



Avaya Solution & Interoperability Test Lab

Application Notes for Shanghai Elite Software Technology Elite CRM for Call Center with Avaya Contact Center Express – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Shanghai Elite Software Technology Elite CRM for Call Center to successfully interoperate with Avaya Contact Center Express. Elite CRM for Call Center enables an Elite Agent application to interface with Avaya Contact Center Express to handle voice calls. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

Elite CRM for Call Center is a complete solution for the call center. It provides a configurable business-flow platform to meet the ever-changing requirements of the customer. This is very suitable and beneficial for outsourced call centers.

The main features of Elite CRM for Call Center include:

- All interface designs for the agents are done through the AddinBuilder and WorkOrder utilities, eliminating the need for software development.
- The Workflow engine can be configured in many aspects such as assigning the person responsible for each step in the flow and the treatment for expired tasks.
- Contact objective and history make customer management and analysis easier.
- The Outbound management sub-system enables you to setup and manage a campaign with call list generation, job distribution, interface design, call process monitoring and reporting.
- The Monitoring system provides system wide management capability such as monitoring agent status, queue status and special business target.
- The Reporting system exports data in Excel format with customer defined criteria and format. Graphical statistical reporting is also available.

Agents use the Elite Agent application to perform their tasks. The focus of these Application Notes is to describe the configuration of the Elite Agent application to interface with Avaya Contact Center Express to handle voice calls. The Elite Agent application is the point of integration between the Elite CRM for Call Center and the Contact Center Express.

Figure 1 illustrates the configuration used to verify Shanghai Elite Software Technology Elite CRM for Call Center interoperability with Avaya Contact Center Express. The Avaya S8500B Media Server running Avaya Communication Manager and G650 Media Gateway provide the telephony functionality to the agents. The Avaya Application Enablement Services server provides the Telephony Services Application Programming Interface (TSAPI) services allowing for the Computer Telephony Integration (CTI) between Avaya Communication Manager and Avaya Contact Center Express. Each agent has an agent desktop and an Avaya 4600 Series IP Telephone. The agent desktops configured with the Elite Agent application and Contact Center Express software connect to both the Elite CRM Server and Contact Center Express server for services. All the systems are connected using the Avaya C364T-PWR Converged Stackable Switch for network connectivity.

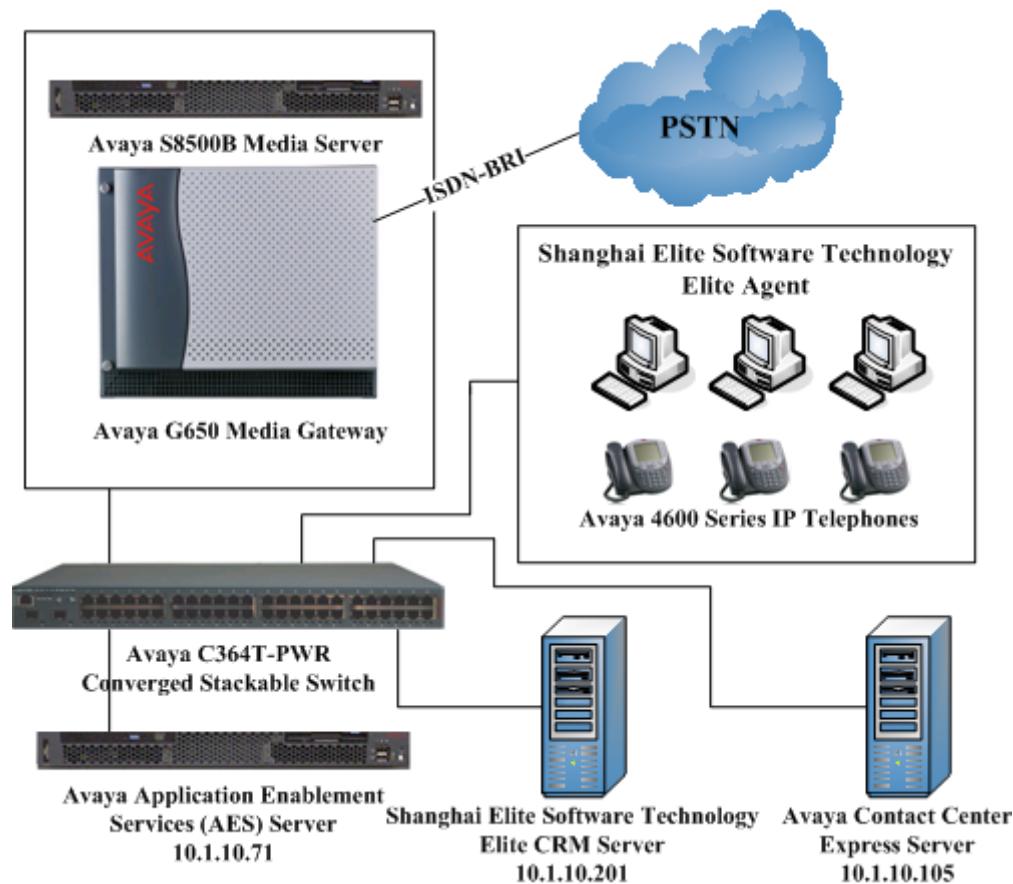


Figure 1: Shanghai Elite Software Technology Elite CRM for Call Center with Avaya Contact Center Express

Figure 2 shows the Elite Agent software architecture. The Elite Agent application is made up of 2 executables – **ESoftPhone** and **EliteClient**. **EliteClient** uses a Server Adaptor to connect to the Elite CRM Server for business process operations. **ESoftPhone** uses a CTI Adaptor developed using the Avaya Contact Center Express PhoneX interface to integrate with Avaya Contact Center Express for telephony operations. The PhoneX interface is an OLE Control Extension (OCX) control that performs general telephony control and licensing. It exists as a wrapper control around the TSAPI interface on the Avaya Application Enablement Services (AES), offering an abstract level of call, device, agent and scripting control for common desktop applications and development environments. In the tested configuration, **ESoftPhone** only supports the handling of voice calls.

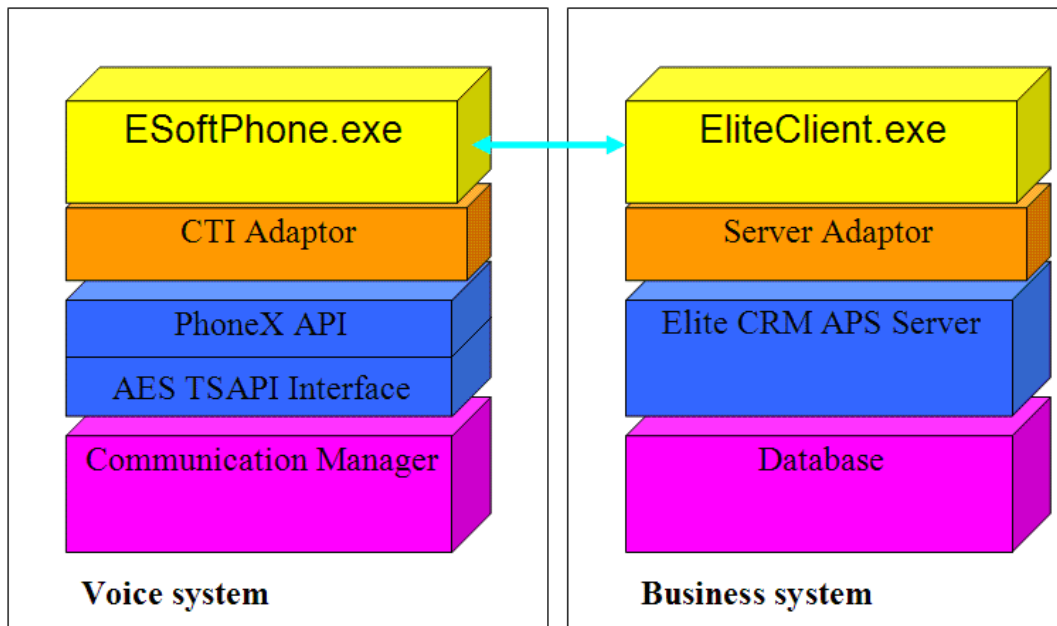


Figure 2: Elite Agent Architecture

ESoftPhone has a softphone Graphical User Interface (GUI) for agents to use to perform telephone operations. In addition, *ESoftPhone*'s CTI functionality is well integrated into the business process flow of *EliteClient*. Under normal operational process, the agents do not need to use the telephone or even the softphone, as all the CTI operation is controlled by *EliteClient*. For example, when the agent receives an incoming call, selecting the customer record in *EliteClient* will instruct *ESoftPhone* to answer the call.

