Avaya Solution & Interoperability Test Lab

Application Notes for CDC Software CDC Platform with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services using Zendesk – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for CDC Software CDC Platform to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services using Zendesk. CDC Software CDC Platform is a middleware solution that connects telephony systems with CRM providers.

In the compliance testing, CDC Software CDC Platform used the Telephony Services Application Programming Interface from Avaya Aura® Application Enablement Services to monitor skill groups and agent stations on Avaya Aura® Communication Manager, to provide screen pop for agent desktops connected to CRM provider Zendesk.

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.

©2016 Avaya Inc. All Rights Reserved.

1. Introduction

These Application Notes describe the configuration steps required for CDC Software CDC Platform (CDC) to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services using Zendesk. CDC is a middleware solution that connects telephony systems with CRM providers.

In the compliance testing, CDC used the Telephony Services Application Programming Interface (TSAPI) from Avaya Aura® Application Enablement Services to monitor skill groups and agent stations on Avaya Aura® Communication Manager, to provide screen pop for agent desktops connected to CRM provider Zendesk.

The agent desktops are connected to the Zendesk cloud via browser connections. Upon being notified via TSAPI of a call answered on a monitored agent, CDC pushed call information including ANI and DNIS as part of help desk ticket creation to the agent desktop via the Restful API with Zendesk.

The compliance test covered the default out-of-the-box screen pop behavior, which popped help desk ticket creations for inbound ACD calls only. CDC does offer additional features and custom screen pops, which are outside the scope of this compliance test.

2. General Test Approach and Test Results

The feature test cases were performed manually. Upon application start up, CDC used TSAPI to query device information for configured agents and requested device monitoring for agents that are logged into the ACD.

For the manual part of testing, incoming ACD calls were placed from PSTN with available agents that have web browser connections to Zendesk. All necessary call actions were initiated from the agent telephones.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet connection to the CDC server and to the agent desktops.

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.

©2016 Avaya Inc. All Rights Reserved.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on CDC:

- Handling of TSAPI messages in the areas of event notifications and value queries.
- Proper handling of call scenarios involving inbound, outbound, internal, external, ACD, non-ACD, screen pop, drop, hold/resume, multiple calls, multiple agents, transfer, conference, and long duration.

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

2.2. Test Results

All test cases were executed and passed. The following is an observation on CDC from the compliance testing.

- CDC requires the SA8702 CDR Enhancements for Network special application to be enabled, which ensures the same UCID across all call segments in a call scenario. However, this special application is not compatible with use of SIP agents, therefore the application cannot support SIP agents in the current release.

2.3. Support

Technical support on CDC can be obtained through the following:

- **Phone:** (570) 309-6827
- **Email:** information@cdcsoftware.com
- **Web :** http://support.cdcsoftware.com

©2016 Avaya Inc. All Rights Reserved.

3. Reference Configuration

The detailed administration of basic connectivity between Communication Manager and Application Enablement Services, and of contact center devices are not the focus of these Application Notes and will not be described.

In the compliance testing, CDC monitored the skill groups and agent stations shown in the table below.

Device Type	Extension
VDN	60001, 60002
Skill Group	61001, 61002
Supervisor	65000
Agent Station	65001, 65002
Agent ID	65881, 65882

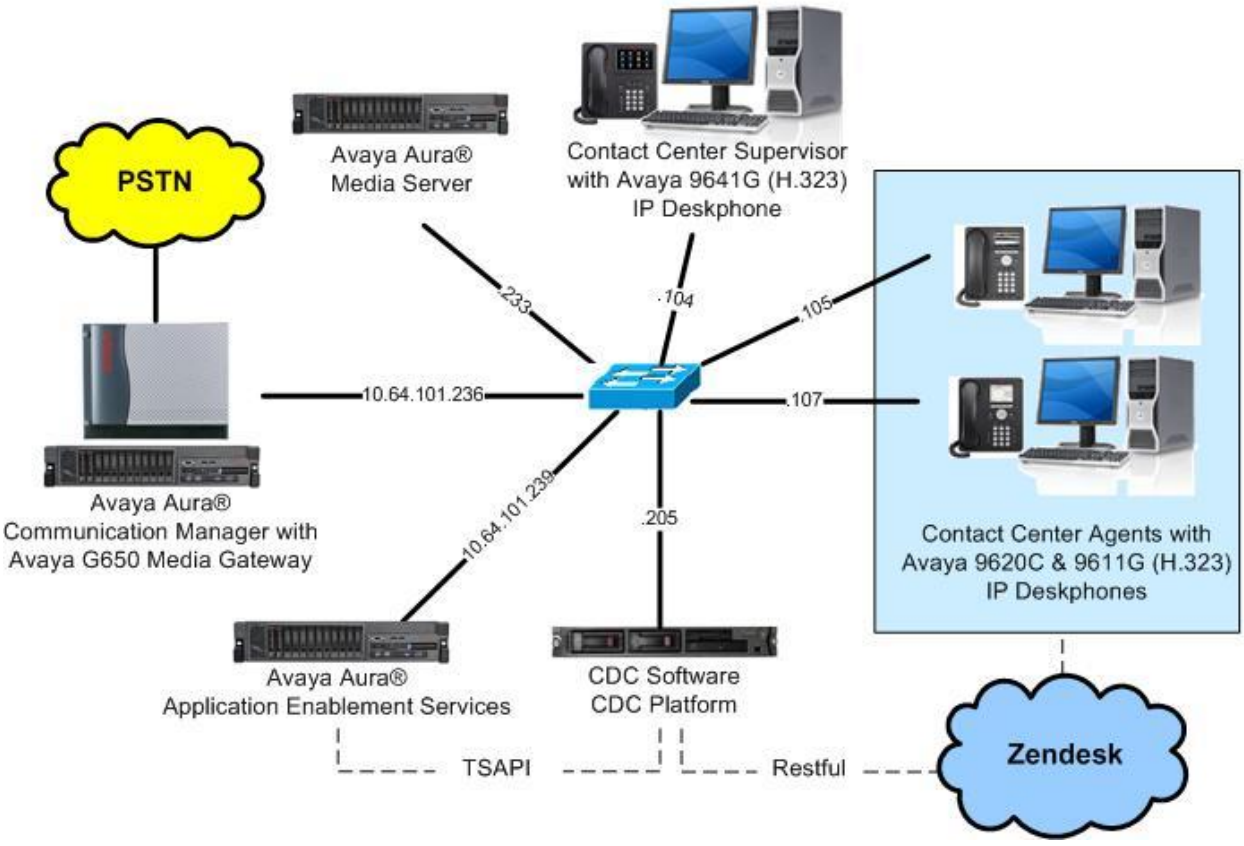


Figure 1: Compliance Testing Configuration

©2016 Avaya Inc. All Rights Reserved.

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	7.0.1.1 (7.0.1.1.0.441.23169)
Avaya G650 Media Gateway	NA
Avaya Aura® Media Server in Virtual Environment	7.7.0.334
Avaya Aura® Application Enablement Services in Virtual Environment	7.0.1 (7.0.1.0.2.15-0)
Avaya 9611G & 9641G IP Deskphone (H.323)	6.6229
Avaya 9620C IP Deskphone (H.323)	3.270B
CDC Software CDC Platform on Windows Server 2012 R2 • Avaya TSAPI Windows Client (csta32.dll) • Zendesk Restful API (ZendeskApi_v2.dll)	1.5.1.4807 Standard 6.2.0.257 3.0.3.0

©2016 Avaya Inc. All Rights Reserved.

