



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

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# **Application Notes for configuring Globitel SpeechLog Voice Recorder to interoperate with Avaya Aura® Communication Manager R7.0 and Avaya Aura® Application Enablement Services R7.0 using DMCC Service Observe to record calls - Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps for the Globitel SpeechLog Voice Recorder to interoperate with the Avaya solution consisting of an Avaya Aura® Communication Manager R7.0, an Avaya Aura® Session Manager R7.0, and Avaya Aura® Application Enablement Services R7.0.

Readers should pay attention to Section 2, in particular the scope of testing as outlined in Section 2.1 as well as the observations noted in Section 2.2, to ensure that their own use cases are adequately covered by this scope and results.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

# 1. Introduction

These Application Notes describe the configuration steps for the Globitel SpeechLog Voice Recorder to interoperate with the Avaya solution consisting of an Avaya Aura® Communication Manager R7.0, an Avaya Aura® Session Manager R7.0, and Avaya Aura® Application Enablement Services R7.0 (AES). SpeechLog uses Device Media Call Control Service Observe to record both internal and external calls on various Communication Manager endpoints, listed in **Section 4**.

When a call is to be recorded, SpeechLog Voice Recorder uses:

- TSAPI link with AES to get call events (ringing, established, released, etc.)
- Device Media Call Control to perform Service Observe between the extension to be recorded and a configured virtual softphone enabled station.

Device Media Call Control (DMCC) works by allowing software vendors to create soft phones, in memory on a recording server, and use them to monitor and record other phones. This is purely a software solution and does not require telephony boards or any wiring beyond a typical network infrastructure.

Globitel's SpeechLog Voice Recorder is fully integrated into a LAN (Local Area Network), and includes easy-to-use Web based applications that can be used to retrieve telephone conversations from a comprehensive long-term calls database. SpeechLog uses the Communication Manager feature "Service Observe" to observe a call on an extension; this way the call is recorded and can be played back at a later time.

## 2. General Test Approach and Test Results

The interoperability compliance testing evaluated the ability of SpeechLog to carry out call recording in a variety of scenarios using DMCC Service Observe with AES and Communication Manager. A range of Avaya endpoints were used in the compliance testing all of which are listed in **Section 4**.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

## 2.1. Interoperability Compliance Testing

The interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on placing and recording calls in different call scenarios with good quality audio recordings and accurate call records. The tests included:

- **Inbound calls** – Test call recording for inbound calls to Communication Manager from PSTN callers.
- **Outbound calls** – Test call recording for outbound calls from Communication Manager to PSTN callers.
- **Hold/Transferred/Conference calls** – Test call recording for calls transferred to and in conference with PSTN callers.
- **EC500 Calls/Forwarded calls** - Test call recording for calls terminated on Avaya DECT handsets using EC500.
- **Call Park/Call Pickup** Test call recording for calls that are parked or picked up using Call Park and Call Pickup.
- **Serviceability testing** - The behaviour of SpeechLog under different simulated failure conditions on the Avaya platform will also be observed.

## 2.2. Test Results

All functionality and serviceability test cases were completed successfully.