Each instance of the Elite Agent connects to the TSAPI Service on Avaya AES using the PhoneX interface for the call status and control of the desktop agent phone. The Elite CRM Server does not directly interface with the Avaya Contact Center Express server.

2. Equipment and Software Validated

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

Equipment	Software
Avaya S8500B Media Server	Avaya Communication Manager 3.0.1 (R013x.00.1.346.0)
Avaya G650 Media Gateway <ul style="list-style-type: none">• TN2312BP IP Server Interface• TN799DP C-LAN Interface• TN2302AP IP Media Processor	- HW07, FW022 HW01, FW015 HW20, FW107
Avaya Application Enablement Services	3.0.1 (r3-0-0-build-50-1-0)
Avaya Contact Center Express	2.1
Avaya 4600 Series IP Telephones	2.4 (4610SW) 2.4 (4621SW) 2.5 (4625SW)
Avaya C364T-PWR Converged Stackable Switch	4.3.12
Shanghai Elite CRM for Call Center (Elite CRM server and Elite Agent)	3.1

3. Configure Avaya Communication Manager

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

- Administer C-LAN for AES connectivity
- Administer transport link for AES connectivity
- Administer CTI link with TSAPI service

The detailed administration of contact center resources, such as VDNs, Vectors, Hunt Groups, Logical Agents and Station Extensions are assumed to be in place and are not covered in these Application Notes.

3.1. Administer C-LAN for AES Connectivity

The C-LAN administration procedure will involve adding an IP node name, an IP interface, and a data module. First, add an entry for the C-LAN in the node-names form. Use the “change node-names ip” command, as shown in **Figure 3**. In this case, “s8500-clan1” and “10.1.10.21” are entered as **Name** and **IP Address** for the C-LAN that will be used for connectivity to the AES server. The actual node name and IP address may vary. Submit these changes.

change node-names ip				
	IP NODE NAMES			
Name	IP Address			
default	0	.0	.0	.0
aes1	10	.1	.10	.71
procr	10	.1	.10	.10
s8500-clan1	10	.1	.10	.21
s8500-medpro1	10	.1	.10	.31
s8500-vall	10	.1	.10	.41

Figure 3: IP Node Names

Next, add the C-LAN to the system configuration using the “add ip-interface 1a02” command. Note that the actual slot number may vary. In this case, “1a02” is used as the slot number, as shown in **Figure 4** below. Enter the node name assigned from **Figure 3** above into the **Node Name** field, and then the IP address will be populated automatically.

Enter proper values for the **Subnet Mask** and **Gateway Address** fields. In this case, “255.255.255.0” and “10.1.10.1” are used to correspond to the network configuration in these Application Notes. Set the **Enable Ethernet Port** field to “y”. It is recommended that the field **Auto** be set to “n” and the **Speed** and **Duplex** fields set to the connection speed configured on the Ethernet switch. Default values may be used in the remaining fields. Submit these changes.

```
add ip-interface 1a02
```

		IP INTERFACES	
Type:	C-LAN		
Slot:	01A02		
Code/Suffix:	TN799 D		
Node Name:	s8500-clan1		
IP Address:	10 .1 .10 .21		
Subnet Mask:	255.255.255.0	Link:	1
Gateway Address:	10 .1 .10 .1		
Enable Ethernet Port?	y	Allow H.323 Endpoints?	y
Network Region:	1	Allow H.248 Gateways?	y
VLAN:	1010	Gatekeeper Priority:	5
Target socket load and Warning level: 400			
Receive Buffer TCP Window Size: 8320			
		ETHERNET OPTIONS	
Auto?	n		
Speed:	100Mbps		
Duplex:	Full		

Figure 4: IP Interface

Next, add a new data module using the “add data-module n” command, where “n” is an available extension. Enter the following values as shown in **Figure 5**:

- **Name:** A descriptive name.
- **Type:** “ethernet”
- **Port:** Same slot number from **Figure 4** and port “17”.
- **Link:** A link number not previously assigned on this switch.

```
add data-module 19990
                                DATA MODULE

Data Extension: 19990           Name: Data Ext for CLAN 1a02
Type: ethernet
Port: 01A0217
Link: 1

Network uses 1's for Broadcast Addresses? y
```

Figure 5: Data Module

3.2. Administer Transport Link for AES Connectivity

Administer the transport link to Avaya Application Enablement Services (AES) with the “change ip-services” command. Add an entry with the following values for fields on Page 1, as shown in **Figure 6** below:

- **Service Type:** “AESVCS”
- **Enabled:** “y”
- **Local Node:** Node name for the C-LAN assigned in **Figure 3**.
- **Local Port** Retain the default of “8765”.

change ip-services					Page	1 of	3
IP SERVICES							
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port		
AESVCS	y	s8500-clan1	8765				
SAT	y	s8500-clan1	5023	any	0		

Figure 6: IP Services Page 1

Go to Page 3 of the IP Services form, and enter the following values as shown in **Figure 7**:

- **AE Services Server:** Name obtained from the AES server, in this case “aes1”.
- **Password:** The associated AES Server password .
- **Enabled:** “y”

Note that the name and password entered for the **AE Services Server** and **Password** fields must match the name and password administered on the AES server. The name for the AES server is created as part of the AES installation, and can be obtained from the AES server by typing “uname -n” at the Linux command prompt. The same password entered in **Figure 7** below must be set on the AES server using **Administration > Switch Connections > Edit Connection > Set Password** as shown in **Figure 13**.

change ip-services				Page 3 of 3	
AE Services Administration					
Server ID	AE Services Server	Password	Enabled	Status	
1:	aes1	*	y		
2:					
3:					

Figure 7: IP Services Page 3

3.3. Administer CTI Link with TSAPI Service

Add a CTI link and set the values as shown in **Figure 8** below 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. Submit these changes.

add cti-link 1		Page 1 of 2	
CTI LINK			
CTI Link: 1			
Extension: 19001			
Type: ADJ-IP			
COR: 1			
Name: AES TSAPI Svc			

Figure 8: CTI Link

4. Configure Avaya Application Enablement Services

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

- Verify Avaya Application Enablement Services License
- Administer local IP
- Administer switch connections
- Administer TSAPI Service
- Administer security database
- Administer CTI User for Elite Agent

4.1. Verify Avaya Application Enablement Services License

Access the AES OAM web based interface. Note that the AES OAM includes two separate administrative accounts, one to manage CTI OAM Admin and a separate one for User Management. Log in to AES OAM using the CTI OAM Admin user and password, and the **Welcome To OAM** screen will be displayed as shown in **Figure 9**.

