



**Avaya Solution & Interoperability Test Lab**

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**Application Notes for Zeacom Contact Center 4.0 with  
Avaya Communication Manager 3.0 using Avaya  
Application Enablement Services – Issue 1.0**

**Abstract**

These Application Notes describe the configuration steps required for Zeacom Contact Center 4.0 to successfully interoperate with Avaya Communication Manager 3.0 using Avaya Application Enablement Services. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the *DeveloperConnection* Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

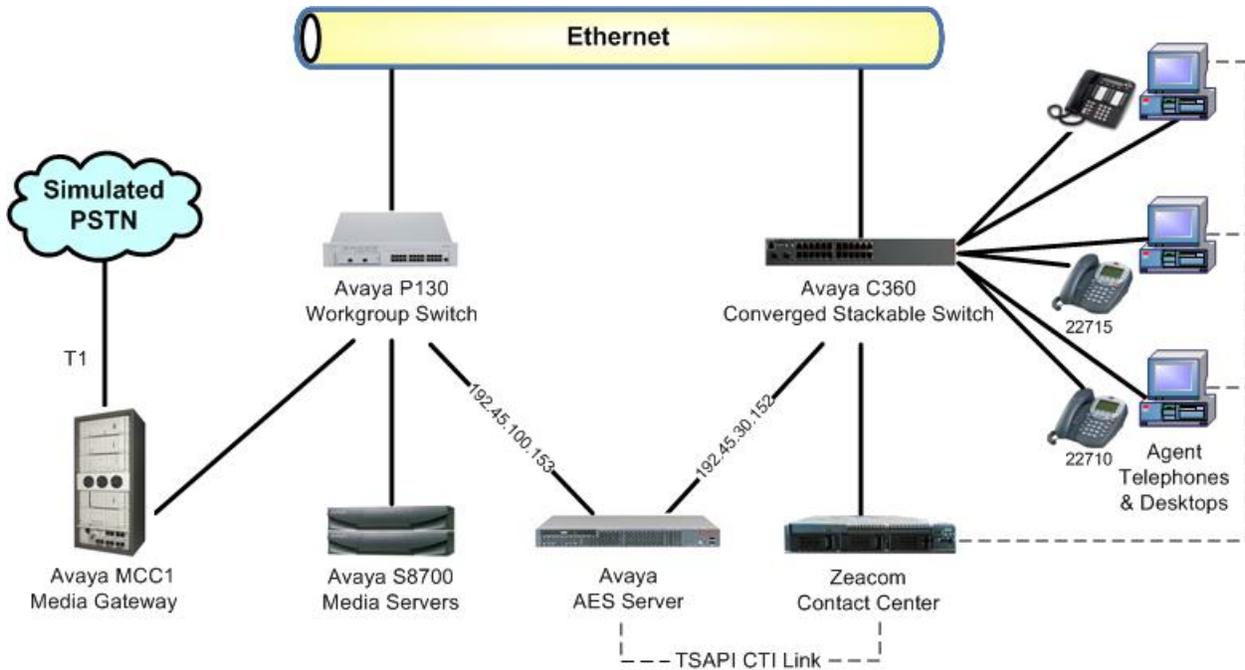
Zeacom Contact Center is a multi-channel and multi-contact solution that can handle voice, web, and email. The Contact Center monitors device activities and makes routing decisions based on device status and telephony information received from Avaya Communication Manager.

The agent clients have their desktop computers networked via TCP/IP to the Contact Center server. Call related actions such as answering of incoming calls are initiated via the desktop interface. As part of Zeacom installation, each agent client desktop locates and executes the Contact Center client desktop software from the shared file system hosted on the Contact Center server, and associates the desktop with a telephone extension.

Zeacom Contact Center provides the following voice functions:

- Intelligent call routing
- Integrated interactive voice response
- Caller customized announcements
- Screen pops
- Callback
- Supervisor assist
- Supervisor monitor
- Voicemail

The compliance testing focused solely on the voice channel, and integration with Avaya Communication Manager is achieved through the Application Enablement Services (AES) Telephony Services Application Programming Interface (TSAPI) service, as illustrated in **Figure 1**.



**Figure 1: Zeacom Contact Center with Avaya Communication Manager using AES**

## 2. Equipment and Software Validated

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

Equipment	Software
Avaya S8700 Media Servers	Communication Manager 3.0, load 340.3
Avaya MCC1 Media Gateway <ul style="list-style-type: none"><li>• TN799DP C-LAN Circuit Pack</li><li>• TN2302AP IP Media Processor Circuit Pack</li></ul>	HW01 FW015 HW13 FW095
Avaya Application Enablement Services	3.0, build 46
Avaya P130 Workgroup Switch	2.11.3
Avaya C360 Converged Stackable Switch	4.3.12
Avaya 4600 Series IP Telephones	2.1.3 (4610SW), 1.8.3 (4624SW)
Zeacom Contact Center	4.0.100.201

## 3. Configure Avaya Communication Manager

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

- Verify Avaya Communication Manager license
- Administer C-LAN for AES connectivity
- Administer transport link for AES connectivity
- Administer CTI link with TSAPI service
- Administer call vectors for adjunct routing

### 3.1. Verify Avaya Communication Manager License

Log into the System Access Terminal (SAT) to verify that the Avaya Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the “display system-parameters customer-options” command to verify the **Computer Telephony Adjunct Links** customer option is set to “y” on Page 3, as shown in **Figure 2** below. If the **Computer Telephony Adjunct Links** is not set to “y”, then contact the Avaya sales team or business partner for a proper license file. The system license file controls the settings on the customer-options form.

```
display system-parameters customer-options                               Page 3 of 11
                                OPTIONAL FEATURES

    Abbreviated Dialing Enhanced List? y                               Audible Message Waiting? y
    Access Security Gateway (ASG)? n                                   Authorization Codes? y
    Analog Trunk Incoming Call ID? y Backup Cluster Automatic Takeover? n
    A/D Grp/Sys List Dialing Start at 01? y                           CAS Branch? n
    Answer Supervision by Call Classifier? y                           CAS Main? n
    ARS? y                                                             Change COR by FAC? n
    ARS/AAR Partitioning? y Computer Telephony Adjunct Links? y
    ARS/AAR Dialing without FAC? y Cvg Of Calls Redirected Off-net? y
    ASAI Link Core Capabilities? y DCS (Basic)? y
    ASAI Link Plus Capabilities? y DCS Call Coverage? Y
```

**Figure 2: System Parameters Customer Options Page 3**

Also verify that the **Vectoring (Basic)** customer option is set to “y” on Page 6 of the “display system-parameters customer-options” command, as shown in **Figure 3** below.

```
display system-parameters customer-options                               Page 6 of 11
                                CALL CENTER OPTIONAL FEATURES

    Call Center Release: 3.0

    ACD? y                                                             Reason Codes? y
    BCMS (Basic)? y                                                   Service Level Maximizer? n
    BCMS/VuStats Service Level? y Service Observing (Basic)? y
    BSR Local Treatment for IP & ISDN? n Service Observing (Remote/By FAC)? y
    Business Advocate? n                                             Service Observing (VDNs)? y
    Call Work Codes? y                                               Timed ACW? y
    DTMF Feedback Signals For VRU? n Vectoring (Basic)? y
    Dynamic Advocate? n                                             Vectoring (Prompting)? y
    Expert Agent Selection (EAS)? y Vectoring (G3V4 Enhanced)? Y
```

**Figure 3: System Parameters Customer Options Page 6**

## 3.2. Administer C-LAN for AES Connectivity

The C-LAN administration procedure will involve adding an IP node, 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 4**. In this case, “clan-1b09” and “192.45.100.87” 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
<b>clan-1b09</b>	<b>192.45 .100.87</b>
clanP2-1a04	192.168.61 .21
clanP27-2a03	172.16 .252.200
clanP7-3a04	192.168.1 .10
default	0 .0 .0 .0

**Figure 4: IP Node Names**

Next, add the C-LAN to the system configuration using the “add ip-interface 1b09” command. Note that the actual slot number may vary. In this case, “1b09” is used as the slot number, as shown in **Figure 5** below. Enter the node name assigned from **Figure 4** above, and the IP address will then be populated automatically.