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
- Verify system parameters special applications
- Administer system parameters features

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
       Async. Transfer Mode (ATM) PNC? n
  Async. Transfer Mode (ATM) Trunking? n    Digital Loss Plan Modification? Y
              ATM WAN Spare Processor? n                            DS1 MSP? y
                                  ATMS? y            DS1 Echo Cancellation? y
                   Attendant Vectoring? 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
                                                                  COR: 1
     Name: AES CTI Link
```


©2016 Avaya Inc. All Rights Reserved.

5.3. Verify System Parameters Special Applications

Use the "display system-parameters special-applications" command to verify that the **(SA8702) – CDR Enhancements for Network** special application is set to "y" on **Page 5**. This parameter enables the **Copy UCID for Station Conference/Transfer** field to appear on the system parameters features form in **Section 5.4**, which is required by CDC. 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 special-applications                  Page   5 of  10
                            SPECIAL APPLICATIONS



                                 (SA8652) - No Hold Consult? n
     (SA8654) - Crisis Alert Call Monitoring and Recording? n
               (SA8661) - Increased Automatic Wakeup Calls? n
                     (SA8662) - Expanded PMS Name & Number? n
                              (SA8684) - PMS Wakeup Message? n
     (SA8693) - Connectivity Check for Direct IP Shuffling? n

               (SA8697) - 3rd Party H.323 Endpoint Support? n
  (SA8701) - Net Region Support H.323 Endpoints Behind ALG? n
                    (SA8702) - CDR Enhancements for Network? y
             (SA8731) - Block Outgoing Bridged Call Display? n
```

5.4. Administer System Parameters Features

Use the "change system-parameters features" command to enable **Create Universal Call ID (UCID)**, which is located on **Page 5**. For **UCID Network Node ID**, enter an available node ID. Enable **Copy UCID for Station Conference/Transfer**, which will preserve the UCID associated with a call for the second call legs from station transfer and conference operations on a system wide basis, as required by CDC.

```
change system-parameters features                               Page   5 of  19
                        FEATURE-RELATED SYSTEM PARAMETERS

SYSTEM PRINTER PARAMETERS
  Endpoint:               Lines Per Page: 60

SYSTEM-WIDE PARAMETERS
                                     Switch Name:
            Emergency Extension Forwarding (min): 10
          Enable Inter-Gateway Alternate Routing? n
Enable Dial Plan Transparency in Survivable Mode? n
                             COR to Use for DPT: station
                EC500 Routing in Survivable Mode: dpt-then-ec500
MALICIOUS CALL TRACE PARAMETERS
               Apply MCT Warning Tone? n   MCT Voice Recorder Trunk Group:
      Delay Sending RELease (seconds): 0
SEND ALL CALLS OPTIONS
     Send All Calls Applies to: station    Auto Inspect on Send All Calls? n
              Preserve previous AUX Work button states after deactivation? n
UNIVERSAL CALL ID
     Create Universal Call ID (UCID)? y    UCID Network Node ID: 27
     Copy UCID for Station Conference/Transfer? y
```


©2016 Avaya Inc. All Rights Reserved.

Navigate to **Page 13**, and enable **Send UCID to ASAI**. This parameter allows for the UCID to be sent to CDC.

```
change system-parameters features                              Page  13 of  19
                        FEATURE-RELATED SYSTEM PARAMETERS
 CALL CENTER MISCELLANEOUS
           Callr-info Display Timer (sec): 10
                        Clear Callr-info: next-call
        Allow Ringer-off with Auto-Answer? n

    Reporting for PC Non-Predictive Calls? n

            Agent/Caller Disconnect Tones? n
          Interruptible Aux Notification Timer (sec): 3
             Zip Tone Burst for Callmaster Endpoints: double

  ASAI
                    Copy ASAI UUI During Conference/Transfer? y
                Call Classification After Answer Supervision? y
                                          Send UCID to ASAI? y
                  For ASAI Send DTMF Tone to Call Originator? y
         Send Connect Event to ASAI For Announcement Answer? n
  Prefer H.323 Over SIP For Dual-Reg Station 3PCC Make Call? n
```


©2016 Avaya Inc. All Rights Reserved.

6. Configure Avaya Aura® Application Enablement Services

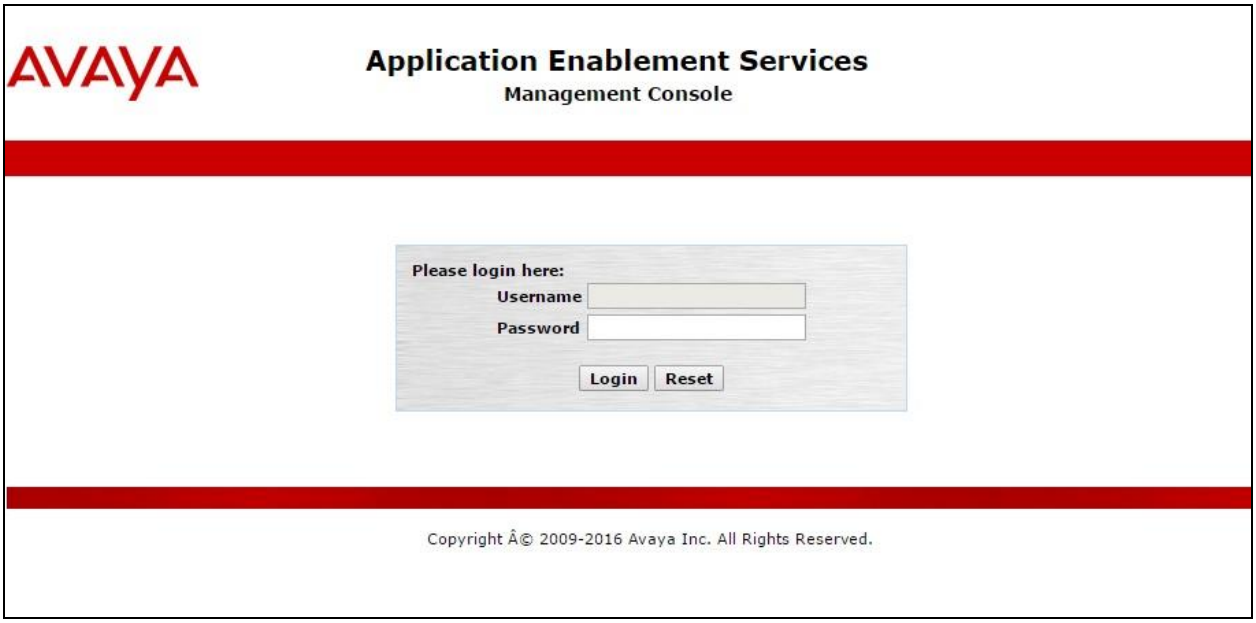
This section provides the procedures for configuring Application Enablement Services. The procedures include the following areas:

- Launch OAM interface
- Verify license
- Administer TSAPI link
- Administer CDC user
- Administer security database
- Restart service
- Obtain Tlink name

6.1. Launch OAM Interface

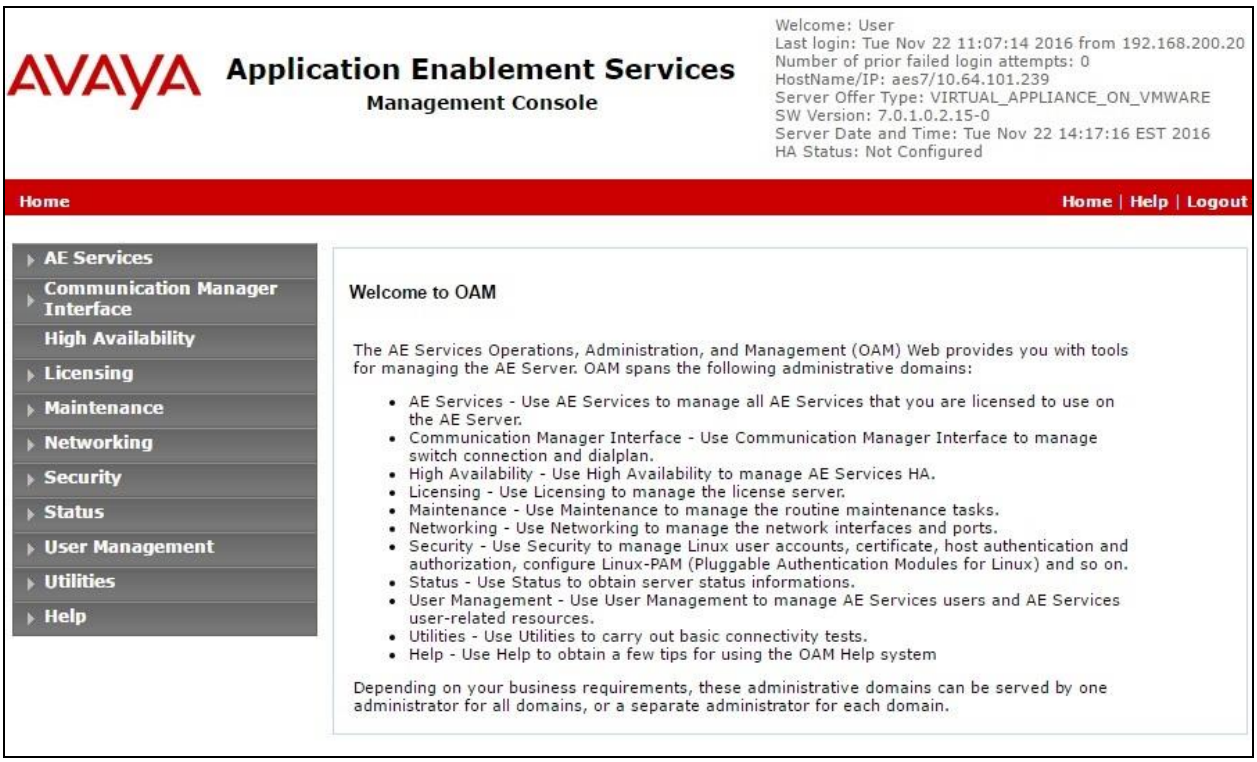
Access the OAM web-based interface by using the URL "https://ip-address" in an Internet browser window, where "ip-address" is the IP address of the Application Enablement Services server.

