

The **Installation Process** screen shown below is displayed next. Click the **Run** icon associated with **Set Phone System Data** → **Configure PBX Connection**.



The **Configure PBX Connection** screen is displayed. For **PBX Driver Name**, enter the Tlink name from **Section 6.10** as shown below. Retain the default value in the remaining field.



The screenshot shows a window titled "Avaya CM PBX Setup Wizard" with a close button (X) in the top right corner. The main heading is "Configure PBX Connection". Below the heading, a message states: "To begin configuring communication to the Avaya CM/AES Switch, please enter the PBX driver connection (TLINK) name." The "PBX Driver Name" field is a multi-part dropdown menu with four segments: "AVAYA", "CM7", "CSTA", and "AES7". Below this, a question asks "Is your system connected to the Avaya AES Server?". A checkbox is checked, and the text "Yes, the system is using Avaya AES" is displayed.

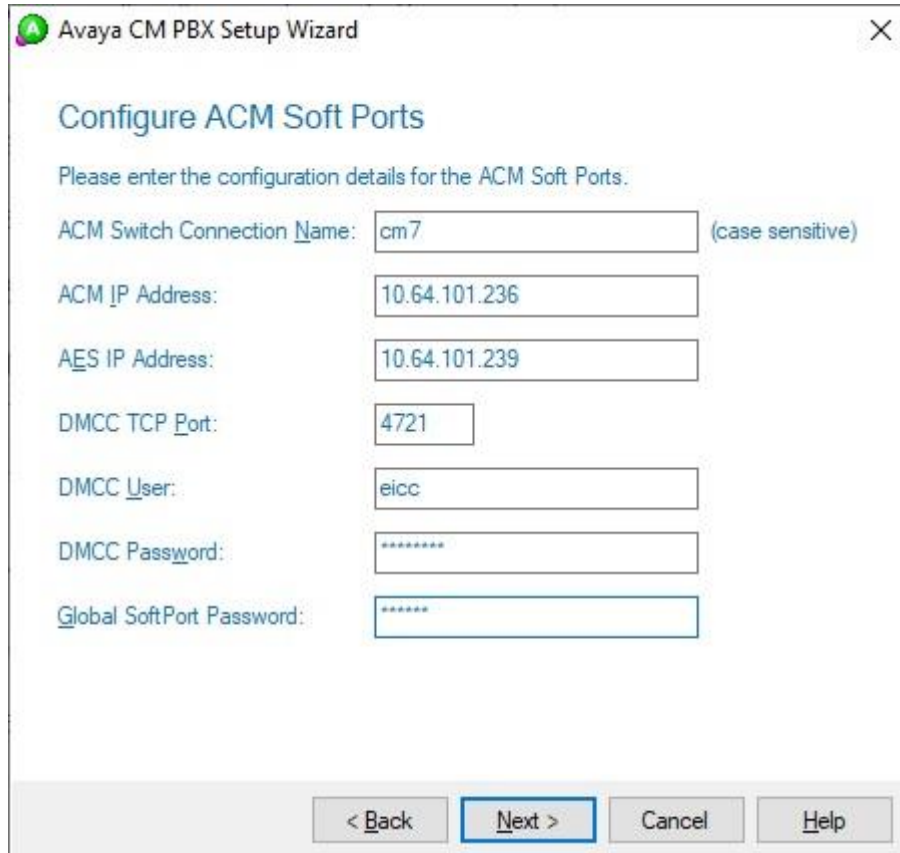
The **Configure Avaya CTI User** screen is displayed next. Enter the EICC user credentials from **Section 6.5**.



The screenshot shows a window titled "Avaya CM PBX Setup Wizard" with a close button (X) in the top right corner. The main heading is "Configure Avaya CTI User". Below the heading, a message states: "Please enter the User Name and Password of the CTI User used to access the Avaya CM/AES driver." The "User Name" field contains the text "eicc". The "Password" field contains a series of asterisks "*****".

The **Configure ACM Soft Ports** screen is displayed. Enter the following values for the specified fields and retain the default value in the remaining fields.

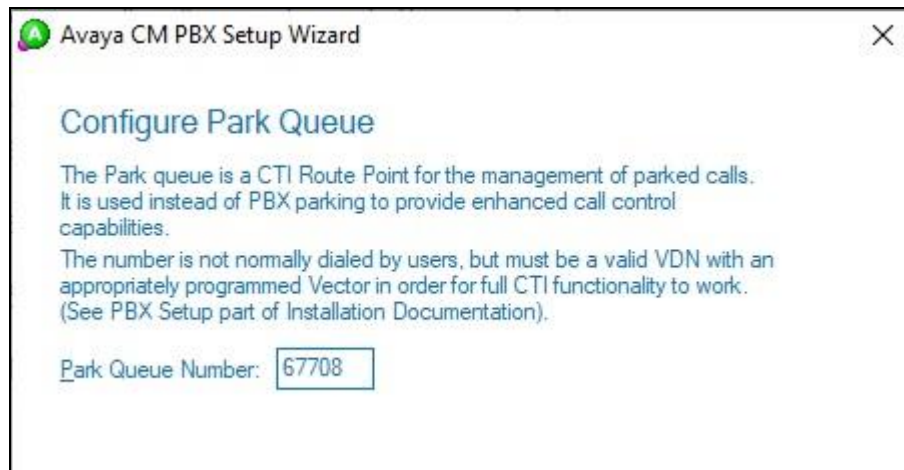
- **ACM Switch Connection Name:** The relevant switch connection name from **Section 6.3**.
- **ACM IP Address:** IP address of H.323 gatekeeper from **Section 6.4**.
- **DMCC User:** The EICC user credentials from **Section 6.5**.
- **DMCC Password:** The EICC user credentials from **Section 6.5**.
- **Global SoftPort Password:** The security code value from **Section 5.6**.



