



Application Notes for InGenius Connector Enterprise 4.0 with Avaya Aura® Communication Manager 7.0 and Avaya Aura® Application Enablement Services 7.0 using Microsoft Dynamics CRM – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for InGenius Connector Enterprise 4.0 to interoperate with Avaya Aura® Communication Manager 7.0 and Avaya Aura® Application Enablement Services 7.0 using Microsoft Dynamics CRM. InGenius Connector Enterprise is a CRM-VoIP integration tool that sits between the customer's phone system and a CRM application.

In the compliance testing, InGenius Connector Enterprise used the Device, Media, and Call Control interface from Avaya Aura® Application Enablement Services to monitor contact center agents on Avaya Aura® Communication Manager, to provide screen pop, call control, and click-to-dial features from the agent desktops connected to Microsoft Dynamics CRM.

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 InGenius Connector Enterprise (ICE) 4.0 to interoperate with Avaya Aura® Communication Manager 7.0 and Avaya Aura® Application Enablement Services 7.0 using Microsoft Dynamics CRM. ICE is a CRM-VoIP integration tool that sits between the customer's phone system and a CRM application.

In the compliance testing, ICE used the Device, Media, and Call Control (DMCC) XML interface from Avaya Aura® Application Enablement Services to monitor contact center agents on Avaya Aura® Communication Manager, to provide screen pop, call control, and click-to-dial features from the agent desktops. The agent desktops used a web browser to connect to the ICE server and to the InGenius Solution Plugin running on the Microsoft Dynamics CRM cloud.

2. General Test Approach and Test Results

The feature test cases were performed manually. Upon an agent log in, the application used DMCC to query device information and agent state, logged the agent into Communication Manager if needed, and requested device monitoring.

For the manual part of the testing, incoming ACD calls were placed with available agents that have web browser connections to Microsoft Dynamics CRM. All necessary call actions were initiated from the agent desktops and/or telephones. The click-to-dial calls were initiated by clicking on the contact phone number displayed on the agent desktops.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet connection to the ICE 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.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on ICE:

- Use of DMCC logical device services to set agent states, including log in, log out, and work mode changes with support for reason codes and pending aux work.
- Use of DMCC snapshot services to obtain information on agent stations and existing calls.
- Use of DMCC monitoring services to monitor agent stations and existing calls.
- Use of DMCC call control services to support call control and click-to-dial features.
- Proper handling of call scenarios involving inbound, outbound, internal, external, ACD, non-ACD, screen pop, drop, hold/resume, multiple calls, multiple agents, conference, transfer, long duration, send DTMF, click-to-dial from contact phone number, pending aux work, and reason codes.

The serviceability testing focused on verifying the ability of ICE to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to ICE.

2.2. Test Results

All test cases were executed, and the following were observations on ICE:

- By design, the agent desktop does not support initiation of unattended conference.
- In general, mixed use of agent desktop and telephone to perform call control actions are supported. For the transfer and conference features, however, all actions need to start and complete from the same source.
- For transfer and conference of outbound calls, the transfer-to and conference-to agents may not receive a screen pop of the contact record associated with the called party on the PSTN. The screen pop is dependent on the PSTN service provider sending the connected number.

2.3. Support

Technical support on ICE can be obtained through the following:

- **Phone:** (613) 591-9002
- **Email:** icesupport@ingenius.com
- **Web :** <http://ingenius.com/resources/support/>

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, and of contact center devices are not the focus of these Application Notes and will not be described.

In the compliance testing, ICE monitored the agent stations shown in the table below.

Device Type	Extension
VDNs	60001, 60002
Skill Groups	65081, 65082
Supervisor	65000
Agent Stations	65001, 65002, 65003
Agent IDs	65881, 65882, 65883
Agent Passwords	65881, 65882, 65883

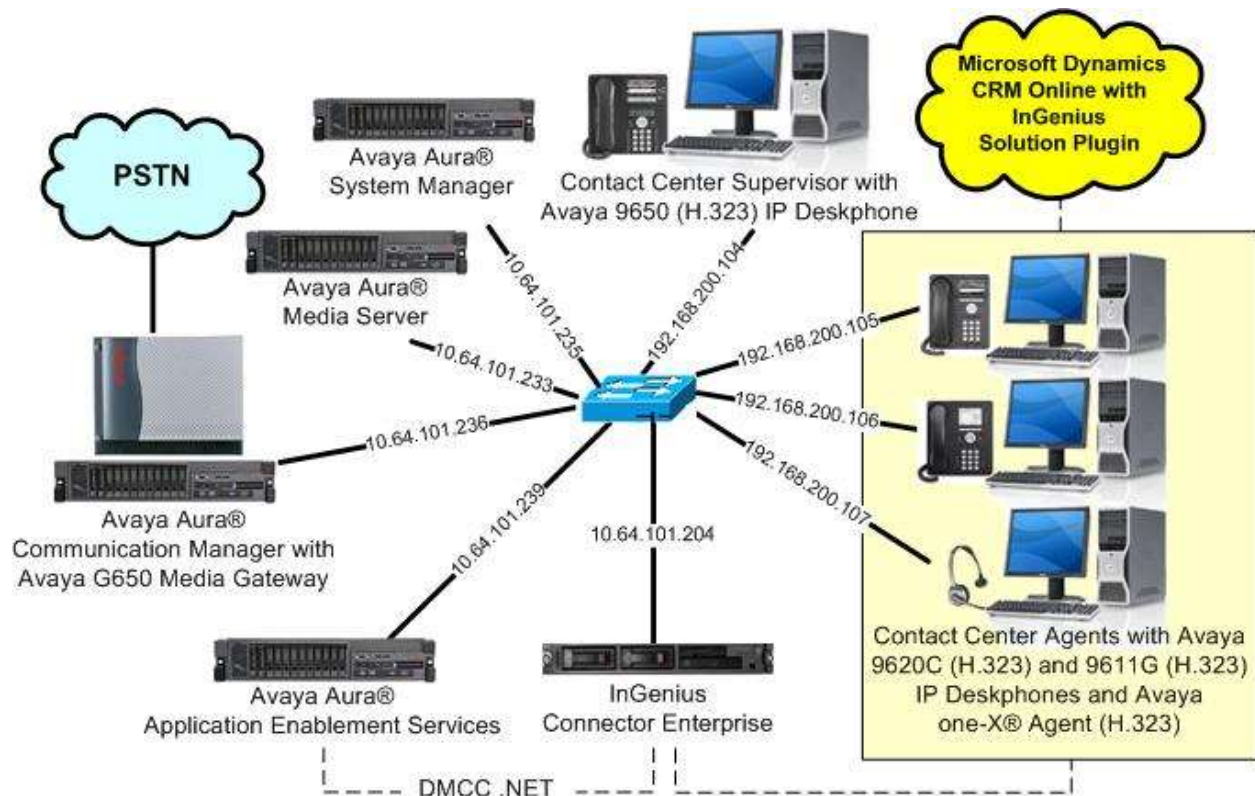


Figure 1: Compliance Testing Configuration

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	7.0 SP1 (7.0.0.1.0.441.22477)
Avaya G650 Media Gateway	NA
Avaya Aura® Media Server in Virtual Environment	7.7.0.236
Avaya Aura® Application Enablement Services in Virtual Environment	7.0 Patch 1 (7.0.0.0.1.13)
Avaya one-X® Agent	2.5.8 (2.5.58020.0)
Avaya 9611G IP Deskphone (H.323)	6.6029
Avaya 9620C & 9650 IP Deskphones (H.323)	3.250A
InGenius Connector Enterprise on Windows Server 2012 <ul style="list-style-type: none">• Avaya DMCC XML• Configuration Tool	4.0.1000.10784 R2 Standard 6.2 4.0.1000.10784
InGenius Solution Plugin for Microsoft Dynamics CRM on Microsoft Dynamics CRM Online	2.24.2.24 2015 SP1 (7.1.1.4210)

