



Avaya Solution & Interoperability Test Lab

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

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® Applicable 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 Applicable 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.

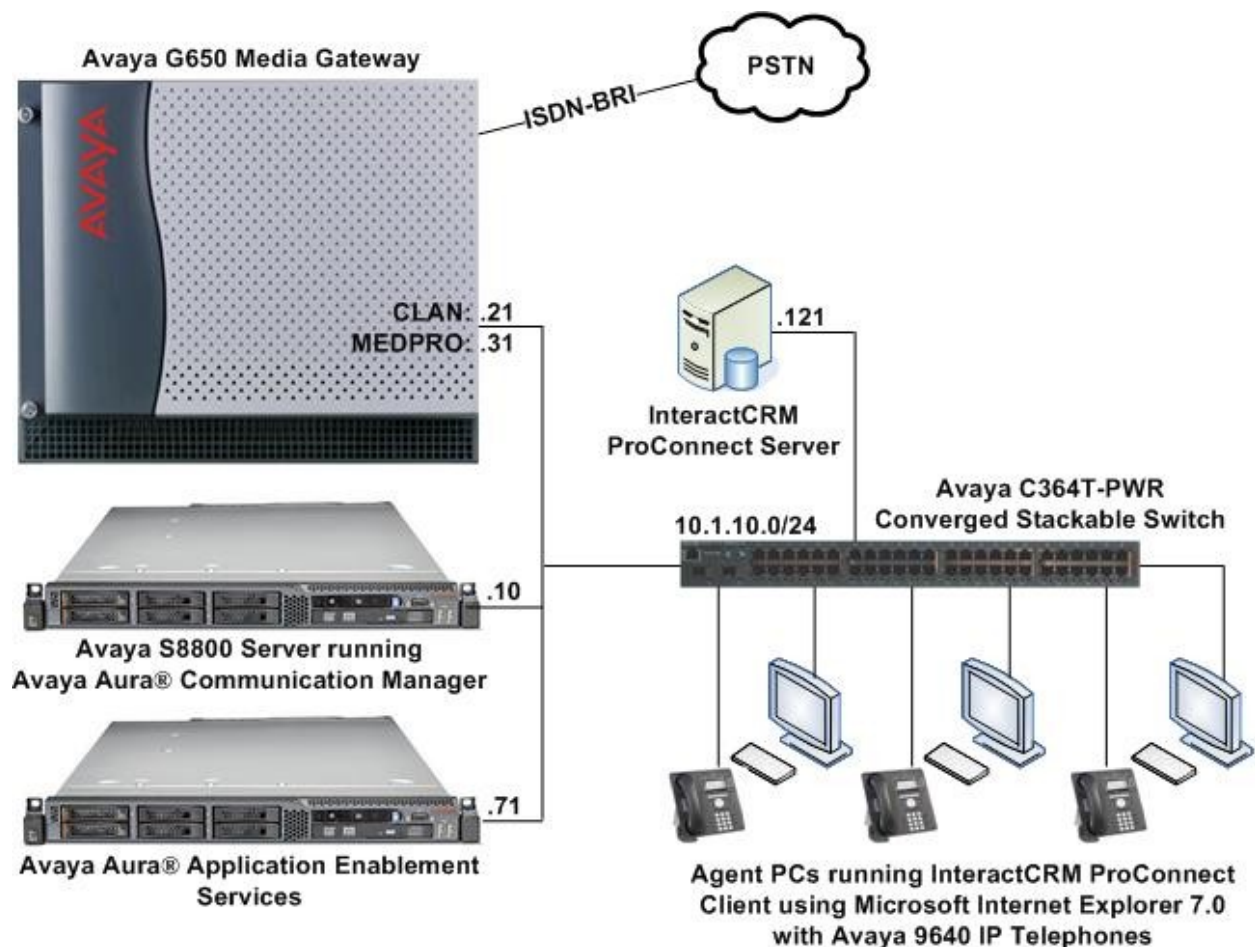


Figure 1: Test Configuration

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">TN2312BP IP Server InterfaceTN799DP C-LAN InterfaceTN2302AP IP Media ProcessorTN2185B BRI Trunk	- 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	1.4.4 Microsoft Windows Server 2003, SP2
Additional software components: <ul style="list-style-type: none">Avaya JTAPI ClientMicrosoft SQL ServerSun Java SE Development Kit (JDK)Apache Tomcat	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 display system-parameters customer-options command. On Page 3, verify that Computer Telephony Adjunct Links is set to y. 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 Computer Telephony Adjunct Links? y 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 Async. Transfer Mode (ATM) Trunking? n Digital Loss Plan Modification? n ATM WAN Spare Processor? n DS1 MSP? y ATMS? n DS1 Echo Cancellation? y Attendant Vectoring? n </pre>
2.	<p>Enter the add cti-link m command, where m is a number between 1 and 64, inclusive. Enter a valid Extension under the provisioned dial plan in Communication Manager, set the Type field to ADJ-IP, and assign a descriptive Name to the CTI link.</p> <pre> add cti-link 1 Page 1 of 3 CTI LINK CTI Link: 1 Extension: 10091 Type: ADJ-IP Name: TSAPI Services COR: 1 </pre>
3.	<p>Enter the change ip-services command. On Page 1, configure the Service Type field to AESVCS and the Enabled field to y. During the compliance test, the Local Node field is set to the processor Ethernet interface procr which is IP address of the S8800 Server as shown in Figure 1. The default port 8765 was utilized for the Local Port field.</p> <pre> change ip-services Page 1 of 3 IP SERVICES Service Enabled Local Local Remote Remote Type Type Node Port Node Port AESVCS y procr 8765 </pre>

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

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.

