



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for InteractCRM ProConnect with Avaya Aura® Communication Manager 6.0 and Avaya Aura® Application Enablement Services 5.2.2 – Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for InteractCRM ProConnect to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services. ProConnect is an automated progressive dialing solution that allows agents to preview the customer's information while the dialer calls the customer. ProConnect integrates with Application Enablement Services using the Java Telephony Application Programming Interface (JTAPI).

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 InteractCRM ProConnect to interoperate with Avaya Aura® Communication Manager and Avaya Aura® Application Enablement Services. InteractCRM ProConnect is an automated progressive dialing solution that allows agents to preview the customer's information while the dialer calls the customer. ProConnect communicates with Application Enablement Services using the Java Telephony Application Programming Interface (JTAPI) to monitor the agents' telephone extensions. Call classifications were done manually by the agents.

## 1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying InteractCRM ProConnect for the following:

- Agent login and logout to ProConnect. Note that ProConnect only controls the agents' phone extensions and does not use the Avaya ACD features.
- Placing outgoing calls automatically after preview timer expires.
- Placing outgoing calls manually before preview timer expires.
- Performing telephony functions such as hold, un-hold, hang up of calls.
- Handling of telephony events such as customer answers, hang up, agent performing hold, un-hold, blind transfer and attended transfer using the phone.

The serviceability testing focused on verifying the ability of InteractCRM ProConnect to recover from adverse conditions, such as disconnecting the Ethernet cables on the ProConnect client PC, ProConnect server and Application Enablement Services server, and rebooting the Communication Manager and ProConnect server.

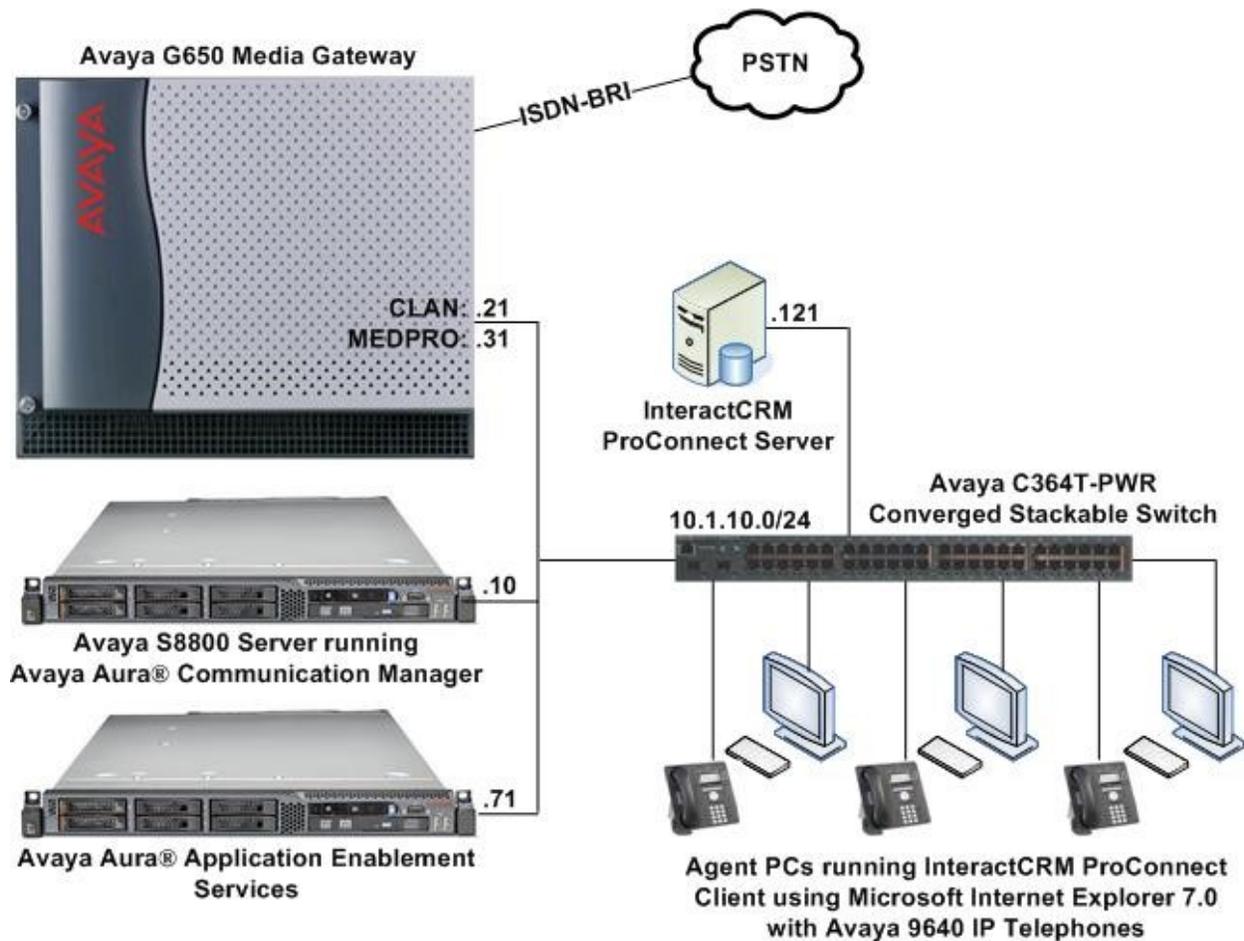
## 1.2. Support

Technical support on InteractCRM ProConnect can be obtained through the following:

- Phone: +91-22-40553055
- Email: [tcsupport@interactcrm.com](mailto:tcsupport@interactcrm.com)

## 2. Reference Configuration

**Figure 1** illustrates a sample configuration consisting of an Avaya S8800 Server running Avaya Aura® Communication Manager, an Avaya G650 Media Gateway, an Avaya Aura® Application Enablement Services server and Avaya 9640 IP Telephones. InteractCRM ProConnect server application is installed on a Windows 2003 Server together with Microsoft SQL Server 2005 for database support. InteractCRM ProConnect server communicates with the TSAPI Service on Application Enablement Services using JTAPI. The agent PCs are running the ProConnect client application hosted on the ProConnect server using the Microsoft Internet Explorer. The Avaya C364T-PWR Converged Stackable Switch provides Ethernet connectivity to the servers and IP telephones.



**Figure 1: Test Configuration**

### 3. Equipment and Software Validated

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

Equipment/Software	Version
Avaya S8800 Server	Avaya Aura® Communication Manager 6.0 (Service Pack 00.0.345.0-18567)
Avaya G650 Media Gateway <ul style="list-style-type: none"> <li>• TN2312BP IP Server Interface</li> <li>• TN799DP C-LAN Interface</li> <li>• TN2302AP IP Media Processor</li> <li>• TN2185B BRI Trunk</li> </ul>	- HW07, FW049 HW01, FW034 HW20, FW120 000004
Avaya Aura® Application Enablement Services	5.2.2 (r5-2-2-105-0) Patch 3
Avaya C364T-PWR Converged Stackable Switch	4.5.18
Avaya 9640 IP Telephones	3.1.1 (H.323)
InteractCRM ProConnect server on Dell PowerEdge 1950  Additional software components: <ul style="list-style-type: none"> <li>• Avaya JTAPI Client</li> <li>• Microsoft SQL Server</li> <li>• Sun Java SE Development Kit (JDK)</li> <li>• Apache Tomcat</li> </ul>	1.4.4 Microsoft Windows Server 2003, SP2  4.2.1 Build 338 Microsoft SQL Server 2005, SP3 Version 6 Update 22 5.5.17
Agent PCs running InteractCRM ProConnect client (browser-based thin client)	Microsoft Windows XP Professional, SP3 Microsoft Internet Explorer 7.0

### 4. Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Computer Telephony Integration (CTI) links on Communication Manager. All the configuration changes in Communication Manager are performed through the System Access Terminal (SAT) interface. The highlights in the following screens indicate the values used during the compliance test.

#### 4.1. Configure AES and CTI Links

Applicable Enablement Services forwards CTI requests, responses, and events between InteractCRM ProConnect server and Communication Manager. Applicable Enablement Services communicates with Communication Manager over an AES link. Within the AES link, CTI links may be configured to provide CTI services to CTI applications such as InteractCRM ProConnect. The following steps demonstrate the configuration of the Communication Manager side of the AES and CTI links. See **Section 5** for the details of configuring the Applicable Enablement Services side of the AES and CTI links.