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 system parameters features
- Obtain reason codes

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? n	DCS Call Coverage? y	
ASAI Link Plus Capabilities? n	DCS with Rerouting? 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		

5.3. 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.

```
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
```

Navigate to **Page 13**, and enable **Send UCID to ASAI**. This parameter allows for the universal call ID to be sent to ICE.

```
change system-parameters features                                     Page 13 of 20
                           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 UI 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
```

5.4. Obtain Reason Codes

For contact centers that use reason codes, enter the “change reason-code-names” command to display the configured reason codes. Make a note of the reason codes, which will be used later to configure ICE.

```
change reason-code-names                                     Page 1 of 1

                                REASON CODE NAMES

                                Aux Work/           Logout
                                Interruptible?

Reason Code 1: Lunch           /n Finished Shift
Reason Code 2: Coffee          /n
Reason Code 3:                  /n
Reason Code 4:                  /n
Reason Code 5:                  /n
Reason Code 6:                  /n
Reason Code 7:                  /n
Reason Code 8:                  /n
Reason Code 9:                  /n

Default Reason Code:
```


6. Configure Avaya Aura® Application Enablement Services

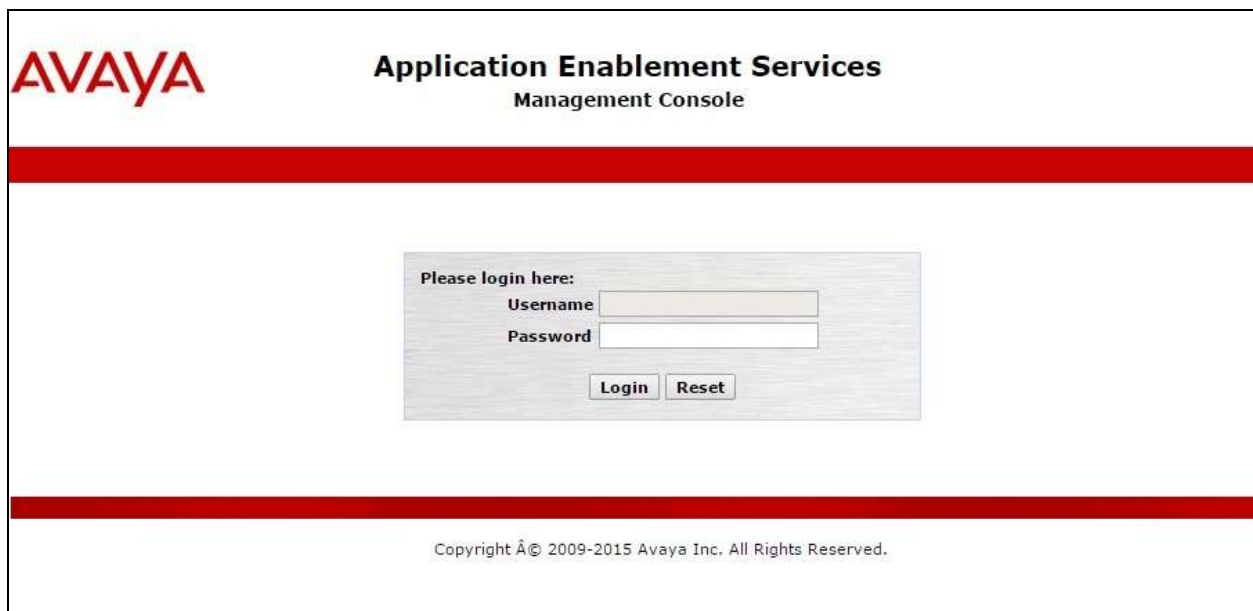
This section provides the procedures for configuring Application Enablement Services. The procedures include the following areas:

- Launch OAM interface
- Verify license
- Administer TSAPI link
- Administer InGenius user
- Disable security database
- Administer ports
- Restart services

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" is displayed in a large, bold font, with "Management Console" in a smaller font below it. A thick red horizontal bar separates the header from the main content area. In the center of the page is a login box with a light gray background. Inside this box, the text "Please login here:" is followed by two input fields: "Username" and "Password". Below these fields are two buttons: "Login" and "Reset". Another thick red horizontal bar is located below the login box. At the bottom of the page, centered, is the copyright notice: "Copyright © 2009-2015 Avaya Inc. All Rights Reserved."

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". On the right, a welcome message for "User" is shown, including login details and system status. A red navigation bar at the top contains "Home", "Help", and "Logout" links. A left sidebar lists various services: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. The main content area, titled "Welcome to OAM", explains the console's purpose and lists administrative domains: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management, Utilities, and Help. Each domain is accompanied by a brief description of its function.

Welcome: User
Last login: Tue Nov 17 15:23:19 2015 from 192.168.200.200
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 7.0.0.0.1.13
Server Date and Time: Tue Nov 17 16:13:36 EST 2015
HA Status: Not Configured

Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
Maintenance
Networking
Security
Status
User Management
Utilities
Help

Welcome to OAM

The AE Services Operations, Administration, and Management (OAM) Web provides you with tools for managing the AE Server. OAM spans the following administrative domains:

- AE Services - Use AE Services to manage all AE Services that you are licensed to use on the AE Server.
- Communication Manager Interface - Use Communication Manager Interface to manage switch connection and dialplan.
- High Availability - Use High Availability to manage AE Services HA.
- Licensing - Use Licensing to manage the license server.
- Maintenance - Use Maintenance to manage the routine maintenance tasks.
- Networking - Use Networking to manage the network interfaces and ports.
- Security - Use Security to manage Linux user accounts, certificate, host authentication and authorization, configure Linux-PAM (Pluggable Authentication Modules for Linux) and so on.
- Status - Use Status to obtain server status informations.
- User Management - Use User Management to manage AE Services users and AE Services user-related resources.
- Utilities - Use Utilities to carry out basic connectivity tests.
- Help - Use Help to obtain a few tips for using the OAM Help system

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" section selected in the left sidebar. The top header and welcome message are identical to the previous screenshot. The red navigation bar now shows "Licensing" as the active page, with "Home", "Help", and "Logout" links. The left sidebar highlights "Licensing" and lists sub-options: WebLM Server Address, WebLM Server Access, and Reserved Licenses. The main content area, titled "Licensing", provides instructions for setting up and maintaining the WebLM, including the need to use the following: WebLM Server Address, WebLM Server Access, and Reserved Licenses.