The screenshot shows the 'Configure ACM Soft Ports' window of the Avaya CM PBX Setup Wizard. The window has a title bar with the Avaya logo and the text 'Avaya CM PBX Setup Wizard'. Below the title bar, the title 'Configure ACM Soft Ports' is displayed in a large blue font. A subtitle 'Please enter the configuration details for the ACM Soft Ports.' is shown in a smaller blue font. The form contains seven input fields with labels to their left: 'ACM Switch Connection Name:' (with a note '(case sensitive)' to the right), 'ACM IP Address:', 'AES IP Address:', 'DMCC TCP Port:', 'DMCC User:', 'DMCC Password:', and 'Global SoftPort Password:'. The values entered in the fields are 'cm7', '10.64.101.236', '10.64.101.239', '4721', 'eicc', and two instances of '*****' for the passwords. At the bottom of the window, there are four buttons: '< Back', 'Next >' (which is highlighted with a blue border), 'Cancel', and 'Help'.

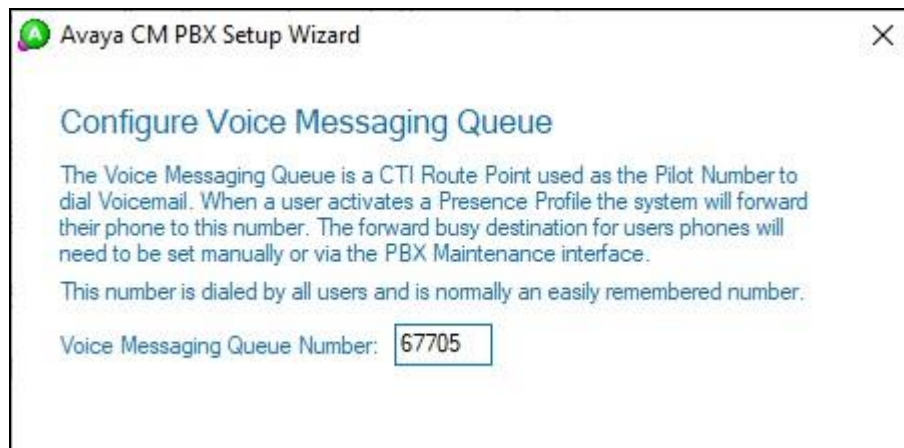
Field Label	Value
ACM Switch Connection Name:	cm7 (case sensitive)
ACM IP Address:	10.64.101.236
AES IP Address:	10.64.101.239
DMCC TCP Port:	4721
DMCC User:	eicc
DMCC Password:	*****
Global SoftPort Password:	*****

Continue with the Installation Wizard until the **Configure Park Queue** screen is displayed. For **Park Queue Number**, enter the extension of the hold VDN from **Section 5.3.7**.



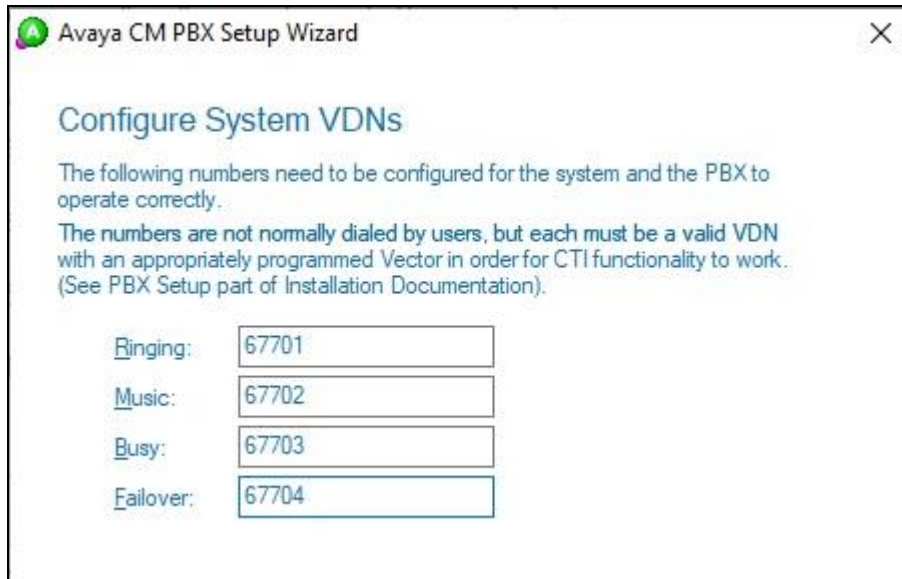
The screenshot shows a window titled "Avaya CM PBX Setup Wizard" with a close button (X) in the top right corner. The main heading is "Configure Park Queue". Below the heading, there is explanatory text: "The Park queue is a CTI Route Point for the management of parked calls. It is used instead of PBX parking to provide enhanced call control capabilities. The number is not normally dialed by users, but must be a valid VDN with an appropriately programmed Vector in order for full CTI functionality to work. (See PBX Setup part of Installation Documentation)." At the bottom, there is a label "Park Queue Number:" followed by a text input field containing the value "67708".

The **Configure Voice Messaging Queue** screen is displayed next. For **Voice Messaging Queue Number**, enter the extension of the voicemail VDN from **Section 5.3.6**.



The screenshot shows a window titled "Avaya CM PBX Setup Wizard" with a close button (X) in the top right corner. The main heading is "Configure Voice Messaging Queue". Below the heading, there is explanatory text: "The Voice Messaging Queue is a CTI Route Point used as the Pilot Number to dial Voicemail. When a user activates a Presence Profile the system will forward their phone to this number. The forward busy destination for users phones will need to be set manually or via the PBX Maintenance interface. This number is dialed by all users and is normally an easily remembered number." At the bottom, there is a label "Voice Messaging Queue Number:" followed by a text input field containing the value "67705".

The **Configure System VDNs** screen is displayed next. Enter the ring, music, busy, and failure VDNs from **Section 5.3** respectively, as shown below.