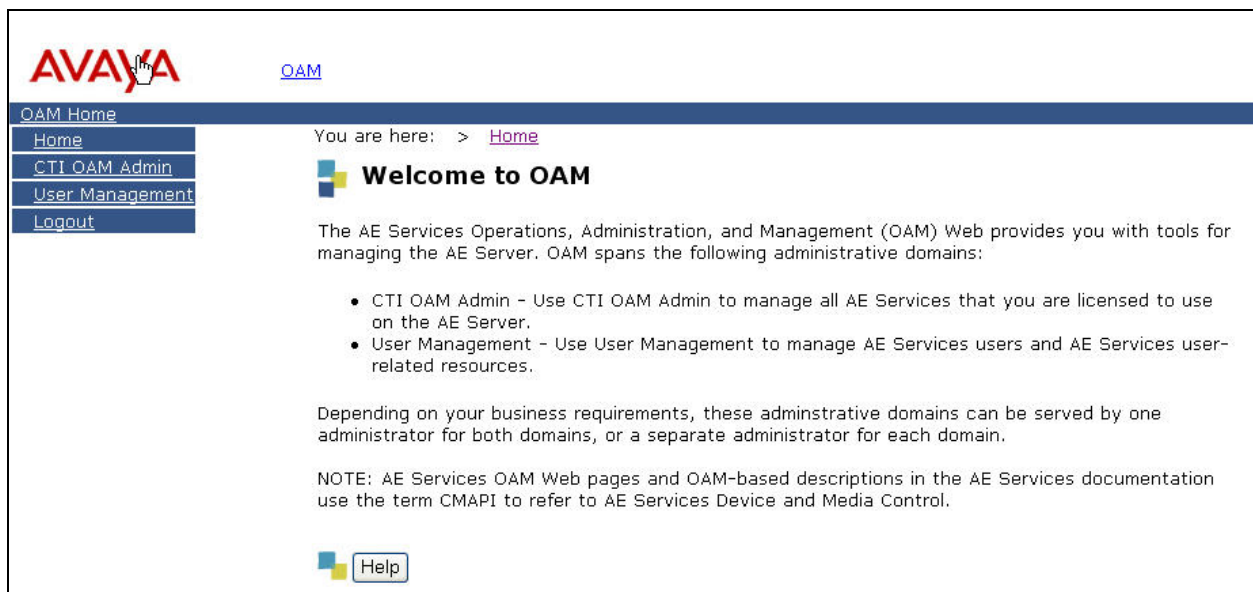


Figure 9: Welcome to OAM

Select **OAM Home** -> **CTI OAM Home**. From the Welcome to CTI OAM screen shown in **Figure 10**, verify that the Avaya Application Enablement Services license has proper permissions for the features illustrated in these Application Notes by ensuring the TSAPI service is licensed. If the TSAPI service is not licensed, then contact the Avaya sales team or business partner for a proper license file.

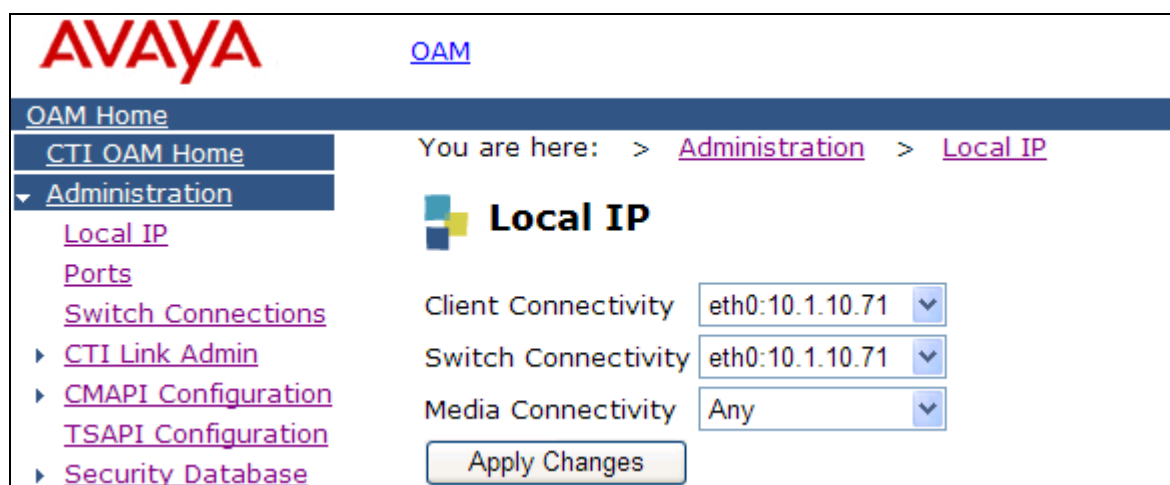
The screenshot displays the CTI OAM Home interface. At the top left is the Avaya logo, and to its right is a link to 'OAM'. Below the logo is a navigation menu with links to 'OAM Home', 'CTI OAM Home', 'Administration', 'Status and Control', 'Maintenance', 'Logs', 'Utilities', 'Help', and 'Logout'. The main content area shows the user's location as 'You are here: > CTI OAM Home' and a welcome message. It also displays the user '[craft]' logged in on 'Tue May 9 18:17:21 S.T. 2006'. A table lists services and their controller status, all of which are 'Running'. Below the table, there is a link to 'Status and Control' for more details. An important note states that AE Services must be restarted for administrative changes to take effect. Finally, the license information section confirms the user is licensed for Application Enablement (CTI) version 3.0 and lists the licensed services: DLG, CVLAN, and TSAPI.

Service	Controller Status
ASAI Link Manager	Running
CMAPI Service	Running
CVLAN Service	Running
DLG Service	Running
Transport Layer Service	Running
TSAPI Service	Running

Figure 10: Welcome to CTI OAM Screens

4.2. Administer Local IP

From the CTI OAM Home menu, select **Administration > Local IP**. As shown in **Figure 11**, in the **Client Connectivity** field, select the AES server IP address that will be used to connect to Elite CRM. In the **Switch Connectivity** field, select the AES server IP address that will be used to connect to Avaya Communication Manager. Note that both Client Connectivity and Switch Connectivity can use the same ethernet interface (IP address). Click on **Apply Changes**.

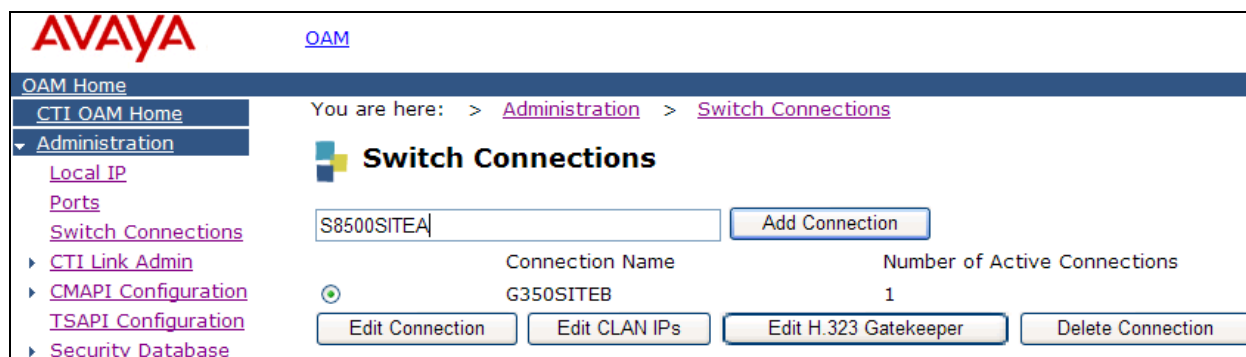


The screenshot shows the Avaya OAM interface. The top navigation bar includes the Avaya logo and a link to OAM. Below this is a breadcrumb trail: OAM Home > CTI OAM Home > Administration > Local IP. The left sidebar lists various administration options, with 'Local IP' selected. The main content area is titled 'Local IP' and contains three dropdown menus: 'Client Connectivity' (set to eth0:10.1.10.71), 'Switch Connectivity' (set to eth0:10.1.10.71), and 'Media Connectivity' (set to Any). An 'Apply Changes' button is located at the bottom of the configuration area.