Welcome: User
Last login: Tue Nov 17 15:23:19 2015 from 192.168.200.200
Number of prior failed login attempts: 0
HostName/IP: aes7/10.64.101.239
Server Offer Type: VIRTUAL_APPLIANCE_ON_VMWARE
SW Version: 7.0.0.0.1.13
Server Date and Time: Tue Nov 17 16:13:36 EST 2015
HA Status: Not Configured

Licensing | Home | Help | Logout

AE Services
Communication Manager Interface
High Availability
Licensing
WebLM Server Address
WebLM Server Access
Reserved Licenses
Maintenance
Networking

Licensing

If you are setting up and maintaining the WebLM, you need to use the following:

- WebLM Server Address

If you are importing, setting up and maintaining the license, you need to use the following:

- WebLM Server Access

If you want to administer TSAPI Reserved Licenses or DMCC Reserved Licenses, you need to use the following:

- Reserved Licenses

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. Note that the TSAPI license is used for device monitoring and call control via DMCC, and that no specific DMCC license is required for integration with ICE.

AVAYA
Aura® System Manager 7.0

Last Logged on at November 13, 2015

Home Licenses

WebLM Home
Install license
Licensed products
APPL_ENAB
Application Enablement
View license capacity
View peak usage
COMMUNICATION_MANAGER
Communication Manager
Call Center
Configure Centralized Licensing
MSR
Media Server
SessionManager
SessionManager
Uninstall license
Server properties
Shortcuts
Help for Installed Product

Application Enablement (CTI) - Release: 7 - SID: 10503000 Standard

You are here: Licensed Products > Application Enablement > View License Capacity

License installed on: October 12, 2015 2:21:49 PM +05:00

License File Host IDs: V1-19-37-90-8F-BF

Licensed Features

10 Items Show All

Feature (License Keyword)	Expiration date	Licensed capacity
CVLAN ASA1 VALUE_AES_CVLAN_ASA1	permanent	16
Unified CC API Desktop Edition VALUE_AES_AEC_UNIFIED_CC_DESKTOP	permanent	1000
AES ADVANCED SMALL SWITCH VALUE_AES_AEC_SMALL_ADVANCED	permanent	3
CVLAN Proprietary Links VALUE_AES_PROPRIETARY_LINKS	permanent	16
Product Notes VALUE_NOTES	permanent	SmallServerTypes: s8300c;s8300d;icc;premio;tn8400;leptop;Cti5 MediumServerTypes: ibmx306;ibmx306m;dell1950;xen;hs20;hs20_1 LargeServerTypes: isp2100;ibmx305;d1380g3;d1385g1;d1385g2;u TrustedApplications: IPS_001, BasicUnrestrict DMCUnrestricted; IXP_001, BasicUnrestricted DMCUnrestricted; IXM_001, BasicUnrestricted DMCUnrestricted; PC_001, BasicUnrestricted, DMCUnrestricted; CTE_001, BasicUnrestricted, DMCUnrestricted; OSPC_001, BasicUnrestricted, DMCUnrestricted; VP_001, BasicUnrestricted, DMCUnrestricted; SAMETIME_001, VALUE_AES CCE_001, BasicUnrestricted, AdvancedUnrestrict CS1_T1_001, BasicUnrestricted, AdvancedUnrestrict CS1_T2_001, BasicUnrestricted, AdvancedUnrestrict AVAYAVERINT_001, BasicUnrestricted, AdvancedUnrestrict DMCUnrestricted; CCT_ELITE_CALL_CTRL_001 AdvancedUnrestricted, DMCUnrestricted, Agent BasicUnrestricted, AdvancedUnrestricted, DMC AgentEvents; UNIFIED_DESKTOP_001, BasicUnrestrict AdvancedUnrestricted, DMCUnrestricted, Agent BasicUnrestricted, AdvancedUnrestricted, DMC
AES ADVANCED LARGE SWITCH VALUE_AES_AEC_LARGE_ADVANCED	permanent	3
TSAPI Simultaneous Users VALUE_AES_TSAPI_USERS	permanent	1000
DLG VALUE_AES_DLG	permanent	16
Device Media and Call Control VALUE_AES_DMCC_DMC	permanent	1000
AES ADVANCED MEDIUM SWITCH VALUE_AES_AEC_MEDIUM_ADVANCED	permanent	3

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 header includes the Avaya logo, the title "Application Enablement Services Management Console", and a welcome message for the user. The left navigation pane shows "AE Services" expanded, with "TSAPI" selected, and "TSAPI Links" highlighted. The main content area displays the "TSAPI Links" screen, which includes 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, 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.

The screenshot shows the "Add TSAPI Links" screen in the Avaya Application Enablement Services Management Console. The left navigation pane is the same as the previous screenshot. The main content area displays the "Add TSAPI Links" form, which includes fields for Link, Switch Connection, Switch CTI Link Number, ASAI Link Version, and Security. Each field has a dropdown menu. The "Link" field is set to "1", "Switch Connection" is set to "cm7", "Switch CTI Link Number" is set to "1", "ASAI Link Version" is set to "7", and "Security" is set to "Unencrypted". Below the form are buttons for "Apply Changes" and "Cancel Changes".

6.4. Administer InGenius 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.

 **Application Enablement Services**
Management Console

Welcome: User
Last login: Tue Nov 17 15:23:19 2015 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: 7.0.0.0.1.13
Server Date and Time: Tue Nov 17 16:13:36 EST 2015
HA Status: Not Configured

User Management | User Admin | Add User

Home | 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

6.5. Disable 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 InGenius user from **Section 6.4**.

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 "Control" selected. The right pane shows the "SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services" configuration page, which contains two unchecked checkboxes and an "Apply Changes" button.