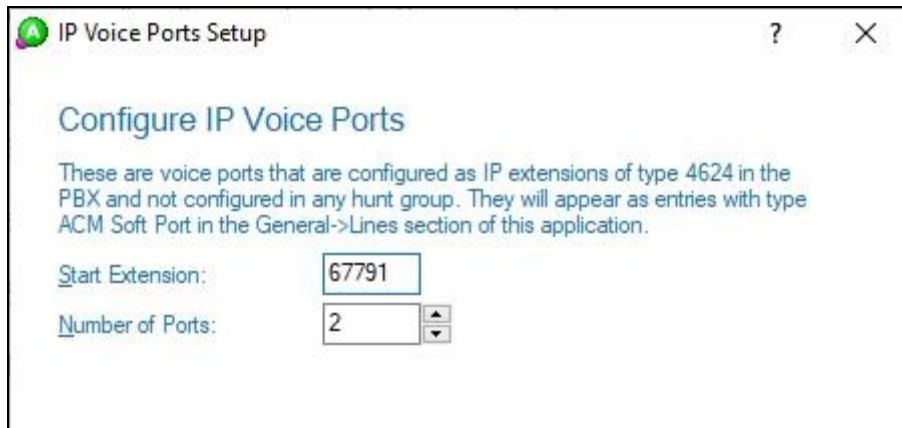


The screenshot shows the 'Avaya CM PBX Setup Wizard' window with the 'Configure System VDNs' screen. The window title is 'Avaya CM PBX Setup Wizard' with a close button (X) in the top right corner. The main heading is 'Configure System VDNs'. Below the heading, there is explanatory text: 'The following numbers need to be configured for the system and the PBX to operate correctly. The numbers are not normally dialed by users, but each must be a valid VDN with an appropriately programmed Vector in order for CTI functionality to work. (See PBX Setup part of Installation Documentation)'. There are four input fields with labels: 'Ringing:' with value '67701', 'Music:' with value '67702', 'Busy:' with value '67703', and 'Failover:' with value '67704'.

Label	Value
Ringin <u>g</u> :	67701
Mus <u>i</u> c:	67702
Bus <u>y</u> :	67703
Failover:	67704

Continue with the Installation Wizard until the **Configure IP Voice Ports** screen is displayed. For **Start Extension**, enter the first DMCC softphone extension from **Section 5.6**. For **Number of Ports**, select the total number of DMCC softphones from **Section 5.6**, in this case **2**.

Follow reference [3] to complete the Installation Wizard and subsequent CTI server setup via Application Manager.

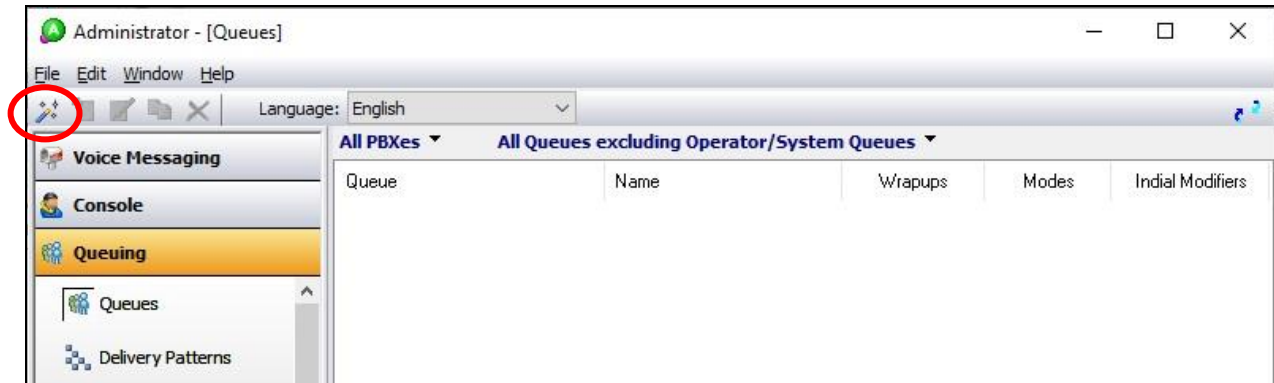


The screenshot shows the 'IP Voice Ports Setup' window with the 'Configure IP Voice Ports' screen. The window title is 'IP Voice Ports Setup' with a help button (?) and a close button (X) in the top right corner. The main heading is 'Configure IP Voice Ports'. Below the heading, there is explanatory text: 'These are voice ports that are configured as IP extensions of type 4624 in the PBX and not configured in any hunt group. They will appear as entries with type ACM Soft Port in the General->Lines section of this application.' There are two input fields: 'Start Extension:' with value '67791' and 'Number of Ports:' with value '2' and a spinner control.

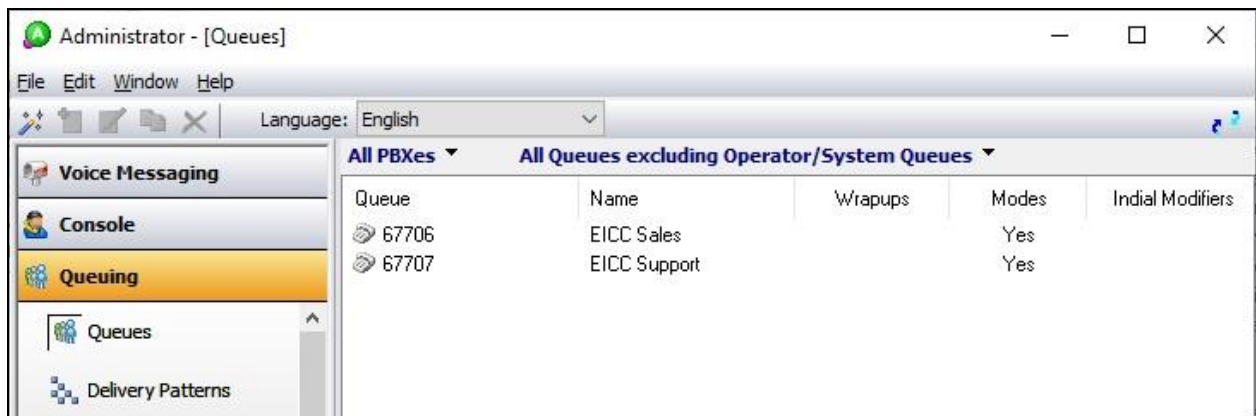
Label	Value
Start Extension:	67791
Number of Ports:	2

7.3. Administer Queues

The **Administrator** screen is displayed upon completion of the Installation Wizard and CTI server setup. Select **Queuing** → **Queues** from the left pane, followed by the **Add Wizard** icon located at the upper left of screen.