Figure 11: Local IP

4.3. Administer Switch Connections

From the CTI OAM Home menu, select **Administration > Switch Connections**. As shown in **Figure 12**, enter a descriptive name for the switch connection and click on **Add Connection**. In this case, “S8500SITEA” is used.



The screenshot shows the Avaya OAM interface for 'Switch Connections'. The breadcrumb trail is OAM Home > CTI OAM Home > Administration > Switch Connections. The left sidebar shows 'Switch Connections' selected. The main content area has a text input field containing 'S8500SITEA' and an 'Add Connection' button. Below this is a table with two columns: 'Connection Name' and 'Number of Active Connections'. The table contains one entry: 'G350SITEB' with a value of '1'. At the bottom of the table are four buttons: 'Edit Connection', 'Edit CLAN IPs', 'Edit H.323 Gatekeeper', and 'Delete Connection'.

Figure 12: Switch Connections

Next, the Set Password screen is displayed as shown in **Figure 13**. For the **Switch Password** and **Confirm Switch Password** fields, enter the password that was administered in Avaya Communication Manager using the IP Services form in Section 3.2. The **SSL** field needs to be checked for the Avaya S8500 Media Server. Click on **Apply**.

Figure 13: Set Password

The Switch Connections screen is displayed. As shown in **Figure 14**, select the newly added switch connection name and click on **Edit CLAN IPs**.

Figure 14: Switch Connections

In the Edit CLAN IPs screen, enter the host name or IP address of the C-LAN used for AES connectivity as shown in **Figure 15**. In this case, “10.1.10.21” is used, which corresponds to the C-LAN administered on Avaya Communication Manager in **Figure 3**. Click on **Add Name or IP**.

Figure 15: Edit CLAN IPs

4.4. Administer TSAPI Service

To administer a TSAPI link on AES, select **Administration > CTI Link Admin > TSAPI Links** from the CTI OAM Home menu as shown in **Figure 16** below. Click on **Add Link**.

Figure 16: TSAPI Links

In the Add/Edit TSAPI Links screen, select the following values as shown in **Figure 17**:

- **Link:** Select an available Link number from 1 to 16.
- **Switch Connection:** Administered switch connection configured in **Figure 12**.
- **Switch CTI Link Number:** Corresponding CTI link number configured in **Figure 8**.

Note that the actual values may vary. Click on **Apply Changes**.

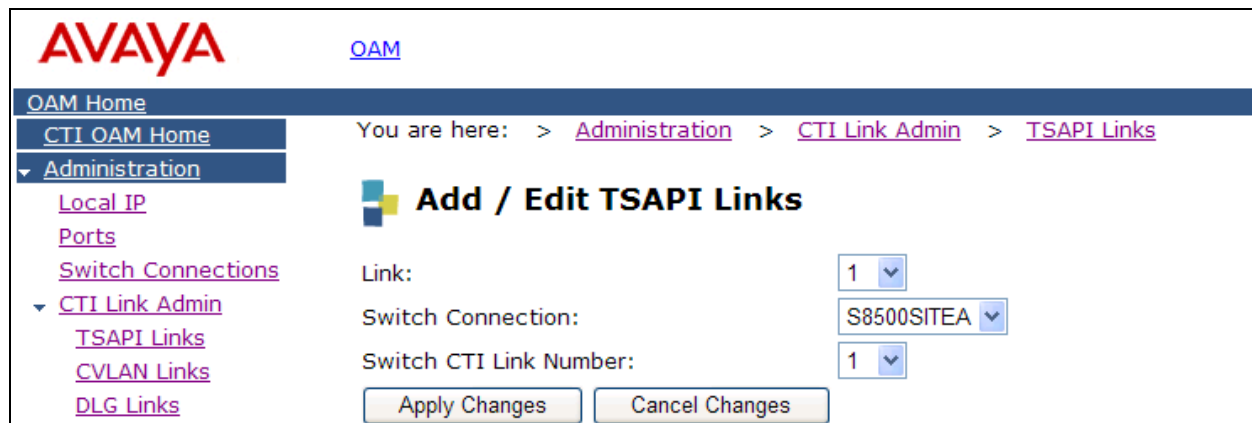


Figure 17: Add/Edit TSAPI Links

Next, enable the Security Database on AES. From the CTI OAM Home menu, select **Administration > TSAPI Configuration** to display the TS Configuration screen shown in **Figure 18** below. Click on **Enable SDB**, followed by **Apply Changes**.

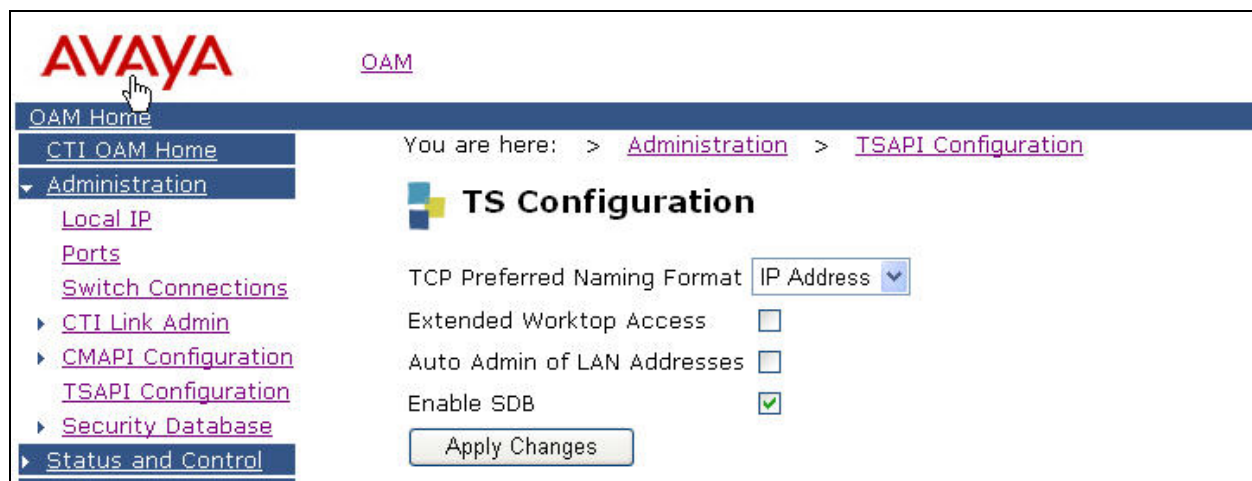


Figure 18: TS Configuration

Navigate to the Tlinks screen by selecting **Administration > Security Database > Tlinks** from the CTI OAM Home menu. Note the value of the **Tlink Name**, as this will be needed to configure the CTI Adaptor in the Elite Agent application in Section 5.2.

In this case, the **Tlink Name** is “AVAYA#S8500SITEA#CSTA#AES1”, which is automatically created by the AES server and shown in **Figure 19**.