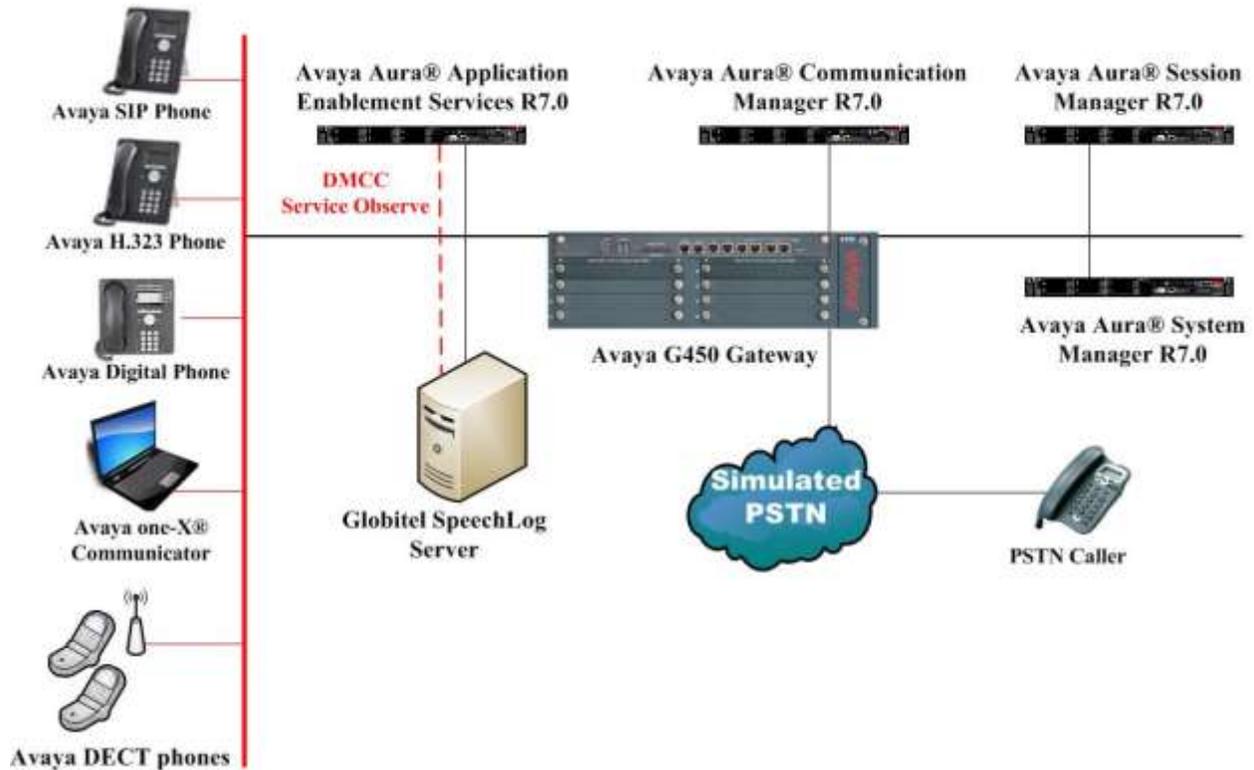
## 2.3. Support

Technical support can be obtained for Globitel SpeechLog Voice Recorder at:

Globitel  
Khalda, Amman, Jordan.  
[support@globitel.com](mailto:support@globitel.com)  
Hotline: +962 (7) 97315050  
Phone: +962 (6) 5300 130  
Fax: +962 (6) 5300 144  
P.O. Box 1786 Amman 11821 Jordan

### 3. Reference Configuration

The configuration in **Figure 1** was used to compliance test Globitel SpeechLog Voice Recorder with Avaya Aura® Communication Manager R7.0, connecting to Avaya Aura® Application Enablement Services R7.0 using DMCC Service Observe.



**Figure 1: Connection of Globitel SpeechLog Voice Recorder with Avaya Aura® Communication Manager R7.0 and Avaya Aura® Application Enablement Services R7.0.**

## 4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® System Manager running on Virtual Server	R7.0.0.0.0 Build 7.0.0.0.16266-7.0.9.9.902 SW Update Revision No. 7.0.0.0.3873
Avaya Aura® Session Manager running on Virtual Server	R7.0.0.0.700007
Avaya Aura® Communication Manager running on Virtual Server	R7.0 Build 017x.00.0.441.0
Avaya Aura® Application Enablement Services running on Virtual Server	R7.0 Build No – 7.0.0.0.0.13-0
Avaya G450 Gateway	37.19.0 /1
Avaya 9608 H323 Deskphone	96x1 H323 Release 6.6.028
Avaya 9641 SIP Deskphone	96x1 SIP Release 6.5.0.17
Avaya 9408 Digital Deskphone	N/A
Avaya one-X® Communicator	R6.2
Avaya DECT Handsets	3725 DH4 (R3.3.11) 3720 DH3 (R3.3.11)
Globitel SpeechLog Voice Recorder	7.0

## 5. Configure Avaya Aura® Communication Manager

The information provided in this section describes the configuration of Communication Manager relevant to this solution. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**.