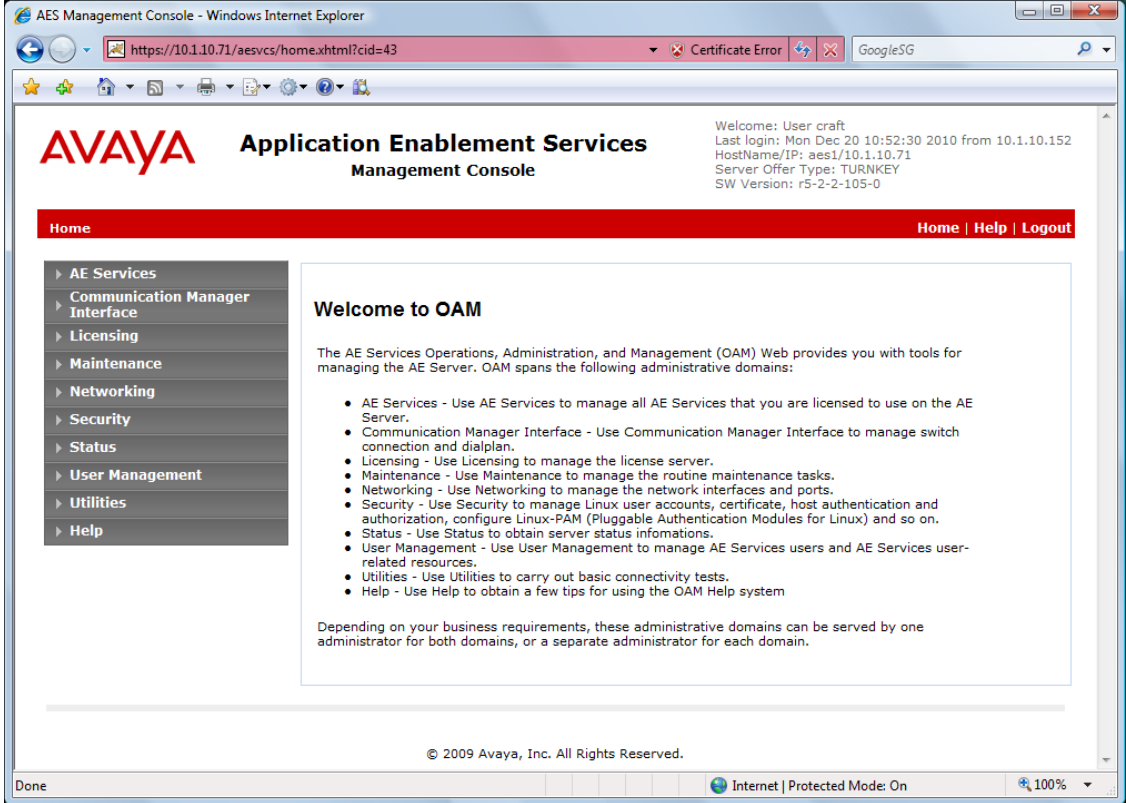
Step	Description
1.	<p>Enter the change system-parameters features command. On Page 5, set Create Universal Call ID (UCID) to y and configure a value for UCID Network Node ID, which is set to 1 in this testing.</p> <pre> change system-parameters features Page 5 of 19 FEATURE-RELATED SYSTEM PARAMETERS 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)? y UCID Network Node ID: 1 Copy UCID for Station Conference/Transfer? y </pre> <p>On Page 12, set Send UCID to ASAI to y.</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? y For ASAI Send DTMF Tone to Call Originator? Y </pre>
2.	<p>Enter the save translation command to save the changes to the system. This completes the configuration of Communication Manager.</p>

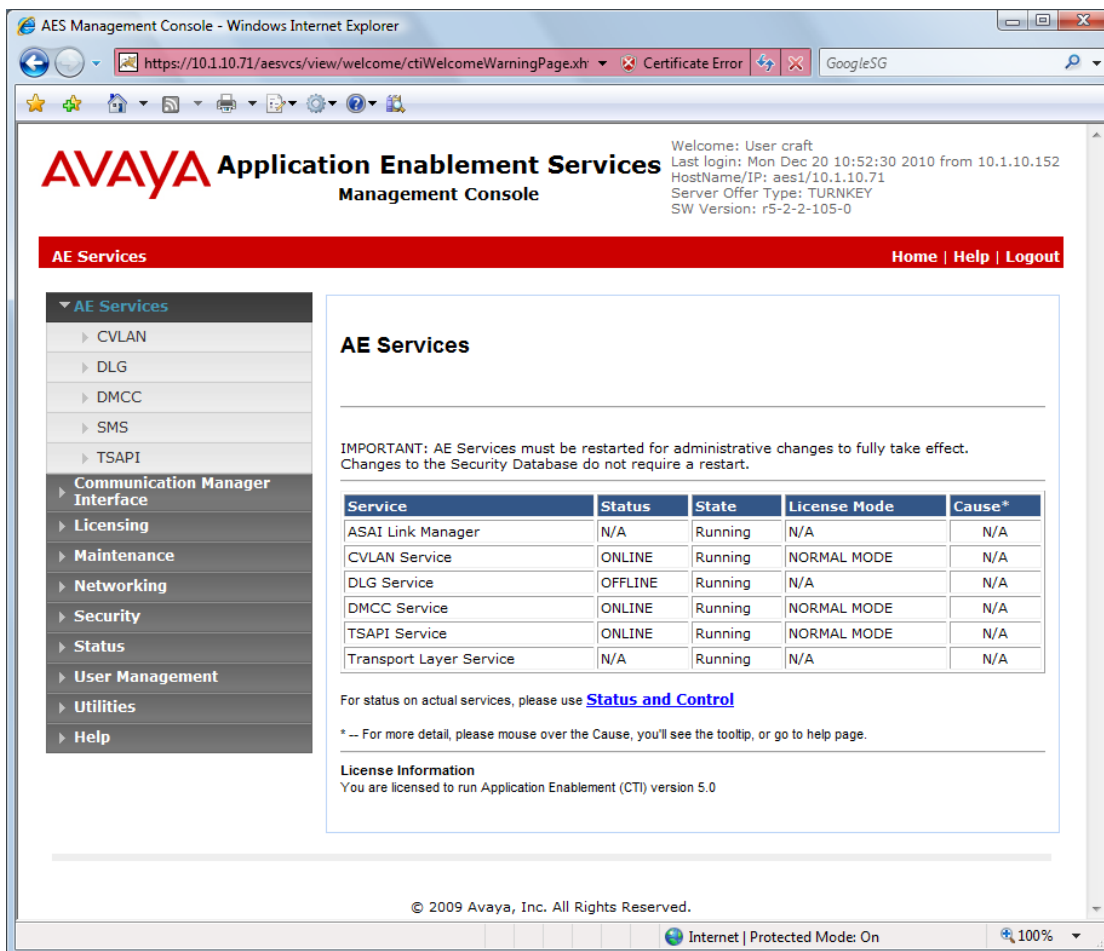
5. Configure Avaya Aura® Application Enablement Services

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

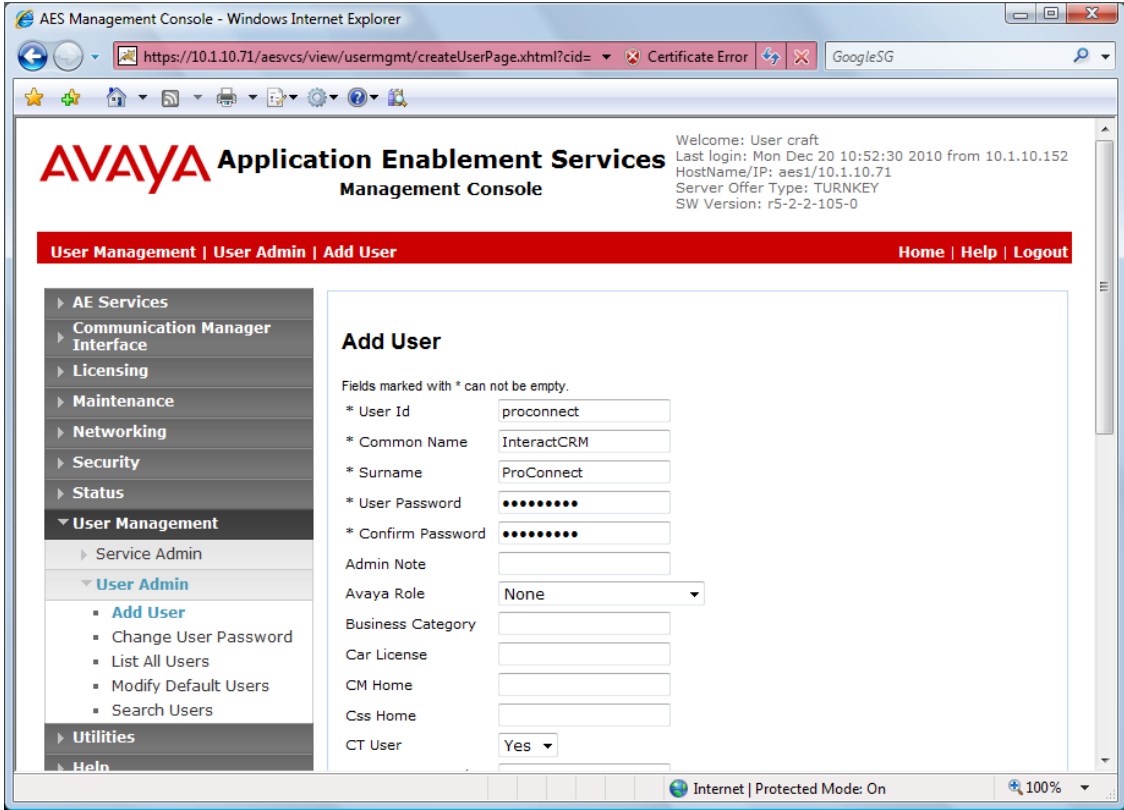
- Verify Application Enablement Services License
- Administer CTI User
- Administer Switch Connection
- Administer TSAPI link
- Administer CTI user permission