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



©2016 Avaya Inc. All Rights Reserved.

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



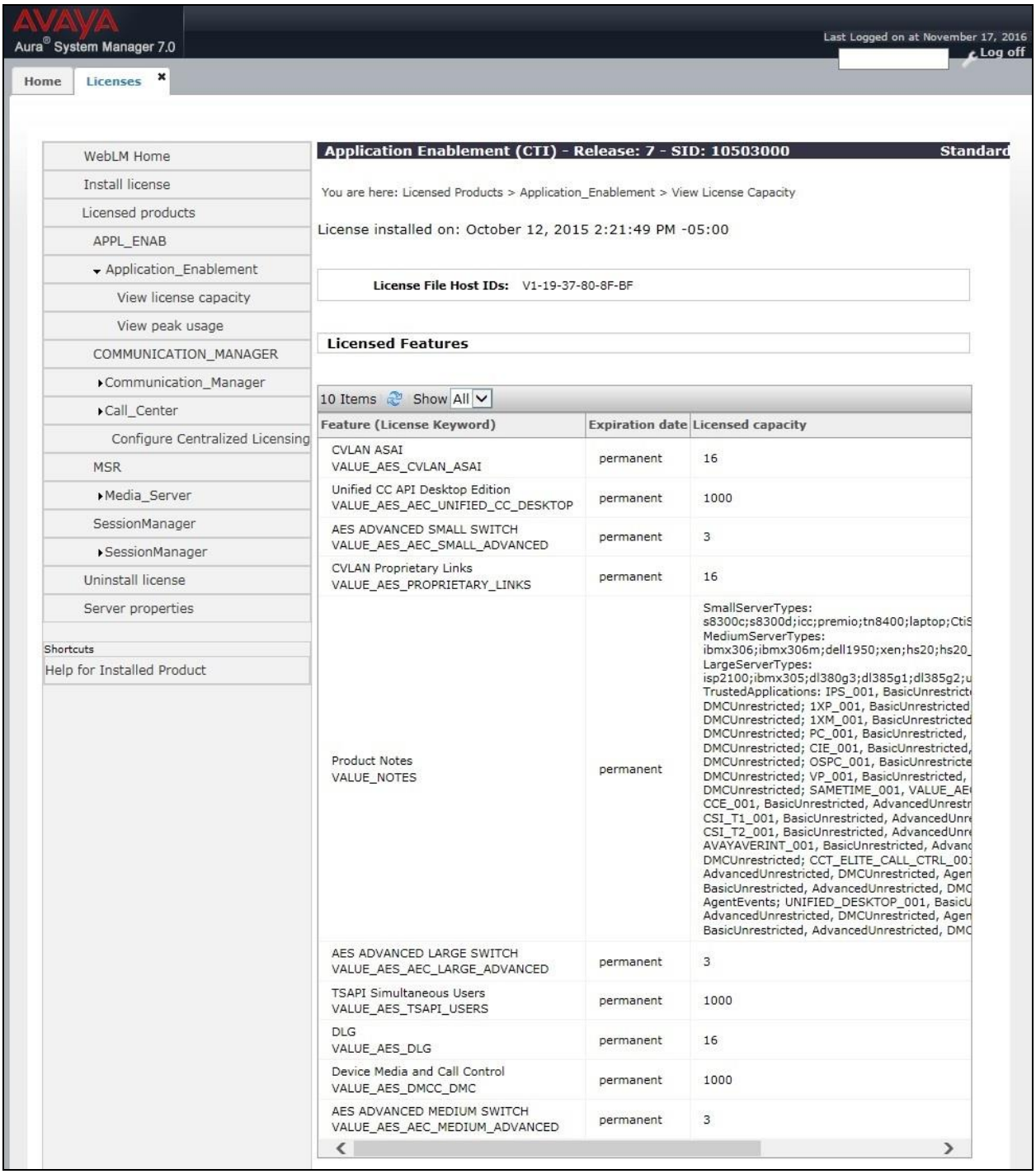
6.2. Verify License

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).

©2016 Avaya Inc. All Rights Reserved.

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**, as shown below.



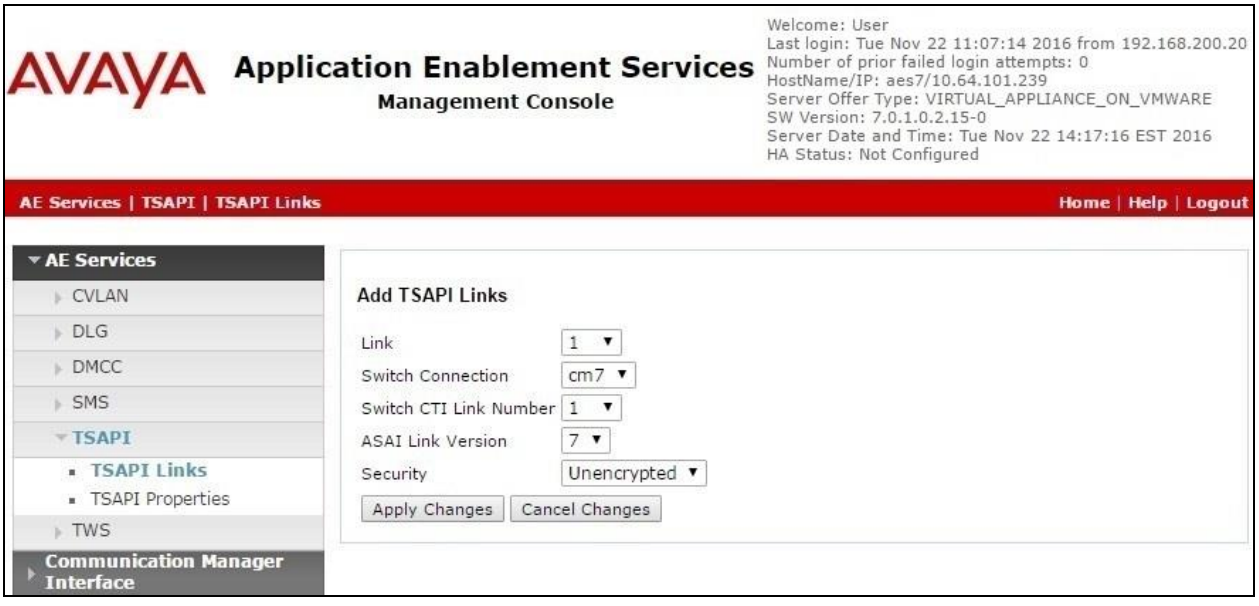
©2016 Avaya Inc. All Rights Reserved.

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 **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, the existing switch connection "cm7" is selected. For **Switch CTI Link Number**, select the CTI link number from **Section 5.2**. Retain the default values in the remaining fields.