AVAYA Application Enablement Services Management Console

Welcome: User
Last login: Tue Nov 17 15:23:19 2015 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: 7.0.0.0.1.13
Server Date and Time: Tue Nov 17 16:13:36 EST 2015
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](#)

6.7. Restart Services

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

AVAYA **Application Enablement Services**
Management Console

Welcome: User
Last login: Tue Nov 17 10:29:16 2015 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: 7.0.0.0.1.13
Server Date and Time: Tue Nov 17 10:43:33 EST 2015
HA Status: Not Configured

Maintenance | Service Controller

Home | 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 checked="" 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 checked="" type="checkbox"/> TSAPI Service	Running

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

Start

Stop

Restart Service

Restart AE Server

Restart Linux

Restart Web Server

7. Configure InGenius Connector Enterprise

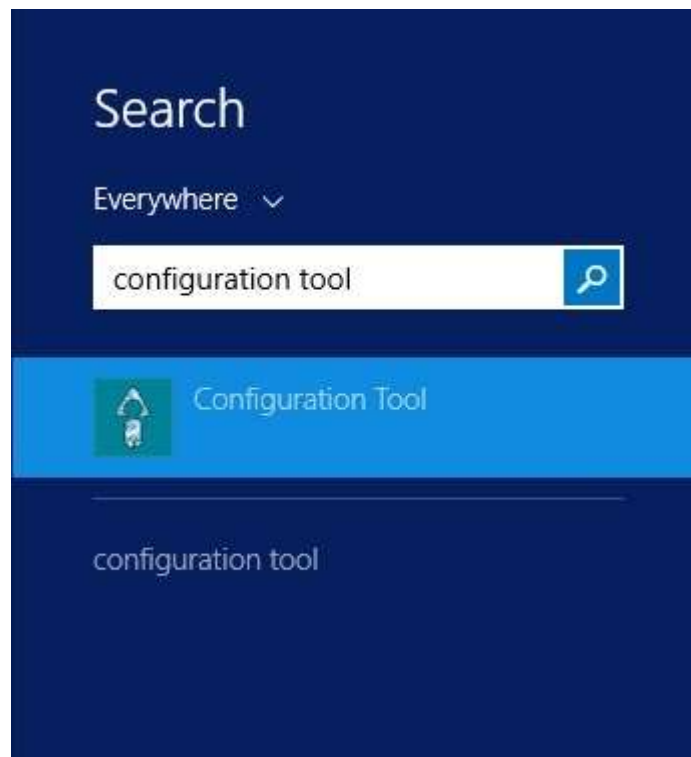
This section provides the procedures for configuring ICE. The procedures include the following areas:

- Launch configuration tool
- Administer dialing and number formatting
- Administer telephony
- Start service

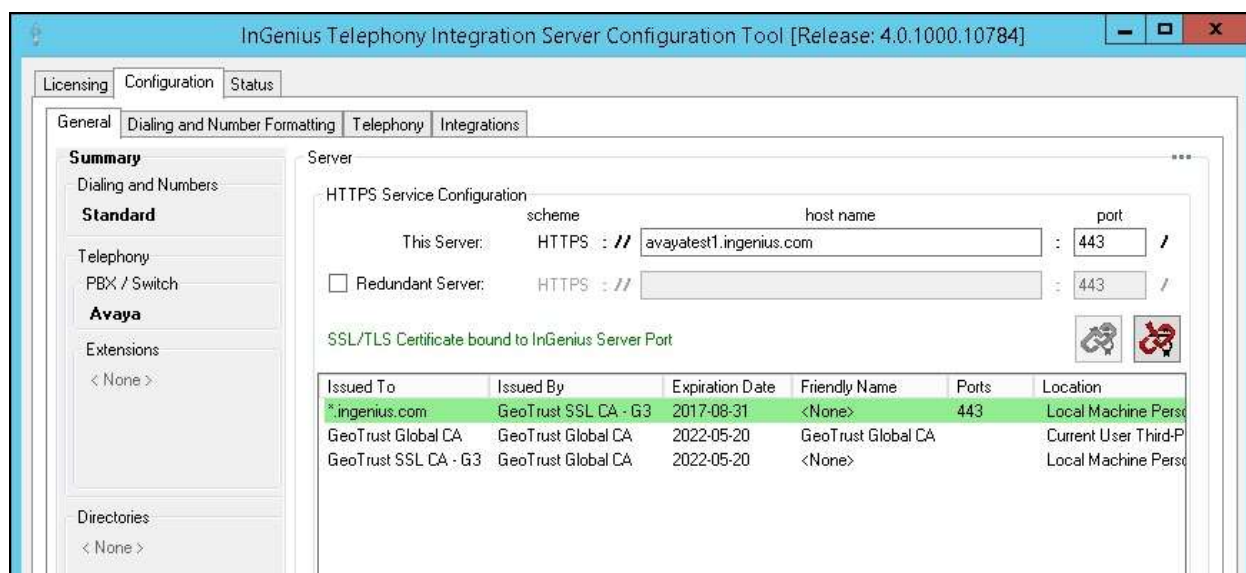
This section assumes the Connector Enterprise package has been imported and published, with the appropriate Security Role created, and users created and assigned to the Security Role. Refer to reference [3] for more details.

7.1. Launch Configuration Tool

From the ICE server, enter “configuration tool” anywhere on the desktop to locate the **Configuration Tool** application. Click on the pertinent entry from the result to launch the application.

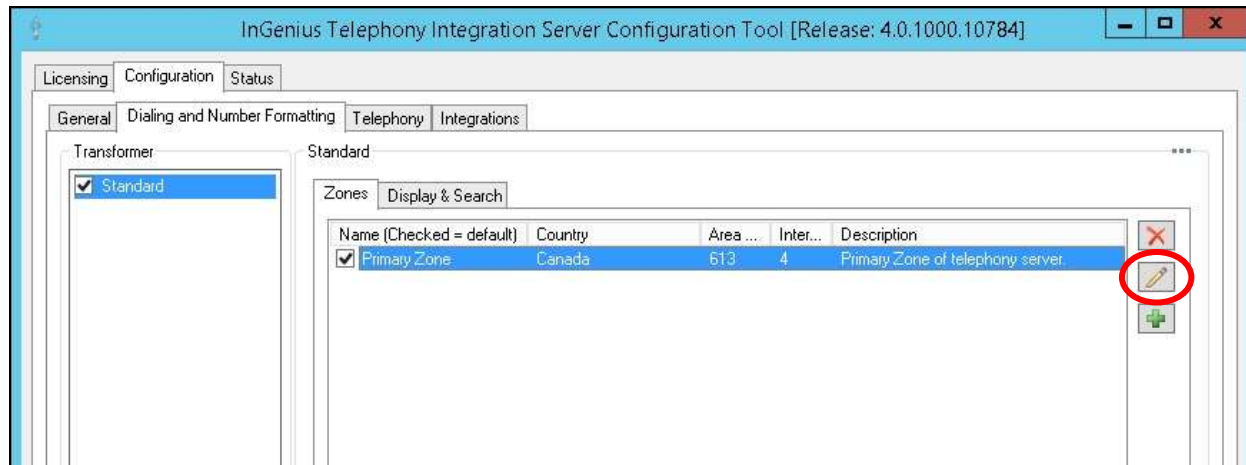


The **InGenius Telephony Integration Server Configuration Tool** screen is displayed.



7.2. Administer Dialing and Number Formatting

Select **Configuration → Dialing and Number Formatting** from the top menu, followed by the **Zones** tab in the right pane. Select the default entry, and click the **Edit translation** icon shown below.



The **Zone Configuration** screen is displayed next. For **Country**, **Area Code**, and **Internal numbers are**, select and enter the values to match the network configuration. Retain the default values in the remaining fields.