5.1. Verify Application Enablement Services License

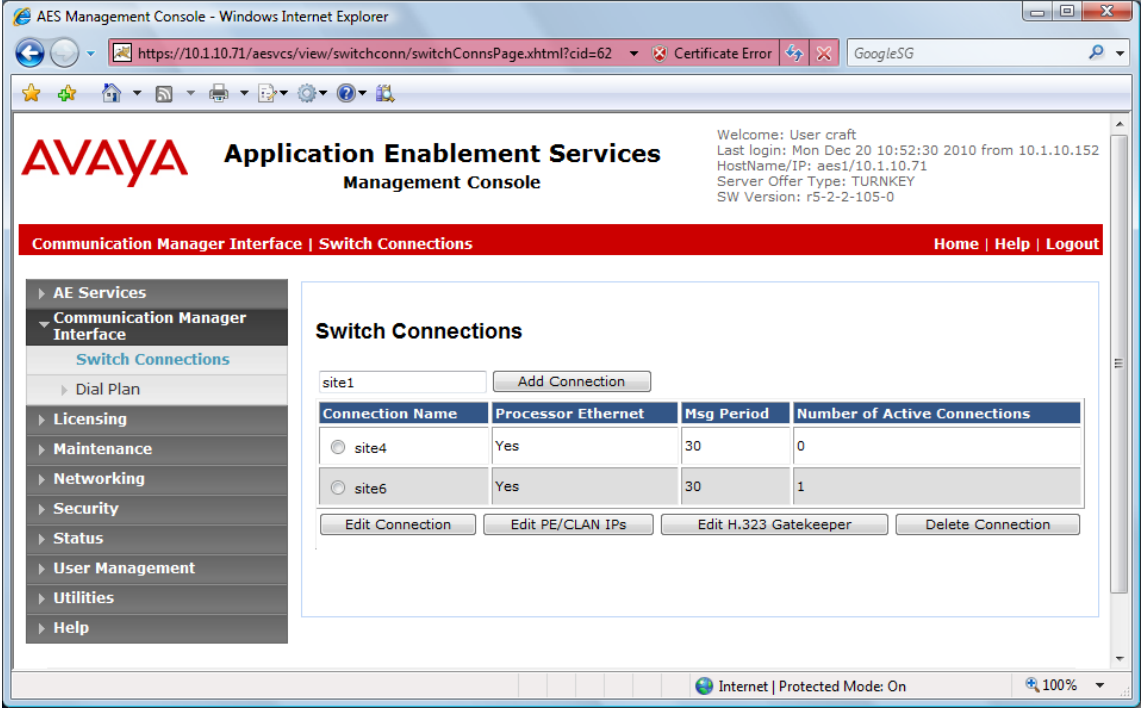
Step	Description
1.	<p>Launch a web browser and enter https://<IP address of AES server> to access the Application Enablement Services Management Console. Log in using an administrative login and password (not shown), and the Welcome To OAM screen will be displayed.</p> 

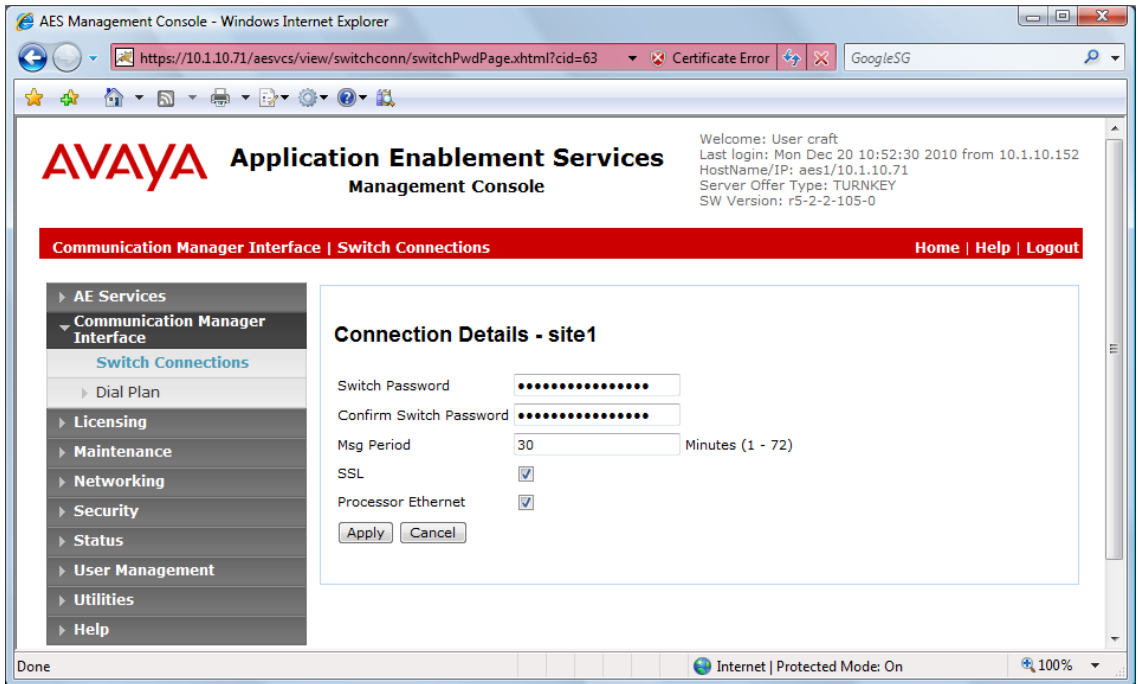
Step	Description
2.	<p>Select AE Services from the left menu. From the AE Services page, verify that Application Enablement Services has proper license for the feature illustrated in these Application Notes by ensuring the License Mode for TSAPI Service is NORMAL MODE, as shown below. If the TSAPI Service is not licensed, then contact the Avaya sales team or business partner for the proper license to install onto the WebLM Server.</p> <div></div>