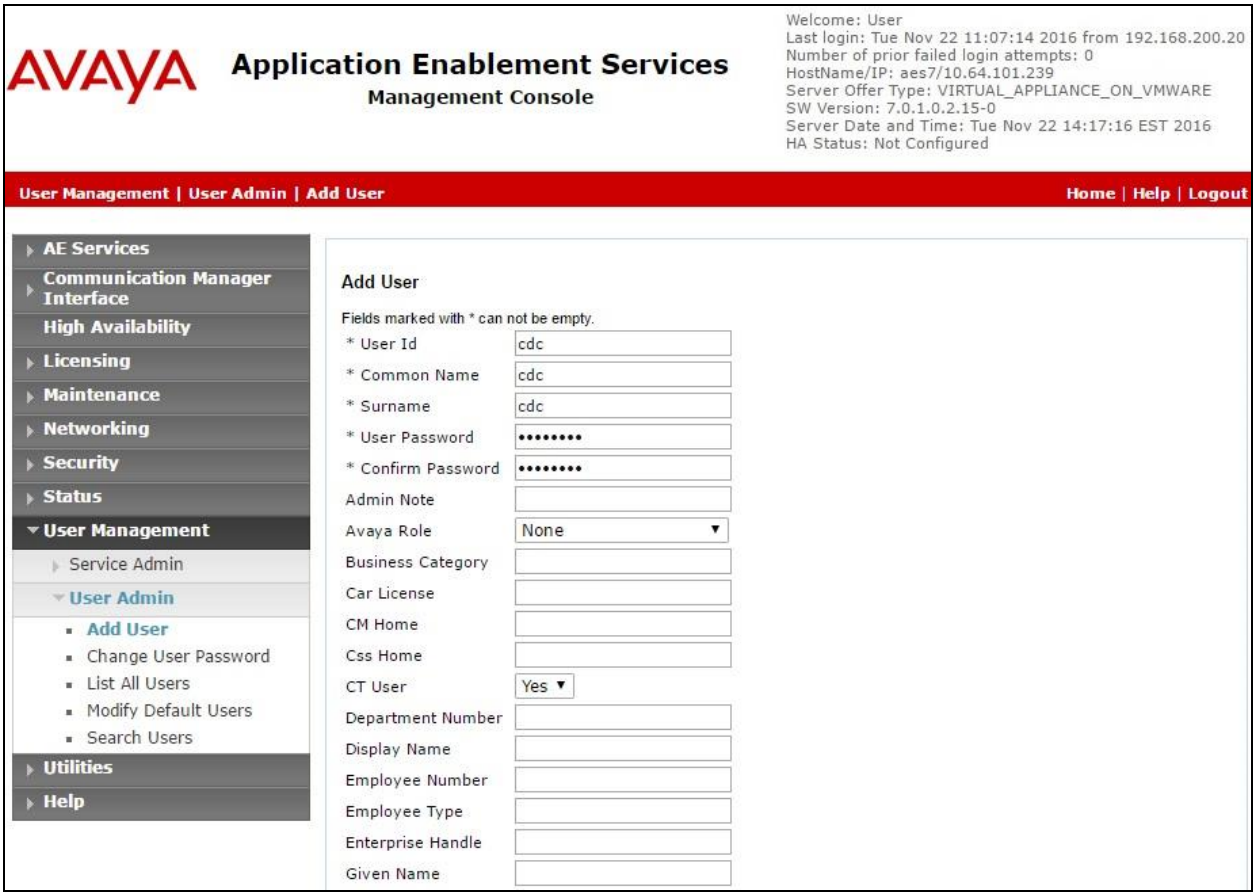


©2016 Avaya Inc. All Rights Reserved.

6.4. Administer CDC 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.

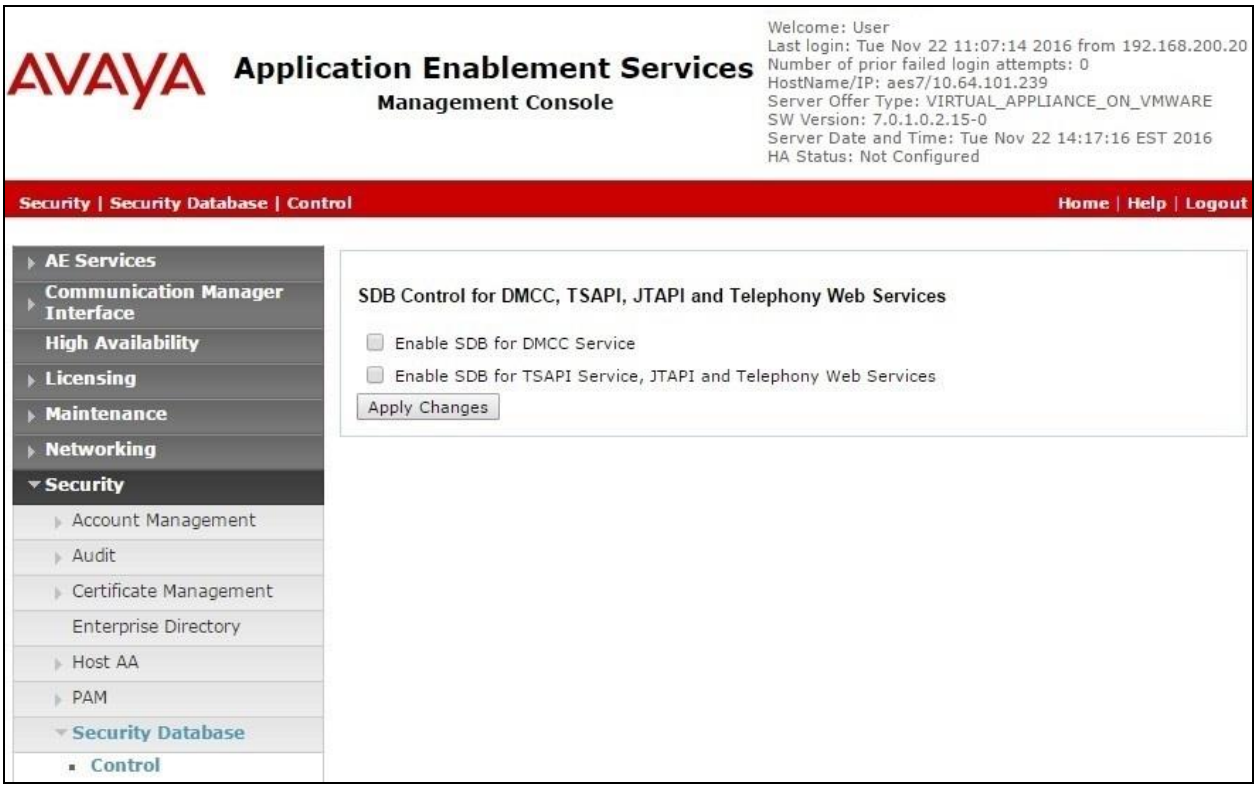


©2016 Avaya Inc. All Rights Reserved.

6.5. 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. Make certain the **Enable SDB for TSAPI Service, JTAPI, and Telephony Web Services** parameter is unchecked, as shown below.

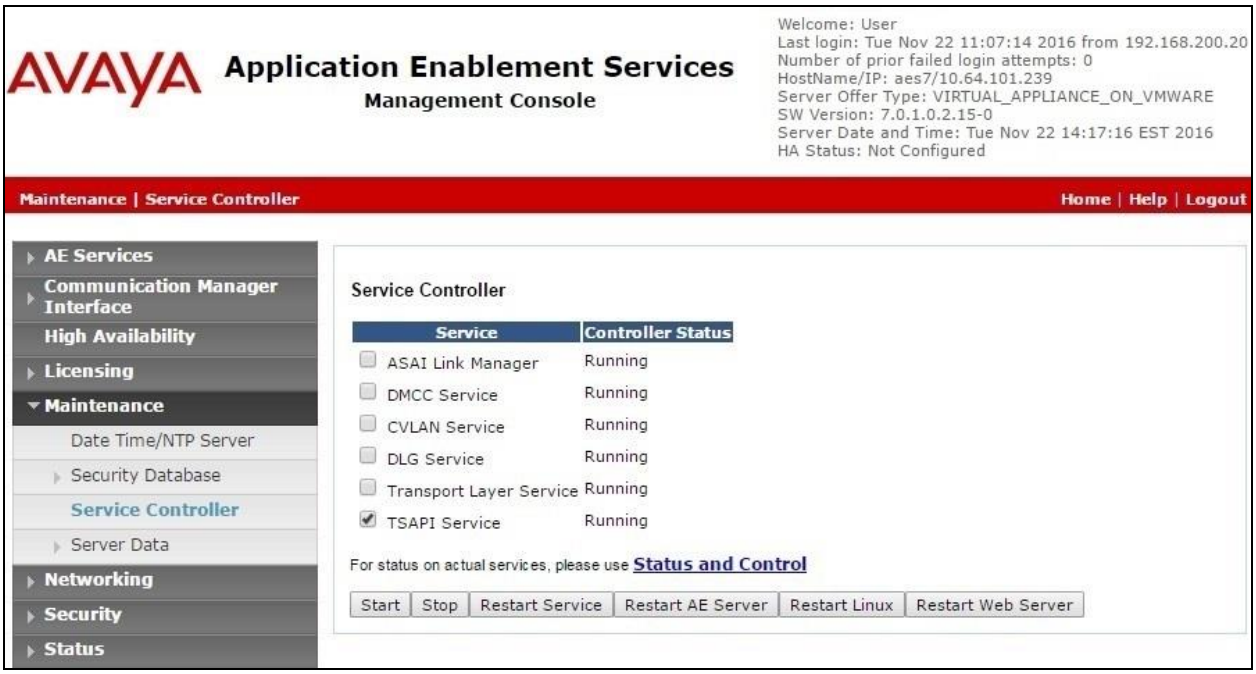
In the event that the security database is used by the customer with the parameter already enabled, then follow reference [2] to configure access privileges for the CDC user from **Section 6.4**.