The configuration illustrated in this section was performed using Communication Manager System Administration Terminal (SAT).

### 5.1. Verify System Features

Use the **display system-parameters customer-options** command to verify that Communication Manager has permissions for features illustrated in these Application Notes. On **Page 3**, ensure that **Computer Telephony Adjunct Links?** is set to **y** as shown below.

```
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             CAS Branch? n
A/D Grp/Sys List Dialing Start at 01? y      CAS Main? n
Answer Supervision by Call Classifier? y      Change COR by FAC? n
ARS? y                                         Computer Telephony Adjunct Links? y
ARS/AAR Partitioning? y                      Cvg Of Calls Redirected Off-net? y
ARS/AAR Dialing without FAC? y              DCS (Basic)? y
ASAI Link Core Capabilities? n              DCS Call Coverage? y
ASAI Link Plus Capabilities? n             DCS with Rerouting? y
Async. Transfer Mode (ATM) PNC? n
Async. Transfer Mode (ATM) Trunking? n      Digital Loss Plan Modification? y
ATM WAN Spare Processor? n                  DS1 MSP? y
ATMS? y                                       DS1 Echo Cancellation? y
Attendant Vectoring? y
```

### 5.2. Note procr IP Address for Avaya Aura® Application Enablement Services Connectivity

Display the procr IP address by using the command **display node-names ip** and note the IP address for the **procr** and AES (**aes70vmpg**).

```
display node-names ip                                                  Page 1 of 2
                                IP NODE NAMES

Name          IP Address
SM100         10.10.40.12
aes70vmpg    10.10.40.16
default       0.0.0.0
PGDECT        10.10.40.50
procr        10.10.40.13
```

### 5.3. Configure Transport Link for Avaya Aura® Application Enablement Services Connectivity

To administer the transport link to AES use the **change ip-services** command. On **Page 1** add an entry with the following values:

- **Service Type:** Should be set to **AESVCS**.
- **Enabled:** Set to **y**.
- **Local Node:** Set to the node name assigned for the procr in **Section 5.2**
- **Local Port:** Retain the default value of **8765**.

```
change ip-services Page 1 of 3
```

IP SERVICES					
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port
AESVCS	y	procr	8765		

Go to **Page 3** of the **ip-services** form and enter the following values:

- **AE Services Server:** Name obtained from the AES server, in this case **aes70vmpg**.
- **Password:** Enter a password to be administered on the AES server.
- **Enabled:** Set to **y**.

**Note:** The password entered for **Password** field must match the password on the AES server in **Section 6.2**. The **AE Services Server** should match the administered name for the AES server; this 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.

```
change ip-services Page 3 of 3
```

AE Services Administration				
Server ID	AE Services Server	Password	Enabled	Status
1:	aes70vmpg	*****	y	in use
2:				
3:				

### 5.4. Configure CTI Link for TSAPI Service

Add a CTI link using the **add cti-link n** command. Enter an available extension number in the **Extension** field. Enter **ADJ-IP** in the **Type** field, and a descriptive name in the **Name** field. Default values may be used in the remaining fields.

```
add cti-link 1 Page 1 of 3
```