Step	Description
1.	<p>Enter the <b>display system-parameters customer-options</b> command. On Page 3, verify that <b>Computer Telephony Adjunct Links</b> is set to <b>y</b>. If not, contact an authorized Avaya account representative to obtain the license.</p> <pre> display system-parameters customer-options                               Page 3 of 11                                 OPTIONAL FEATURES  Abbreviated Dialing Enhanced List? n                               Audible Message Waiting? n Access Security Gateway (ASG)? n                                   Authorization Codes? y Analog Trunk Incoming Call ID? n                                  CAS Branch? n A/D Grp/Sys List Dialing Start at 01? n                           CAS Main? n Answer Supervision by Call Classifier? n                           Change COR by FAC? n ARS? y <b>Computer Telephony Adjunct Links? y</b> ARS/AAR Partitioning? y   Cvg Of Calls Redirected Off-net? n ARS/AAR Dialing without FAC? y                                     DCS (Basic)? n ASAI Link Core Capabilities? n                                     DCS Call Coverage? n ASAI Link Plus Capabilities? n                                     DCS with Rerouting? n Async. Transfer Mode (ATM) PNC? n                                  Digital Loss Plan Modification? n Async. Transfer Mode (ATM) Trunking? n                             DS1 MSP? y ATM WAN Spare Processor? n   DS1 Echo Cancellation? y ATMS? n Attendant Vectoring? n </pre>
2.	<p>Enter the <b>add cti-link m</b> command, where <b>m</b> is a number between 1 and 64, inclusive. Enter a valid <b>Extension</b> under the provisioned dial plan in Communication Manager, set the <b>Type</b> field to <b>ADJ-IP</b>, and assign a descriptive <b>Name</b> to the CTI link.</p> <pre> add cti-link 1   Page 1 of 3                                 CTI LINK  CTI Link: 1 Extension: <b>10091</b> Type: <b>ADJ-IP</b> Name: <b>TSAPI Services</b> COR: 1 </pre>
3.	<p>Enter the <b>change ip-services</b> command. On Page 1, configure the <b>Service Type</b> field to <b>AESVCS</b> and the <b>Enabled</b> field to <b>y</b>. During the compliance test, the <b>Local Node</b> field is set to the processor Ethernet interface <b>procr</b> which is IP address of the S8800 Server as shown in <b>Figure 1</b>. The default port <b>8765</b> was utilized for the <b>Local Port</b> field.</p> <pre> change ip-services   Page 1 of 3                                 IP SERVICES  Service Enabled Local Local Remote Remote Type Node Node Port Node Port <b>AESVCS y procr 8765</b> </pre>

Step	Description																				
	<p>On Page 3, enter the hostname of the Applicable Enablement Services server for the <b>AE Services Server</b> field. The server name may be obtained by logging in to the Applicable Enablement Services server using Secure Shell (SSH), and running the <b>uname -a</b> command. Enter an alpha-numeric password for the <b>Password</b> field and set the <b>Enabled</b> field to <b>y</b>. The same password will be configured on the Applicable Enablement Services server in <b>Section 5.3 Step 2</b>.</p> <pre>change ip-services</pre> <p style="text-align: right;">Page 3 of 3</p> <p style="text-align: center;">AE Services Administration</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Server ID</th> <th style="text-align: left;">AE Services Server</th> <th style="text-align: left;">Password</th> <th style="text-align: left;">Enabled</th> <th style="text-align: left;">Status</th> </tr> </thead> <tbody> <tr> <td>1:</td> <td>aes1</td> <td>xxxxxxxxxxxxxxxxxxxx</td> <td>y</td> <td></td> </tr> <tr> <td>2:</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3:</td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>	Server ID	AE Services Server	Password	Enabled	Status	1:	aes1	xxxxxxxxxxxxxxxxxxxx	y		2:					3:				
Server ID	AE Services Server	Password	Enabled	Status																	
1:	aes1	xxxxxxxxxxxxxxxxxxxx	y																		
2:																					
3:																					
4.	Enter the <b>save translation</b> command to save the changes to the system. This completes the configuration of Communication Manager.																				

## 4.2. Configure Universal Call ID

Configure Communication Manager to create a Universal Call ID (UCID) for each call and to send the UCID to InteractCRM ProConnect through Application Enablement Services.

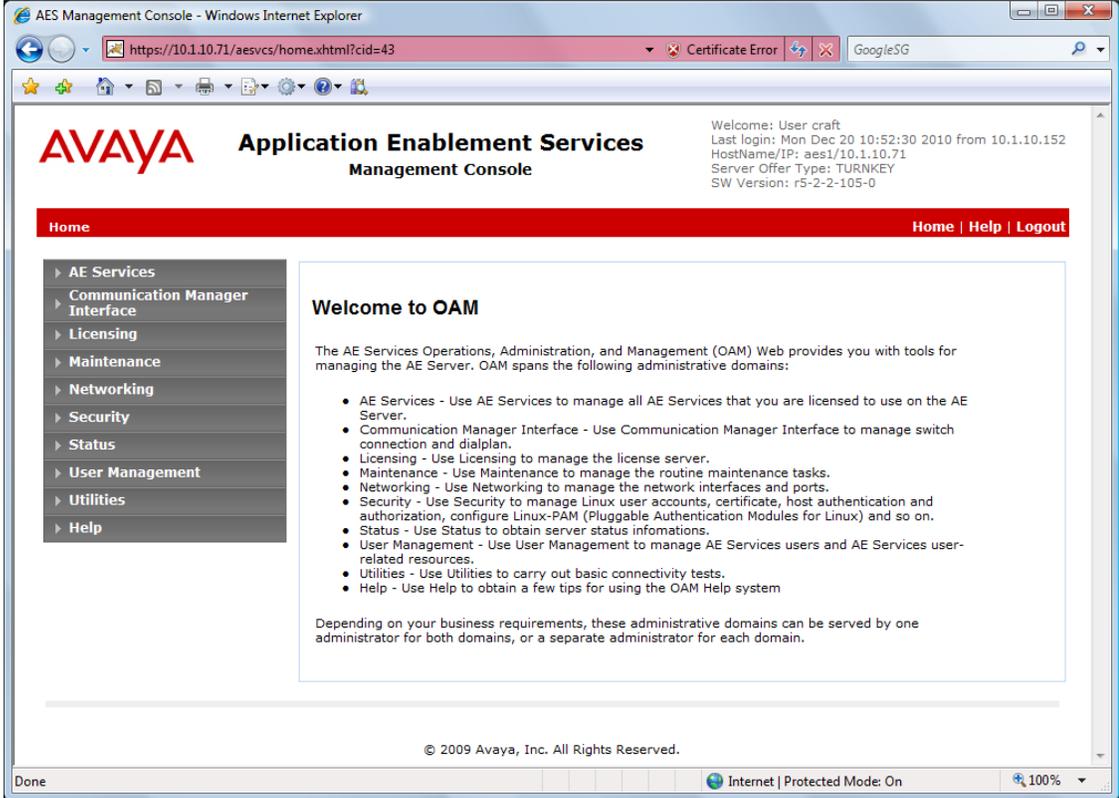
Step	Description
1.	<p>Enter the <b>change system-parameters features</b> command. On Page 5, set <b>Create Universal Call ID (UCID)</b> to <b>y</b> and configure a value for <b>UCID Network Node ID</b>, which is set to <b>1</b> in this testing.</p> <pre> change system-parameters features                                     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  MALICIOUS CALL TRACE PARAMETERS   Apply MCT Warning Tone? n   MCT Voice Recorder Trunk Group:  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)? <b>y</b>   UCID Network Node ID: <b>1</b>   Copy UCID for Station Conference/Transfer? y </pre>
	<p>On Page 12, set <b>Send UCID to ASAI</b> to <b>y</b>.</p> <pre> 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                                  Interruptible Aux Notification Timer (sec): 3  ASAI   Copy ASAI UII During Conference/Transfer? y   Call Classification After Answer Supervision? n                                 Send UCID to ASAI? <b>y</b>   For ASAI Send DTMF Tone to Call Originator? Y </pre>
2.	<p>Enter the <b>save translation</b> command to save the changes to the system. This completes the configuration of Communication Manager.</p>

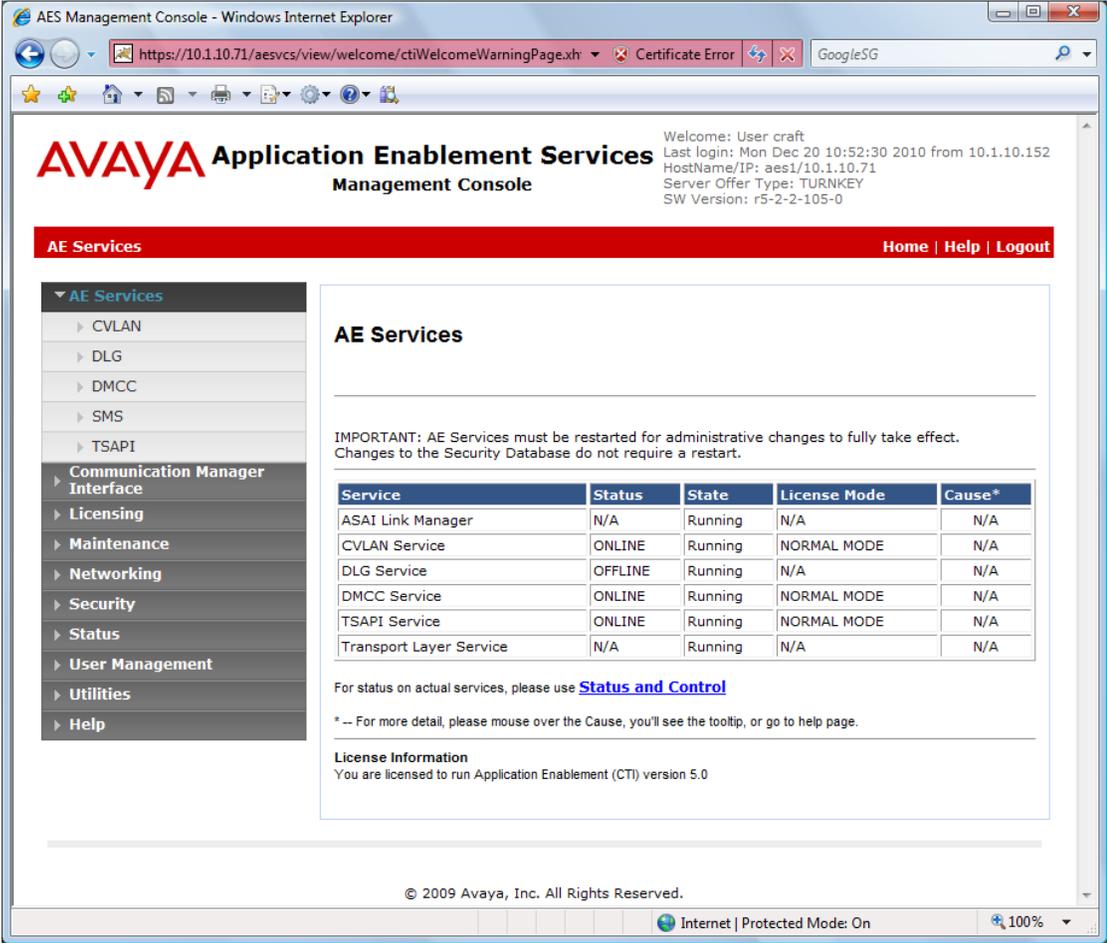
## 5. Configure Avaya Aura® Application Enablement Services