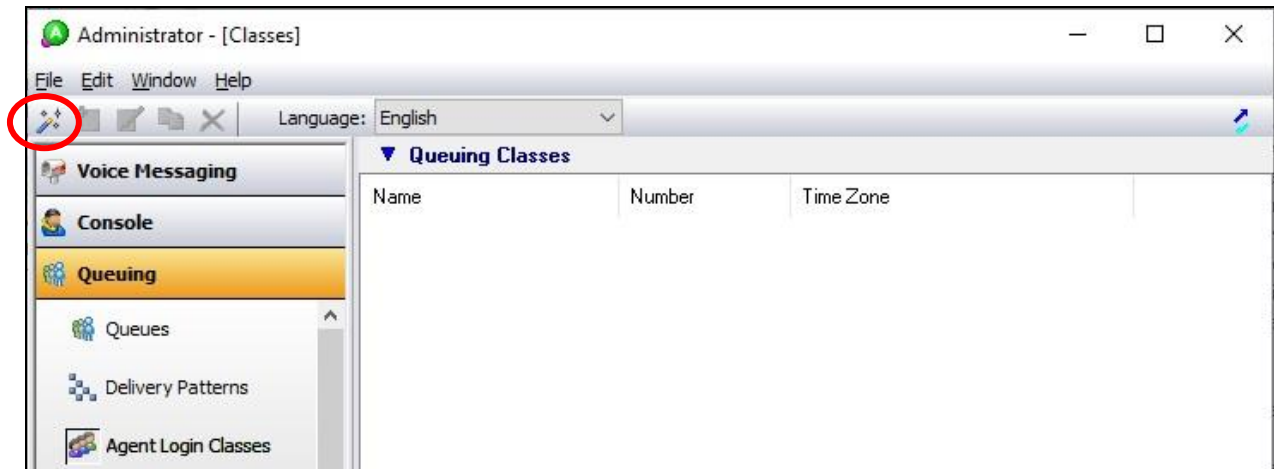


Follow the procedures in the **Adding a New Queue Wizard** (not shown) screen to configure a new queue for each general routing VDN from **Section 5.3.2**. In the compliance testing, two queues were created as shown below.

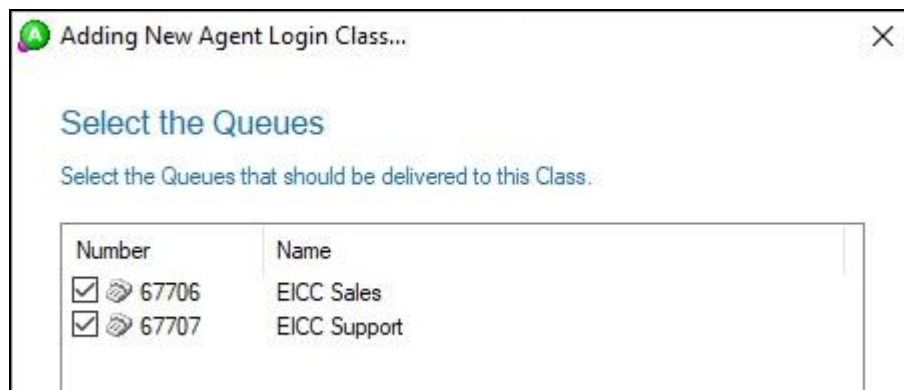


7.4. Administer Agent Login Class

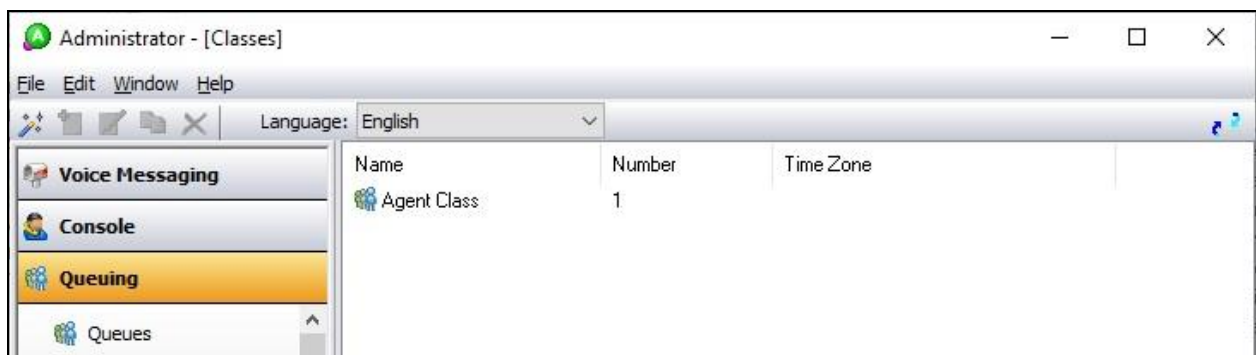
Select **Queuing** → **Agent login Classes** from the left pane, followed by the **Add Wizard** icon located at the upper left corner of screen.



Follow the procedure in the **Adding New Agent Login Class Wizard** in the subsequent screens to configure a new agent login class. In the **Select the Queues** screen, select the queues created in **Section 7.3**, as shown below.

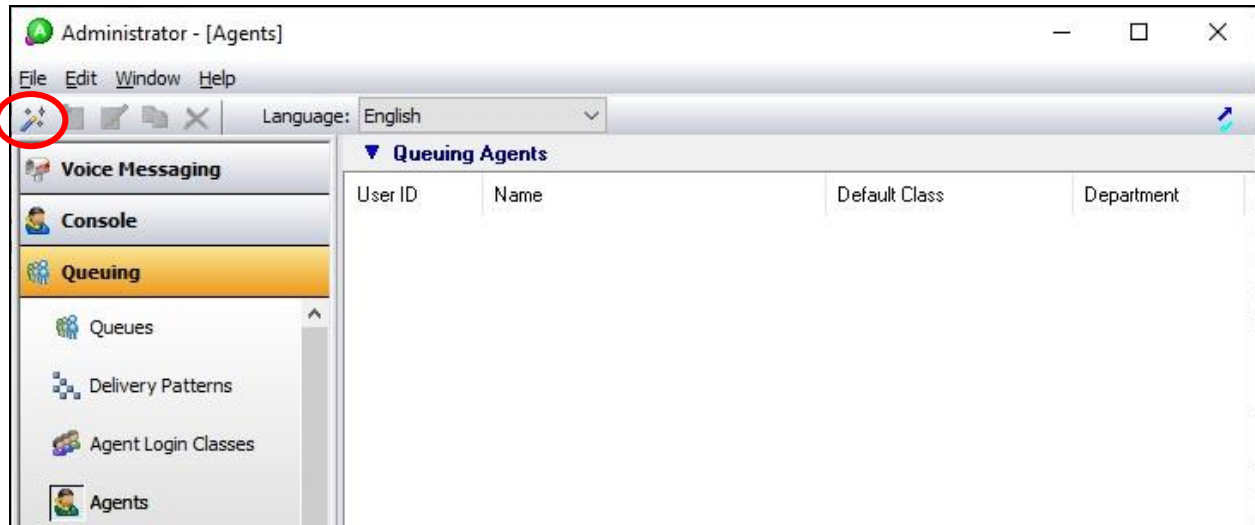


In the compliance testing, one agent login class was created.