©2016 Avaya Inc. All Rights Reserved.

6.6. Restart Service

Select **Maintenance → Service Controller** from the left pane, to display the **Service Controller** screen in the right pane. Check **TSAPI Service**, and click **Restart Service**.

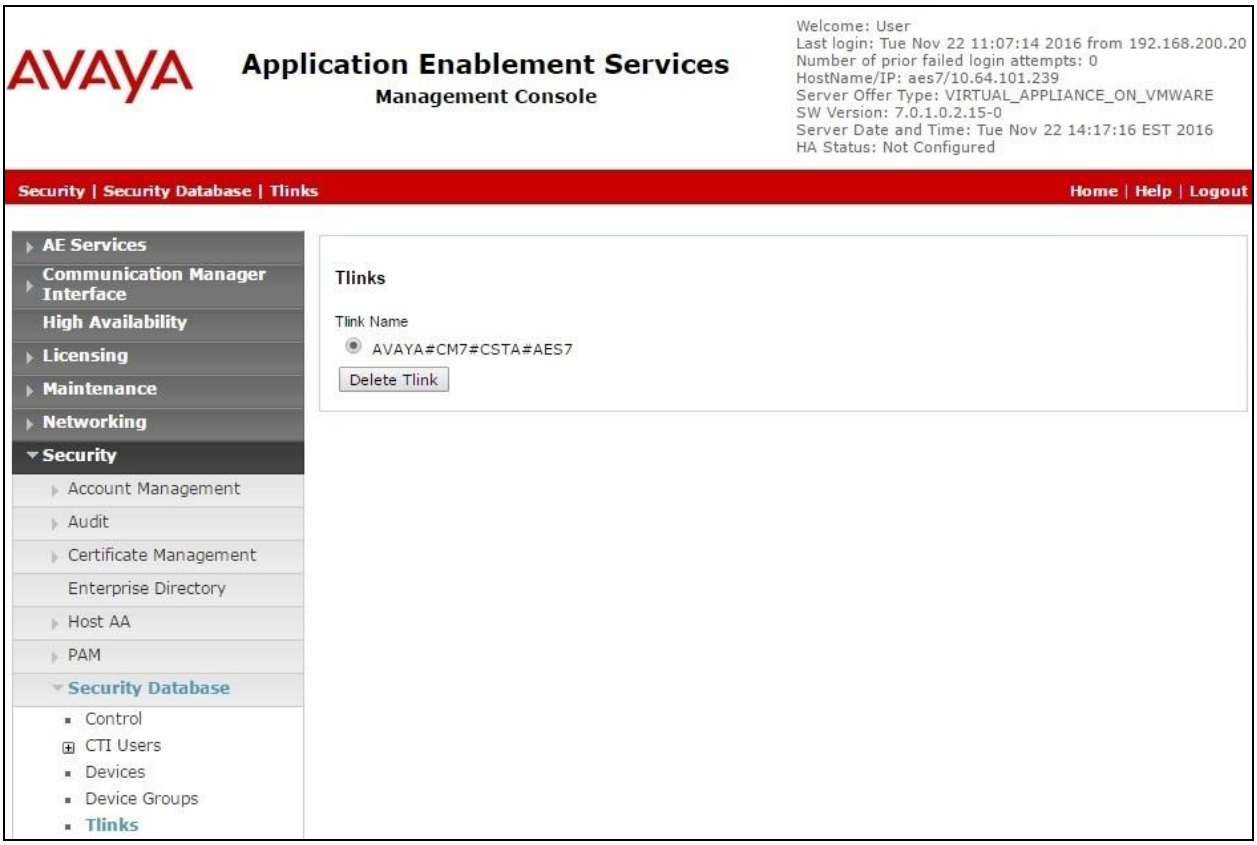


©2016 Avaya Inc. All Rights Reserved.

6.7. 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 associated Tlink name, to be used later for configuring CDC.

In this case, the associated Tlink name is "AVAYA#**CM7**#CSTA#**AES7**". Note the use of the switch connection "CM7" from **Section 6.3** as part of the Tlink name.



©2016 Avaya Inc. All Rights Reserved.

7. Configure CDC Software CDC Platform

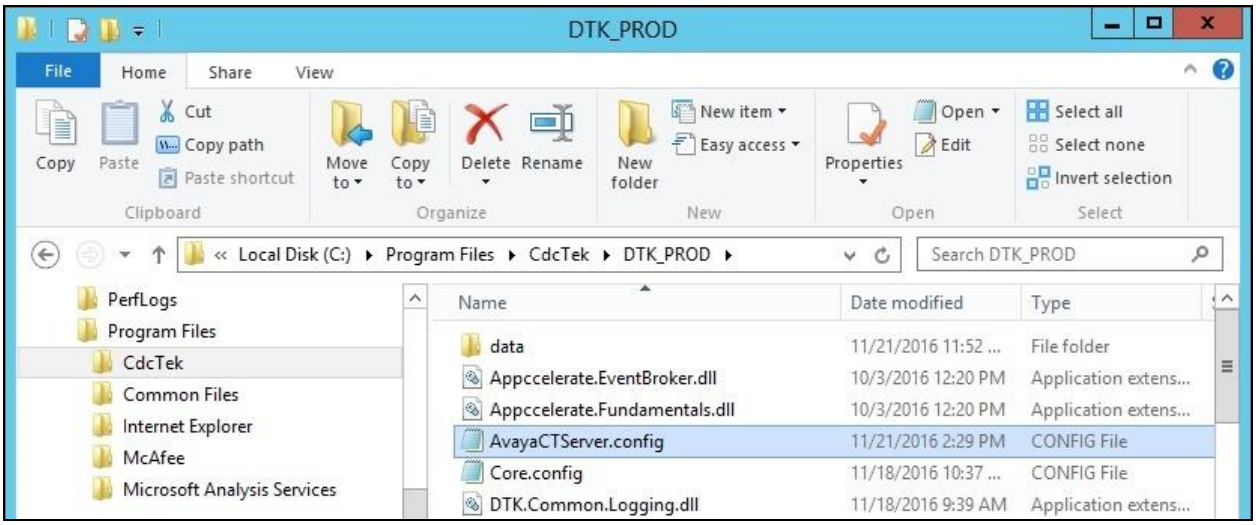
This section provides the procedures for configuring CDC. The procedures include the following areas:

- Administer AvayaCTServer.config
- Administer Zendesk.config

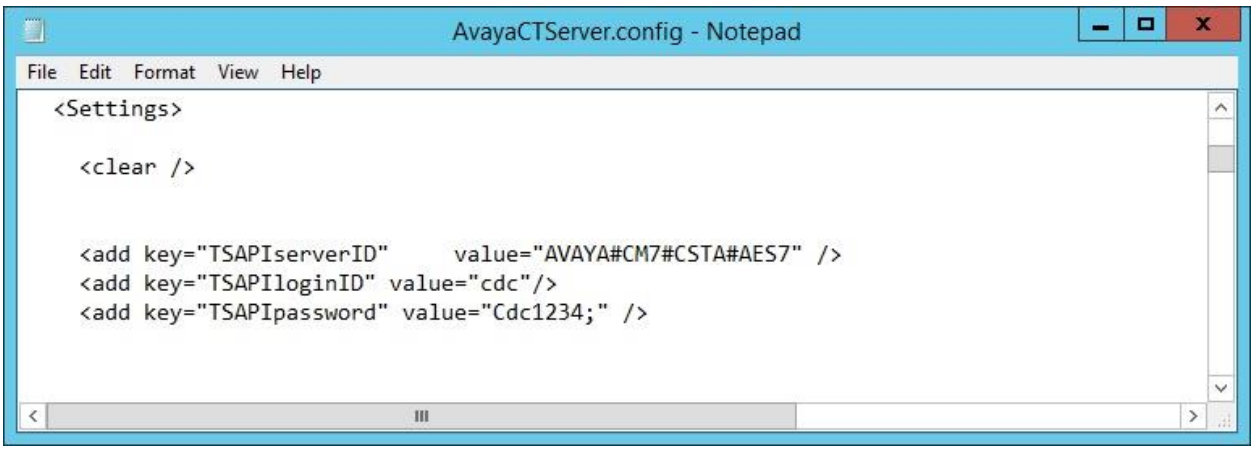
The configuration of CDC is performed by CDC technicians. The procedural steps are presented in these Application Notes for informational purposes.