This section provides the procedures for configuring Application Enablement Services (AES). The procedures fall into the following areas:

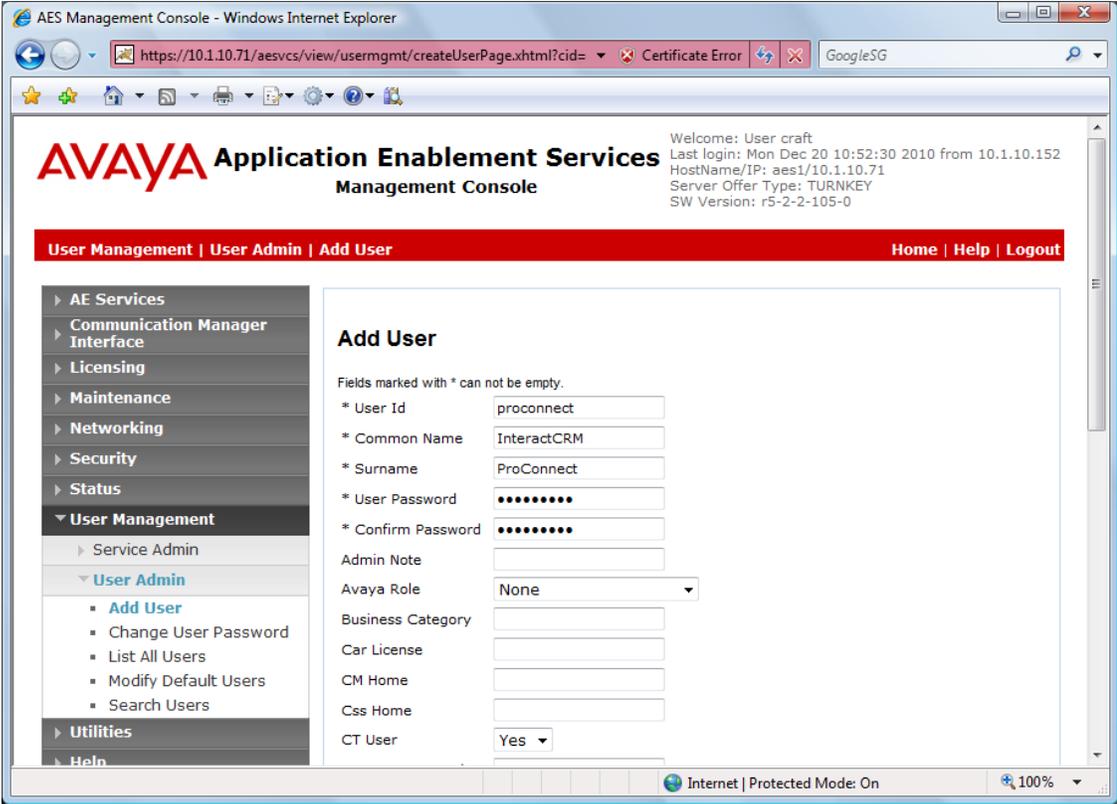
- Verify Application Enablement Services License
- Administer CTI User
- Administer Switch Connection
- Administer TSAPI link
- Administer CTI user permission

### 5.1. Verify Application Enablement Services License

Step	Description
1.	<p>Launch a web browser and enter <b>https://&lt;IP address of AES server&gt;</b> to access the Application Enablement Services Management Console. Log in using an administrative login and password (not shown), and the Welcome To OAM screen will be displayed.</p> 

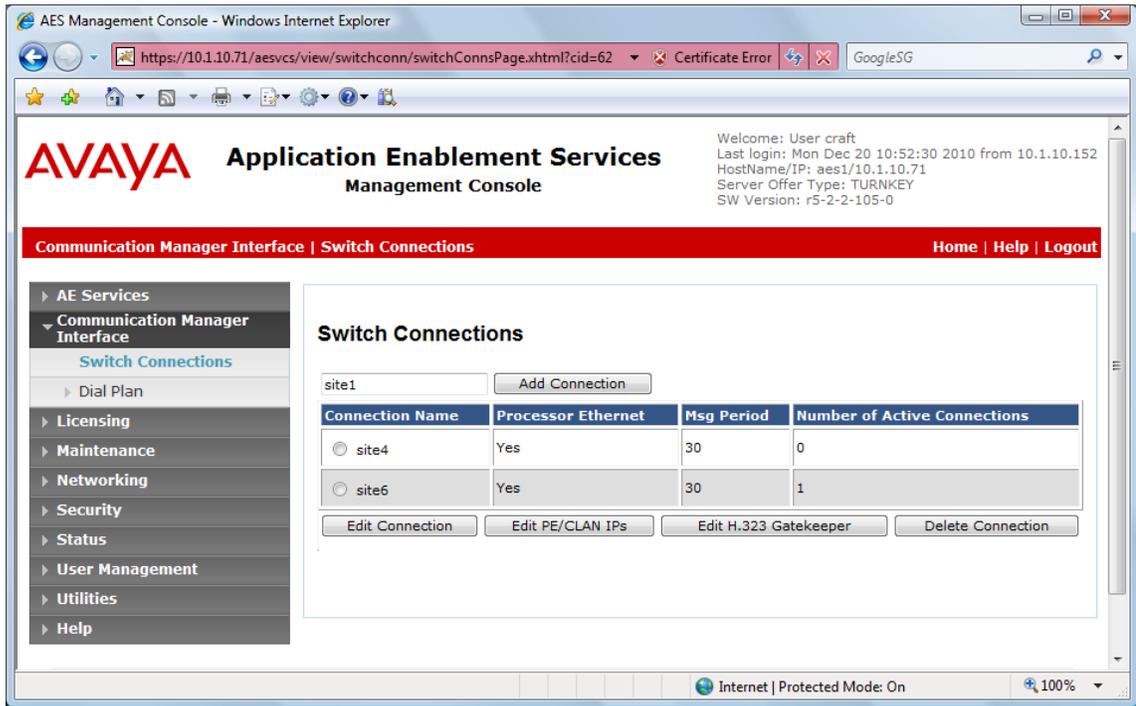
Step	Description																																			
2.	<p>Select <b>AE Services</b> from the left menu. From the AE Services page, verify that Application Enablement Services has proper license for the feature illustrated in these Application Notes by ensuring the <b>License Mode</b> for <b>TSAPI Service</b> is <b>NORMAL MODE</b>, as shown below. If the TSAPI Service is not licensed, then contact the Avaya sales team or business partner for the proper license to install onto the WebLM Server.</p>  <p>The screenshot shows the Avaya Application Enablement Services Management Console. The left navigation menu is expanded to 'AE Services'. The main content area displays the 'AE Services' page with a table of service status. The table includes columns for Service, Status, State, License Mode, and Cause*. The 'TSAPI Service' is listed with a Status of 'ONLINE', State of 'Running', and License Mode of 'NORMAL MODE'. Below the table, there is a 'License Information' section stating 'You are licensed to run Application Enablement (CTI) version 5.0'.</p> <table border="1" data-bbox="634 926 1336 1108"> <thead> <tr> <th>Service</th> <th>Status</th> <th>State</th> <th>License Mode</th> <th>Cause*</th> </tr> </thead> <tbody> <tr> <td>ASAI Link Manager</td> <td>N/A</td> <td>Running</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>CVLAN Service</td> <td>ONLINE</td> <td>Running</td> <td>NORMAL MODE</td> <td>N/A</td> </tr> <tr> <td>DLG Service</td> <td>OFFLINE</td> <td>Running</td> <td>N/A</td> <td>N/A</td> </tr> <tr> <td>DMCC Service</td> <td>ONLINE</td> <td>Running</td> <td>NORMAL MODE</td> <td>N/A</td> </tr> <tr> <td>TSAPI Service</td> <td>ONLINE</td> <td>Running</td> <td>NORMAL MODE</td> <td>N/A</td> </tr> <tr> <td>Transport Layer Service</td> <td>N/A</td> <td>Running</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>	Service	Status	State	License Mode	Cause*	ASAI Link Manager	N/A	Running	N/A	N/A	CVLAN Service	ONLINE	Running	NORMAL MODE	N/A	DLG Service	OFFLINE	Running	N/A	N/A	DMCC Service	ONLINE	Running	NORMAL MODE	N/A	TSAPI Service	ONLINE	Running	NORMAL MODE	N/A	Transport Layer Service	N/A	Running	N/A	N/A
Service	Status	State	License Mode	Cause*																																
ASAI Link Manager	N/A	Running	N/A	N/A																																
CVLAN Service	ONLINE	Running	NORMAL MODE	N/A																																
DLG Service	OFFLINE	Running	N/A	N/A																																
DMCC Service	ONLINE	Running	NORMAL MODE	N/A																																
TSAPI Service	ONLINE	Running	NORMAL MODE	N/A																																
Transport Layer Service	N/A	Running	N/A	N/A																																