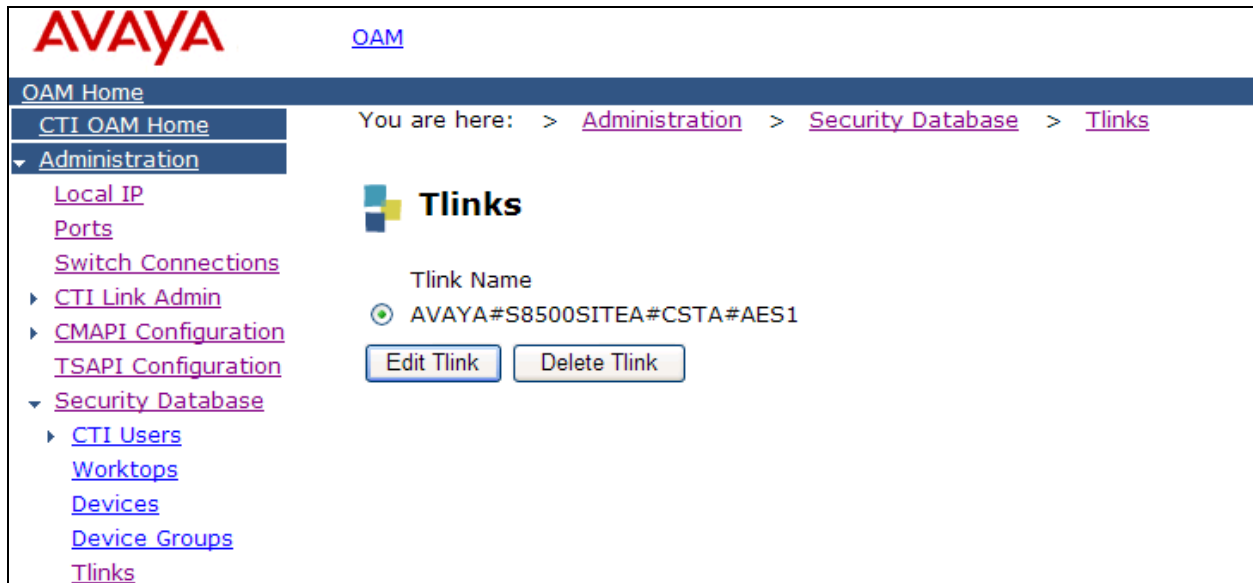


Figure 19: Tlinks

4.5. Administer Security Database

All devices that are monitored and controlled by the Elite Agent application running on the agent PCs must be configured in the AES Security Database. These devices include the station extensions used by the agents. From the CTI OAM Home menu, select **Administration > Security Database -> Devices**, and add each device by entering the device extension and clicking on **Add Device**. A sample listing of the configured devices used for compliance testing is shown in **Figure 20**. Note that the total number of devices may vary, as this depends on the number of extensions to be monitored.

AVAYA OAM

OAM Home

CTI OAM Home

Administration

Local IP

Ports

Switch Connections

CTI Link Admin

CMAPI Configuration

TSAPI Configuration

Security Database

CTI Users

Worktops

Devices

You are here: > Administration > Security Database > Devices

Devices

	Device ID	Tlink Group	Device Type	Location
<input checked="" type="radio"/>	10001	Any	PHONE	
<input type="radio"/>	10002	Any	PHONE	
<input type="radio"/>	10003	Any	PHONE	
<input type="radio"/>	10004	Any	PHONE	

Figure 20: Devices

The values for each device are entered in the **Add / Edit Device** screen shown in **Figure 21**. Select “PHONE” for **Device Type** and “Any” for **Tlink Group**, followed by **Apply Changes**.

AVAYA OAM

OAM Home

CTI OAM Home

Administration

Local IP

Ports

Switch Connections

CTI Link Admin

CMAPI Configuration

TSAPI Configuration

Security Database

CTI Users

Worktops

Devices

You are here: > Administration > Security Database > Devices

Add / Edit Device

Device ID

Location

Device Type

Tlink Group

Figure 21: Add/Edit Devices

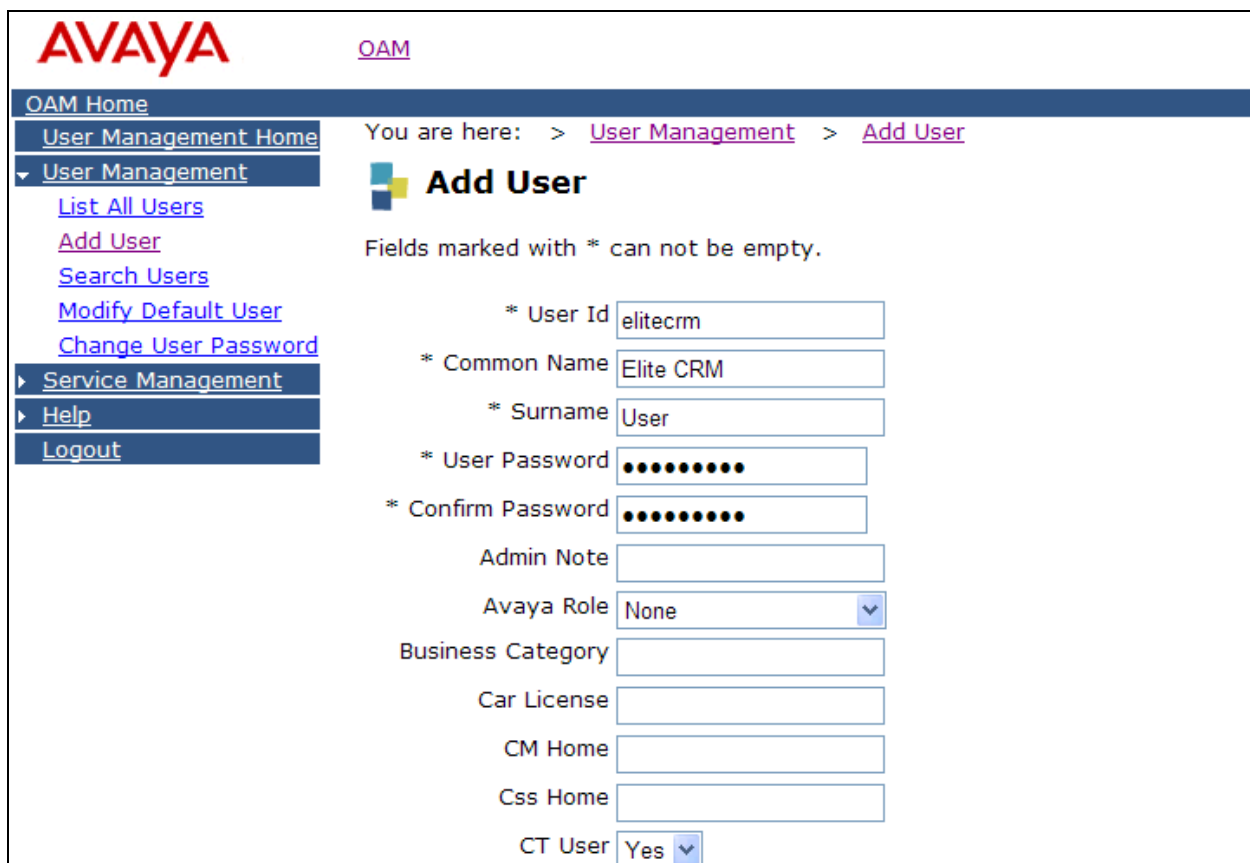
4.6. Administer CTI User for Elite Agent

Select **OAM Home -> User Management** to display the AES login screen. Log in using the User Management user name and password, and the same **Welcome To OAM** screen from **Figure 9** is displayed.