Enter proper values for the **Subnet Mask** and **Gateway Address** fields. In this case, “255.255.255.0” and “192.45.100.1” are used to correspond to the network configuration in these Application Notes. Set the **Enable Ethernet Port** field to “y”, and use a separate **Network Region** for all CLANs dedicated for AES connectivity. Default values may be used in the remaining fields. Submit these changes.

```
add ip-interface 1b09
```

IP INTERFACES	
Type:	C-LAN
Slot:	01B09
Code/Suffix:	TN799 D
<b>Node Name:</b>	<b>clan-1b09</b>
IP Address:	192.45 .100.87
<b>Subnet Mask:</b>	<b>255.255.255.0</b>
<b>Gateway Address:</b>	<b>192.45 .100.1</b>
<b>Enable Ethernet Port?</b>	<b>y</b>
<b>Network Region:</b>	<b>2</b>
VLAN:	n
Number of CLAN Sockets Before Warning: 400	
ETHERNET OPTIONS	
Auto?	y

**Figure 5: IP Interface**

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 6**:

- **Name:** A descriptive name.
- **Type:** “ethernet”
- **Port:** Same slot number from **Figure 5** and port “17”.
- **Link:** A link number not previously assigned on this switch.

```

add data-module 2001
                                DATA MODULE

Data Extension: 2001           Name: CLAN 1B09 Data Module
      Type: ethernet
      Port: 01B0917
      Link: 11

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

**Figure 6: Data Module**

### 3.3. 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 7** below:

- **Service Type:** “AESVCS”
- **Enabled:** “y”
- **Local Node:** Node name for the C-LAN assigned in **Figure 4**.
- **Local Port** Retain the default of “8765”.

```

change ip-services
                                Page 1 of 3

                                IP SERVICES
Service   Enabled   Local      Local      Remote     Remote
Type      Type      Node       Port       Node       Port
SAT       y         clanP27-2a03 5023    any        0
SAT       y         clan-1b04   5023    any        0
AESVCS    y         clan-1b04   8765
AESVCS  y       clan-1b09 8765
  
```

**Figure 7: IP Services Page 1**

Go to Page 3 of the IP Services form, and enter the following values as shown in **Figure 8**:

- **AE Services Server:** Name obtained from the AES server, in this case “AES-DevCon2”.
- **Password:** Same password to be administered on the AES server.
- **Enabled:** “y”

Note that the name and password entered for the **AE Services Server** and **Password** fields must match the name and password on the AES server. The administered 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 8** below will need to be set on the AES server using **Administration > Switch Connections > Edit Connection > Set Password** as shown in **Figure 25**.

```
change ip-services
```

Page 3 of 3

AE Services Administration				
Server ID	AE Services Server	Password	Enabled	Status
1:	devconaes01	*	y	in use
2:	<b>AES-DevCon2</b>	*	<b>y</b>	
3:				
4:				
5:				

**Figure 8: IP Services Page 3**

### 3.4. Administer CTI Link with TSAPI Service

Add a CTI link and set the values as shown in **Figure 9** 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 4
```

Page 1 of 2

CTI LINK	
CTI Link: 4	
<b>Extension: 2204</b>	
<b>Type: ADJ-IP</b>	
<b>Name: AES-DevCon2 TSAPI/JTAPI</b>	COR: 1

**Figure 9: CTI Link**

### 3.5. Administer Call Vectors for Adjunct Routing

Administer a set of vectors and Vector Directory Numbers (VDNs) per Zeacom Contact Center installation documentation. These vectors and VDNs provide:

- Failure coverage
- General routing
- Ring treatment
- Music treatment
- Busy treatment
- Voicemail

#### 3.5.1. Failure Coverage

Modify a vector to provide failure coverage and routing to the CTI link defined previously in **Figure 9**. Note that the vector **Number** and **route-to number** may vary, and the **route-to number** is used as the covering point in case of failures from adjunct route. As shown in **Figure 10**, use “SC Fail” as the vector **Name** with wait treatment and vector steps as specified by the Zeacom Contact Center installation document.

```
change vector 904                                     Page 1 of 3
                                                    CALL VECTOR
Number: 904      Name: SC Fail
Multimedia? n      Meet-me Conf? n      Lock? n
  Basic? y    EAS? y    G3V4 Enhanced? y    ANI/II-Digits? y    ASAI Routing? y
  Prompting? y    LAI? y    G3V4 Adv Route? y    CINFO? y    BSR? n    Holidays? n
  Variables? n    3.0 Enhanced? n
01 adjunct      routing link 4
02 wait-time    5 secs hearing silence
03 route-to     number 22720      with cov n if unconditionally
04 stop
05
```

**Figure 10: Failure Coverage Vector**

Add a VDN with an available extension as shown in **Figure 11** below with the following values:

- **Name:** “SC Fail”
- **Vector Number:** The vector number configured in **Figure 10** above.

```
add vdn 22904                                     Page 1 of 2
                                                    VECTOR DIRECTORY NUMBER
Extension: 22904
Name: SC Fail
Vector Number: 904
```

**Figure 11: Failure Coverage VDN**

### 3.5.2. General Routing

Modify a vector to provide general routing to the CTI link defined previously in **Figure 9**. Note that the vector **Number** may vary from **Figure 12** below, and the **route-to number** would be the failure coverage VDN configured in **Figure 11**. Enter a descriptive name for the vector **Name**.

```
change vector 999                                     Page 1 of 3
                                                    CALL VECTOR
Number: 999                                           Name: Zeacom CC
Multimedia? n                                         Meet-me Conf? n           Lock? n
  Basic? y      EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
  Prompting? y  LAI? y   G3V4 Adv Route? y   CINFO? y   BSR? n   Holidays? n
  Variables? n  3.0 Enhanced? n
01 adjunct      routing link 4
02 wait-time    5 secs hearing i-silent
03 route-to    number 22904           with cov n if unconditionally
04 stop
05
```

**Figure 12: General Routing Vector**

Add a VDN with an available extension as shown in **Figure 13** below with the following values:

- **Name:** A descriptive name.
- **Vector Number:** The vector number configured in **Figure 12** above.

```
add vdn 22999                                         Page 1 of 2
                                                    VECTOR DIRECTORY NUMBER
Extension: 22999
Name: Zeacom Contact Center
Vector Number: 999
```

**Figure 13: General Routing VDN**

### 3.5.3. Ring Treatment

Modify a vector to provide ring treatment and routing to the CTI link defined previously in **Figure 9**. Note that the vector **Number** may vary from **Figure 14** below, and the **route-to number** would be the failure coverage VDN configured in **Figure 11**. Use “SC Ring” as the vector **Name**.

```
change vector 901                                     Page 1 of 3
                                                    CALL VECTOR

  Number: 901                Name: SC Ring
Multimedia? n                Meet-me Conf? n          Lock? n
  Basic? y      EAS? y      G3V4 Enhanced? y      ANI/II-Digits? y      ASAI Routing? y
  Prompting? y  LAI? y      G3V4 Adv Route? y      CINFO? y      BSR? n      Holidays? n
  Variables? n      3.0 Enhanced? n
01 adjunct      routing link 4
02 wait-time    60 secs hearing ringback
03 route-to    number 22904          with cov n if unconditionally
04 stop
05
```