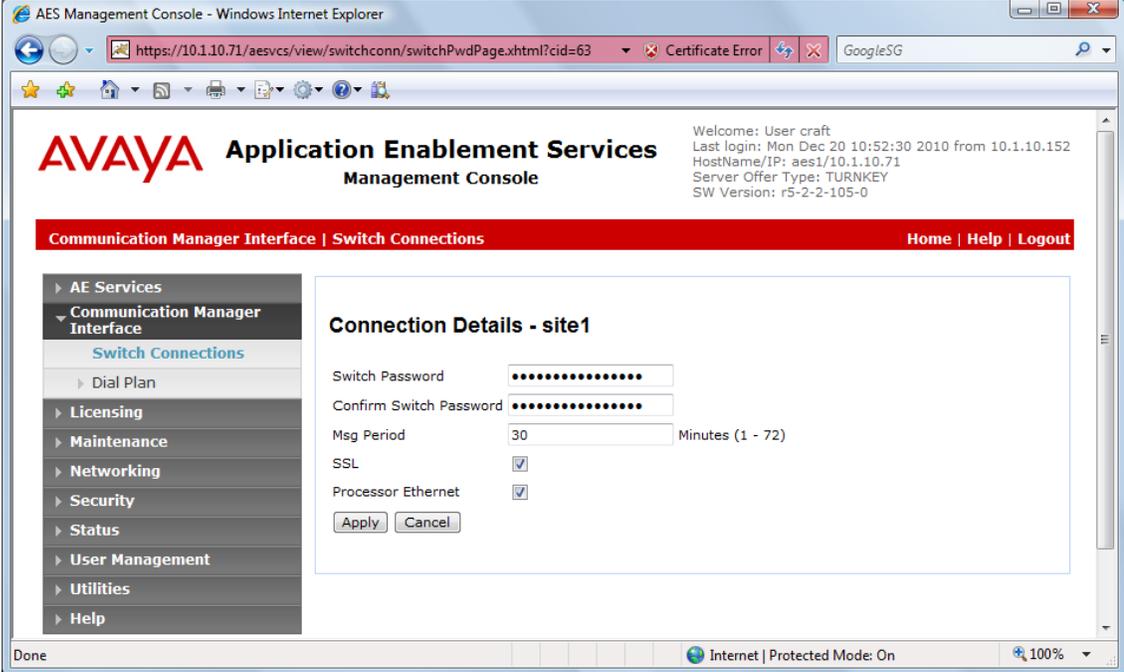
## 5.2. Administer CTI User

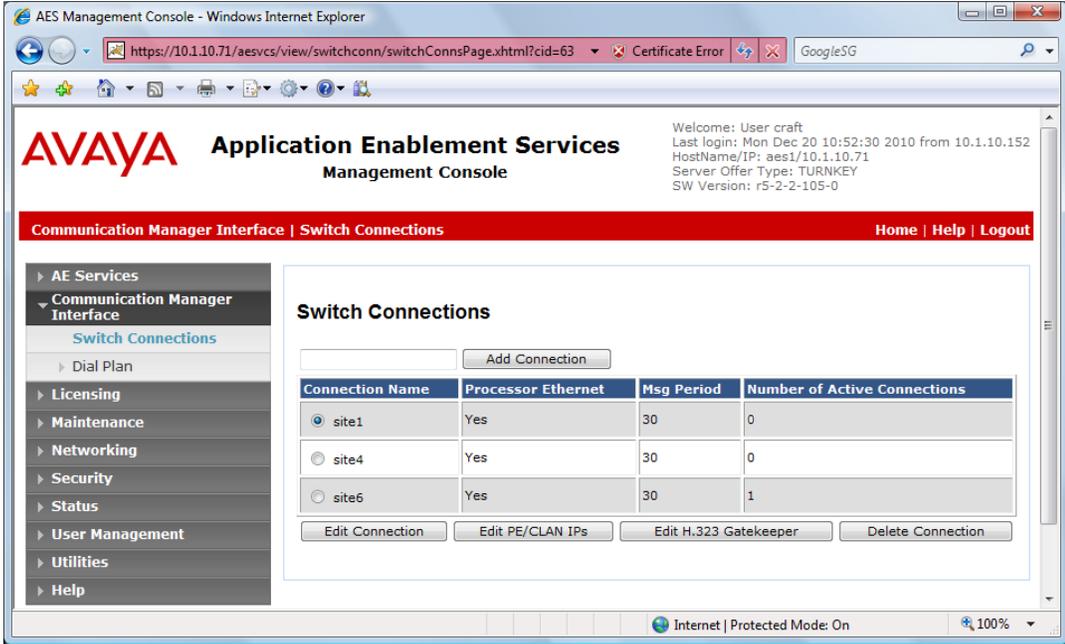
Step	Description
1.	<p>Click <b>User Management</b>, then <b>User Admin &gt; Add User</b> in the left pane. Specify a value for <b>User Id</b>, <b>Common Name</b>, <b>Surname</b>, <b>User Password</b> and <b>Confirm Password</b>. Set <b>CT User</b> to <b>Yes</b>. Use the values for <b>User Id</b> and <b>User Password</b> to configure InteractCRM ProConnect in <b>Section 6</b> to access the TSAPI Service on Applicable Enablement Services. Scroll down to the bottom of the page and click <b>Apply</b> (not shown).</p>  <p>The screenshot shows the 'Add User' form in the AVAYA Application Enablement Services Management Console. The form is titled 'Add User' and includes a warning: 'Fields marked with * can not be empty.' The fields and their values are as follows:</p> <ul style="list-style-type: none"> <li>* User Id: proconnect</li> <li>* Common Name: InteractCRM</li> <li>* Surname: ProConnect</li> <li>* User Password: [masked]</li> <li>* Confirm Password: [masked]</li> <li>Admin Note: [empty]</li> <li>Avaya Role: None</li> <li>Business Category: [empty]</li> <li>Car License: [empty]</li> <li>CM Home: [empty]</li> <li>Css Home: [empty]</li> <li>CT User: Yes</li> </ul>

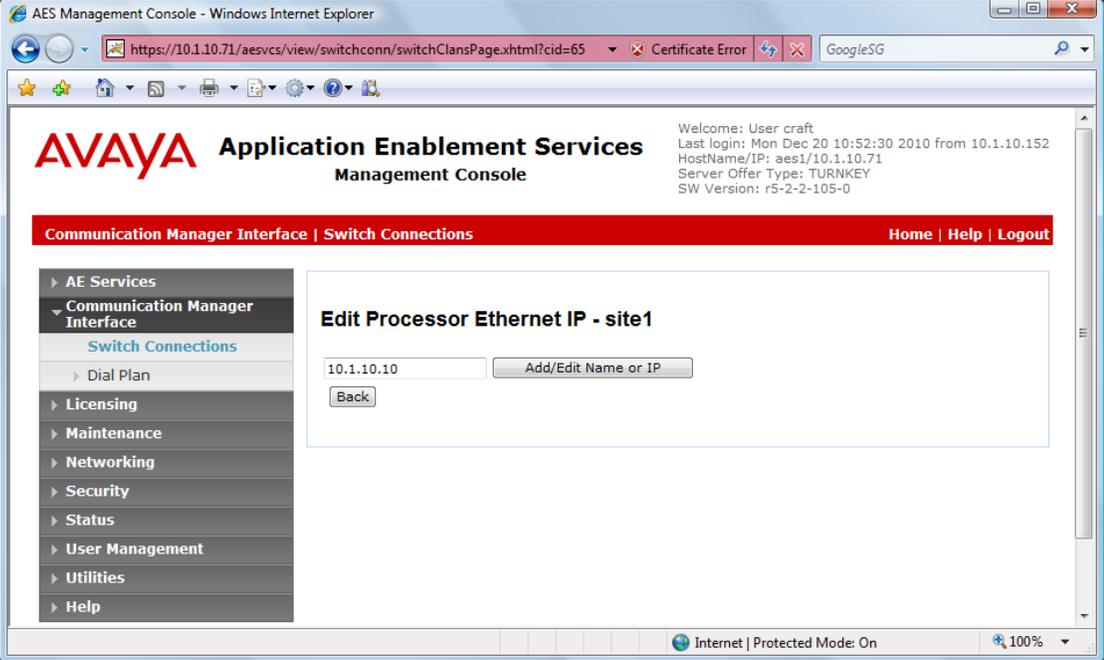
### 5.3. Administer Switch Connection

Step	Description
1.	<p>From the left menu, select <b>Communication Manager Interface &gt; Switch Connections</b>. Enter a descriptive name for the switch connection and click <b>Add Connection</b>. In this configuration, <b>site1</b> is used.</p>