7.5. Administer Agents and Supervisors

Select **Queuing** → **Agents** from the left pane, followed by the **Add Wizard** icon located at the upper left corner of screen.



Follow the **Add Agent Wizard** in the subsequent screens to configure a corresponding entry for each agent and supervisor from **Section 3**. In the **Select Agent Login Class** screen, select the agent login class created from **Section 7.4**, as shown below.

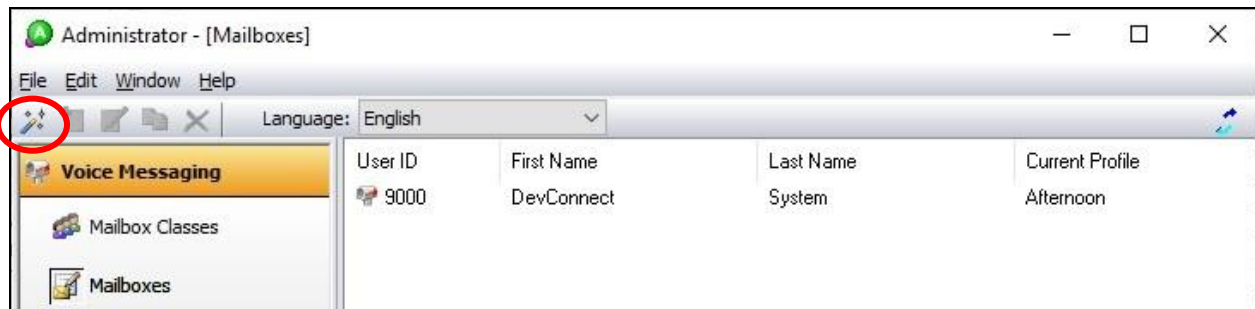


In the compliance testing, two agents and one supervisor were created.

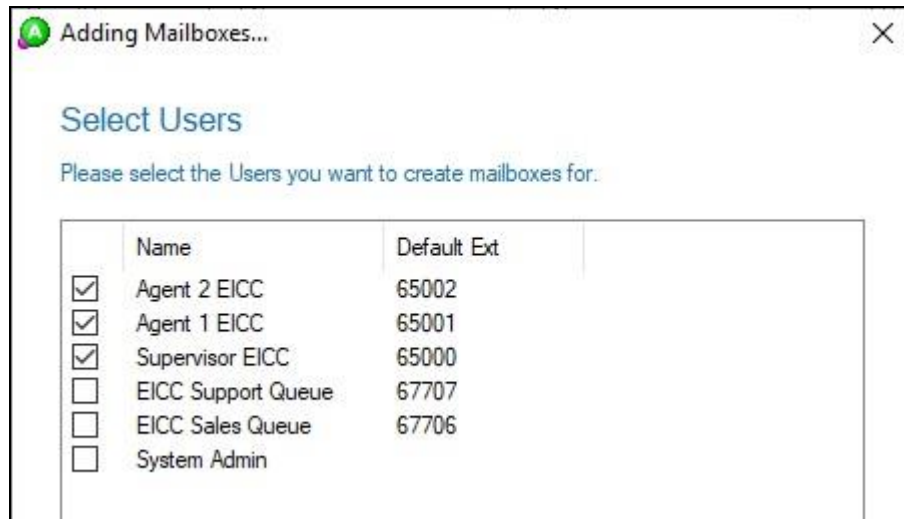


7.6. Administer Mailboxes

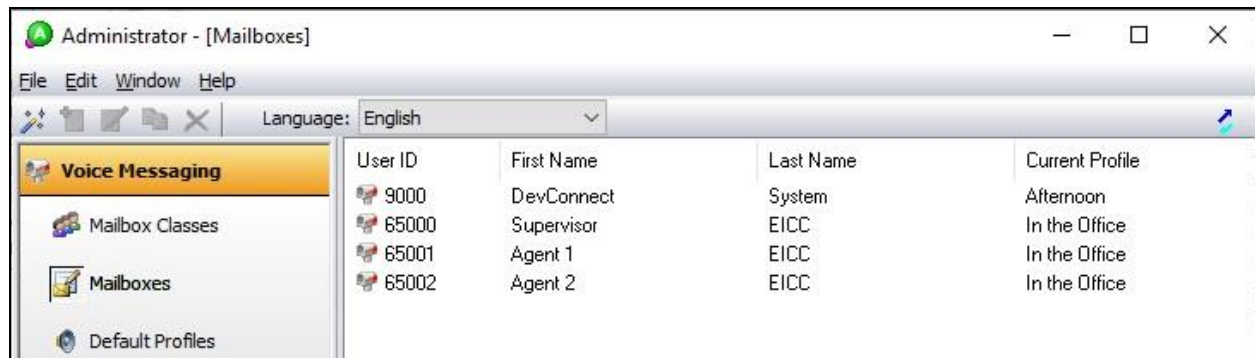
Select **Voice Messaging** → **Mailboxes** from the left pane, followed by the **Add Wizard** icon located at the upper left corner of screen.



In the **Select Users** screen, select the agents and supervisors created from **Section 7.5**, as shown below.



Follow the **Add Mailboxes Wizard** (not shown) in the subsequent screens to configure the mailboxes. In the compliance testing, three mailboxes were created.