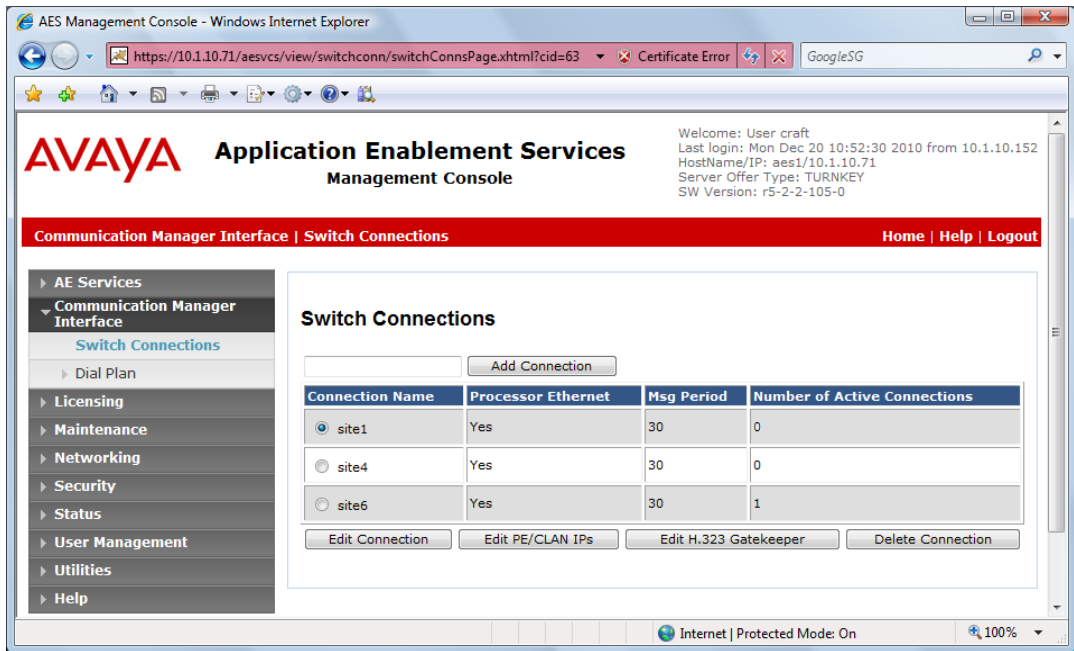
5.2. Administer CTI User

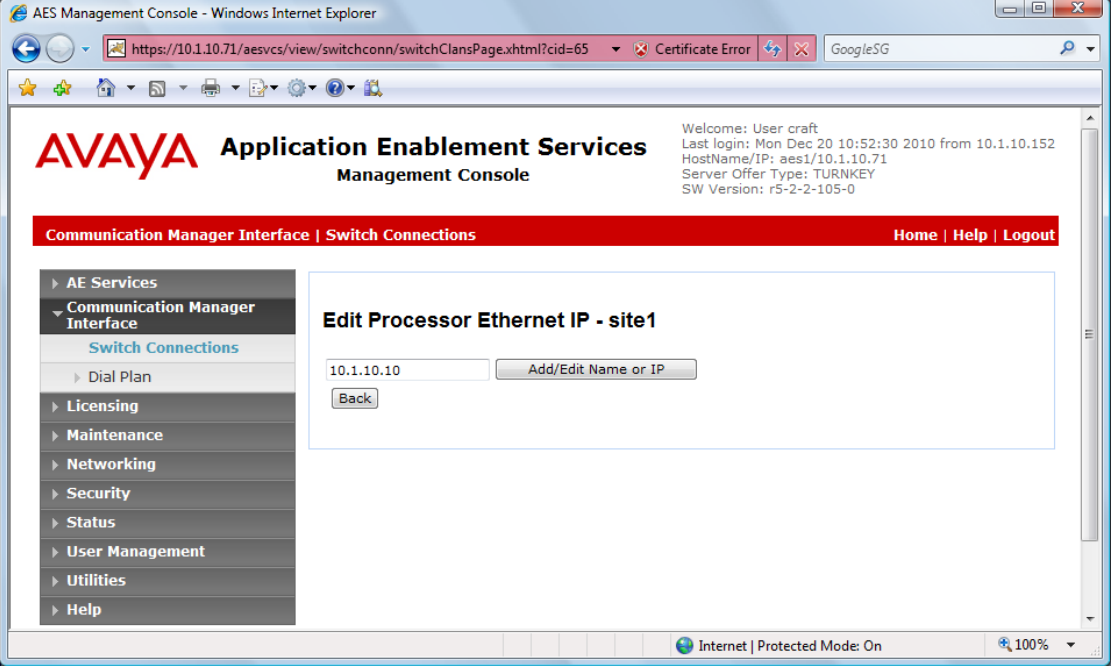
Step	Description
1.	<p>Click User Management, then User Admin > Add User in the left pane. Specify a value for User Id, Common Name, Surname, User Password and Confirm Password. Set CT User to Yes. Use the values for User Id and User Password to configure InteractCRM ProConnect in Section 6 to access the TSAPI Service on Applicable Enablement Services. Scroll down to the bottom of the page and click Apply (not shown).</p> 

5.3. Administer Switch Connection

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

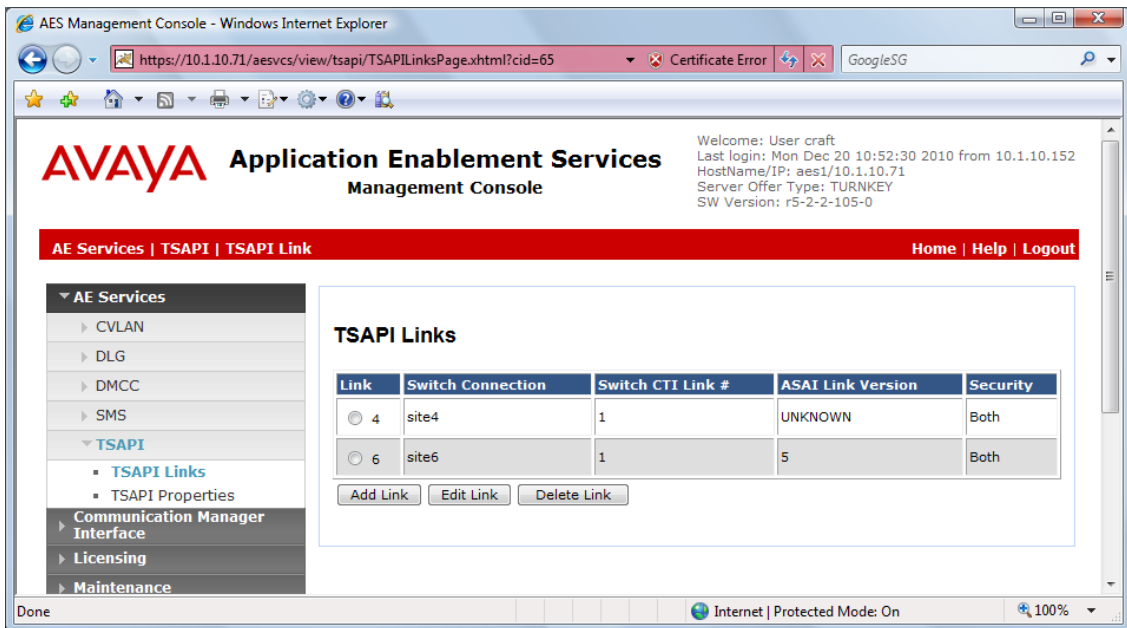
Step	Description
2.	<p>The Connection Details – site1 screen is displayed. For the Switch Password and Confirm Switch Password fields, enter the password that was administered in Communication Manager using the IP Services form in Section 4.1 Step 3. Both the SSL and Processor Ethernet fields need to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