7.1. Administer AvayaCTServer.config

From the CDC server, navigate to the **C:\Program Files\CdcTek** directory to edit the **AvayaCTServer.config** file shown below.



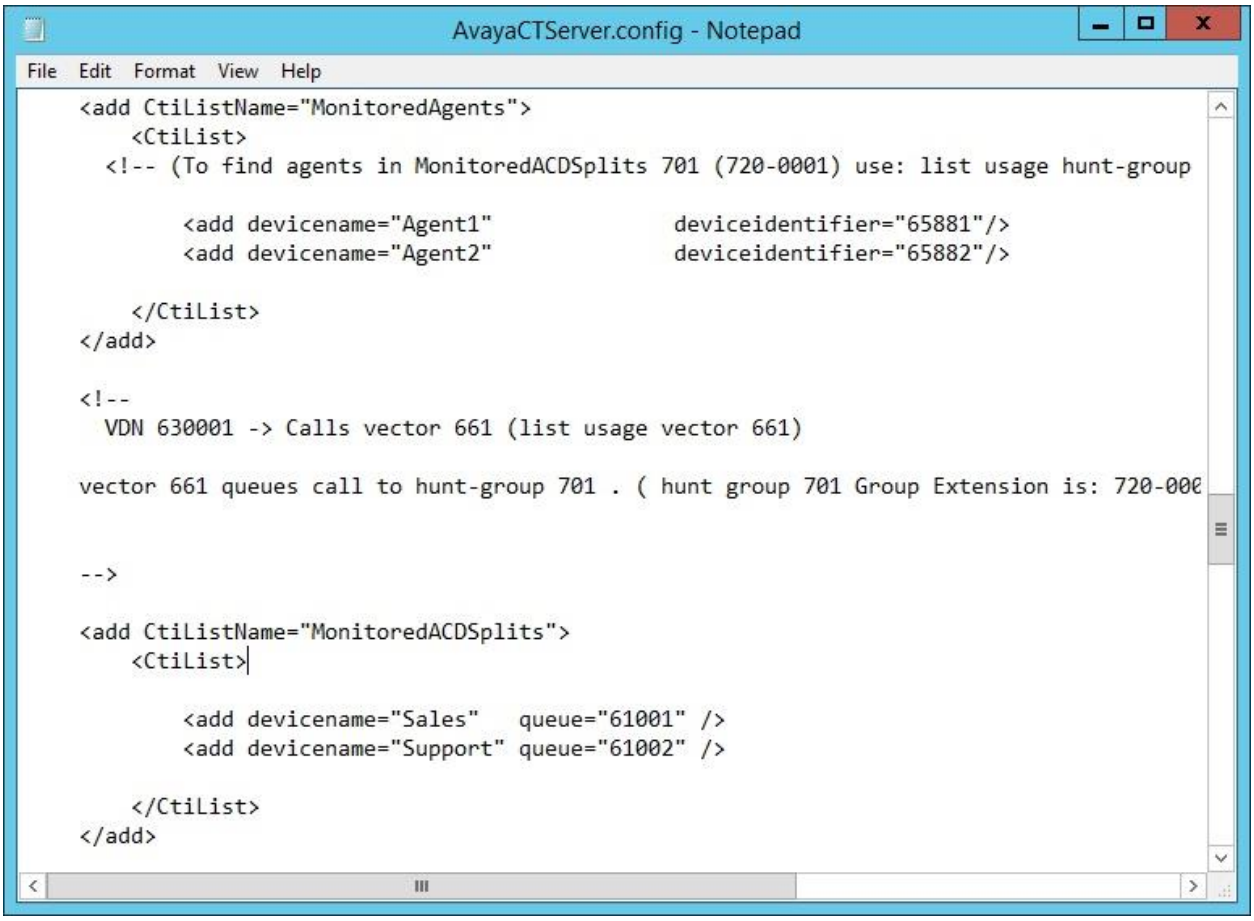
Scroll down to the **Settings** sub-section. Set **TSAPIserverID** to the Tlink name from **Section 6.7**. Set **TSAPIloginID** and **TSAPIpassword** to the CDC user credentials from **Section 6.4**.



©2016 Avaya Inc. All Rights Reserved.

Scroll down to the **MonitoredAgents** sub-section. For each agent ID from **Section 3**, add an entry line with a descriptive **devicename**, and the agent ID value as **deviceidentifier**, as shown below.

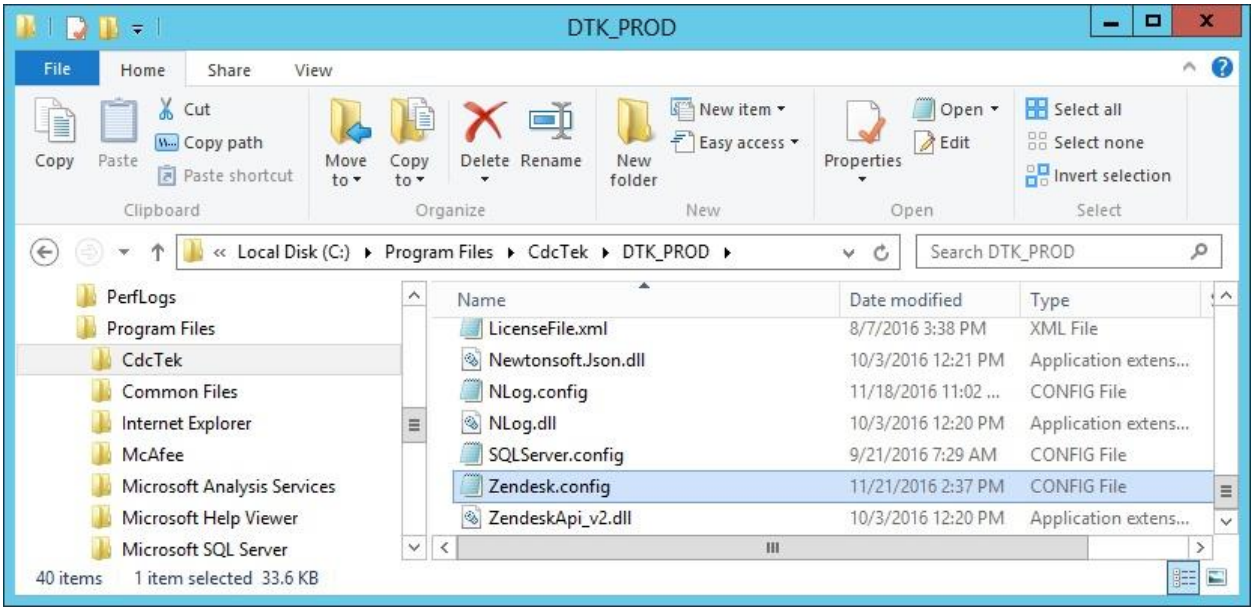
Scroll down to the **MonitoredACDSplits** sub-section. For each skill group from **Section 3**, add an entry line with a descriptive **devicename**, and the skill group extension value as **queue**, as shown below.



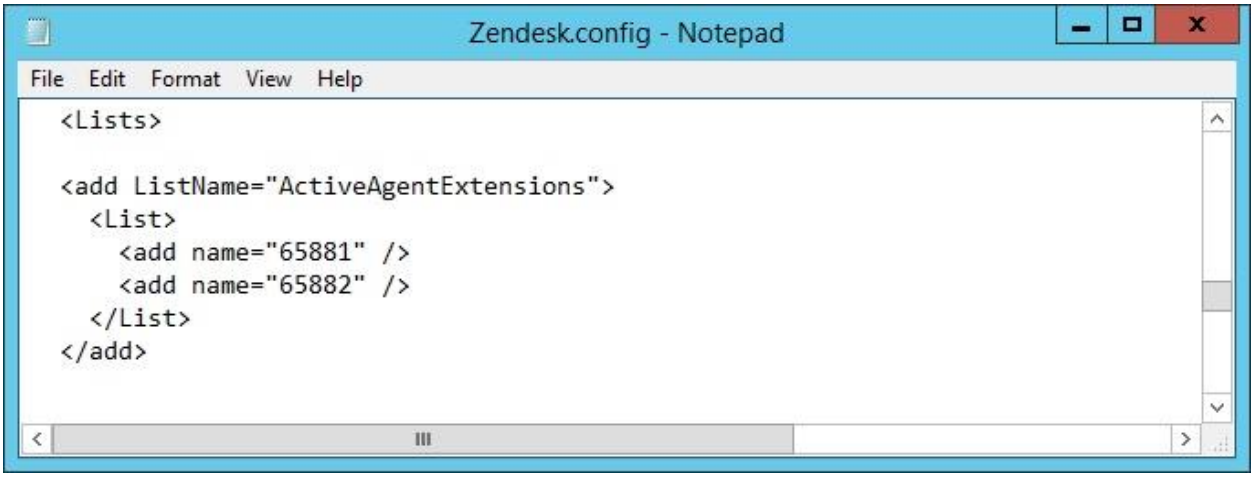
©2016 Avaya Inc. All Rights Reserved.