To create the CTI User for Elite CRM on AES, select **OAM Home > User Management > Add User** from the User Management Home menu. In the **Add User** screen shown in **Figure 22**, enter the following values:

- **User Id:** A meaningful user id, e.g. *elitecrm*.
- **Common Name:** A descriptive name.
- **Surname:** A descriptive surname.
- **User Password:** Password for the Elite CRM user.
- **Confirm Password:** Re-enter the same password for the Elite CRM user.
- **Avaya Role:** Retain the default of “None”.
- **CT User:** Select “Yes” from the drop-down menu.

Click on **Apply** at the bottom of the screen (not shown in **Figure 22**).



AVAYA [OAM](#)

OAM Home

[User Management Home](#)

User Management

- [List All Users](#)
- [Add User](#)
- [Search Users](#)
- [Modify Default User](#)
- [Change User Password](#)

Service Management

Help

[Logout](#)

You are here: > [User Management](#) > [Add User](#)

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

Ciss Home

CT User

Figure 22: Add User

Select **OAM Home -> CTI OAM HOME->Administration** to display the AES login screen again. Log in using the user name and password, and the same **Welcome To OAM** screen from **Figure 9** is displayed. Bring up the **Welcome to CTI OAM Screens** in **Figure 10** by following the procedural steps associated with **Figure 10**.

From the CTI OAM Home menu, select **Administration -> Security Database -> CTI Users -> List All Users** to get a listing of all CTI users, as shown in **Figure 23**. Select the Elite CRM user created back in **Figure 22** and click on **Edit**.

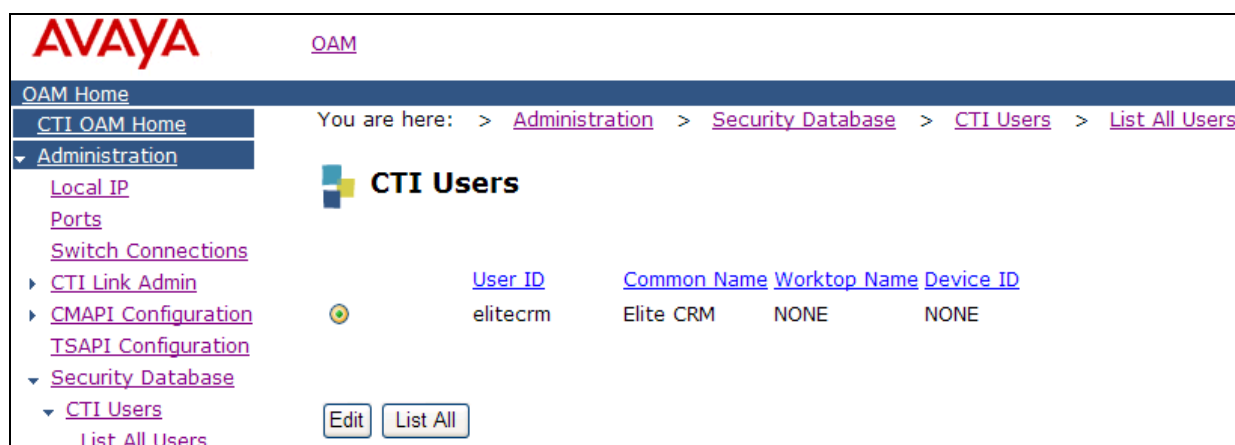


Figure 23: CTI Users

The Edit CTI User screen is displayed, as shown in **Figure 24**. Select “Any” from the drop down menu for the fields **Call Origination and Termination**, **Device / Device** and **Call / Device**. Put a check against **Call / Call** followed by **Apply Changes**.

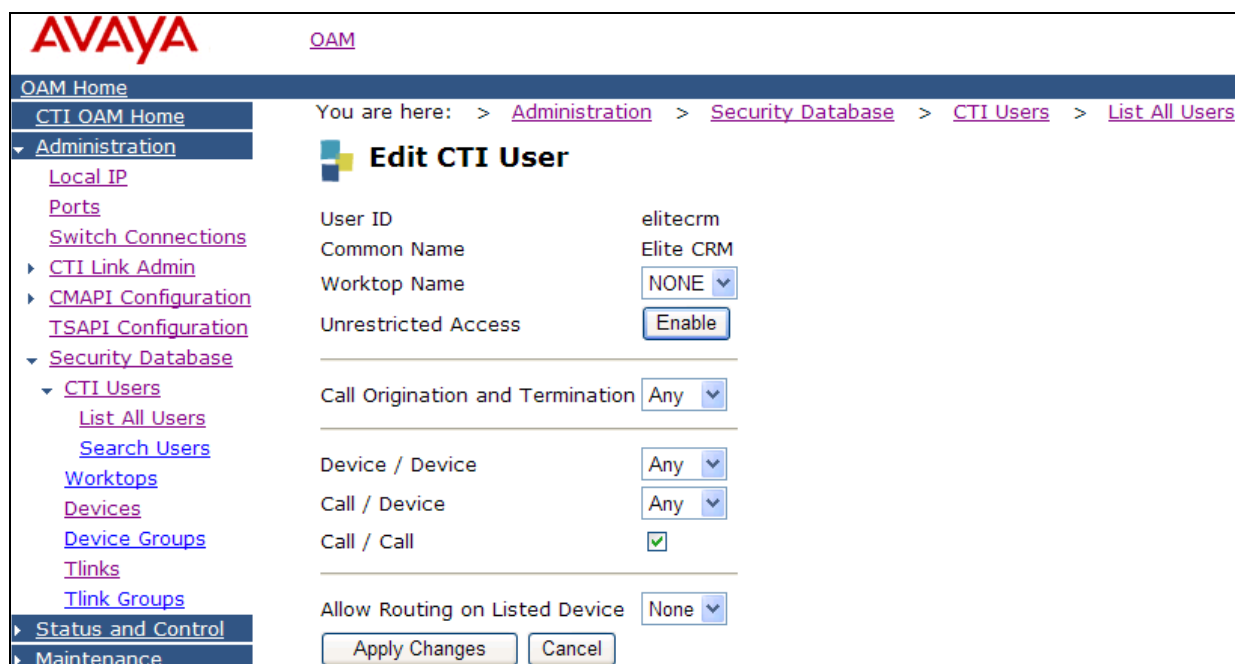


Figure 24: Edit CTI User

5. Configure Avaya Contact Center Express

It is assumed that Avaya Contact Center Express server applications and client applications are installed. The requirement components for Avaya Contact Center Express are the License Director server, Application Management Service to install the license and the PhoneX OCX Control. It is also assumed that the License Director server is installed and enabled with the required number of licenses of **CCE Voice**. The PhoneX OCX Control is a redistributable component of Avaya Contact Center Express and will need to be deployed on all agents' desktop running Elite Agent. There are no further configurations required for Avaya Contact Center Express.

6. Configure Shanghai Elite Software Technology Elite CRM for Call Center

6.1. Configure Elite CRM Server

The Elite CRM server does not communicate with the Contact Center Express server or the Application Enablement Services server. The Elite Agent application connects to the Elite CRM server over the network. The detailed configuration of the Elite CRM server is assumed to be in place and is not covered in these Application Notes. There is no specific configuration required on the Elite CRM server for successful interoperability with the Contact Center Express server and Application Enablement Services server.