**Figure 14: Ring Vector**

Add a VDN with an available extension as shown in **Figure 15** below with the following values:

- **Name:** “SC Ring”
- **Vector Number:** The vector number configured in **Figure 14** above.

```
add vdn 22901                                     Page 1 of 2
                                                    VECTOR DIRECTORY NUMBER

  Extension: 22901
  Name: SC Ring
  Vector Number: 901
```

**Figure 15: Ring VDN**

### 3.5.4. Music Treatment

Modify a vector to provide music treatment and routing to the CTI link defined previously in **Figure 9**. Note that the vector **Number** may vary from **Figure 16** below, and the **route-to number** would be the failure coverage VDN configured in **Figure 11**. Use “SC Music” as the vector **Name**.

```
change vector 902                                     Page 1 of 3
                                                    CALL VECTOR

  Number: 902                Name: SC Music
Multimedia? n                Meet-me Conf? n          Lock? n
  Basic? y                   EAS? y    G3V4 Enhanced? y    ANI/II-Digits? y    ASAI Routing? y
  Prompting? y               LAI? y    G3V4 Adv Route? y    CINFO? y    BSR? n    Holidays? n
  Variables? n               3.0 Enhanced? n
01 adjunct                   routing link 4
02 wait-time                 60 secs hearing music
03 route-to                  number 22904          with cov n if unconditionally
04 stop
05
```

**Figure 16: Music Vector**

Add a VDN with an available extension as shown in **Figure 17** below with the following values:

- **Name:** “SC Music”
- **Vector Number:** The vector number configured in **Figure 16** above.

```
add vdn 22902                                         Page 1 of 2
                                                    VECTOR DIRECTORY NUMBER

  Extension: 22902
  Name: SC Music
  Vector Number: 902
```

**Figure 17: Music VDN**

### 3.5.5. Busy Treatment

Modify a vector to provide busy treatment and routing to the CTI link defined previously in **Figure 9**. Note that the vector **Number** may vary from **Figure 18** below. Use “SC Busy” as the vector **Name**.

```
change vector 903                                     Page 1 of 3
                                     CALL VECTOR
Number: 903           Name: SC Busy
Multimedia? n       Meet-me Conf? n           Lock? n
  Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
Prompting? y   LAI? y   G3V4 Adv Route? y   CINFO? y   BSR? n   Holidays? n
Variables? n   3.0 Enhanced? n
01 adjunct      routing link 4
02 busy
03
```

**Figure 18: Busy Vector**

Add a VDN with an available extension as shown in **Figure 19** below with the following values:

- **Name:** “SC Busy”
- **Vector Number:** The vector number configured in **Figure 18** above.

```
add vdn 22903                                         Page 1 of 2
                                     VECTOR DIRECTORY NUMBER
                                     Extension: 22903
                                     Name: SC Busy
Vector Number: 903
```

**Figure 19: Busy VDN**

### 3.5.6. Voicemail

Modify a vector to provide voicemail routing to the CTI link defined previously in **Figure 9**. Note that the vector **Number** may vary from **Figure 20** below. Use “Voicemail” as the vector **Name**, as this name has significance to the Zeacom Contact Center application.

```
change vector 905                                     Page 1 of 3
                                                    CALL VECTOR

  Number: 905                Name: Voicemail
Multimedia? n                Meet-me Conf? n          Lock? n
  Basic? y      EAS? y      G3V4 Enhanced? y      ANI/II-Digits? y      ASAI Routing? y
  Prompting? y  LAI? y      G3V4 Adv Route? y      CINFO? y      BSR? n      Holidays? n
  Variables? n  3.0 Enhanced? n
01 adjunct      routing link 4
02 wait-time    120 secs hearing ringback
03 stop
04
```

**Figure 20: Voicemail Vector**

Add a VDN with an available extension as shown in **Figure 21** below with the following values:

- **Name:** “Voicemail”
- **Vector Number:** The vector number configured in **Figure 20** above.

```
add vdn 22905                                     Page 1 of 2
                                                    VECTOR DIRECTORY NUMBER

  Extension: 22905
  Name: Voicemail
  Vector Number: 905
```

**Figure 21: Voicemail VDN**

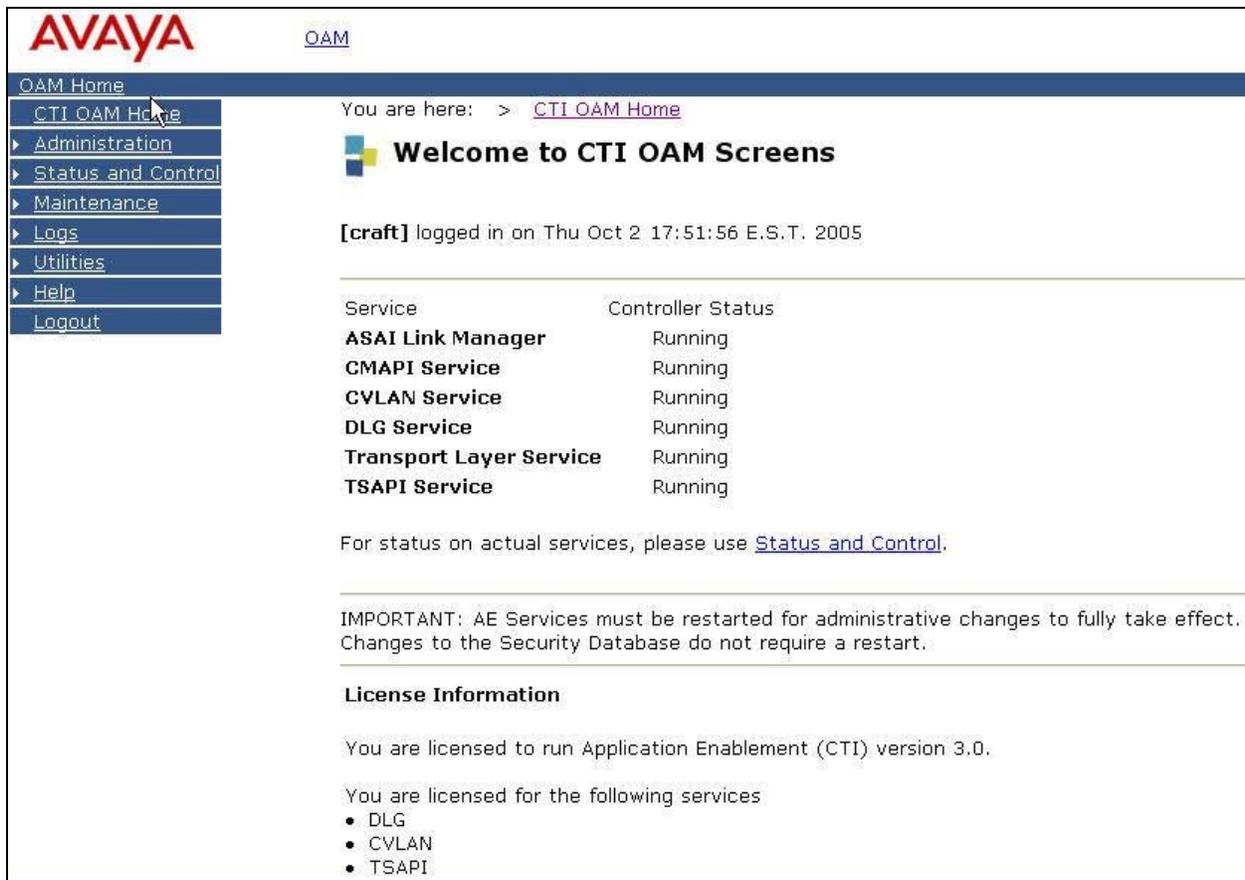
## 4. Configure Avaya Application Enablement Services

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

- Verify Avaya Application Enablement Services License
- Administer local IP
- Administer switch connections
- Administer TSAPI link
- Administer security database
- Administer Zeacom user

### 4.1. Verify Avaya Application Enablement Services License

Log into the AES OAM web interface to verify that the Avaya Application Enablement Services license has proper permissions for features illustrated in these Application Notes. Select **CTI OAM Admin** and check to make sure the TSAPI service is licensed as shown in **Figure 22** below. If the TSAPI service is not licensed, then contact the Avaya sales team or business partner for a proper license file.