Select the default entry in the **Trunks** sub-section, and click on the **Edit Trunk** icon shown below.

The screenshot shows the 'Zone Configuration' window. The 'Name' field is 'Primary Zone' and the 'Description' is 'Primary Zone of telephony server.'. The 'Country' dropdown is set to 'United States (+1)'. The 'Area Code' is '303' and 'Local Exchange' is empty. 'Internal numbers are' is set to '5' digits or fewer. In the 'Trunks' section, there is a table with one entry: 'Primary Trunk' (checked), '9', 'Canada', and '61'. To the right of the table are three icons: a green plus, a red pencil (circled in red), and a red X. The 'Translations' section on the right contains a table with two entries: 'Feature ...' (unchecked) and 'Cisco IS...' (unchecked).

Name	Description
<input type="checkbox"/> Feature ...	Numbers starting with * or # are...
<input type="checkbox"/> Cisco IS...	Passes Cisco bookmarks directl...

Name (Checked = default)	N...	Country	An
<input checked="" type="checkbox"/> Primary Trunk	9	Canada	61

The **Trunk** screen is displayed. Follow reference [4] to update trunk parameter values to match the network configuration. The screenshot below shows the values used in the compliance testing.

Trunk

Name: Primary Trunk

Description: Primary trunk of telephony server.

Prefix: 9

Country: United States (+1)

Area Code: 303 Local Exchange:

Allowed calls

- ☒ Local ☒ Dial area code for local calls
- ☒ Long Distance
- ☒ International

Long distance carrier code:

International carrier code:

Test dialing

Enter number to dial:

Expanded to:

Dialable:

Translations to dialable:

Name	Description
<input type="checkbox"/> Argentina ...	International call from North A...

Auto configure local dialing

OK Cancel

7.3. Administer Telephony

The **InGenius Telephony Integration Server Configuration Tool** screen is displayed again. Select **Configuration → Telephony** from the top menu, followed by the **Primary AES** tab in the right pane to display the screen below.

Enter the following values for the specified fields, and retain the default values in the remaining fields.

- **Address:** The IP address of Application Enablement Services.
- **Username:** The InGenius user credentials from **Section 6.4**.
- **Password:** The InGenius user credentials from **Section 6.4**.
- **Connection manager:** The relevant switch connection name from **Section 6.3**.

The screenshot shows the 'InGenius Telephony Integration Server Configuration Tool' window. The 'Configuration' tab is active, and the 'Telephony' sub-tab is selected. On the left, under 'PBX / Switch', 'Avaya' is selected. On the right, the 'Primary AES' tab is selected, showing the 'Primary Application Enablement Services (AES)' configuration. The fields are as follows:

Field	Value
Address	10.64.101.239
Port	4721
Username	ingenius
Password	XXXXXXXXXXXX
Connection manager (CM)	cm7
Use secure connection	<input type="checkbox"/>
User certificate	<input type="text"/> Browse...
Server common name	<input type="text"/>

Select the **Agent Setup** tab in the right pane to display the screen below. Follow reference [4] to update parameters in the **Agent** and **Work Modes** sub-sections to the proper settings. The screenshot below shows the values used in the compliance testing.

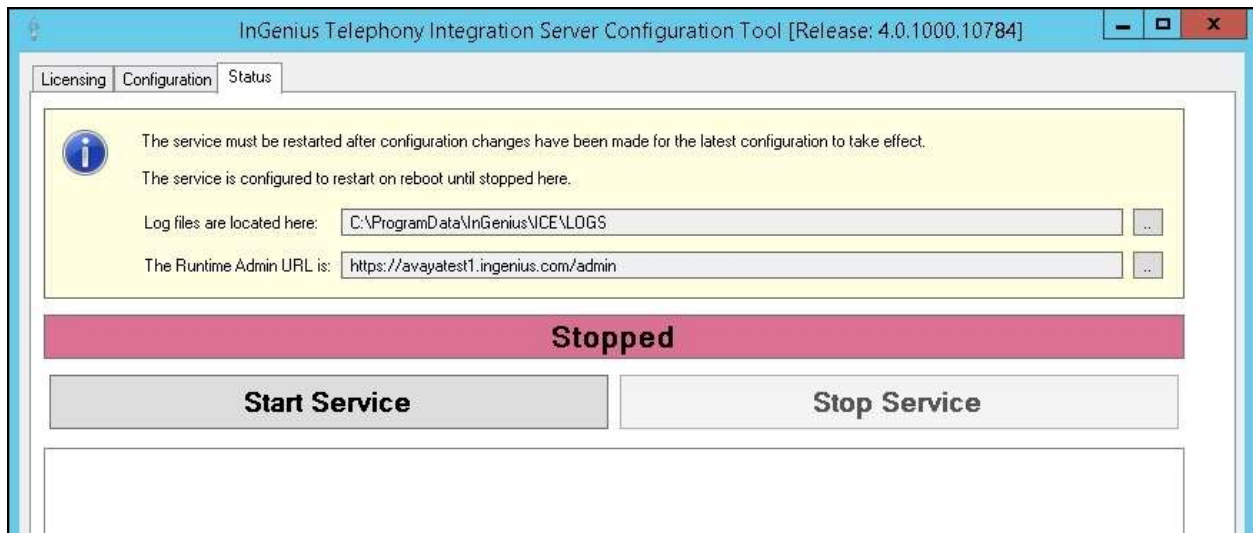
For contact centers that use reason codes, check **Enable reason codes** in the **Reason Codes** sub-section, and follow reference [4] to create reason code entries to match **Section 5.4**. In the compliance testing, one reason code was created under the **Logout** tab as shown below, and two reason codes were created under the **Not Ready** tab (not shown).

The screenshot displays the 'InGenius Telephony Integration Server Configuration Tool [Release: 4.0.1000.10784]' window. The 'Configuration' tab is active, and the 'Integrations' sub-tab is selected. On the left, the 'PBX / Switch' section shows 'Avaya' selected. The main area is divided into several sections: 'Agent', 'Work Modes', and 'Reason Codes'. The 'Agent' section has checkboxes for 'Enabled', 'Unified Login', 'EAS Enabled', 'Stop monitor on log out', 'Prompt for password on login', and 'Prompt for password when starting monitor'. The 'Work Modes' section has 'Login' and 'Ready' tabs, with 'Ready' selected, and checkboxes for 'Auto In', 'Manual In', 'After call work', and 'Aux work'. The 'Reason Codes' section has a checkbox for 'Enable reason codes' and three tabs: 'Logout', 'Not Ready', and 'Wrapup'. The 'Logout' tab is selected, showing a table with two rows: one with code '1' and comment 'Finished Shift', and another with a '*' symbol. Both rows have the 'Enabled' checkbox checked.