CTI LINK	
CTI Link: 1	
Extension: 7777	
Type: ADJ-IP	
Name: aes70vmpg	COR: 1

## 5.5. Configure Communication Manager for Service Observation

Type **display cor x**, where x is the COR number in the screen above, to check the existing Class of Restriction. Ensure that **Can be Service Observed** is set to **y**, if not type **change cor x** to make a change to the Class or Restriction. This value needs to be enabled in order for Service Observe to work for call recording.

```
display cor 1                                     Page 1 of 23
                                     CLASS OF RESTRICTION
COR Number: 1
COR Description:
FRL: 0                                           APLT? y
Can Be Service Observed? y                   Calling Party Restriction: all-toll
Can Be A Service Observer? y                   Called Party Restriction: none
Time of Day Chart: 1                           Forced Entry of Account Codes? n
Priority Queuing? n                             Direct Agent Calling? y
Restriction Override: all                       Facility Access Trunk Test? n
Restricted Call List? n                         Can Change Coverage? n
Unrestricted Call List: 1
Access to MCT? y                               Fully Restricted Service? n
Group II Category For MFC: 7                   Hear VDN of Origin Annc.? n
Send ANI for MFE? n                            Add/Remove Agent Skills? n
MF ANI Prefix:                                Automatic Charge Display? n
Hear System Music on Hold? y PASTE (Display PBX Data on Phone)? n
Can Be Picked Up By Directed Call Pickup? y
Can Use Directed Call Pickup? y
Group Controlled Restriction: inactive
```

Type **change system-parameters features**, on **Page 11** ensure that **Allow Two Observes in Same Call** is set to **y**.

```
change system-parameters features                Page 11 of 19
                                     FEATURE-RELATED SYSTEM PARAMETERS
CALL CENTER SYSTEM PARAMETERS
EAS
Expert Agent Selection (EAS) Enabled? y
Minimum Agent-LoginID Password Length:
Direct Agent Announcement Extension:           Delay:
Message Waiting Lamp Indicates Status For: station

VECTORIZING
Converse First Data Delay: 0                   Second Data Delay: 2
Converse Signaling Tone (msec): 100           Pause (msec): 70
Prompting Timeout (secs): 10
Interflow-qpos EWT Threshold: 2
Reverse Star/Pound Digit For Collect Step? n
Available Agent Adjustments for BSR? n
BSR Tie Strategy: 1st-found
Store VDN Name in Station's Local Call Log? n
SERVICE OBSERVING
Service Observing: Warning Tone? y            or Conference Tone? n
Service Observing/SSC Allowed with Exclusion? n
Allow Two Observers in Same Call? y
```

Type **change feature-access-codes** to access the feature codes on Communication Manager. Scroll to **Page 5** in order to view or change the **Service Observing** access codes. Note the **Service Observing Listen Only Access Code** is **#43**; this will be required in **Section 7.1** during the setup of SpeechLog.

```
change feature-access-codes                                     Page 5 of 10
                                                                 FEATURE ACCESS CODE (FAC)
                                                                 Call Center Features
AGENT WORK MODES
    After Call Work Access Code: #36
    Assist Access Code:
    Auto-In Access Code: #38
    Aux Work Access Code: #39
    Login Access Code: #40
    Logout Access Code: #41
    Manual-in Access Code: #42
SERVICE OBSERVING
    Service Observing Listen Only Access Code: #43
    Service Observing Listen/Talk Access Code: #44
    Service Observing No Talk Access Code:
    Service Observing Next Call Listen Only Access Code:
    Service Observing by Location Listen Only Access Code:
    Service Observing by Location Listen/Talk Access Code:
AACC CONFERENCE MODES
    Restrict First Consult Activation:      Deactivation:
    Restrict Second Consult Activation:     Deactivation:
```