Step	Description																
3.	<p>The Switch Connections screen is displayed again. Select the new switch connection name site1 and click Edit PE/CLAN IPs.</p>  <p>The screenshot shows the Avaya Application Enablement Services Management Console. The browser address bar indicates the URL is https://10.1.10.71/aesvcs/view/switchconn/switchConnsPage.xhtml?cid=63. The page title is 'AVAYA Application Enablement Services Management Console'. The sidebar on the left lists various services, with 'Switch Connections' highlighted. The main content area is titled 'Switch Connections' and contains a table with the following data:</p> <table><tr><th>Connection Name</th><th>Processor Ethernet</th><th>Msg Period</th><th>Number of Active Connections</th></tr><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></table> <p>Below the table are buttons for 'Edit Connection', 'Edit PE/CLAN IPs', 'Edit H.323 Gatekeeper', and 'Delete Connection'. The 'Edit PE/CLAN IPs' button is the one to be clicked according to the description.</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, 10.1.10.10 is used, which corresponds to the IP address of the S8800 Server as shown in Figure 1. Click Add/Edit Name or IP.</p> 

5.4. Administer TSAPI Link

Step	Description
1.	To administer a TSAPI Link, select AE Services > TSAPI > TSAPI Links from the left menu. Click Add Link .

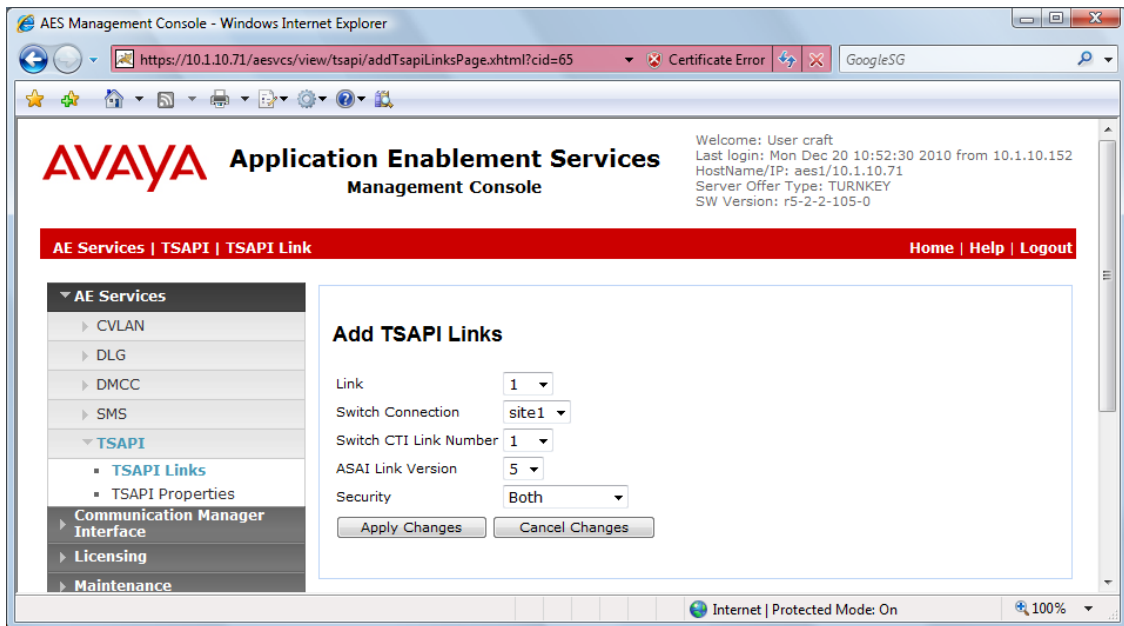


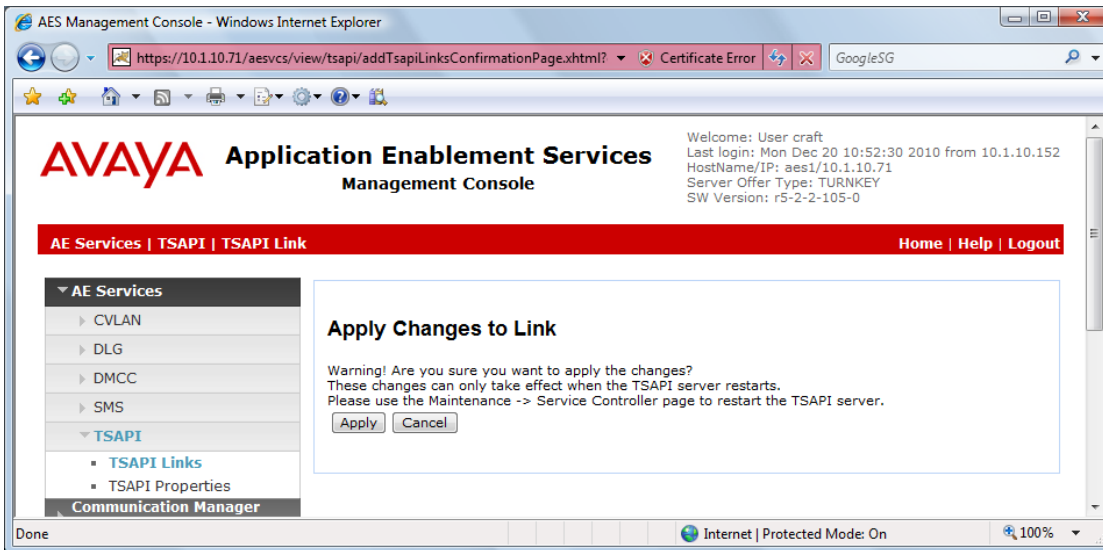
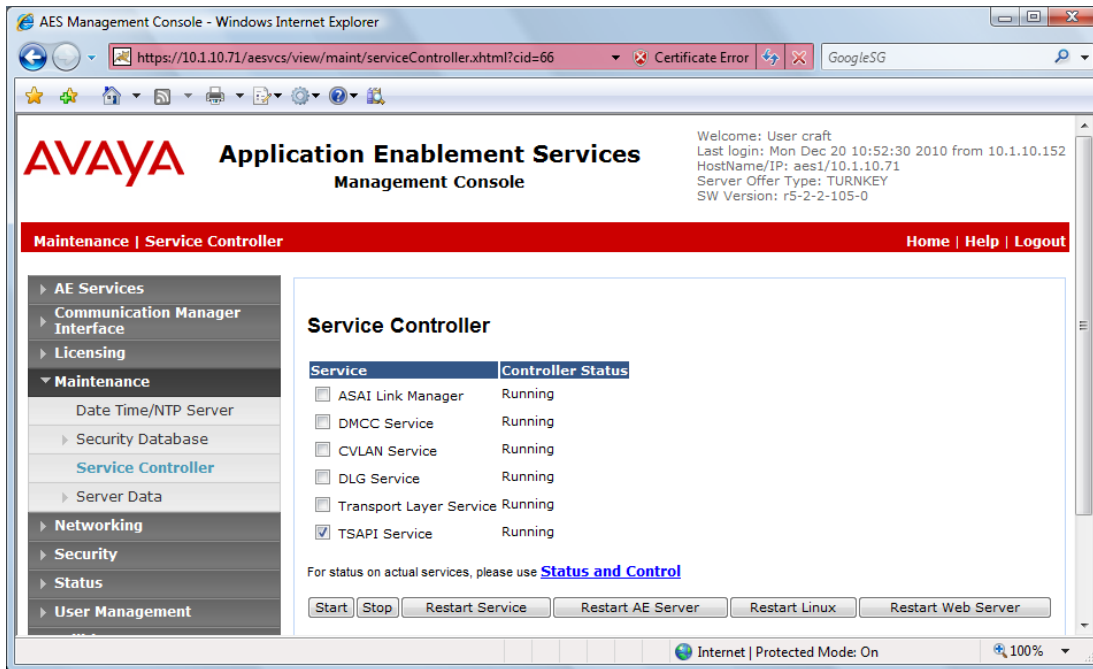
The screenshot shows the Avaya Application Enablement Services Management Console. The left sidebar contains a navigation menu with 'AE Services' expanded, showing 'CVLAN', 'DLG', 'DMCC', 'SMS', 'TSAPI' (selected), 'Communication Manager Interface', 'Licensing', and 'Maintenance'. The 'TSAPI' section is further expanded to show 'TSAPI Links' and 'TSAPI Properties'. The main content area is titled 'TSAPI Links' and contains a table with the following data:

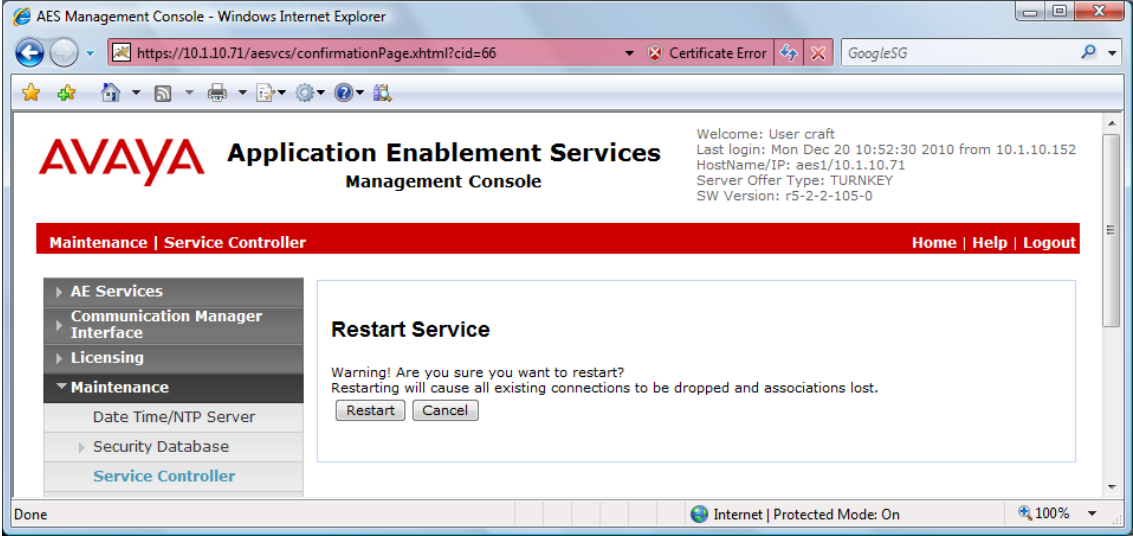
Link	Switch Connection	Switch CTI Link #	ASAI Link Version	Security
4	site4	1	UNKNOWN	Both
6	site6	1	5	Both

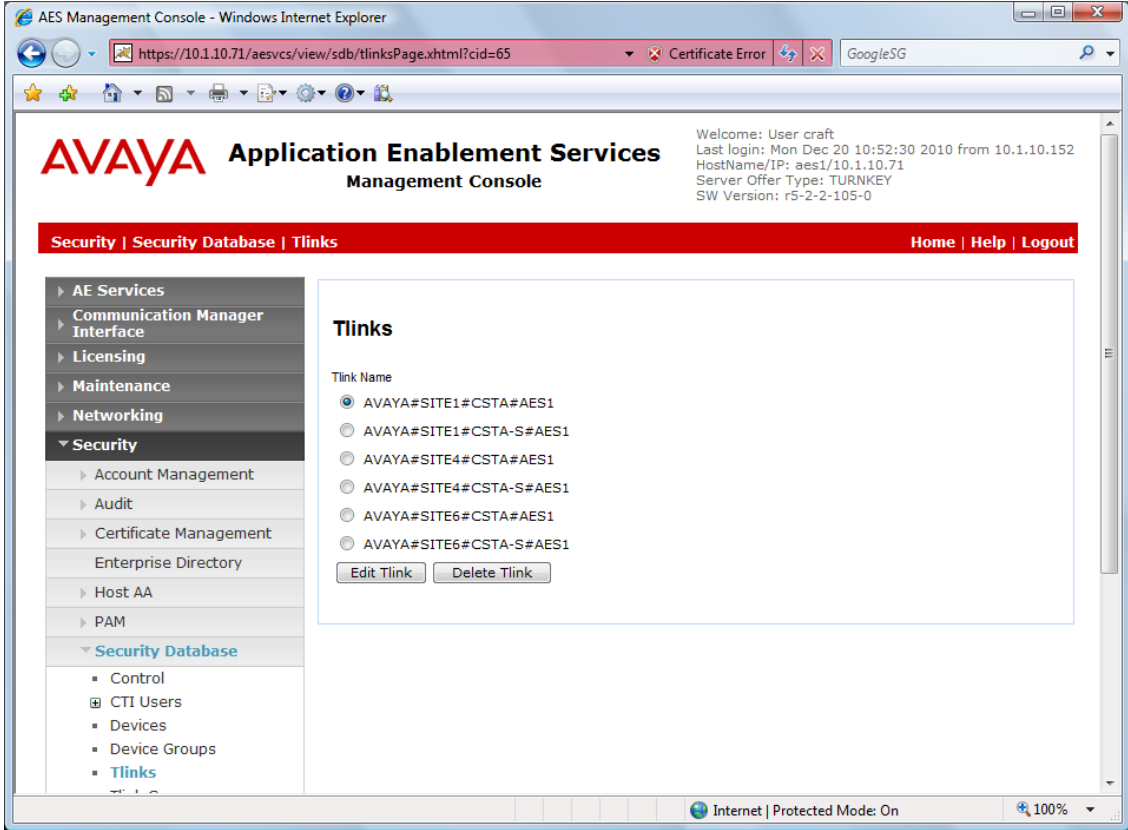
Below the table are three buttons: 'Add Link', 'Edit Link', and 'Delete Link'. The top right of the console shows a welcome message for 'User craft' and system information.