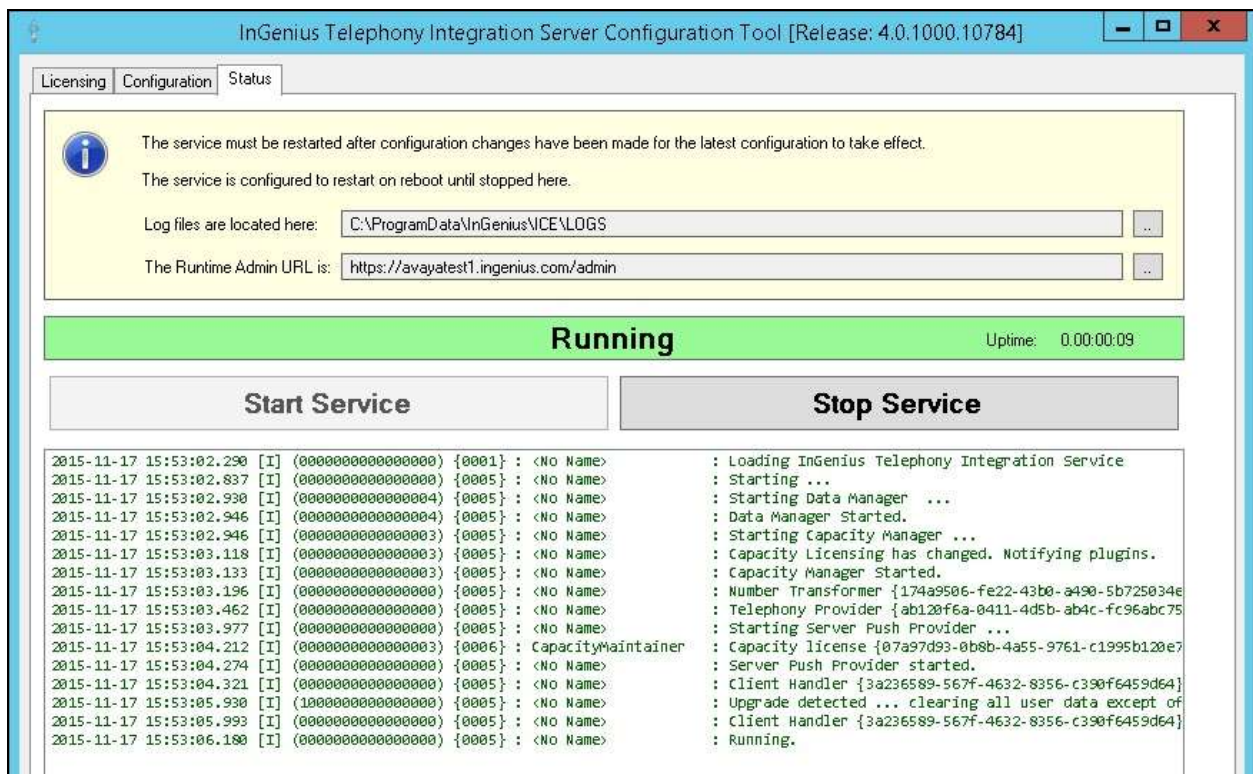
Code	Comment	Enabled
1	Finished Shift	<input checked="" type="checkbox"/>
*		<input checked="" type="checkbox"/>

7.4. Start Service

Select **Status** from the top menu to display the screen below, and click **Start Service**.



The screen is updated, as shown below.



8. Verification Steps

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

8.1. Verify Avaya Aura® Communication Manager

On Communication Manager, verify the 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	7	no	aes7	established	28	24

8.2. Verify Avaya Aura® Application Enablement Services

On Application Enablement Services, verify the status of the DMCC service 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 an active session with the InGenius user name from **Section 6.4**.

**Application Enablement Services**
Management Console

Welcome: User cust
Last login: Tue Nov 17 12:33:08 2015 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: 7.0.0.0.1.13
Server Date and Time: Tue Nov 17 13:39:38 EST 2015
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

Log Manager

▶ Logs

▼ **Status and Control**

■ CVLAN Service Summary

■ DLG Services Summary

■ **DMCC Service Summary**

■ Switch Conn Summary

DMCC Service Summary - Session Summary

Please do not use back button

☐ Enable page refresh every 60 seconds

Session Summary [Device Summary](#)

Generated on Tue Nov 17 13:39:33 EST 2015

Service Uptime: 0 days, 2 hours 55 minutes

Number of Active Sessions: 1

Number of Sessions Created Since Service Boot: 2

Number of Existing Devices: 0

Number of Devices Created Since Service Boot: 0


	Session ID	User	Application	Far-end Identifier	Connection Type	# of Associated Devices
<input type="checkbox"/>	7E2E02D105B6A6082 839A3EBA84A660A-2	ingenius	InGenius Avaya Plugin	10.64.101.204	XML Unencrypted	0

Terminate Sessions | Show Terminated Sessions

Item 1-1 of 1
1 Go

Verify the status of the TSAPI service by selecting **Status → Status and Control → TSAPI Service Summary** from the left pane. 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 number of agents from **Section 3** that are currently logged into ICE and therefore monitored, in this case “3”.



Application Enablement Services
 Management Console

Welcome: User cust
 Last login: Tue Nov 17 12:33:08 2015 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: 7.0.0.0.1.13
 Server Date and Time: Tue Nov 17 13:46:52 EST 2015
 HA Status: Not Configured