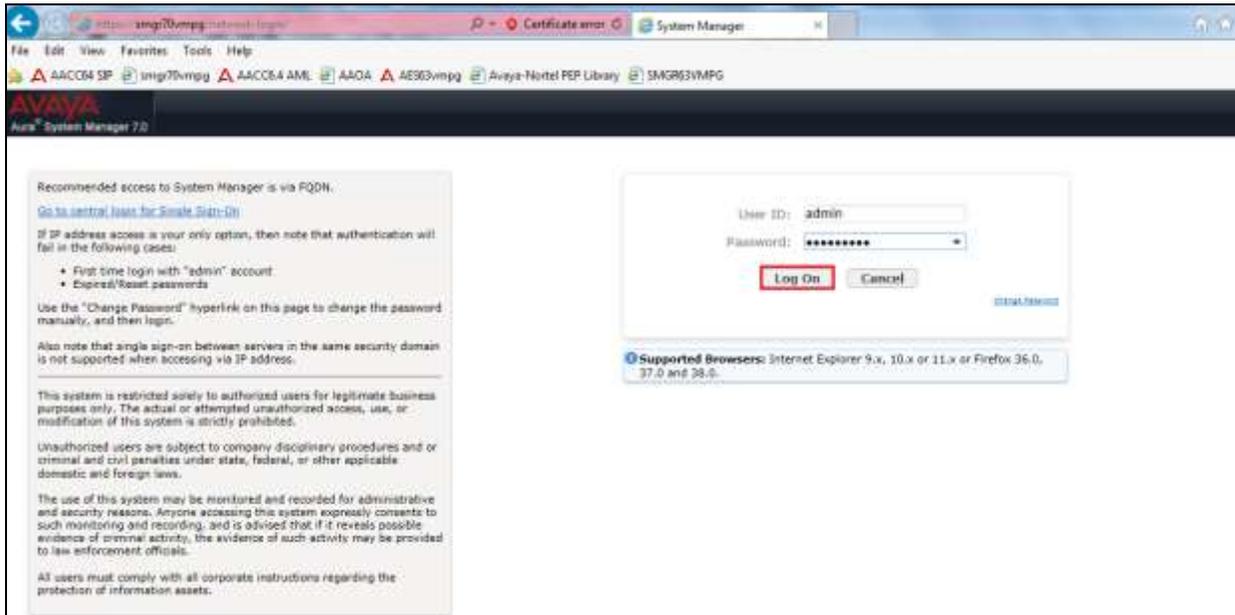
## 5.6. Configure H323 Stations for Service Observation

All endpoints that are to be monitored by SpeechLog will need to have IP Softphone set to y. IP Softphone must be enabled in order for DMCC Service Observe to work. Type **change station x** where x is the extension number of the station to be monitored also note this extension number for configuration required in **Section 7.2**. Note the **Security Code** and ensure that **IP SoftPhone** is set to y. Also ensure that the correct Class of Restriction (**COR**) is set to that configured in **Section 5.5**.

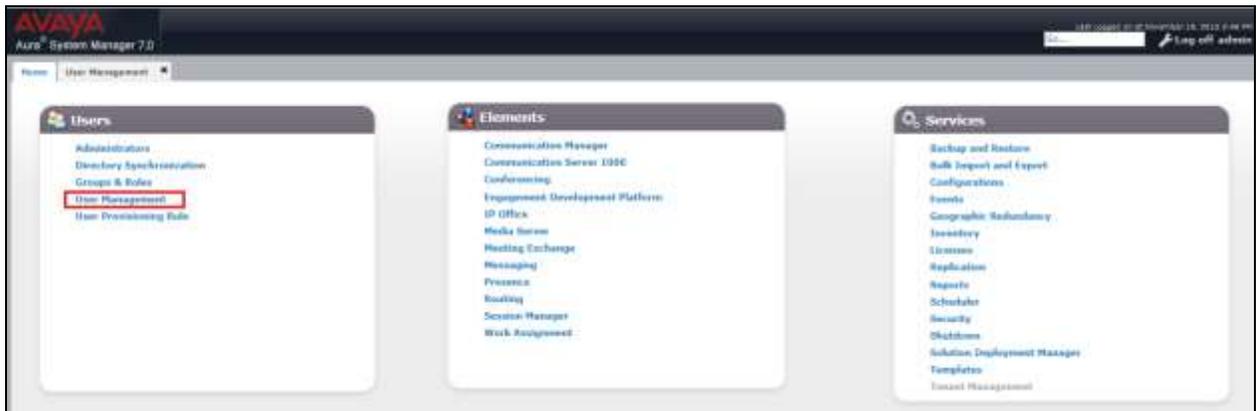
```
change station x                                     Page 1 of 5
                                                    STATION
Extension: 7000                                     Lock Messages? n          BCC: 0
  Type: 9608                                       Security Code: *          TN: 1
  Port: S00000                                    Coverage Path 1: 1        COR: 1
  Name: Ext7000                                    Coverage Path 2:          COS: 1
                                                    Hunt-to Station:          Tests? y
STATION OPTIONS
  Loss Group: 19                                     Time of Day Lock Table:
  Speakerphone: 2-way                               Personalized Ringing Pattern: 1
  Display Language: english                         Message Lamp Ext: 7000
  Survivable GK Node Name:                          Mute Button Enabled? y
  Survivable COR: internal                           Button Modules: 0
  Survivable Trunk Dest? y                           Media Complex Ext:
                                                    IP SoftPhone? y
                                                    IP Video Softphone? n
  Short/Prefixed Registration Allowed: yes
                                                    Customizable Labels? y
```