6.2. Install Avaya CT TS Win32 Client Software

The PhoneX OCX Control uses the Avaya CT TS Win32 Client software to communication with the AES server. To install Avaya CT TS Win32 Client, run the file Setup.exe from the Avaya Computer Telephony 1.3 CDROM. The installation runs through the following steps:

- a. A welcome window will be displayed. Click **Next** to continue.
- b. Leave the **Administration** utilities unchecked, select the **Destination Folder** and click **Next**. The **Administration** utilities are not applicable for the AES.
- c. In the **Host Name or IP Address** field, enter the IP Address of the AES server and click **Add to List**. In this configuration, enter **10.1.10.71**. Click **Next**.
- d. The installation wizard will install the product.
- e. At the end of installation process click on the "**Finish**" button.

6.3. Configuring Elite Agent Software

To configure Elite Agent to integrate with Avaya Contact Center Express, modify the [CTI] section in the configuration file **EliteClient.ini** located in the directory "**C:\Program Files\Elite\Elite Agent**". The CTI Adaptor reads the [CTI] section when Elite Agent is

launched. As there are many configurable settings, only those required by the CTI Adaptor to integrate with Avaya Contact Center Express will be mentioned here.

Setting	Description
ServerHost=AVAYA#S8500SITEA#CSTA #AES1:10.1.10.105:29095	Name of the TLink in Figure 12 , IP address and port of License Director server
PBXType=2	2 for Avaya Communication Manager
CTIUserName=elitecrm	CTI User Name for Elite Agent in Section 4.6
CTIPassword=xxxxxxx	Password for the CTI User in Section 4.6
NeedAgentID=1	Agent LoginID is required
NeedPassword=1	Password is defined for Agent LoginID
NeedQueue=0	Set to 0 if Expert Agent Selection (EAS) is used in Avaya Communication Manager
NeedExtension=1	Extension is required to login
ExtensionManully=2	Extension can be modified during login
DestBusy=RECONNECT	Reconnect call when consultation transfer to busy extension
MakeCallOnReady=0	Cannot make outbound call when in Ready state
ReadyMode>manualin	Use manual-in mode when the agent is ready to answer calls
NotReadyMode=AUX	Use aux-work mode when the agent is not ready to answer calls
PBXAutoWrap=1	Set to 1 if PBX sets agent to After Call Work (ACW) mode automatically after a call
PBXAutoAnswer=0	Set to 0 if auto-answer is not configured
LogonStatus=NotReady	Agent in Not Ready state after logon
AutoPrefix=	Do not add prefix for outbound calls
IBReleaseState=Ready	Set agent to Ready state after wrapping up an inbound call
OBReleaseState=NotReady	Set agent to Not Ready state after wrapping up an outbound call
AutoAnswer=0	Set to 0 if Elite Agent do not automatically answer calls
NoCallDisconnect=1	Pending ACW request will be sent when agent is still on the call

The CTI section in the **EliteClient.ini** file is shown in **Figure 25**.

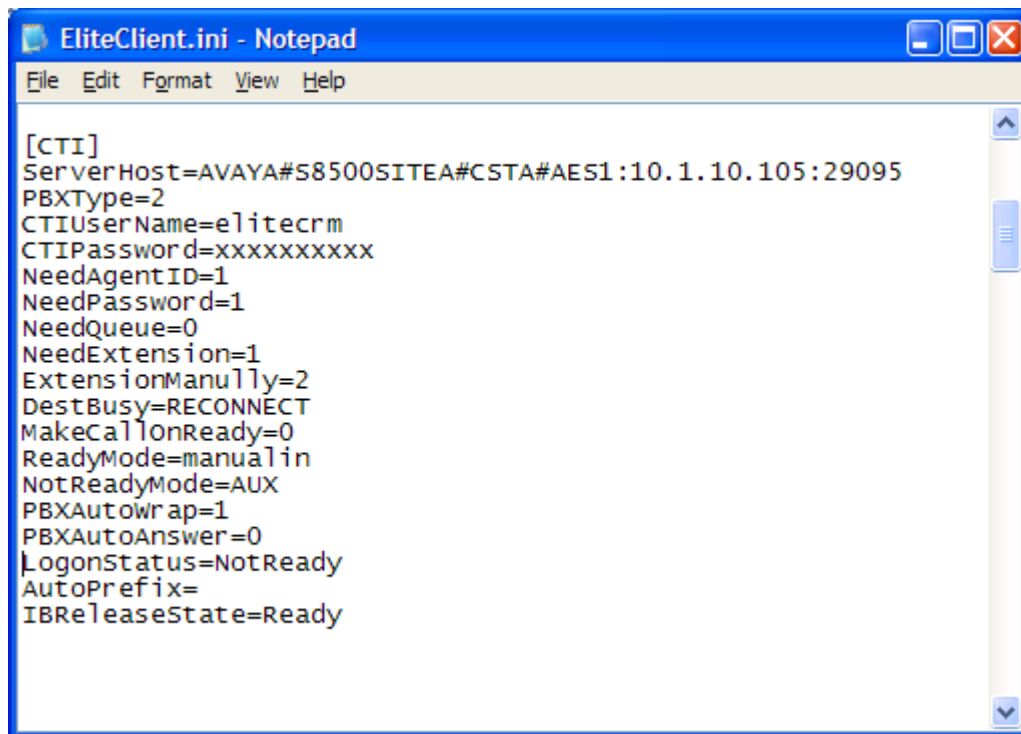


Figure 25: EliteClient.ini Configuration File

7. Interoperability Compliance Testing

The Interoperability compliance test included feature functionality and serviceability testing.

The feature functionality testing focused on verifying Elite Agent's integration with Avaya Contact Center Express through the PhoneX OCX Control in the areas of logging in and logging out agents, call control, setting agent states and TSAPI event notification.

The serviceability testing focused on verifying the ability of Elite Agent to recover from adverse conditions, such as busying out the CTI link, resetting of the Elite CRM server and Avaya Communication Manager and disconnecting the LAN cable to the AES server and agent PC.

7.1. General Test Approach

The feature functionality test cases were performed manually. Upon startup of the Elite Agent application, the agent entered the login Id and password to log in to the Elite CRM server.

Figure 26 shows the Elite Agent screen when the log in is successful. The agent then clicked on **Logon** located on the **ESoftPhone** window to log the agent into to the ACD and monitored the agent extension for calls. Incoming calls were made to the Vector Directory Number (VDN) and were routed to the agents. Calls were answered using Elite Agent application. Other telephony features such as call transfer and conference were also verified.

The serviceability test cases were performed manually by busying out and releasing the CTI link, resetting of the Elite CRM server and Avaya Communication Manager and by disconnecting and reconnecting the LAN cables to the Avaya AES server and agent PC.