Step	Description
2.	<p>In the Add TSAPI Links screen, select the following values:</p> <ul style="list-style-type: none"> • Link: Select an available Link number from 1 to 16. • Switch Connection: Select the switch connection in Section 5.3 Step 1. • Switch CTI Link Number: Corresponding CTI link number in Section 4.1 Step 2. • ASAI Link Version: Set to 5. • Security: Set to Both 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. <p>Note that the actual values may vary. Click Apply Changes.</p>



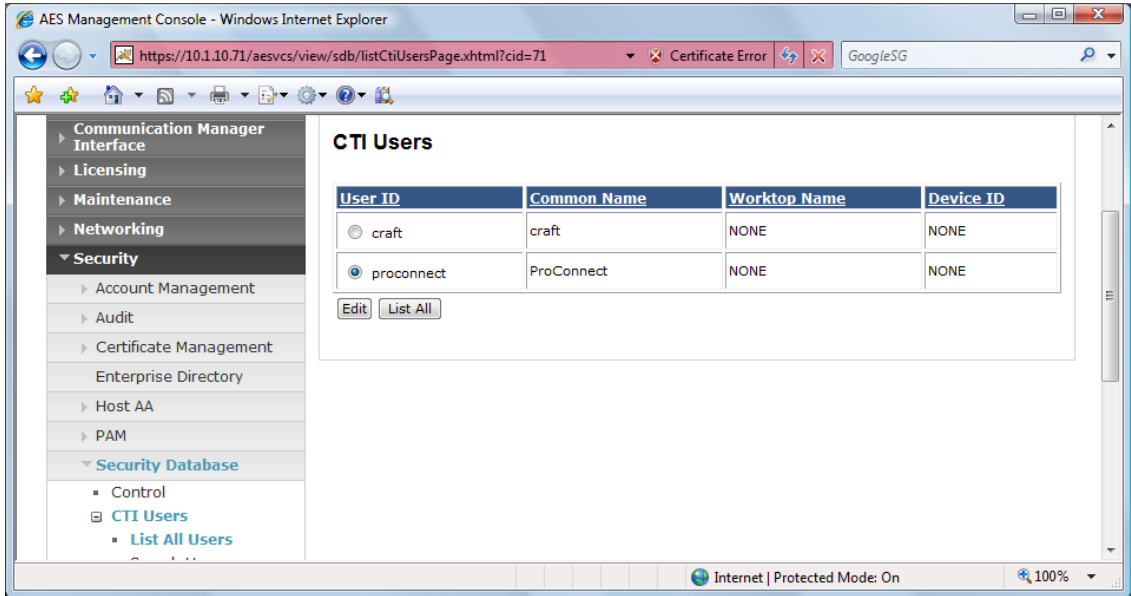
Step	Description
3.	<p>Click Apply to confirm the changes.</p> 
4.	<p>To restart the TSAPI Service, select Maintenance > Service Controller from the left menu. Check the TSAPI Service checkbox and click Restart Service.</p> 

Step	Description
5.	<p>Click Restart to confirm the restart.</p>  <p>The screenshot shows a web browser window titled 'AES Management Console - Windows Internet Explorer'. The address bar shows 'https://10.1.10.71/aesvcs/confirmationPage.xhtml?cid=66'. The page displays the Avaya logo and 'Application Enablement Services Management Console'. A red banner at the top contains 'Maintenance Service Controller' and 'Home Help Logout'. A left sidebar lists navigation options: 'AE Services', 'Communication Manager Interface', 'Licensing', 'Maintenance' (selected), 'Date Time/NTP Server', 'Security Database', and 'Service Controller'. The main content area is titled 'Restart Service' and contains 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 Security > Security Database > Tlinks from the left menu. Note the value of the Tlink Name, as this will be needed to configure the InteractCRM ProConnect Server in Section 6. In this configuration, the unencrypted Tlink Name AVAYA#SITE1#CSTA#AES1 is used.</p>  <p>The screenshot shows the AVAYA Application Enablement Services Management Console in a Windows Internet Explorer browser. The address bar shows the URL: https://10.1.10.71/aesvcs/view/sdb/tlinksPage.xhtml?cid=65. The page title is 'AVAYA Application Enablement Services Management Console'. The left navigation menu is expanded to 'Security Database', and the 'Tlinks' option is selected. The main content area shows the 'Tlinks' configuration page. It includes a 'Tlink Name' section with a list of radio buttons for selection. The first option, 'AVAYA#SITE1#CSTA#AES1', is selected. Below the list are 'Edit Tlink' and 'Delete Tlink' buttons. The page also displays a welcome message and user information in the top right corner.</p>

5.5. Administer CTI User Permission

Step	Description
1.	Select Security > Security Database > CTI Users > List All Users from the left menu. Select the User ID created in Section 5.2 and click Edit .



AES Management Console - Windows Internet Explorer

https://10.1.10.71/aesvcs/view/sdb/listCtiUsersPage.xhtml?cid=71

Certificate Error

GoogleSG

Communication Manager Interface

Licensing

Maintenance

Networking

Security

Account Management

Audit

Certificate Management

Enterprise Directory

Host AA

PAM

Security Database

Control

CTI Users

List All Users

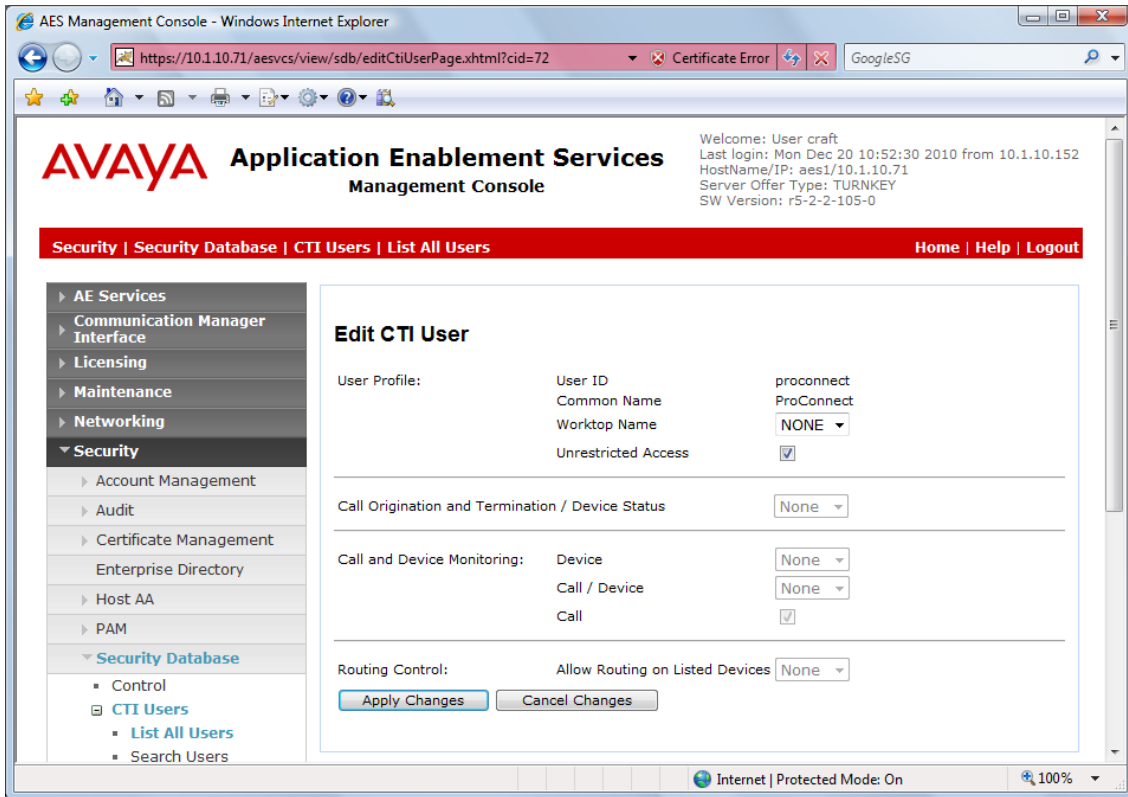
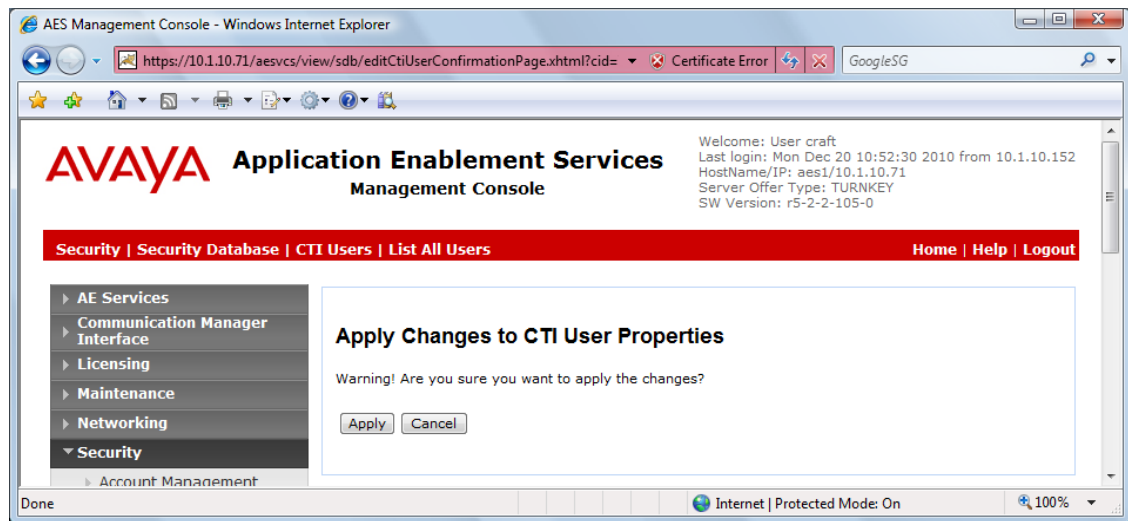
CTI Users