The screenshot shows the Avaya OAM Home interface. The top left features the Avaya logo and a navigation menu with items like OAM Home, CTI OAM Home, Administration, Status and Control, Maintenance, Logs, Utilities, Help, and Logout. The main content area displays a welcome message, a breadcrumb trail, and a table of service statuses. A note indicates that services must be restarted for administrative changes to take effect. Below this, the license information section states that the user is licensed to run 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 22: OAM Home License

## 4.2. Administer Local IP

From the CTI OAM Admin menu, select **Administration > Local IP**. As shown in **Figure 23**, in the **Client Connectivity** field, select the AES server IP address that will be used to connect to the Zeacom Contact Center server. In the **Switch Connectivity** field, select the AES server IP address that will be used to connect to Avaya Communication Manager. Click on **Apply Changes**.

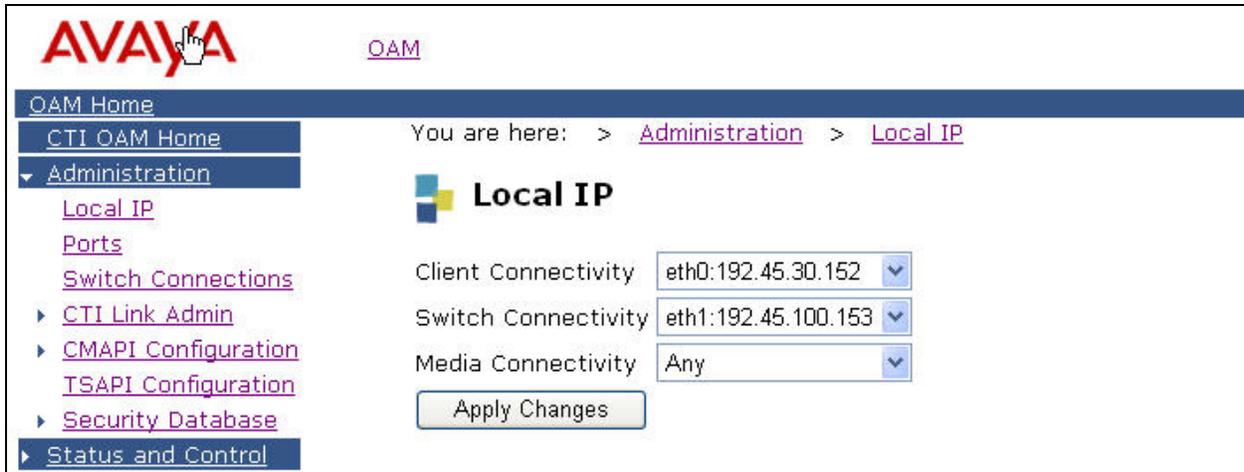


Figure 23: Local IP

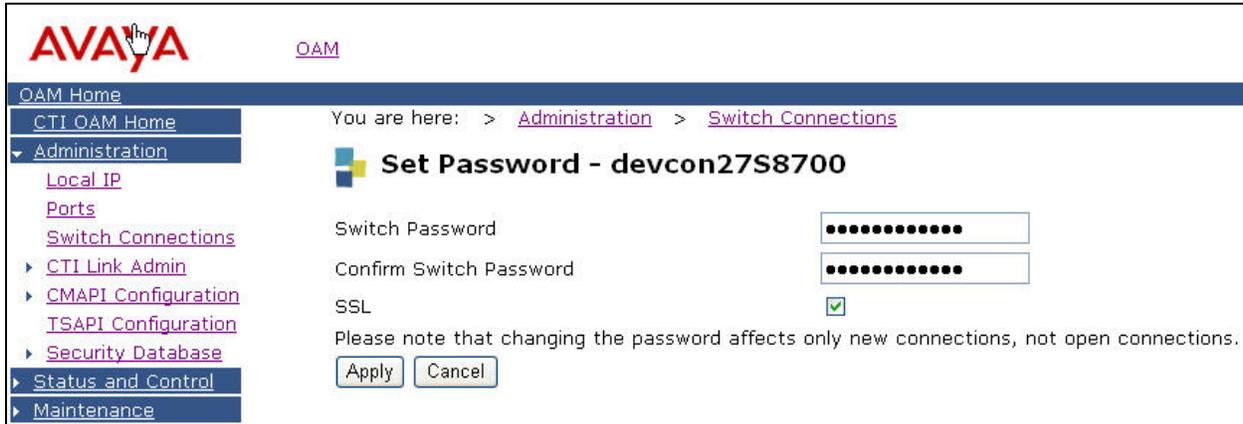
## 4.3. Administer Switch Connections

From the CTI OAM Admin menu, select **Administration > Switch Connections**, as shown in **Figure 24**. Enter a descriptive name for the switch connection and click on **Add Connection**. In this case, “devcon27S8700” is used, and the actual switch connection name may vary.



Figure 24: Switch Connections

Next, the Set Password screen will be displayed, as shown in **Figure 25**. Enter the same password that was administered on Avaya Communication Manager on the IP Services form in **Figure 8**. Re-enter the same password in the **Confirm Switch Password** field. Note that the default value of checked may be retained for the **SSL** field. Had the switch been an Avaya DEFINITY Server G3csi, the **SSL** field would need to be unchecked. Click on **Apply**.



**Figure 25: Set Password**

From the Switch Connections page shown in **Figure 26**, select the newly added switch connection name and click on **Edit CLAN IPs**.



**Figure 26: Switch Connections**

On the Edit CLAN IPs page, enter the host name or IP address of the C-LAN used for AES connectivity as shown in **Figure 27**. In this case, “192.45.100.87” is used, which corresponds to the C-LAN administered on Avaya Communication Manager in **Figure 4**. Click on **Add Name or IP**.



**Figure 27: 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 Admin menu as shown in **Figure 28** below. Click on **Add Link**.