Status | Status and Control | TSAPI Service Summary
Home | Help | Logout

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

TSAPI Link Details

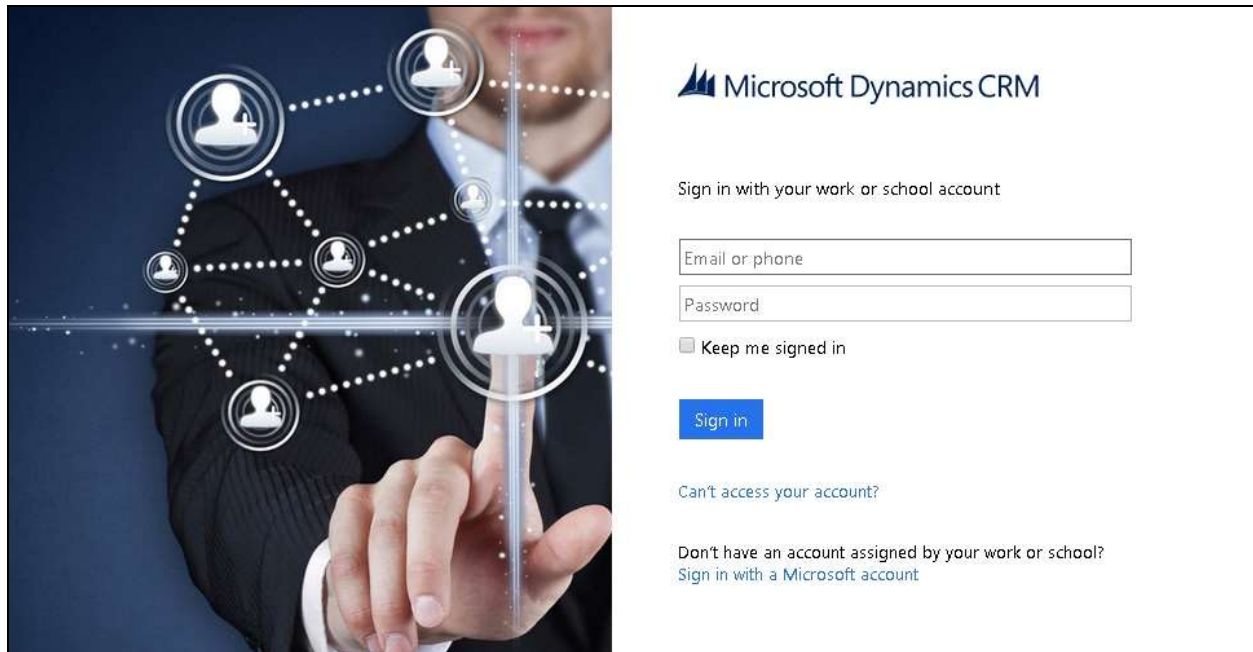
☐ Enable page refresh every 60 seconds

	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	Mon Nov 16 15:03:44 2015	Online	17	3	1114	1128	30

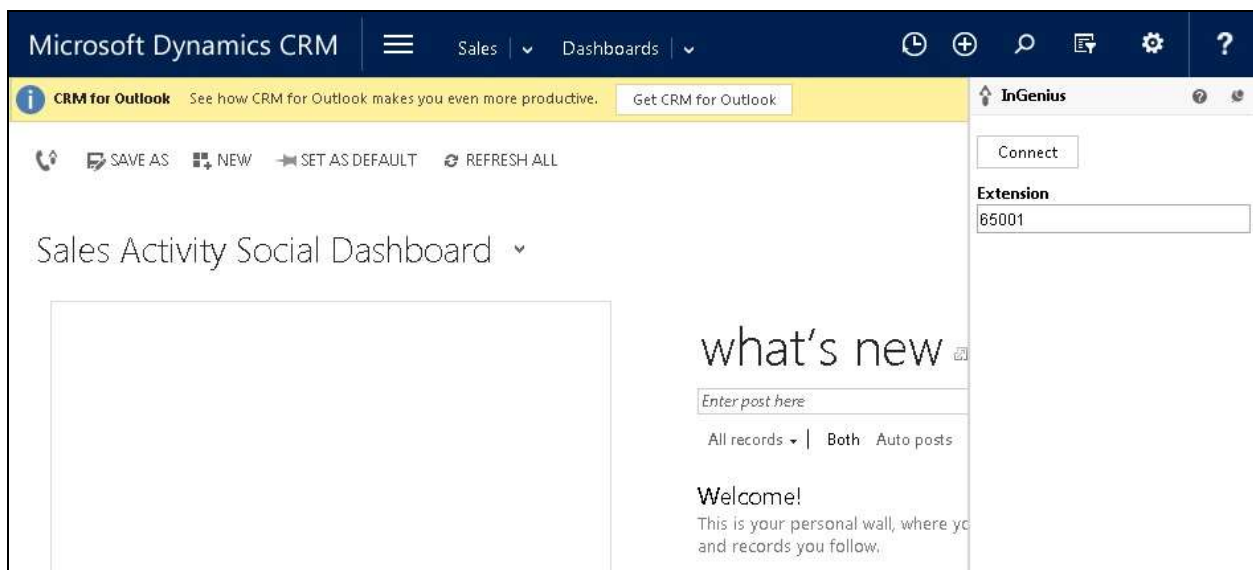
For service-wide information, choose one of the following:

8.3. Verify InGenius Connector Enterprise

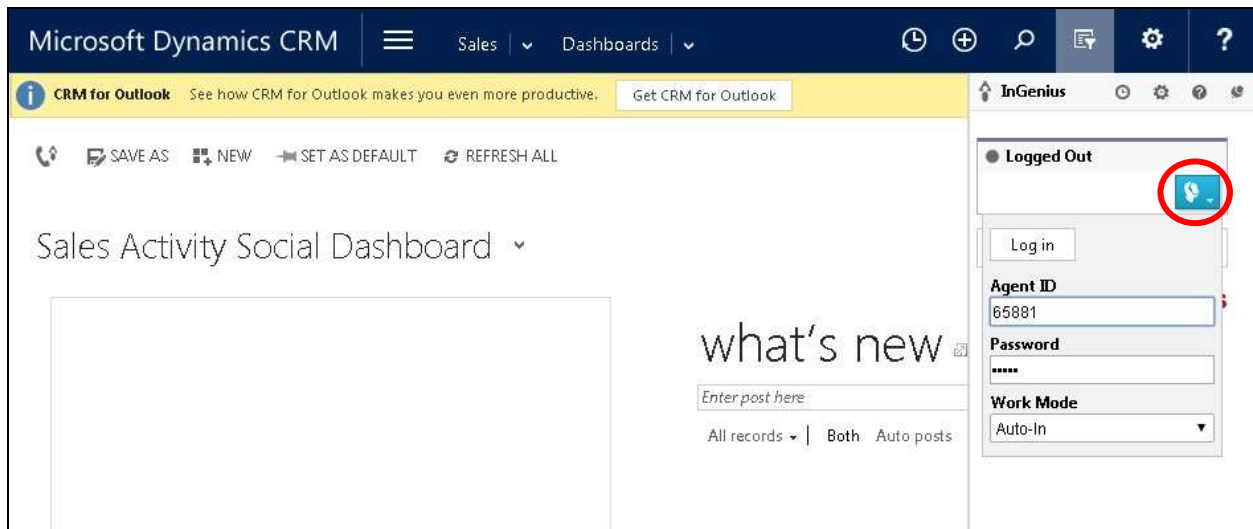
From an agent PC, launch an Internet browser window and enter the URL provided by the end customer for Microsoft Dynamics CRM. Log in with the relevant user credentials provided by InGenius.