User ID	Common Name	Worktop Name	Device ID
<input type="radio"/> craft	craft	NONE	NONE
<input checked="" type="radio"/> proconnect	ProConnect	NONE	NONE

Edit List All

Internet | Protected Mode: On

100%

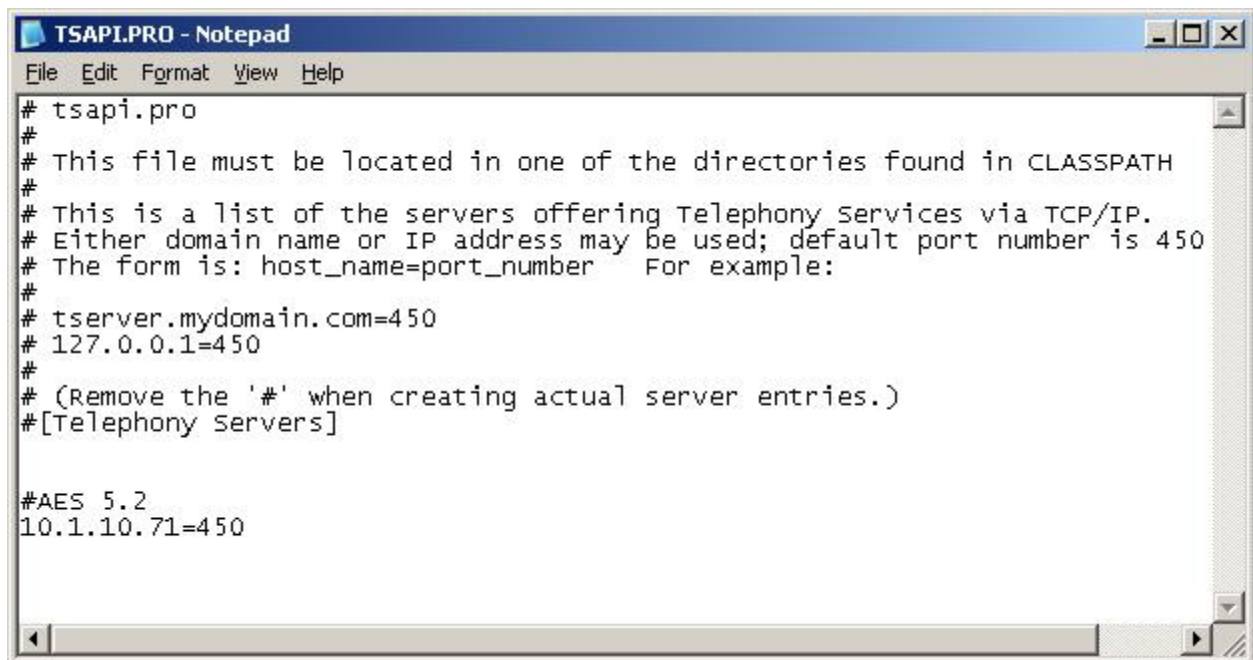
Step	Description
2.	<p>Assign access rights and call/device privileges according to customer requirements. For simplicity in configuration, Unrestricted Access was enabled during compliance testing. If Unrestricted Access is not desired, then consult [1] for guidance on configuring the call/device privileges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

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**

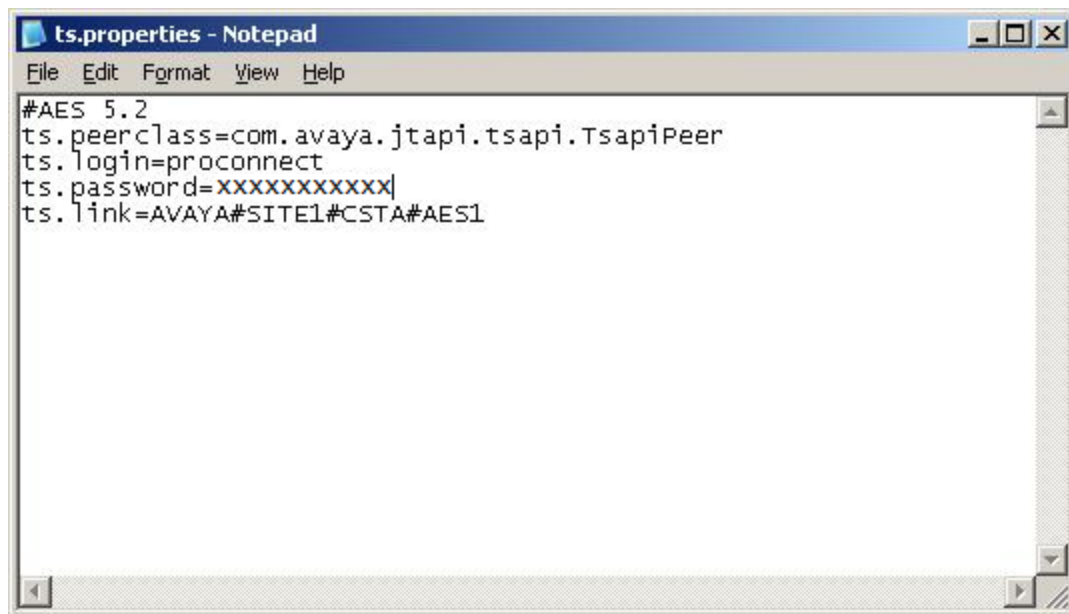


```
# tsapi.pro
#
# This file must be located in one of the directories found in CLASSPATH
#
# This is a list of the servers offering Telephony Services via TCP/IP.
# Either domain name or IP address may be used; default port number is 450
# The form is: host_name=port_number   For example:
#
# tserver.mydomain.com=450
# 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**.



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: TURNKEY
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:
TSAPI Service Status TLink Status User Status

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.

©2011 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.