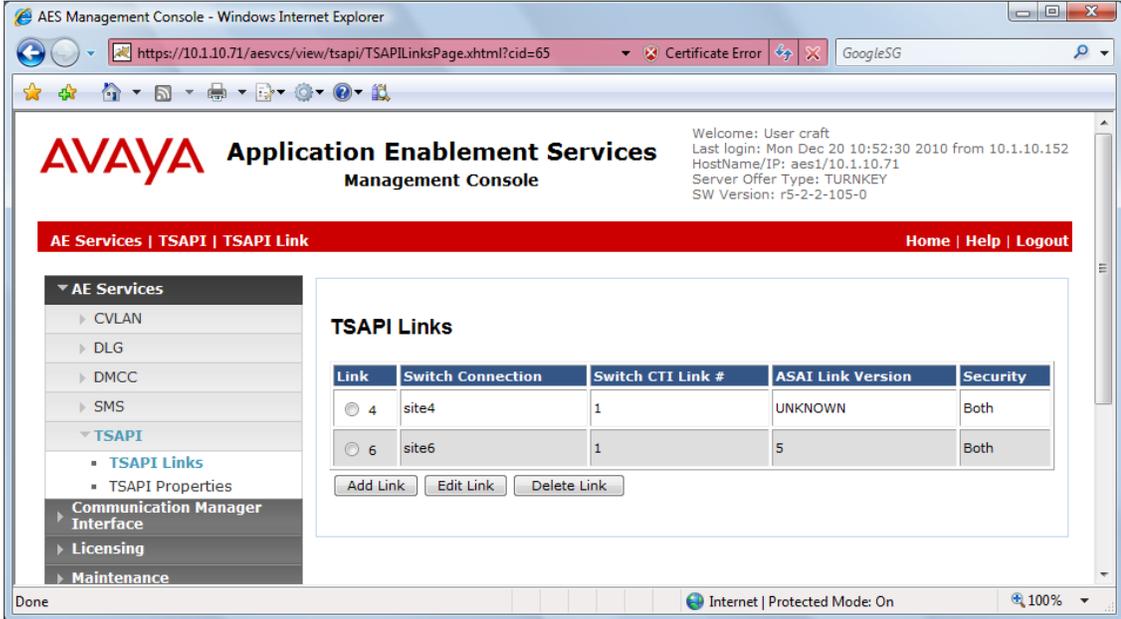


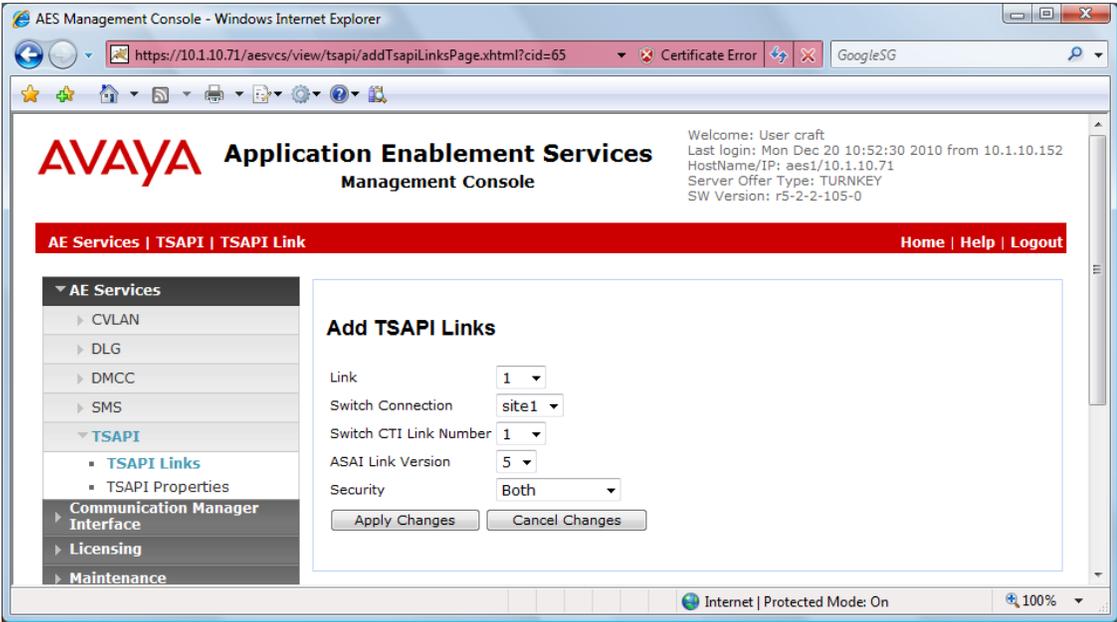
Step	Description
2.	<p>The Connection Details – site1 screen is displayed. For the <b>Switch Password</b> and <b>Confirm Switch Password</b> fields, enter the password that was administered in Communication Manager using the IP Services form in <b>Section 4.1 Step 3</b>. Both the <b>SSL</b> and <b>Processor Ethernet</b> fields need to be checked. Click on <b>Apply</b>.</p> 

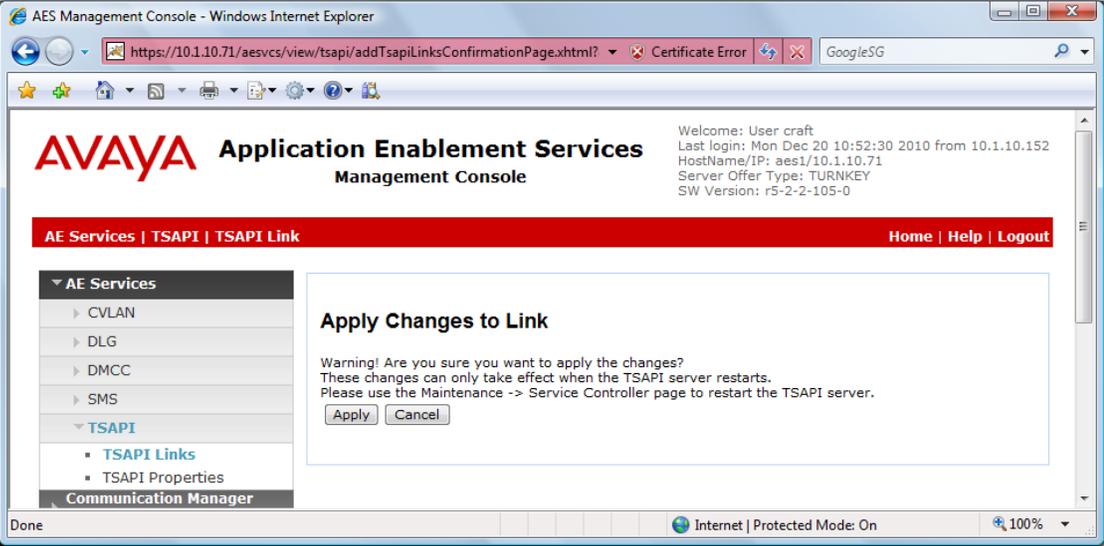
Step	Description																
3.	<p>The Switch Connections screen is displayed again. Select the new switch connection name <b>site1</b> and click <b>Edit PE/CLAN IPs</b>.</p>  <p>The screenshot shows the Avaya Application Enablement Services Management Console. The page title is "Switch Connections". It features a table with the following data:</p> <table border="1"> <thead> <tr> <th>Connection Name</th> <th>Processor Ethernet</th> <th>Msg Period</th> <th>Number of Active Connections</th> </tr> </thead> <tbody> <tr> <td><input checked="" type="radio"/> site1</td> <td>Yes</td> <td>30</td> <td>0</td> </tr> <tr> <td><input type="radio"/> site4</td> <td>Yes</td> <td>30</td> <td>0</td> </tr> <tr> <td><input type="radio"/> site6</td> <td>Yes</td> <td>30</td> <td>1</td> </tr> </tbody> </table> <p>Below the table, there are four buttons: "Edit Connection", "Edit PE/CLAN IPs", "Edit H.323 Gatekeeper", and "Delete Connection".</p>	Connection Name	Processor Ethernet	Msg Period	Number of Active Connections	<input checked="" type="radio"/> site1	Yes	30	0	<input type="radio"/> site4	Yes	30	0	<input type="radio"/> site6	Yes	30	1
Connection Name	Processor Ethernet	Msg Period	Number of Active Connections														
<input checked="" type="radio"/> site1	Yes	30	0														
<input type="radio"/> site4	Yes	30	0														
<input type="radio"/> site6	Yes	30	1														