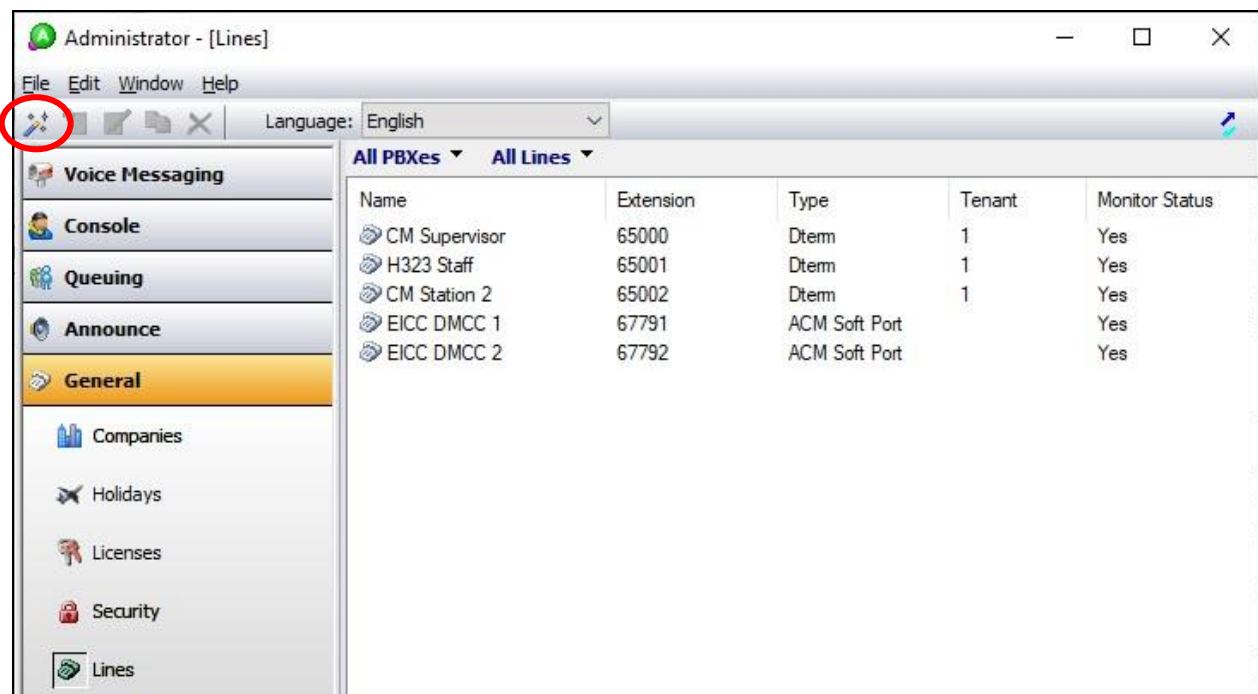


7.7. Administer Lines

Select **General** → **Lines** from the left pane, followed by the **Add Wizard** icon located at the upper left corner of screen. Follow the **Adding Line Wizard** (not shown) in the subsequent screens to configure a corresponding line for each agent and supervisor from **Section 7.5**.

Note that lines for DMCC softphones were created automatically, and that lines for agents and supervisors can either be created manually using the wizard, or by having each agent and supervisor dial a configured VDN from **Section 5.3** for EICC to “learn” the user extension and create the line automatically.

In the compliance testing, all lines for agents and supervisor below were created manually.



8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager, Application Enablement Services, and EICC.

8.1. Verify Avaya Aura® Communication Manager

On Communication Manager, verify status of the administered CTI link by using the **status aesvcs cti-link** command. Verify that the **Service State** is **established** for the CTI link number administered in **Section 5.2**, as shown below.

```
status aesvcs cti-link
```

AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1	12	no	aes7	established	48	46

Verify the registration status of DMCC softphones by using the **list registered-ip-stations** command. Verify that all DMCC softphones from **Section 5.6** are displayed along with the IP address of the Application Enablement Services server, as shown below.

```
list registered-ip-stations
```

REGISTERED IP STATIONS			
Station Ext or Orig Port Socket	Set Type/ Net Rgn	Prod ID/ Release	Station IP Address/ Gatekeeper IP Address
65000	9611	IP_Phone	192.168.200.212
tls	1	6.8	10.64.101.236
65001	9611	IP_Phone	192.168.200.179
tls	1	6.8	10.64.101.236
65002	9611	IP_Phone	192.168.200.159
tls	1	6.8	10.64.101.236
67791	4624	IP_API_A	10.64.101.239
tcp	1	3.2040	10.64.101.236
67792	4624	IP_API_A	10.64.101.239
tcp	1	3.2040	10.64.101.236

8.2. Verify Avaya Aura® Application Enablement Services

On Application Enablement Services, verify the status of the TSAPI link by selecting **Status** → **Status and Control** → **TSAPI Service Summary** from the left pane. The **TSAPI Link Details** screen is displayed.

Verify the **Status** is **Talking** for the TSAPI link administered in **Section 6.3**, and that the **Associations** column reflects the total number of agents and supervisor from **Section 3** plus the number of DMCC softphones from **Section 5.6**, in this case a total of **5**.

AVAYA **Application Enablement Services**
Management Console

Welcome: User
Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 10.1.0.1.0.7-0
Server Date and Time: Tue Oct 25 16:52:03 EDT 2022
HA Status: Not Configured

Status | Status and Control | TSAPI Service SummaryHome | Help | Logout

▶ AE Services

▶ Communication Manager Interface

▶ High Availability

▶ Licensing

▶ Maintenance

▶ Networking

▶ Security

▼ Status

Alarm Viewer

▶ Logs

▶ Log Manager

▼ Status and Control

▪ CVLAN Service Summary

▪ DLG Services Summary

▪ DMCC Service Summary

▪ Switch Conn Summary

▪ **TSAPI Service Summary**

TSAPI Link Details

☐ Enable page refresh every 60 seconds

	Link	Switch Name	Switch CTI Link ID	Status	Since	State	Switch Version	Associations	Msgs to Switch	Msgs from Switch	Msgs Period
<input checked="" type="radio"/>	1	cm7	1	Talking	Tue Oct 25 11:58:29 2022	Online	20	5	46	48	30

OnlineOffline

For service-wide information, choose one of the following:

TSAPI Service StatusTLink StatusUser Status

Verify status of the DMCC link by selecting **Status → Status and Control → DMCC Service Summary** from the left pane. The **DMCC Service Summary – Session Summary** screen is displayed.