7.2. Administer Zendesk.config

Under the same directory, edit the **Zendesk.config** file.



Scroll down to the **ActiveAgentExtensions** sub-section. Add an entry line or each agent ID from **Section 3**, as shown below.



©2016 Avaya Inc. All Rights Reserved.

8. Verification Steps

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

8.1. Verify Avaya Aura® Communication Manager

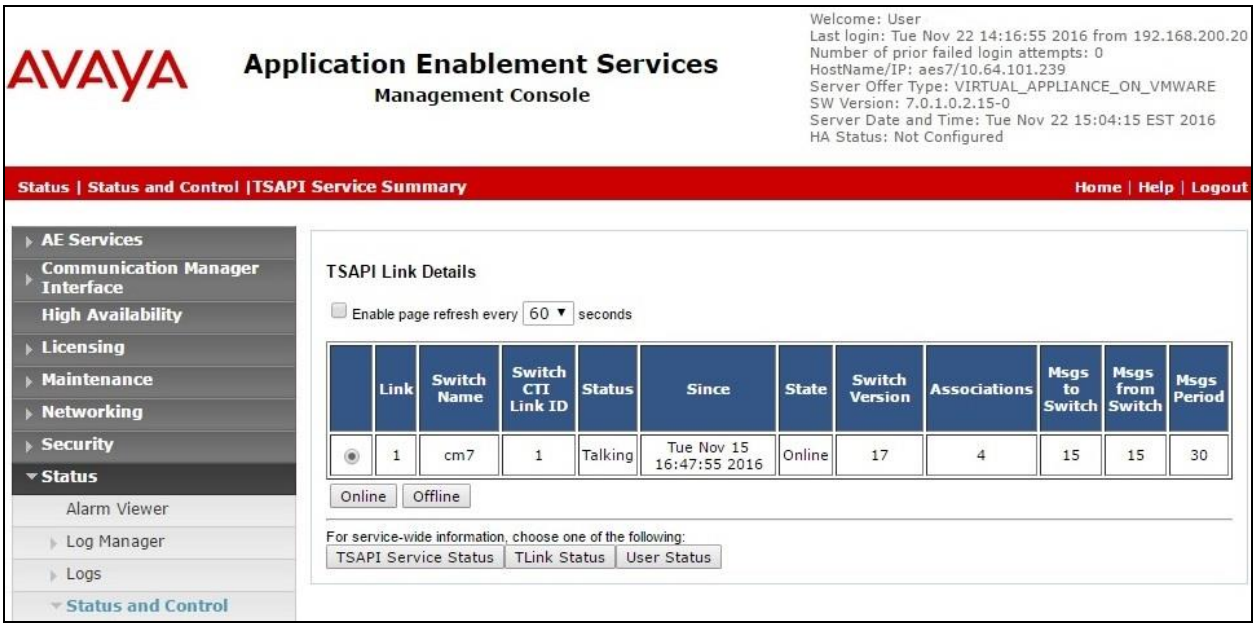
On Communication Manager, verify status of the administered CTI link by using the "status aesvcs cti-link" command. Verify that the **Service State** is "established" for the CTI link number administered in **Section 5.2**, as shown below.

```
status aesvcs cti-link

                        AE SERVICES CTI LINK STATUS

CTI    Version  Mnt    AE Services      Service       Msgs     Msgs
Link            Busy   Server           State         Sent     Rcvd

1      7        no     aes7             established   15       15
```

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 (not shown). The **TSAPI Link Details** screen is displayed.

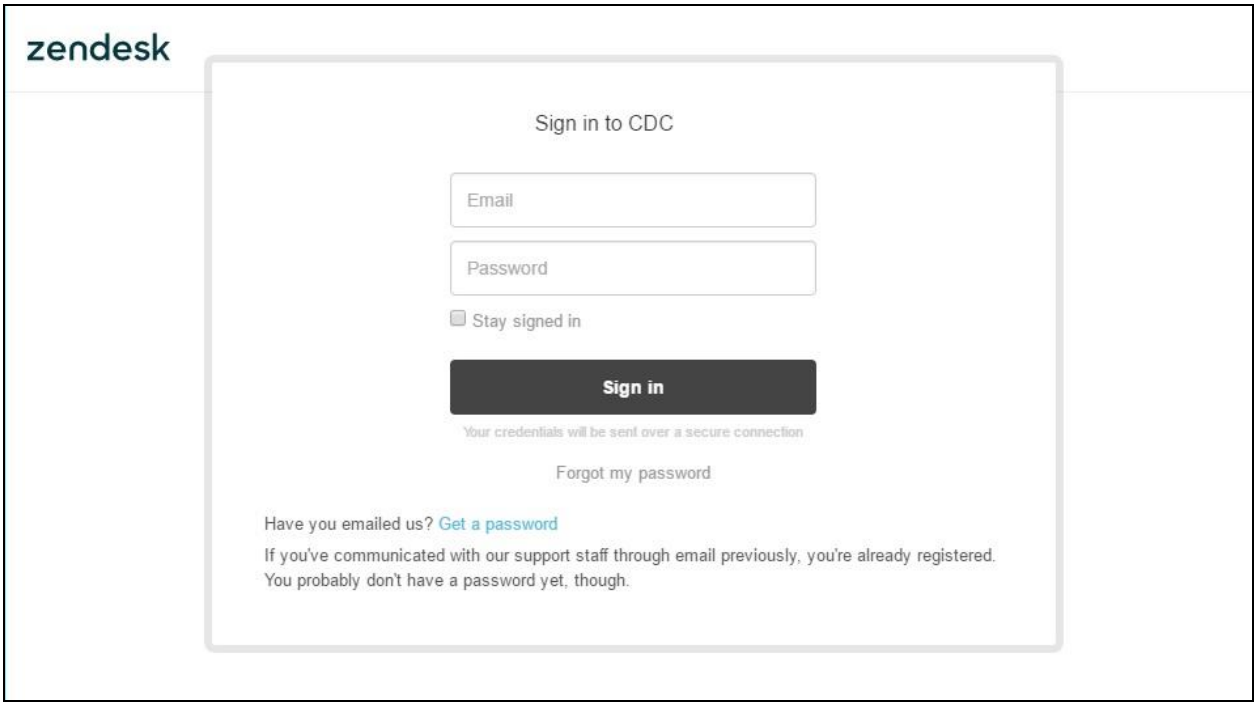
Verify that the **Status** is "Talking" for the TSAPI link administered in **Section 6.3**, and that the **Associations** column reflects the total number of monitored skill groups and logged in agents from **Section 3**, in this case "4".



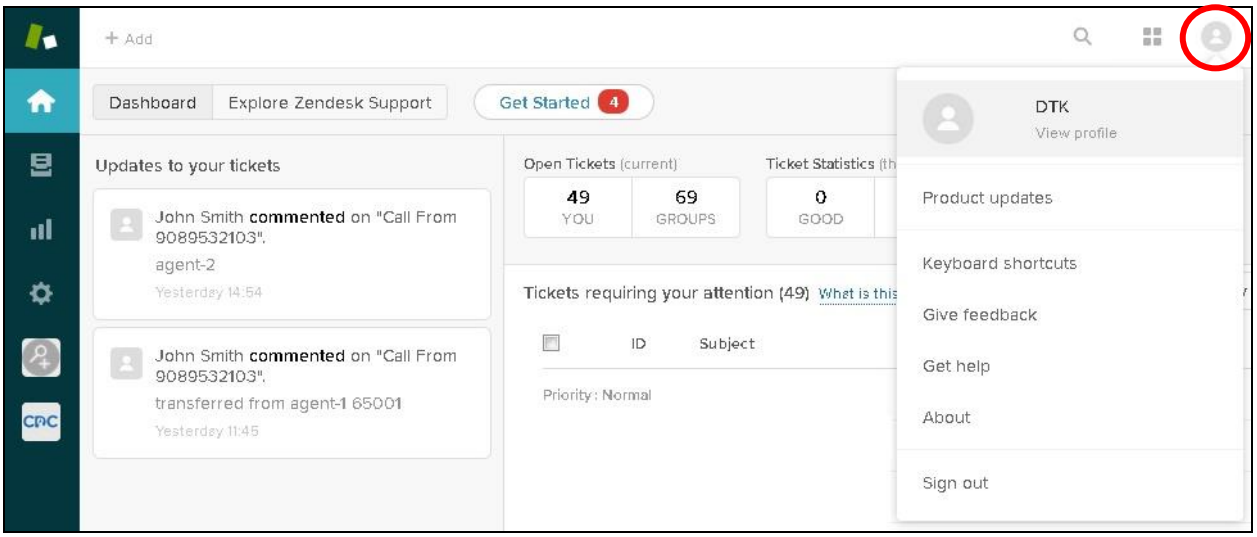
©2016 Avaya Inc. All Rights Reserved.