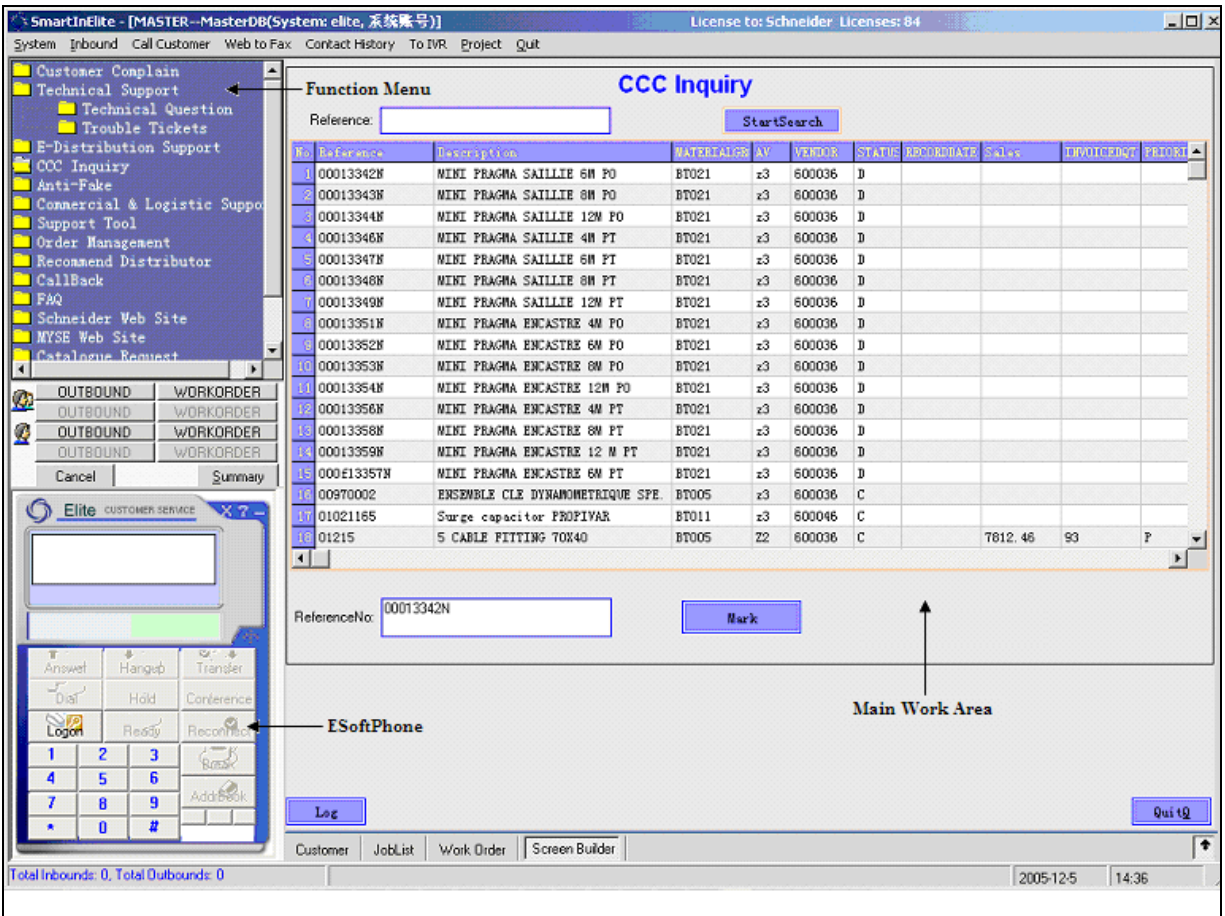


Figure 26: Elite Agent Application

7.2. Test Results

All feature functionality and serviceability test cases passed. Elite Agent successfully integrated with the Avaya Contact Center Express for telephony operations. For serviceability testing, Elite Agent was able to recover after busying out and releasing the CTI link and resetting of the Elite CRM Server and Avaya Communication Manager. Elite Agent was also able to recover from busy network disconnects and reconnects to the AES server and agent PC.

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Contact Center Express, Avaya Application Enablement Services and Elite CRM for Call Center.

8.1. Verify Avaya Application Enablement Services

From the AES CTI OAM Home menu, select **Status and Control > Switch Conn Summary** and verify the status of the switch connection as shown in **Figure 27**. The **Conn State** of the switch connection should display **Talking**.

Switch Conn	Conn State	Since	Online/Offline	Active CLANs/ Admin'd CLANs	# of MCI Conns	Msgs To Switch	Msgs From Switch	Msg Period
G350SITEB	Talking	2006-06-14 16:46:17.0	Online	1 / 1	2	195	195	30
S8500SITEA	Talking	2006-06-14 16:46:16.0	Online	1 / 1	3	265	265	30

Figure 27: Switch Connections Summary

Verify the status of the TSAPI link by selecting **Status and Control > Services Summary** from the CTI OAM Home menu. Click on **TSAPI Service**, followed by **Details**. The TSAPI Link Details screen is displayed, as shown in **Figure 28**. The **Conn Status** of the TSAPI Link should show **Talking** and **Service State** should show **Online**.

Link	Switch Conn Name	Switch CTI Link Number	Conn Status	Since	Service State	Switch Version	Number of Associations	ASAI Message Rate
1	S8500SITEA	1	Talking	2006-06-14 16:46:19.0	Online	13	0	72
2	G350SITEB	1	Talking	2006-06-14 16:46:19.0	Online	13	0	72

Figure 28: TSAPI Link Details

8.2. Verify Elite CRM for Call Center

On the PC running Elite Agent, open a command prompt and change to the directory “C:\Program Files\Elite\Elite Agent”. Type “*ESoftPhone.exe -standalone*” to bring up the **ESoftPhone** application in stand-alone mode, as shown in **Figure 29**. Click **Logon** to display the Logon window as shown in **Figure 30**. Enter the CTI User and password for Elite Agent created in **Section 4.6** for **Agent** and **Password**. Enter the station extension that is used by the agent for **Extension**. Click **Login**. Verify that the agent is able perform telephony operations such as making and answering calls using **ESoftPhone**.

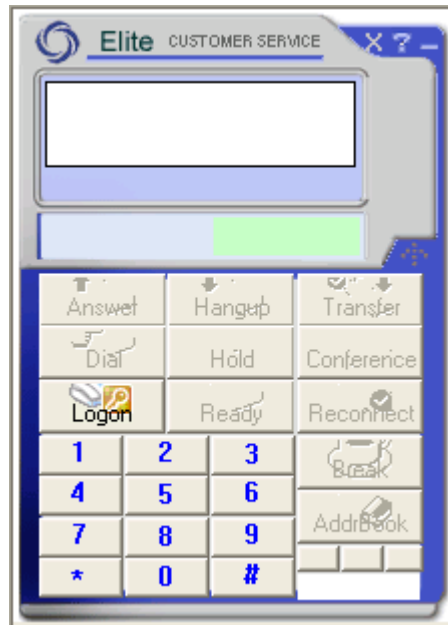


Figure 29: ESoftPhone in Stand-Alone Mode

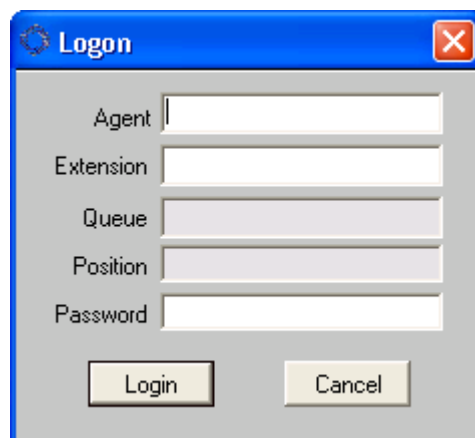


Figure 30: Logon Window for ESoftPhone

9. Support

Technical support on Elite CRM for Call Center can be obtained through the following:

- Call Shanghai Elite technical support at +86-21-64516261.
- Email support@elitecrm.com

10. Conclusion

These Application Notes describe the configuration steps required for Elite CRM for Call Center 3.1 to successfully interoperate with Avaya Contact Center Express 2.1. All feature functionality and serviceability test cases were completed successfully.

11. Additional References

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

- *Avaya Application Enablement Services 3.0 Administration and Maintenance Guide*, Document ID 02-300357, Issue 1, June 2005, available at <http://support.avaya.com>.
- *Avaya Contact Center Express License Director User Guide*, Release 2.1, available at <http://support.avaya.com>.
- *Avaya Contact Center Express Application Management Services User Guide*, Release 2.1, available at <http://support.avaya.com>.
- *Elite CRM Installation and Configuration Guide, Version 3.0*, November 2005, available from Shanghai Elite Software Technology at <http://www.elitecrm.com>.

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