Verify the **User** column shows action sessions with the EICC user from **Section 6.5**, and that the total number of sessions reflects the number of DMCC softphones from **Section 5.6**.

Application Enablement Services

Management Console

Welcome: User
 Last login: Mon Oct 3 15:38:15 2022 from 192.168.200.20
 Number of prior failed login attempts: 0
 HostName/IP: aes7/10.64.101.239
 Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
 SW Version: 10.1.0.1.0.7-0
 Server Date and Time: Tue Oct 25 16:52:23 EDT 2022
 HA Status: Not Configured

Status | Status and Control | **DMCC Service Summary**
Home | Help | Logout

- ▶ AE Services
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▶ Security
- ▼ **Status**
 - Alarm Viewer
 - ▶ Logs
 - ▶ Log Manager
 - ▼ **Status and Control**
 - CVLAN Service Summary
 - DLG Services Summary
 - **DMCC Service Summary**
 - Switch Conn Summary
 - TSAPI Service Summary
 - ▶ User Management

DMCC Service Summary - Session Summary

Please do not use back button

☐ Enable page refresh every 60 seconds

Session Summary [Device Summary](#)
 Generated on Tue Oct 25 16:52:18 EDT 2022

Service Uptime: 0 days, 4 hours 52 minutes

Number of Active Sessions: 2

Number of Sessions Created Since Service Boot: 2

Number of Existing Devices: 2

Number of Devices Created Since Service Boot: 2

■	Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
<input type="checkbox"/>	79B13D2F52645012F ECE09BDB6487FD8-0	eicc		10.64.101.205	XML Unencrypted	1
<input type="checkbox"/>	2079CC1B0470F5F4B 9D0EBB6C522BF85-1	eicc		10.64.101.205	XML Unencrypted	1

Terminate Sessions
Show Terminated Sessions

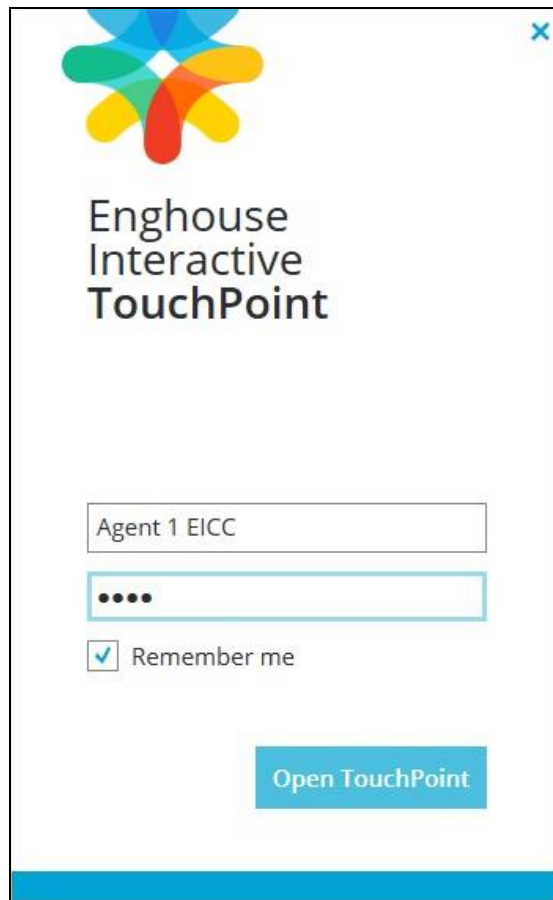
Item 1-2 of 2
1 Go

8.3. Verify Enghouse Interactive Communications Center

From the agent desktop, double-click on the **TouchPoint** shortcut icon shown below, which was created as part of TouchPoint installation.



The **Enghouse Interactive TouchPoint** login screen below is displayed. Enter the login name associated with an agent from **Section 7.5**, and use the generic default PIN value from EICC. Retain the default value in the remaining field.

A login window titled "Enghouse Interactive TouchPoint" with a close button (X) in the top right corner. The window contains a colorful flower logo at the top. Below the logo, there are two input fields: the first contains the text "Agent 1 EICC", and the second contains four dots. Below the input fields is a checkbox labeled "Remember me" which is checked. At the bottom right of the window is a blue button labeled "Open TouchPoint".

Enghouse
Interactive
TouchPoint

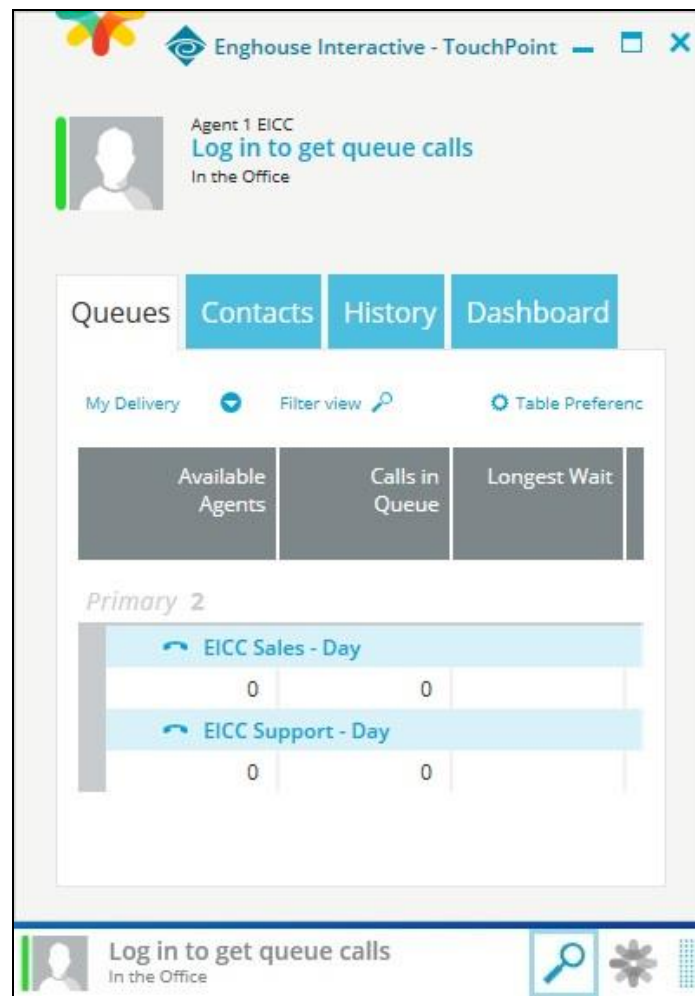
Agent 1 EICC

....