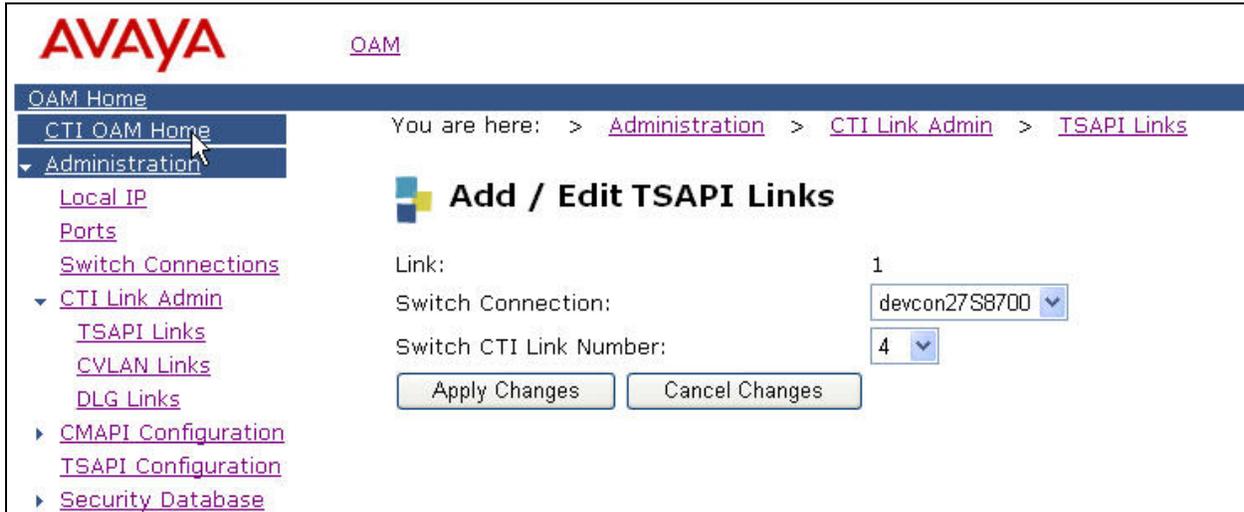


**Figure 28: TSAPI Links**

In the Add/Edit TSAPI Links screen, select the following values as shown in **Figure 29**:

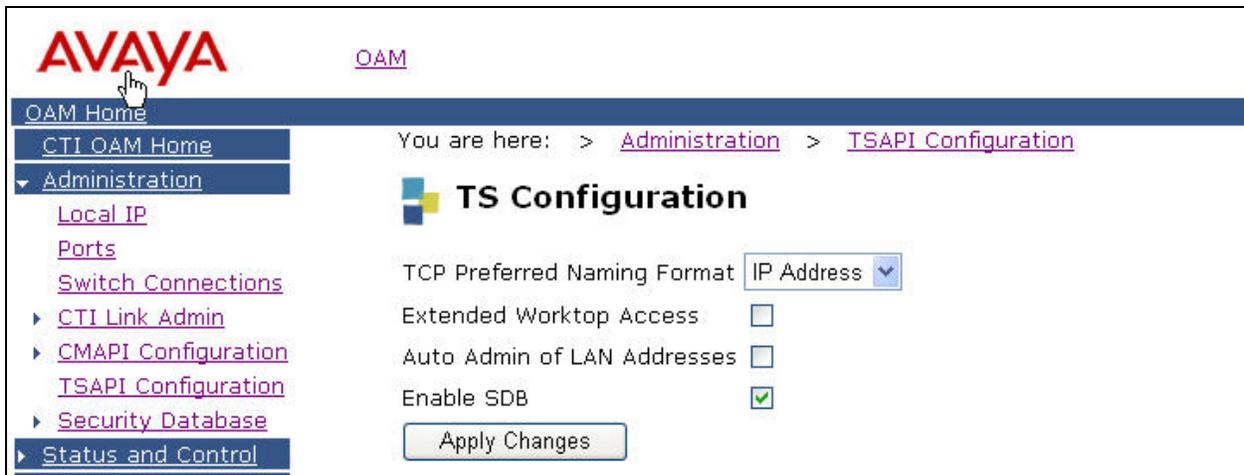
- **Switch Connection:** Administered switch connection configured in **Figure 24**.
- **Switch CTI Link Number:** Corresponding CTI link number configured in **Figure 9**.

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



**Figure 29: Add/Edit TSAPI Links**

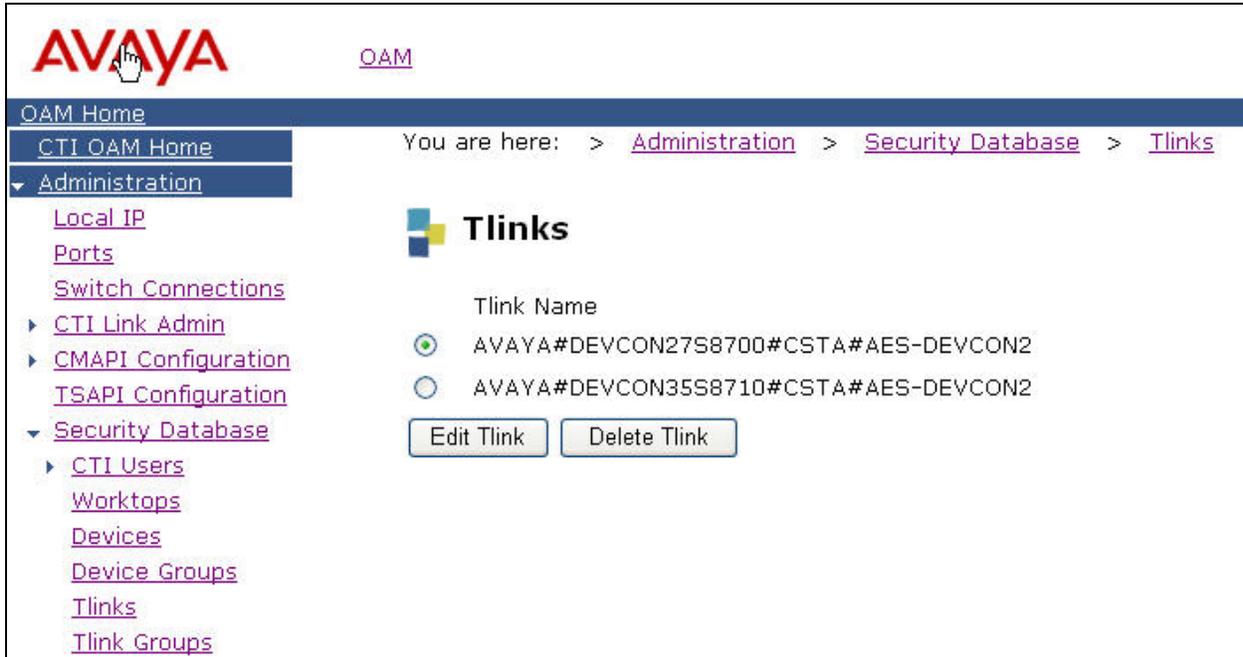
Next, enable the security database on AES, as this functionality is utilized by Zeacom Contact Center. Select **Administration > TSAPI Configuration** to bring up the TS Configuration screen shown in **Figure 30** below. Click on **Enable SDB**, followed by **Apply Changes**.



**Figure 30: TS Configuration**

Navigate to the Tlinks screen by selecting **Administration > Security Database > Tlinks**. Note the value of the **Tlink Name**, as this will be needed for configuring the Zeacom Contact Center.

In this case, the **Tlink Name** is “AVAYA#DEVCON27S8700#CSTA#AES-DEVCON2 “, which is automatically created by the AES server and shown in **Figure 31**.