8.3. Verify CDC Software CDC Platform

Use the agent telephone to log an agent into the ACD. From the agent desktop, launch an Internet browser window and enter the URL provided by the end customer for Zendesk. Log in with the relevant user credentials provided by CDC.

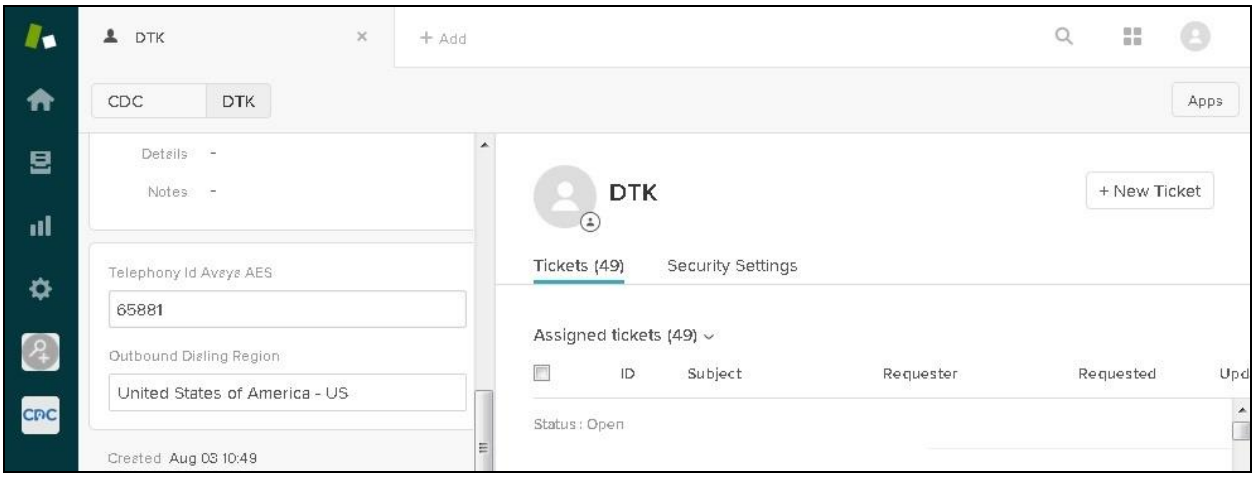


The screen below is displayed. Click on the user icon from the upper right portion of the screen, and select **View profile** from the top of the list.

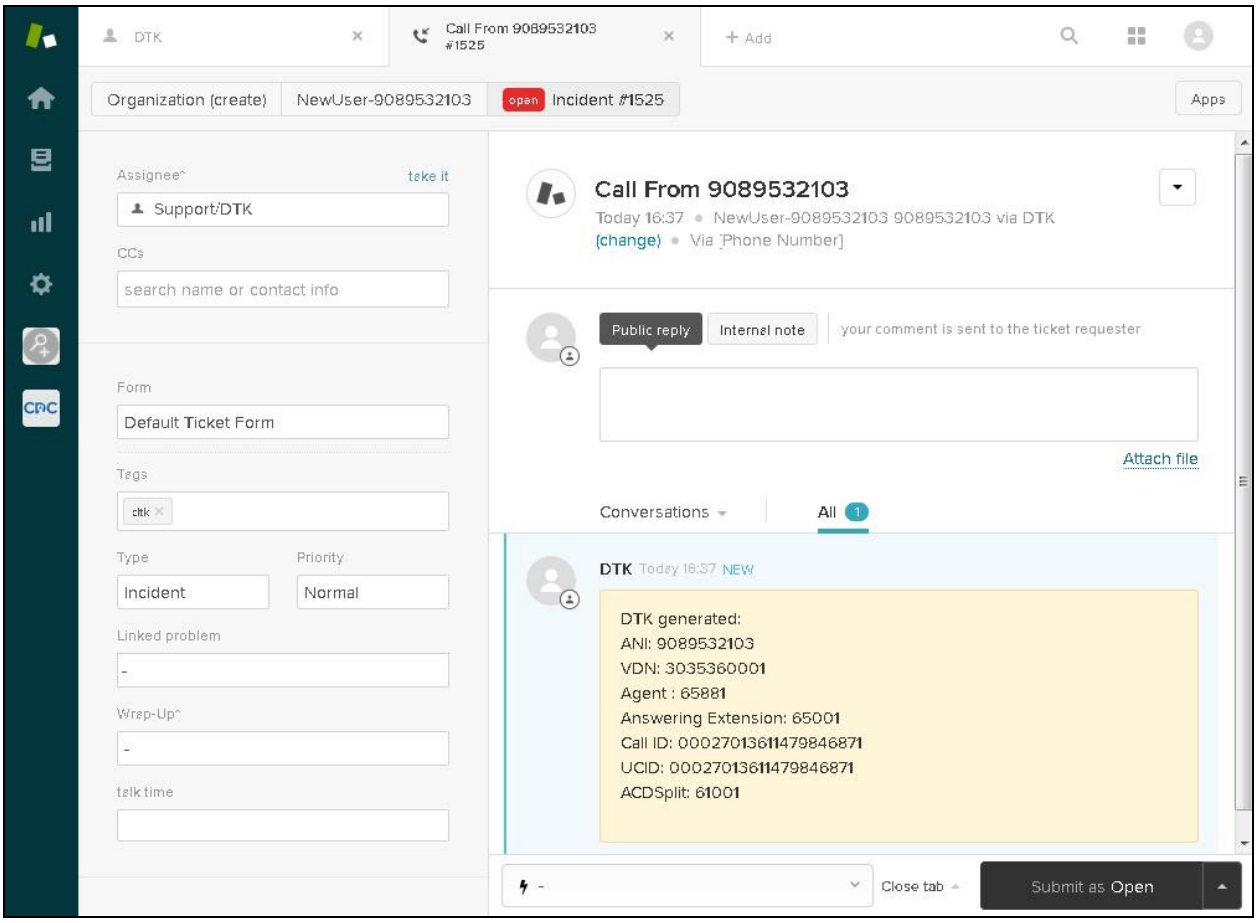


©2016 Avaya Inc. All Rights Reserved.

The screen is updated as shown below. Scroll down the left pane to the **Telephony Id Avaya AES** sub-section, and enter the pertinent agent ID from **Section 3**, in this case "65881".



Make an incoming ACD call from the PSTN and answer the call on the agent telephone. Verify that the agent desktop is populated with a new ticket incident, in this case "1525", along with proper call information, as shown below.



©2016 Avaya Inc. All Rights Reserved.

9. Conclusion

These Application Notes describe the configuration steps required for CDC Software CDC Platform to successfully interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services using Zendesk. All feature and serviceability test cases were completed with an observation 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 7.0.1, Issue 2.1, August 2016, available at http://support.avaya.com.

2. *Administering and Maintaining Aura® Application Enablement Services*, Release 7.0.1, Issue 2, August 2016, available at http://support.avaya.com.

3. *Administration and Configuration (Avaya and CRM)*, Version 1.5.1, November 17, 2016, available at http://support.cdcsoftware.com.

©2016 Avaya Inc. All Rights Reserved.

©2016 Avaya Inc. All Rights Reserved.
Avaya and the Avaya Logo are trademarks of Avaya Inc. All trademarks identified by ® and ™ are registered trademarks or trademarks, respectively, of Avaya Inc. All other trademarks are the property of their respective owners. The information provided in these Application Notes is subject to change without notice. The configurations, technical data, and recommendations provided in these Application Notes are believed to be accurate and dependable, but are presented without express or implied warranty. Users are responsible for their application of any products specified in these Application Notes.

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya DevConnect Program at devconnect@avaya.com.

©2016 Avaya Inc. All Rights Reserved.