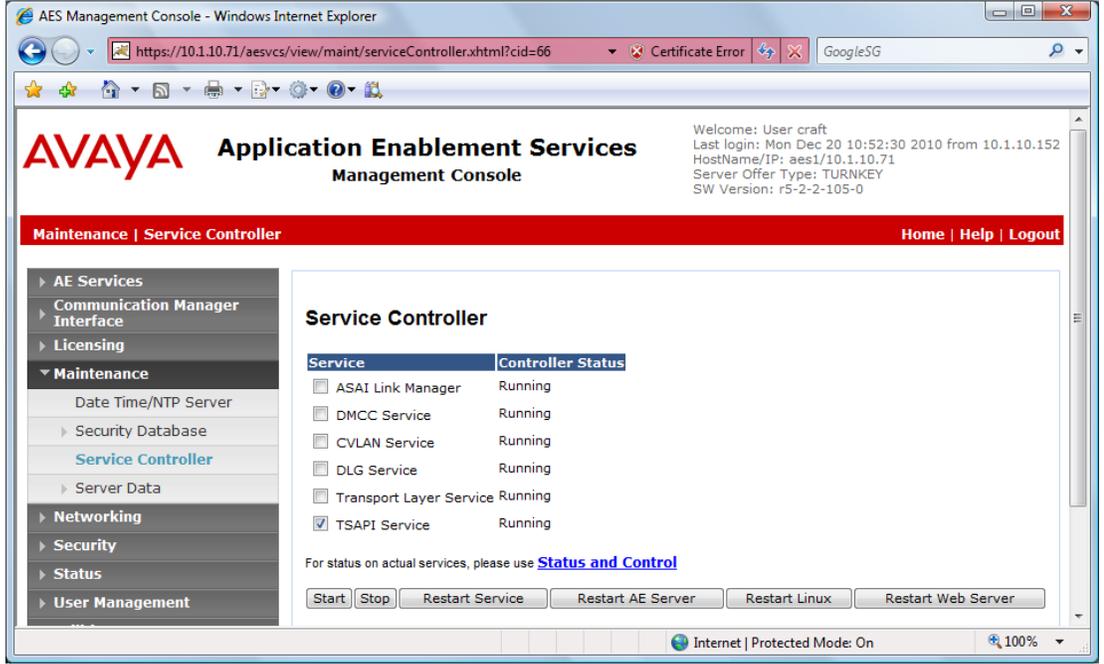
Step	Description
4.	<p>In the Edit Processor Ethernet IP – site1 screen, enter the host name or IP address of the Communication Manager processor Ethernet. In this case, <b>10.1.10.10</b> is used, which corresponds to the IP address of the S8800 Server as shown in <b>Figure 1</b>. Click <b>Add/Edit Name or IP</b>.</p> 

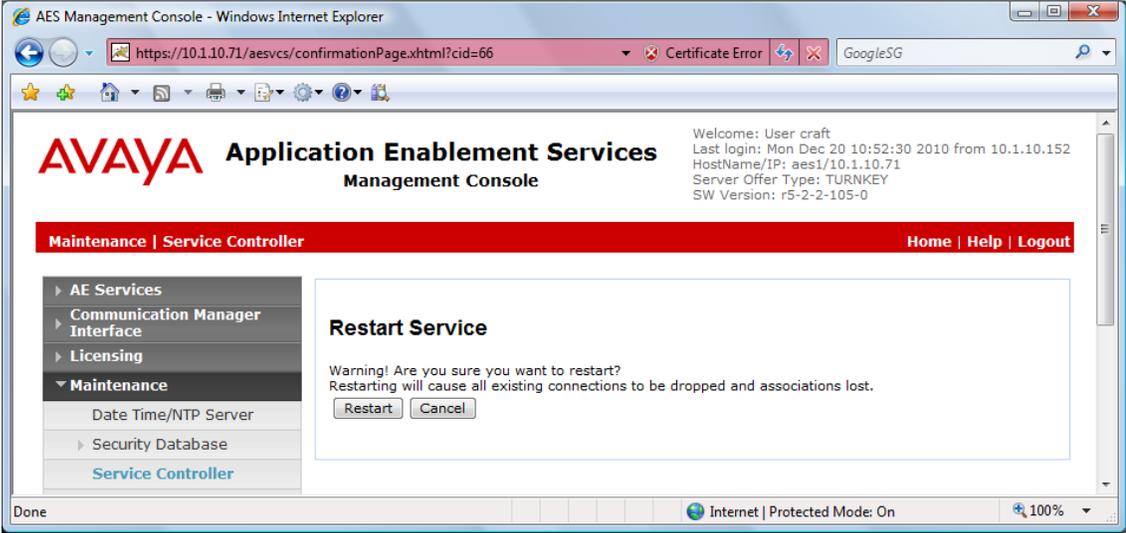
## 5.4. Administer TSAPI Link

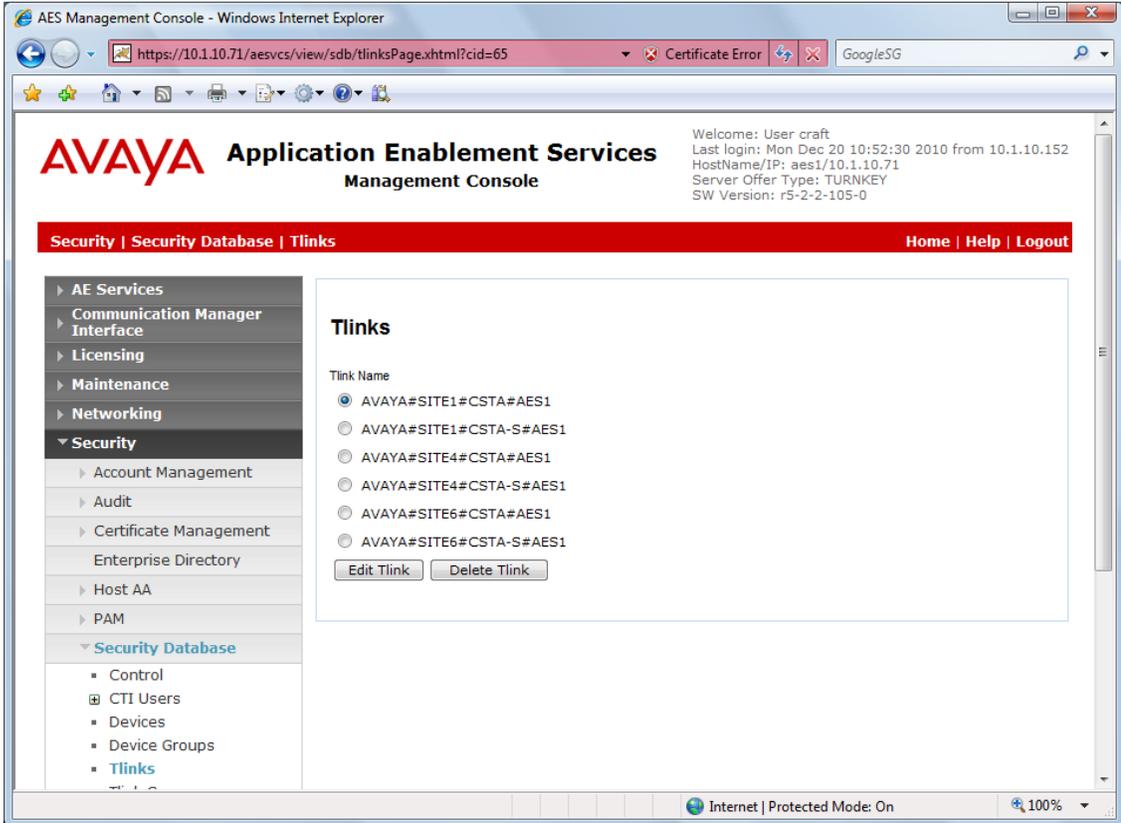
Step	Description															
1.	<p>To administer a TSAPI Link, select <b>AE Services &gt; TSAPI &gt; TSAPI Links</b> from the left menu. Click <b>Add Link</b>.</p>  <p>The screenshot shows the AVAYA Application Enablement Services Management Console. The left navigation menu is expanded to show 'TSAPI Links'. The main content area displays a table titled 'TSAPI Links' with the following data:</p> <table border="1"> <thead> <tr> <th>Link</th> <th>Switch Connection</th> <th>Switch CTI Link #</th> <th>ASAI Link Version</th> <th>Security</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>site4</td> <td>1</td> <td>UNKNOWN</td> <td>Both</td> </tr> <tr> <td>6</td> <td>site6</td> <td>1</td> <td>5</td> <td>Both</td> </tr> </tbody> </table> <p>Below the table are three buttons: 'Add Link', 'Edit Link', and 'Delete Link'.</p>	Link	Switch Connection	Switch CTI Link #	ASAI Link Version	Security	4	site4	1	UNKNOWN	Both	6	site6	1	5	Both
Link	Switch Connection	Switch CTI Link #	ASAI Link Version	Security												
4	site4	1	UNKNOWN	Both												
6	site6	1	5	Both												