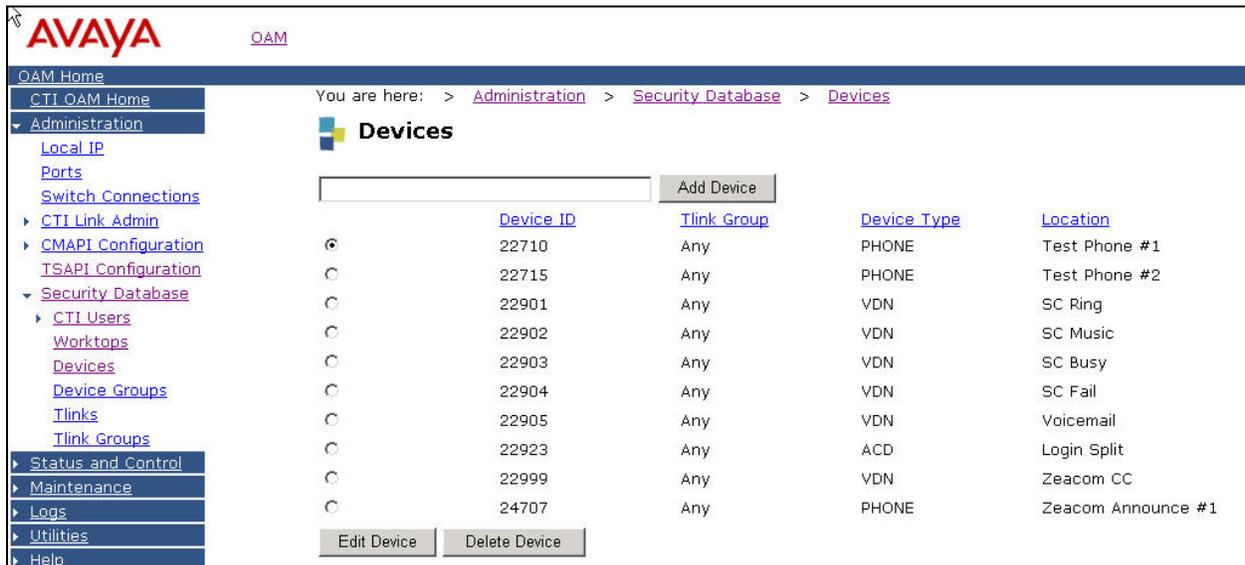
**Figure 31: Tlinks**

## 4.5. Administer Security Database

All devices that are monitored and controlled by Zeacom Contact Center need to be configured in the AES security database. Select **Administration > Security Database -> Devices**, and add each device by entering the device extension and click on **Add Device**. A listing of the configured devices is shown in **Figure 32**.

The associated field values with each device are entered in the **Add/Edit Device** screen shown in **Figure 33**. Note that the total number of devices may vary, as it depends on the number of extensions to be monitored and controlled. The following is a description of each **Device Type** utilized by Zeacom Contact Center:

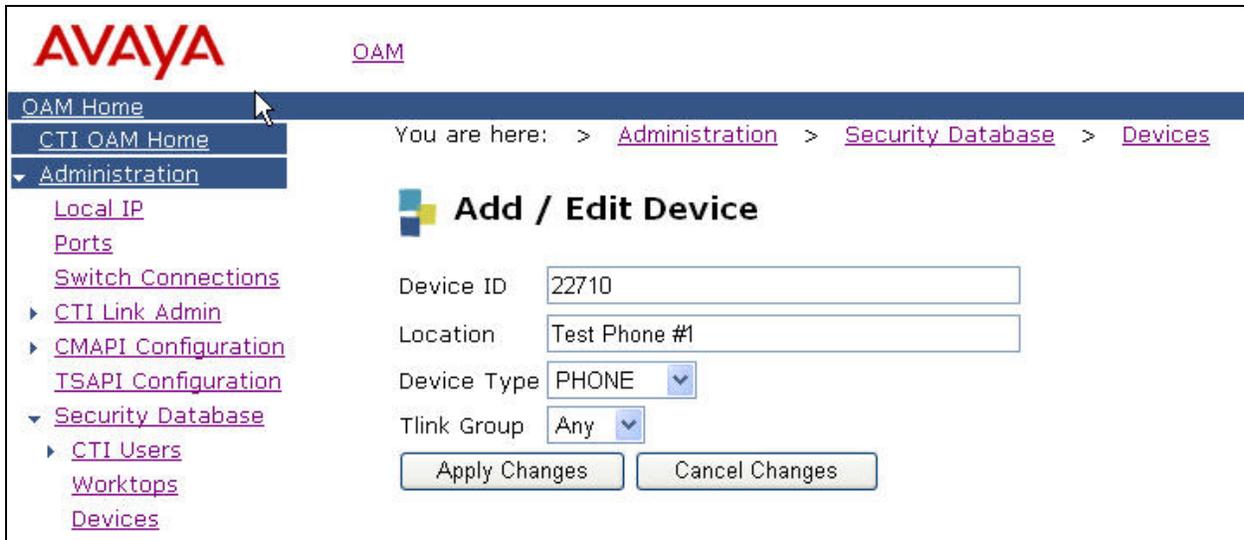
- **PHONE:** Agent phone extensions and analog announcement extensions.
- **VDN:** VDN extensions that were configured in **Section 3.4**.
- **ACD:** ACD split extensions (for any end user application that require ACD splits).



The screenshot displays the Avaya OAM Administration interface for the Security Database. The breadcrumb navigation shows 'Administration > Security Database > Devices'. A table lists the configured devices with the following data:

Device ID	Tlink Group	Device Type	Location
22710	Any	PHONE	Test Phone #1
22715	Any	PHONE	Test Phone #2
22901	Any	VDN	SC Ring
22902	Any	VDN	SC Music
22903	Any	VDN	SC Busy
22904	Any	VDN	SC Fail
22905	Any	VDN	Voicemail
22923	Any	ACD	Login Split
22999	Any	VDN	Zeacom CC
24707	Any	PHONE	Zeacom Announce #1

**Figure 32: Devices**



**Figure 33: Add/Edit Devices**

## 4.6. Administer Zeacom User

To administer a Zeacom user on AES, select **OAM Home > User Management > Add User**. Note that the user will be prompted with the User Management user name and password, as AES OAM maintains two separate administrative accounts to manage the User Management and CTI OAM Admin.

In the **Add User** screen shown in **Figure 34**, enter the following values:

- **User Id:** “zeacom”
- **Common Name:** A descriptive name.
- **Surname:** A descriptive surname.
- **Avaya Role:** Select “userservice.useradmin” from the dropdown menu.
- **CT User:** Select “Yes” from the dropdown menu.

The screenshot shows the Avaya OAM interface for adding a user. The breadcrumb trail is 'You are here: > User Management > Add User'. The form fields are as follows:

* User Id	zeacom
* Common Name	Zeacom
* Surname	Service Account
* User Password	
* Confirm Password	
Admin Note	
Avaya Role	userservice.useradmin
Business Category	
Car License	
CM Home	
Csm Home	
CT User	Yes

**Figure 34: Add User**

## 5. Configure Zeacom Contact Center

This section provides the procedures for configuring the Zeacom Contact Center server. Bring up the Administrator Application by double clicking on the **Administrator** icon shown in **Figure 35**.



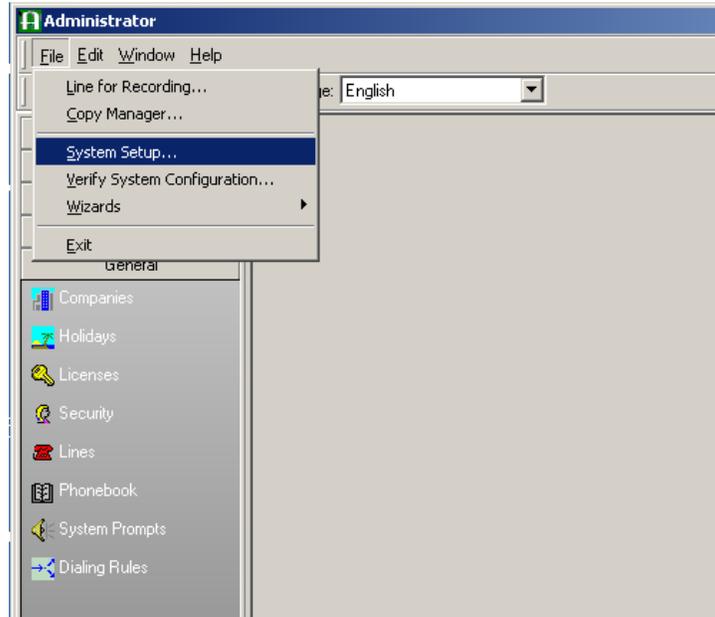
**Figure 35: Administrator Icon**

The Welcome to Administrator screen is displayed. Log in using the “Administrator” account as shown in **Figure 36** below.