## 5.7. Configure SIP Stations for Service Observation

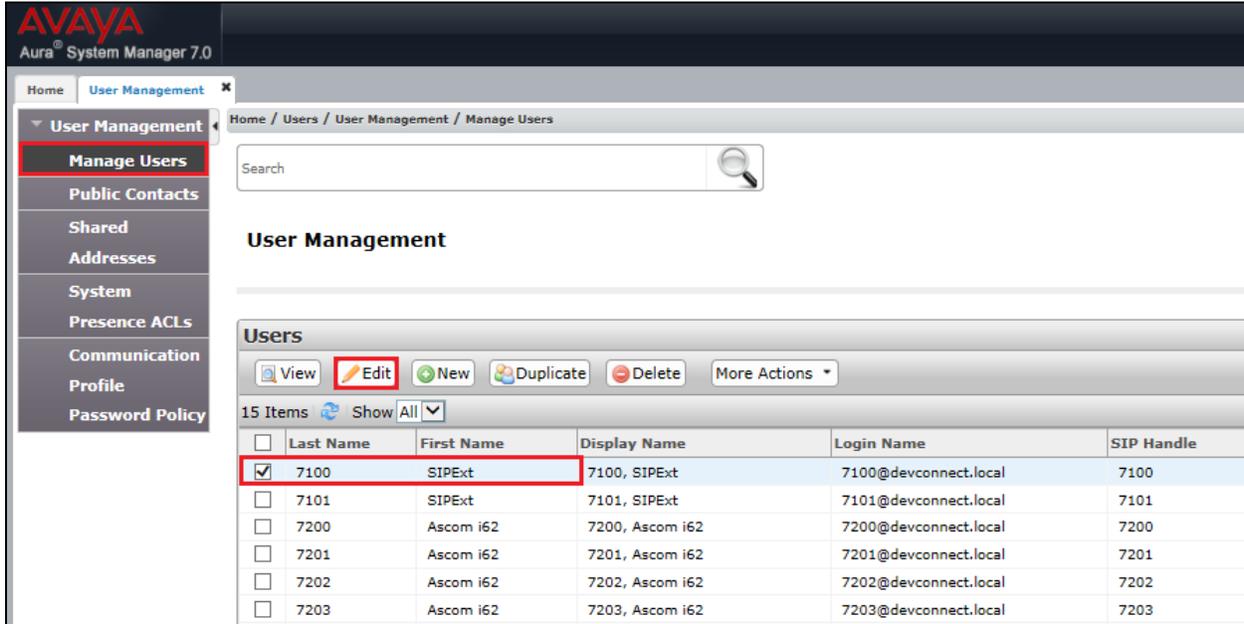
The configuration of SIP phones on Communication Manager must be carried out from System Manager. Access the System Manager using a Web Browser by entering **http://<FQDN>/SMGR**, where **<FQDN>** is the fully qualified domain name of System Manager or **http://<IP Address>/SMGR**. Log in using appropriate credentials.