Step	Description
2.	<p>In the Add TSAPI Links screen, select the following values:</p> <ul style="list-style-type: none"> <li>• <b>Link:</b> Select an available Link number from 1 to 16.</li> <li>• <b>Switch Connection:</b> Select the switch connection in <b>Section 5.3 Step 1</b>.</li> <li>• <b>Switch CTI Link Number:</b> Corresponding CTI link number in <b>Section 4.1 Step 2</b>.</li> <li>• <b>ASAI Link Version:</b> Set to <b>5</b>.</li> <li>• <b>Security:</b> Set to <b>Both</b> so that both encrypted and unencrypted TSAPI Links can be used. Note that unencrypted TSAPI Link is used for this testing. For deployment, consult [1] to enable encrypted TSAPI Link for secured transmission.</li> </ul> <p>Note that the actual values may vary. Click <b>Apply Changes</b>.</p> 

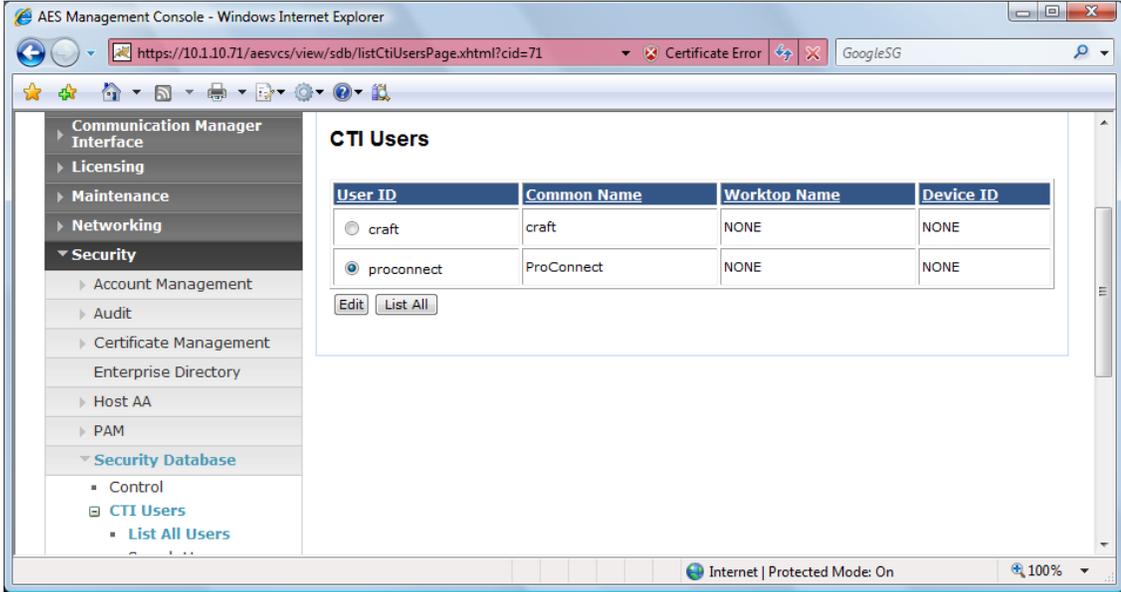
Step	Description
3.	<p>Click <b>Apply</b> to confirm the changes.</p> 

4.	<p>To restart the TSAPI Service, select <b>Maintenance &gt; Service Controller</b> from the left menu. Check the <b>TSAPI Service</b> checkbox and click <b>Restart Service</b>.</p> 
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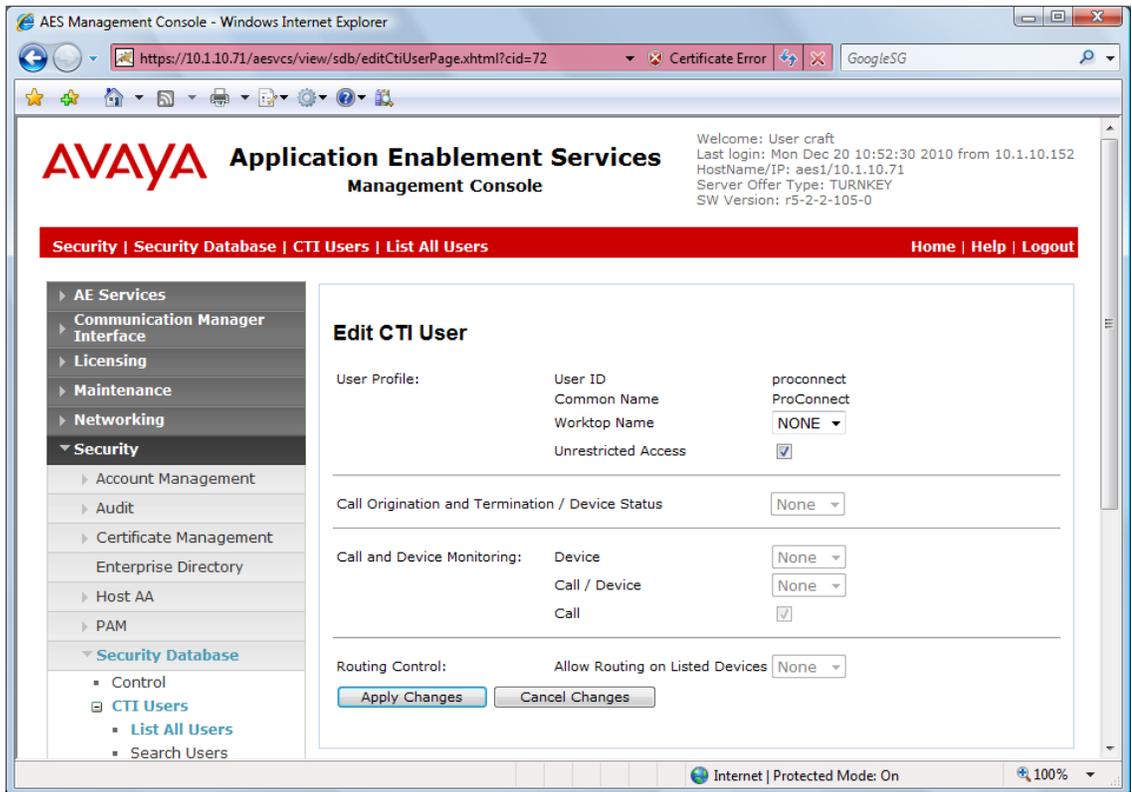
Step	Description
5.	<p>Click <b>Restart</b> to confirm the restart.</p>  <p>The screenshot shows a web browser window titled 'AES Management Console - Windows Internet Explorer'. The address bar shows the URL 'https://10.1.10.71/aesvcs/confirmationPage.xhtml?cid=66'. The page content includes the Avaya logo and 'Application Enablement Services Management Console'. A navigation bar has 'Maintenance   Service Controller' and 'Home   Help   Logout'. A sidebar menu lists 'AE Services', 'Communication Manager Interface', 'Licensing', 'Maintenance' (expanded), 'Date Time/NTP Server', 'Security Database', and 'Service Controller'. The main content area displays a 'Restart Service' dialog with a warning: 'Warning! Are you sure you want to restart? Restarting will cause all existing connections to be dropped and associations lost.' Below the warning are 'Restart' and 'Cancel' buttons. The browser status bar at the bottom shows 'Internet   Protected Mode: On' and '100%' zoom.</p>

Step	Description
6.	<p>Navigate to the Tlinks screen by selecting <b>Security &gt; Security Database &gt; Tlinks</b> from the left menu. Note the value of the <b>Tlink Name</b>, as this will be needed to configure the InteractCRM ProConnect Server in <b>Section 6</b>. In this configuration, the unencrypted <b>Tlink Name AVAYA#SITE1#CSTA#AES1</b> is used.</p> 

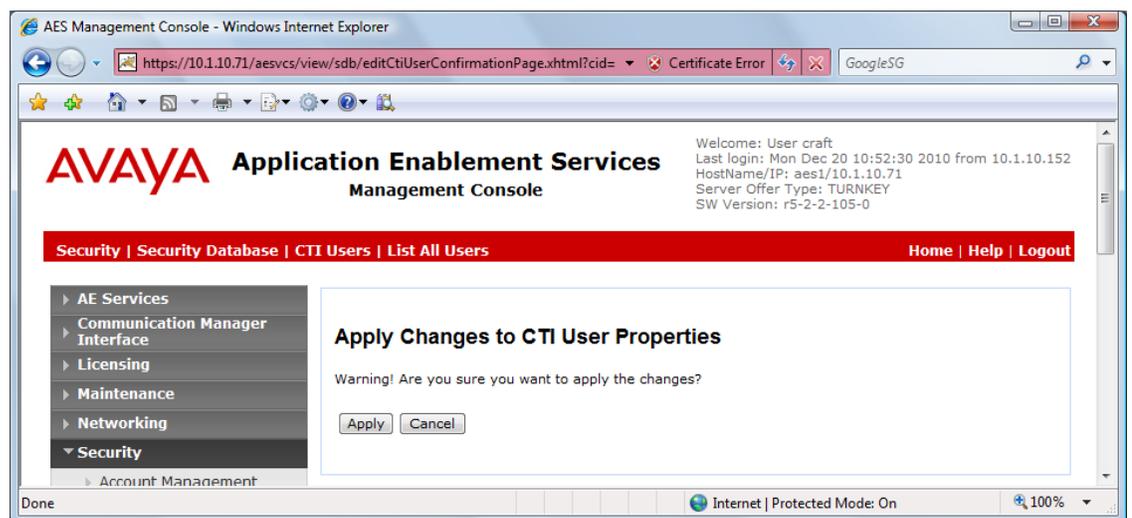
## 5.5. Administer CTI User Permission

Step	Description												
1.	<p>Select <b>Security &gt; Security Database &gt; CTI Users &gt; List All Users</b> from the left menu. Select the <b>User ID</b> created in <b>Section 5.2</b> and click <b>Edit</b>.</p>  <table border="1" data-bbox="618 604 1344 716"><thead><tr><th>User ID</th><th>Common Name</th><th>Worktop Name</th><th>Device ID</th></tr></thead><tbody><tr><td><input type="radio"/> craft</td><td>craft</td><td>NONE</td><td>NONE</td></tr><tr><td><input checked="" type="radio"/> proconnect</td><td>ProConnect</td><td>NONE</td><td>NONE</td></tr></tbody></table>	User ID	Common Name	Worktop Name	Device ID	<input type="radio"/> craft	craft	NONE	NONE	<input checked="" type="radio"/> proconnect	ProConnect	NONE	NONE
User ID	Common Name	Worktop Name	Device ID										
<input type="radio"/> craft	craft	NONE	NONE										
<input checked="" type="radio"/> proconnect	ProConnect	NONE	NONE										