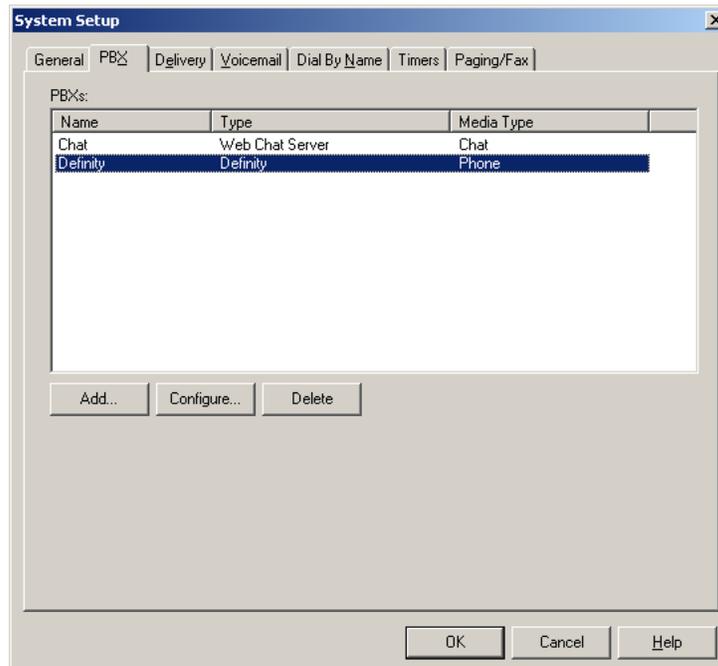
**Figure 36: Welcome to Administrator**

Next, the Administrator Application displays the Administrator screen. Select **File > System Setup** as shown in **Figure 37**.



**Figure 37: Administrator**

In the System Setup screen, select the **PBX** tab as shown in **Figure 38**. Select “Definity” from the list and click on **OK**.



**Figure 38: System Setup**

Enter the following values in the **Definity PBX Setup** screen shown in **Figure 39** below:

- **PBX Driver Name:** Complete Tlink name obtained from **Figure 31**.
- **Ringin**g**:** Extension of Ring VDN configured in **Figure 15**.
- **Music:** Extension of Music VDN configured in **Figure 17**.
- **Busy:** Extension of Busy VDN configured in **Figure 19**.
- **Failover:** Extension of Failure Coverage VDN configured in **Figure 11**.

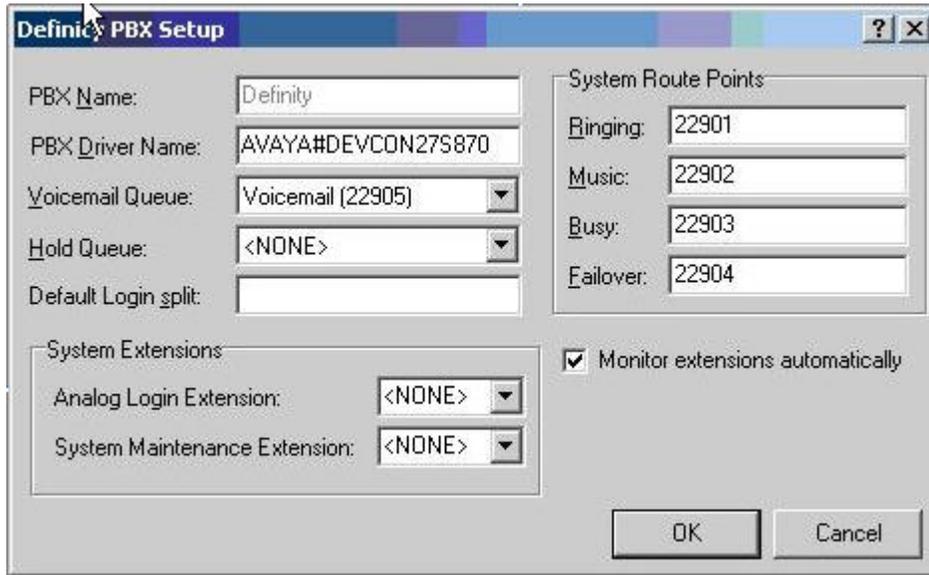
Default values may be used in the remaining fields. Click on the **OK** button to start up the Zeacom Contact Center application.

The screenshot shows the 'Definity PBX Setup' dialog box. The fields are filled with the following values:

Field	Value
PBX Name	Definity
PBX Driver Name	AVAYA#DEVCON27S870
Voicemail Queue	<NONE>
Hold Queue	<NONE>
Default Login split	
System Route Points - Ringin <b>g</b>	22901
System Route Points - Music	22902
System Route Points - Busy	22903
System Route Points - Failover	22904
System Extensions - Analog Login Extension	<NONE>
System Extensions - System Maintenance Extension	<NONE>
Monitor extensions automatically	<input checked="" type="checkbox"/>

**Figure 39: Definity PBX Setup Before Application Start Up**

Note that the Zeacom Contact Center will automatically pick up the Voicemail VDN configured in **Figure 21**. This is accomplished by syncing up device information with AES and querying device status with Avaya Communication Manager upon start up of the application. When a device type of VDN with the name “Voicemail” is detected, the application automatically uses it to set the **Voicemail Queue** in the Definity PBX Setup screen. **Figure 40** below is a recapture of the Definity PBX Setup screen after start up of the Zeacom Contact Center application.



**Figure 40: Definity PBX Setup After Application Start Up**

## 6. Interoperability Compliance Testing

The Interoperability compliance test included both feature functionality and serviceability testing.

The feature functionality testing focused on verifying Zeacom Contact Center handling of TSAPI messages in the areas of routing, call control, event notification, value query, request feature, and set value. Testing also included rainy day scenarios to verify successful handling of negative acknowledgements.

The serviceability testing focused on verifying Zeacom Contact Center ability to recover from adverse conditions, such as busying out the CTI link and disconnecting the Ethernet cable for the CTI link.

### 6.1. General Test Approach

The feature functionality test cases were performed both automatically and manually. Upon start of the Zeacom Contact Center application, the application automatically queries Avaya Communication Manager for device status and requests monitoring.

For the manual part of the testing, incoming PSTN calls were made to the general routing VDN. The Zeacom Contact Center specifies where to route each call and hence what call treatments to provide, based on agent status information that the application tracks based on CTI device query results and event reports received from Avaya Communication Manager. Manual call controls from both the agent telephones and the agent desktop computers were exercised to verify remaining feature functionalities such as answering and transferring of calls.

The serviceability test cases were performed manually by busying out and releasing the CTI link, and by disconnecting and reconnecting the LAN cables.

The verification of all tests included human checking of proper states at the telephone sets, and of capturing and analyzing the TSAPI message traces from the Zeacom Contact Center server.

### 6.2. Test Results

All test cases passed with an observation noted in **Section 8** on security database updates.

## 7. Verification Steps

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

### 7.1. Verify Avaya Communication Manager

Verify the status of the administered CTI link by using the “status aesvcs cti-link” command as shown in **Figure 41**.

```
status aesvcs cti-link
```

AE SERVICES CTI LINK STATUS						
CTI Link	Version	Mnt Busy	AE Services Server	Service State	Msgs Sent	Msgs Rcvd
1		no		down	0	0
2	4	no	AES-DevCon2	restarted	27	16
3	4	no	AES-DevCon2	restarted	27	15
<b>4</b>	<b>4</b>	<b>no</b>	<b>AES-DevCon2</b>	<b>established</b>	<b>17</b>	<b>20</b>
15	4	no	devconaes01	established	18	18
16		no		down	0	0

**Figure 41: Status Aesvcs CTI-link**

## 7.2. Verify Avaya Enablement Services

From the AES OAM Admin menu, verify the status of the switch connection by selecting **Status and Control > Switch Conn Summary**, as shown in **Figure 42**.