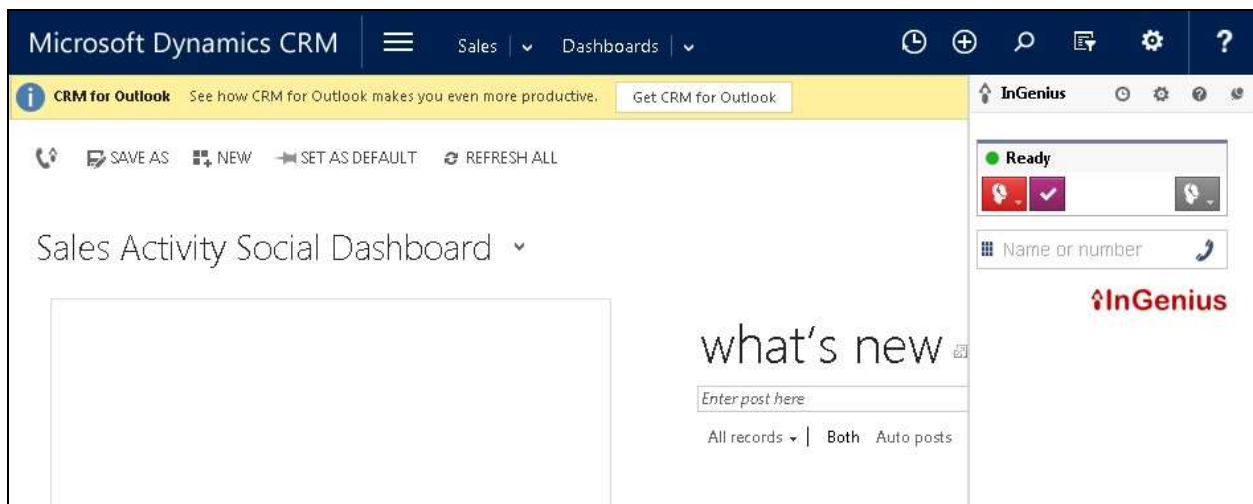
The screen below is displayed next. In the right pane, enter the relevant agent station extension from **Section 3**, and click **Connect**.



The right pane is updated, as shown below. Click on the **Log in** drop-down, to display additional parameters. For **Agent ID** and **Password**, enter the relevant credentials from **Section 3**. For **Work Mode**, select the desired work mode, in this case “Auto-In”. Click **Log in**.



Verify that the right pane is updated, and showing the agent in the **Ready** state.



Make an incoming ACD call. Verify that the right pane of the available agent is updated to reflect **Reserved** and **Inbound Call**, along with proper call information. Also verify that the left pane is populated with the uniquely matching contact record associated with the PSTN caller number, as shown below.

In the event that there is more than one contact record matching to the PSTN caller number, then all records will be presented in the **Related Records** sub-section in the right pane, and the agent will need to manually select the pertinent one to populate in the left pane.

Click **Answer** in the right pane.

The screenshot displays the Microsoft Dynamics CRM interface. The top navigation bar includes 'Microsoft Dynamics CRM', a hamburger menu, and tabs for 'Sales', 'Contacts', and 'DevConnect Avaya'. Below this is a yellow banner for 'CRM for Outlook'. The main content area is divided into two panes. The left pane shows the contact details for 'DevConnect Avaya', including fields for Full Name, Job Title, Account Name, Email, Business Phone, Mobile Phone, Fax, Preferred Method of Contact, and Address. The right pane is titled 'InGenius' and contains a 'Reserved' status indicator, a search bar, and an 'Inbound Call' section with details like 'Dialed #' and 'Number'. Below this is a 'Call Actions' section with a 'Pre-fill New...' dropdown and a 'Related Records' section showing 'Found records' for 'DevConnect Avaya'. A green 'Answer' button is visible in the 'Inbound Call' section.

Microsoft Dynamics CRM | Sales | Contacts | DevConnect Avaya

CRM for Outlook | See how CRM for Outlook makes you even more productive. | Get CRM for Outlook

+ NEW | DEACTIVATE | CONNECT | ADD TO MARKETING LIST | ASSIGN | EMAIL A LINK

CONTACT: DevConnect Avaya

Summary

CONTACT INFORMATION

Full Name *	DevConnect Avaya
Job Title	Test Engineer
Account Name	--
Email	devconnect1@avaya1.com
Business Phone	+ 908-848-5601
Mobile Phone	--
Fax	--
Preferred Method of Contact	Any
Address	211 Mt Airy Rd Basking Ridge, NJ 07733

POSTS | ACTIVITIES | NOTES

Enter post here

Both | Auto posts | User posts

InGenius

Reserved

Name or number

Inbound Call

Dialed #: +1 (303) 536-0001

Number: +1 (908) 848-5601

View all data

Answer

Call Actions

Pre-fill New...

Related Records

Found records: DevConnect Avaya

Verify that the agent is connected to the PSTN caller with two-way talk paths, and that the right pane is updated to reflect **Talking** and **Connected**, as shown below.

The screenshot displays the Microsoft Dynamics CRM interface. The top navigation bar includes 'Sales', 'Contacts', and 'DevConnect Avaya'. A yellow banner for 'CRM for Outlook' is visible. The main content area shows the contact profile for 'DevConnect Avaya', a 'Test Engineer' with email 'devconnect1@avaya1.com' and business phone '+1 (908) 848-5601'. The address is '211 Mt Airy Rd, Basking Ridge, NJ 07733'. To the right, the 'InGenius' sidebar shows a 'Talking' status with a red phone icon and a 'Connected' status with a green checkmark. The 'Connected' section displays the dialed number '+1 (303) 536-0001' and the number '+1 (908) 848-5601'. Below this, the 'Call Log' section shows a record for 'DevConnect Avaya' on 11/17/2015 at 7:37 PM, with the number '+1 (908) 848-5601'.

Microsoft Dynamics CRM

CRM for Outlook See how CRM for Outlook makes you even more productive. Get CRM for Outlook

+ NEW DEACTIVATE CONNECT ADD TO MARKETING LIST ASSIGN EMAIL A LINK

CONTACT

DevConnect Avaya

Summary

CONTACT INFORMATION

Full Name * DevConnect Avaya

Job Title Test Engineer

Account Name --

Email devconnect1@avaya1.com

Business Phone +1 (908) 848-5601

Mobile Phone --

Fax --

Preferred Method of C Any

Address 211 Mt Airy Rd
Basking Ridge, NJ 07733

POSTS ACTIVITIES NOTES

Enter post here

Both Auto posts User posts

DevConnect Avaya
Contact: Created By Avaya1T2015 CertificationU
On DevConnect Avaya's wall
Today

InGenius

Talking

Connected 07:59:20

Dialed # +1 (303) 536-0001

Number: +1 (908) 848-5601

View all data

Call Actions

Pre-fill New...

Call Log

Select related records

DevConnect Avaya

Subject Call 11/17/2015 7:37 PM

Number: +1 (908) 848-5601

Call log will require disposition when call ends

9. Conclusion

These Application Notes describe the configuration steps required for InGenius Connector Enterprise 4.0 to successfully interoperate with Avaya Aura® Communication Manager 7.0 and Avaya Aura® Application Enablement Services 7.0 using Microsoft Dynamics CRM. 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 7.0, Issue 1, August 2015, available at <http://support.avaya.com>.
2. *Administering and Maintaining Aura® Application Enablement Services*, Release 7.0, Issue 1, August 2015, available at <http://support.avaya.com>.
3. *InGenius Connector Enterprise for Microsoft Dynamics CRM Server Installation Guide for IT Administrator*, Version 2.23.301, available at <http://go.ingenius.com/iceavayamscrinstallguide>.
4. *InGenius Connector Enterprise for Microsoft Dynamics CRM and Avaya Aura Communications Manager User Guide*, Version 2.23.301, available at <http://go.ingenius.com/iceavayamscrmuserguide>.

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