Step	Description
2.	Assign access rights and call/device privileges according to customer requirements. For simplicity in configuration, <b>Unrestricted Access</b> was enabled during compliance testing. If <b>Unrestricted Access</b> is not desired, then consult [1] for guidance on configuring the call/device privileges as well as devices and device groups. Click <b>Apply Changes</b> .



3.	Click <b>Apply</b> to apply the changes.
----	--

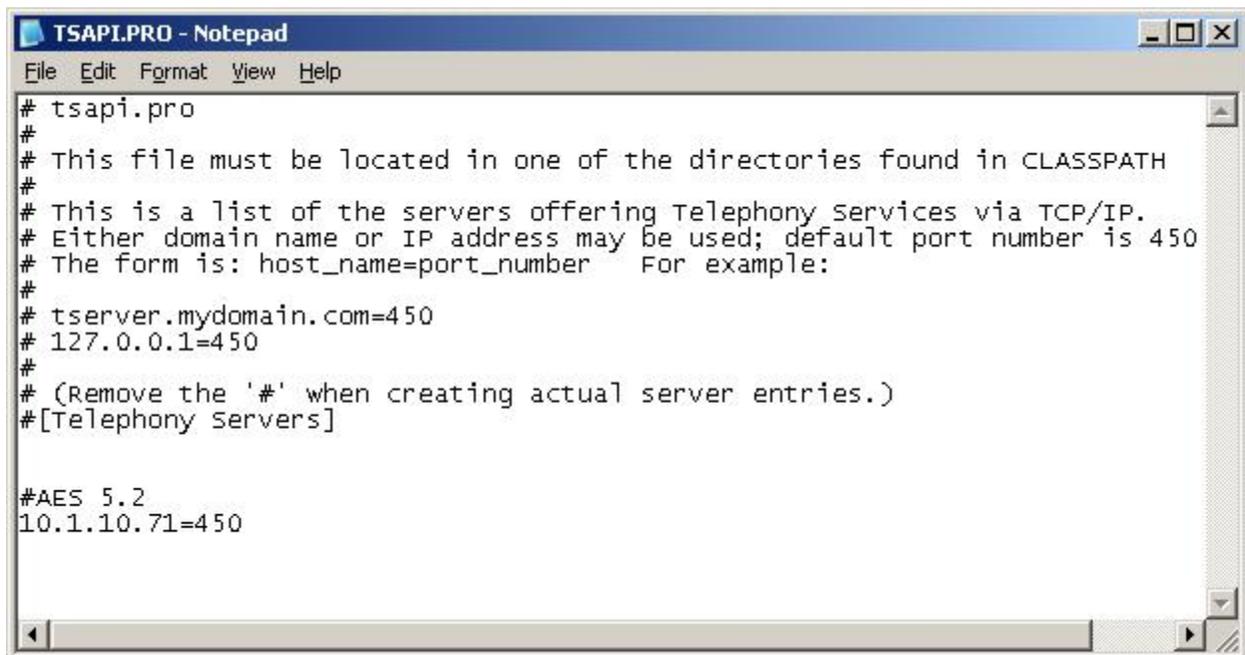


## 6. Configure InteractCRM ProConnect

This section provides the procedures to configure InteractCRM ProConnect server. InteractCRM ProConnect server is deployed on a Windows 2003 Server running Apache Tomcat 5.5.17.

From the InteractCRM ProConnect server, edit the file **TSAPI.PRO** located in the folder **<Apache Tomcat>\webapps\TCServer\WEB-INF\classes** using Notepad. Specify the IP address of the Application Enablement Services Server by inserting the following entry as shown below. Note that **450** is the default port number of the TSAPI Service running on Application Enablement Services.

- **10.1.10.71=450**



```
TSAPI.PRO - Notepad
File Edit Format View Help
# tsapi.pro
#
# This file must be located in one of the directories found in CLASSPATH
#
# This is a list of the servers offering Telephony services via TCP/IP.
# Either domain name or IP address may be used; default port number is 450
# The form is: host_name=port_number For example:
#
# tserver.mydomain.com=450
# 127.0.0.1=450
#
# (Remove the '#' when creating actual server entries.)
#[Telephony Servers]

#AES 5.2
10.1.10.71=450
```

Edit the file **ts.properties** located in the folder <Apache Tomcat>\webapps\TCServer\WEB-INF\classes using Notepad. Enter the following values for the fields below, and retain the default values for the remaining fields.

- **ts.login**: CTI User created in **Section 5.2**, in this case is “proconnect”.
- **ts.password**: Password of CTI User created in **Section 5.2**.
- **ts.link**: Tlink Name as shown in **Section 5.4 Step 6**.



```
ts.properties - Notepad
File Edit Format View Help
#AES 5.2
ts.peerclass=com.avaya.jtapi.tsapi.TsapiPeer
ts.login=proconnect
ts.password=xxxxxxxxxxx|
ts.link=AVAYA#SITE1#CSTA#AES1
```

## 7. General Test Approach and Test Results

The feature test cases were performed manually. Outbound campaigns were created on InteractCRM ProConnect and agents were assigned to them. When agents logged in to ProConnect, customer call records were delivered to the agents’ screen before ProConnect placed the call to the customers. Telephony functions were performed using the ProConnect client such as place call, hang up, hold and un-hold. Other telephony functions not supported by the ProConnect client such as blind transfer and attended transfer were also performed using the phone.

The serviceability test cases were performed manually by disconnecting the Ethernet cables on the ProConnect server, ProConnect client PC and Application Enablement Services server, rebooting of Communication Manager and ProConnect Server.

- All feature and serviceability test cases were executed and passed.

## 8. Verification Steps

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

### 8.1. Verify Communication Manager

Verify the status of the administered TSAPI CTI link by using the **status aesvcs cti-link** command. The **Service State** field should display **established**.

```
status aesvcs cti-link
```

AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1	5	no	aes1	established	47	53

### 8.2. Verify Application Enablement Services

From the Application Enablement Services Management Console, verify the status of the TSAPI Link by selecting **Status > Status and Control > TSAPI Service Summary** from the left menu. The **Status** field for the TSAPI Link should display **Talking** and the **State** field show **Online**.

AVAYA Application Enablement Services Management Console

Welcome: User craft  
Last login: Thu Jan 13 11:17:49 2011 from 10.1.10.152  
HostName/IP: aes1/10.1.10.71  
Server Offer Type: TURKEY  
SW Version: r5-2-2-105-0

Status | Status and Control | 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
1	site1	1	Talking	Thu Jan 13 11:56:02 2011	Online	16	0	15	15	30
4	site4	1	Switch Down	Mon Nov 15 11:51:29 2010	Online	16	0	0	0	30
6	site6	1	Talking	Wed Jan 12 13:30:52 2011	Online	15	0	15	15	30

Online Offline

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

### 8.3. Verify InteractCRM ProConnect

Launch Internet Explorer and log into ProConnect. Verify that the agent desktop is populated with a new customer call record and the outgoing call is placed successfully after the preview timer expires.

## 9. Conclusion

These Application Notes describe the configuration steps required for InteractCRM ProConnect to interoperate with Avaya Aura® Communication Manager 6.0 and Avaya Aura® Application Enablement Services 5.2.2 using the Java Telephony Application Programming Interface (JTAPI). All feature and serviceability test cases were completed successfully.

## 10. Additional References

This section references the Avaya and InteractCRM documentations that are relevant to these Application Notes.

The following Avaya product documentations can be found at <http://support.avaya.com>.

[1] *Avaya Aura® Application Enablement Services Administration and Maintenance Guide*, Release 5.2, Document ID 02-300357, Issue 11, November 2009.

[2] *Avaya Aura® Communication Manager Feature Description and Implementation*, Release 6.0, Issue 8.0, June 2010, Document Number 555-245-205.

The following product documentations are available from InteractCRM upon request.

[3] *InteractCRM ProConnect Installation Guide*, Release 1.4.4, June 2010.

[4] *InteractCRM ProConnect User Manual*, Release 1.4.4, June 2010.

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