**AVAYA** OAM

OAM Home  
 CTI OAM Home  
 Administration  
 Status and Control  
 Switch Conn Summary  
 Services Summary  
 Maintenance  
 Logs  
 Utilities  
 Help  
 Logout

You are here: > [Status and Control](#) > [Switch Conn Summary](#)

### Switch Connections Summary

Switch Conn	Conn State	Since	Online/Offline	Active CLANs/ Admin'd CLANs	# of MCI Conns	Msgs To Switch	Msgs From Switch	Msg Period
devcon27S8700	Talking	2005-11-02 10:00:42.0	Online	1 / 1	4	65	70	30
devcon35S8710	TCP Down	2005-11-02 10:00:41.0	Online	0 / 1	4	0	0	30

Online Offline Message Period Switch Connection Details Per Service Switch Connections Details

**Figure 42: Switch Connections Summary**

Verify the status of the TSAPI link by selecting **Status and Control > Services Summary**. Click on **TSAPI Service**, followed by **Details**. The TSAPI Link Details screen is displayed as shown in **Figure 43**.

**AVAYA** OAM

OAM Home  
 CTI OAM Home  
 Administration  
 Status and Control  
 Switch Conn Summary  
 Services Summary  
 Maintenance  
 Logs  
 Utilities  
 Help  
 Logout

You are here: > [Status and Control](#) > [Services Summary](#)

### TSAPI Link Details

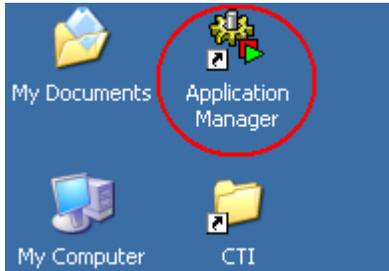
Link	Switch Conn Name	Switch CTI Link Number	Conn Status	Since	Service State	Switch Version	Number of Associations	ASA1 Message Rate
1	devcon27S8700	4	Talking	2005-11-02 10:00:42.0	Online	13	0	72
2	devcon35S8710	10	CM Down	2005-11-02 10:00:41.0	Online	13	0	72

Online Offline

**Figure 43: TSAPI Link Details**

### 7.3. Verify Zeacom Contact Center

To verify the status of the administered CTI link, bring up the Application Manager by double clicking on the **Application Manager** icon shown in **Figure 44**.



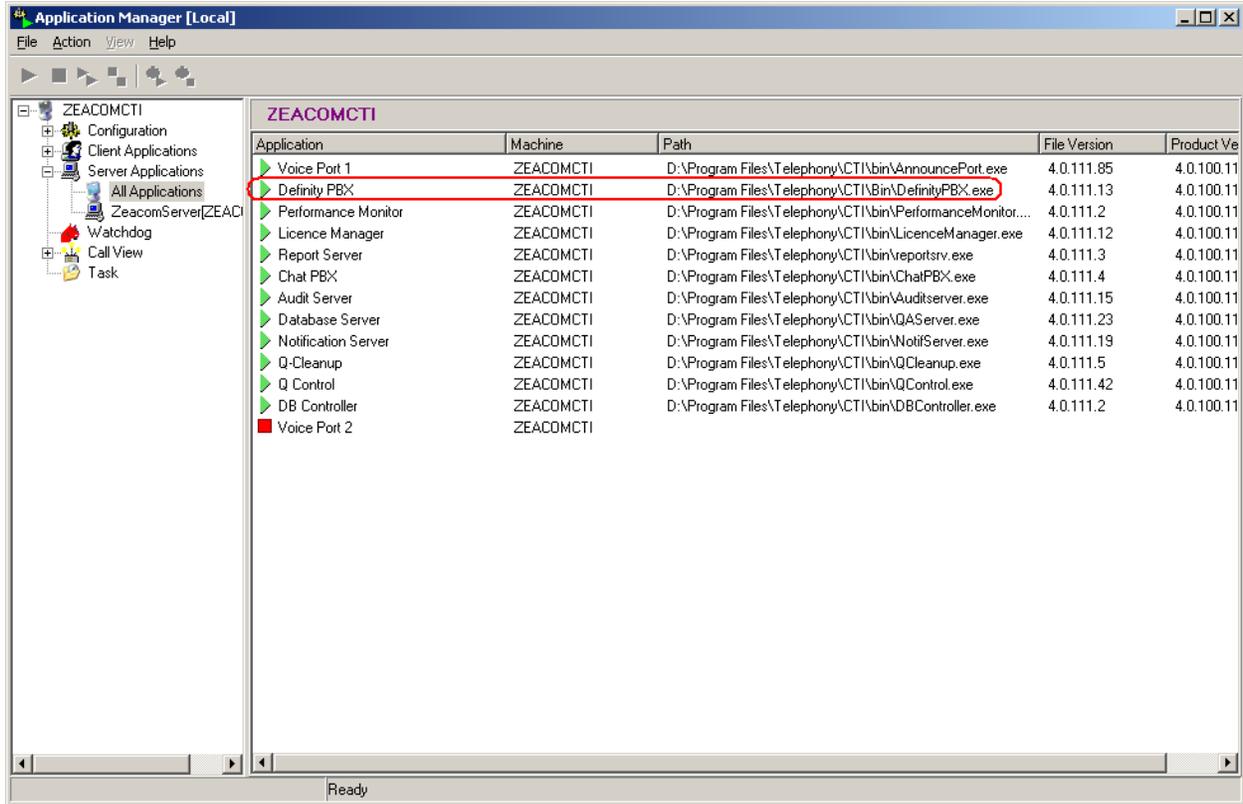
**Figure 44: Application Manager Icon**

The Welcome to Application Manager screen is displayed next. Log in using the “Administrator” account as shown in **Figure 45**.



**Figure 45: Welcome to Application Manager**

In the Application Manager screen, check the status of the CTI link by viewing the symbol to the left of the “Definity PBX” Application. When the application is up, the symbol displayed would be a green triangle as shown in **Figure 46**.



**Figure 46: Status Definity PBX Application**

## 8. Support

Technical support on Zeacom Contact Center can be obtained through the following:

- Call the Zeacom support center at (800) 513-2810.
- Email the Zeacom support center via [usasupport@zeacom.com](mailto:usasupport@zeacom.com).
- Contact via the Zeacom web site at [www.zeacom.com](http://www.zeacom.com). Click on **Contact Us** and select Email Your Request, Chat Online, or Request a Callback.

## 9. Conclusion

These Application Notes describe the configuration steps required for Zeacom Contact Center 4.0 to successfully interoperate with Avaya Communication Manager 3.0 using Avaya Application Enablement Services. All feature functionality and serviceability test cases were completed successfully.

The one observation from the interoperability testing is that with Avaya Computer Telephony 1.3, the Zeacom Contact Center application could make automatic additions and modifications to devices in the security database. With the new OAM interface in Avaya Application Enablement Services 3.0, the administrator must make device additions and modifications manually.

## 10. 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>
- *Definity Installation Manual*, Zeacom Library Version 4, available via Definity training course provided by Zeacom.

### 10.1. Glossary

Technical Term	Definition as it pertains to this document.
AES	Application Enablement Services
ASAI	Adjunct Switch Application Interface
CTI	Computer Telephony Integration
PSTN	Public Switched Telephone Network
VDN	Vector Directory Number

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