☒ Remember me

Open TouchPoint

The main **TouchPoint** screen, also referred to as the Statistics Window is displayed, along with a Call Bar above the system tray, as shown below. From the Statistics Window, click on **Log in to get queue calls** toward the top of screen.



In the updated Statistics Window shown below, select **Log in to Queues**.



Verify that both the Statistics Window and Call Bar are updated to reflect **Logged In**, as shown below.

Enghouse Interactive - TouchPoint

Agent 1 EICC
Logged In
Queues: 2 Phone
In the Office

Queues Contacts History Dashboard

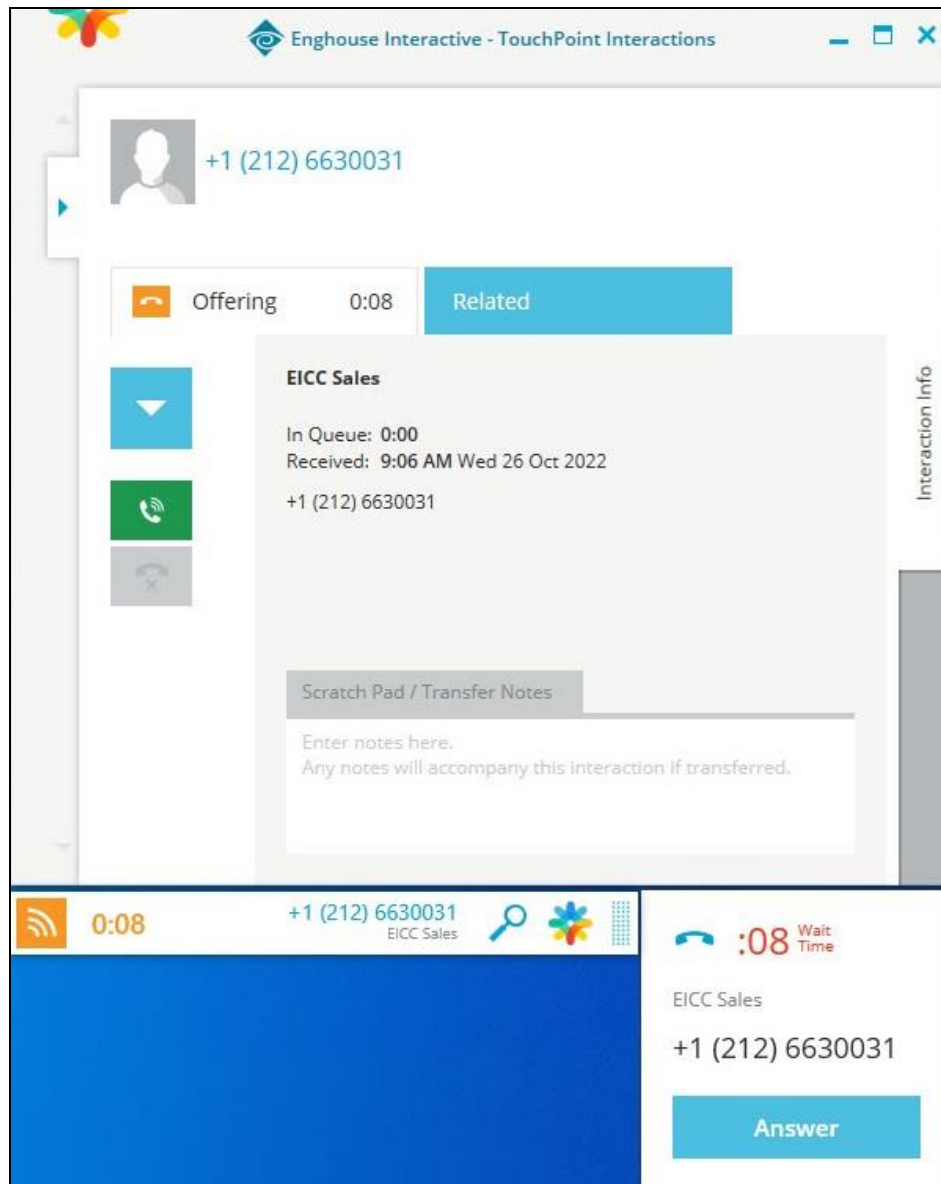
My Delivery Filter view Table Preference

Available Agents	Calls in Queue	Longest Wait
Primary 2		
EICC Sales - Day		
1	0	
EICC Support - Day		
1	0	

Logged In
In the Office

Make an incoming call from PSTN to a general routing VDN in **Section 5.3.2**. Verify that the agent desktop is populated with an **Interaction Info** screen with an **Offering** tab, along with a Pop-up Notification box and Call Bar reflecting the active call as shown below.

Click **Answer** in the Pop-up Notification box and verify that the agent is connected to the PSTN caller with two-way talk paths.



9. Conclusion

These Application Notes describe the configuration steps required for Enghouse Interactive Communications Center 12.1 to successfully interoperate with Avaya Aura® Communication Manager 10.1 using Avaya Aura® Application Enablement Services 10.1. All feature and serviceability test cases were completed with observations noted in **Section 2.2**.

10. Additional References

This section references the product documentation relevant to these Application Notes.

1. *Administering Avaya Aura® Communication Manager*, Release 10.1.x, Issue 2, September 2022, available at <http://support.avaya.com>.
2. *Administering Avaya Aura® Application Enablement Services*, Release 10.1.x, Issue 5, September 2022, available at <http://support.avaya.com>.
3. *First-time Installation and Server Setup – Avaya Communication Manager Installation Manual*, Communications Center version CC 12.1, September 2022, available at <https://partnerportal.enghouseinteractive.com/Sys/Document/index>.

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