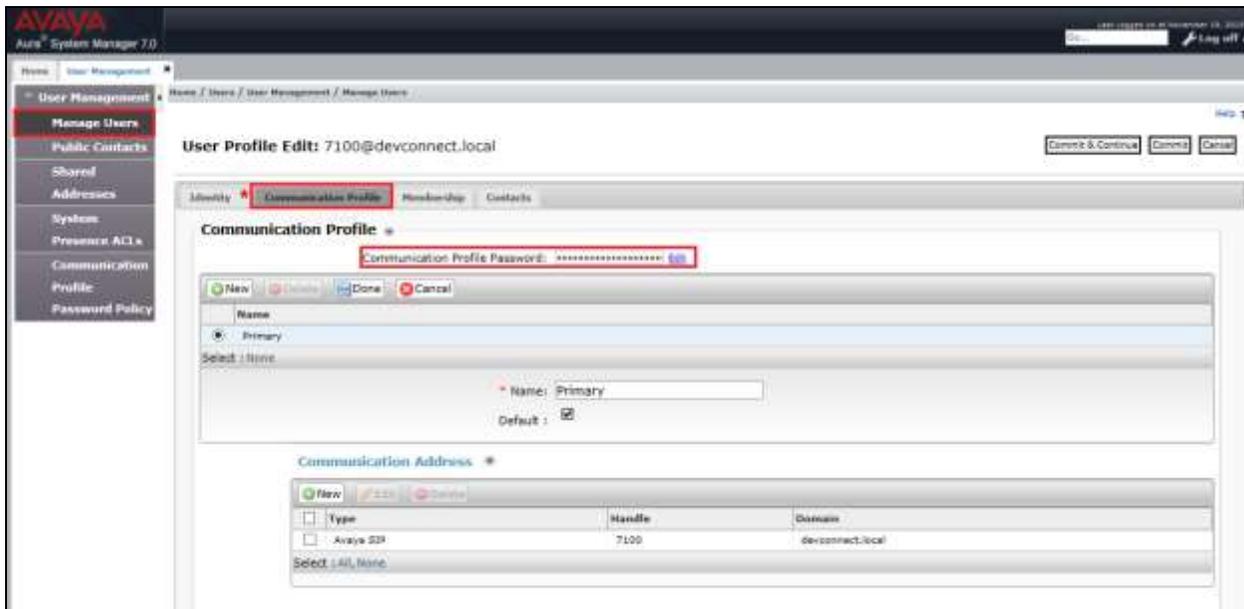
From the home page click on **User Management** highlighted below.



Click on **Manager Users** in the left window. Select the station to be edited and click on **Edit**.



Click on the **Communication Profile** tab. Ensure that the **Communication Profile Password** is known and if not click on edit to change it.



From the same page scroll down to **CM Endpoint Profile** and enter the **Security Code**, note this should be the same as the password above and will be required again in **Section 7.2** during the configuration of SpeechLog. Click on **Endpoint Editor** to make further changes.

**CM Endpoint Profile**

\* System

\* Profile Type

Use Existing Endpoints

\* Extension  **Endpoint Editor**

Template

Set Type

Security Code

Port

Voice Mail Number

Preferred Handle

Calculate Route Pattern

Sip Trunk

Enhanced Callr-Info display for 1-line phones

Delete Endpoint on Unassign of Endpoint from User or on Delete User

Override Endpoint Name and Localized Name

Allow H.323 and SIP Endpoint Dual Registration

In the **General Options** tab ensure that **Type of 3PCC Enabled** is set to **Avaya** as is shown below. Also that Class of Restriction is set to that configured in **Section 5.5**.

**Edit Endpoint**

System: cm70vmpp | Extension: 7100  
 Template: 9641SPCC\_DEFAULT\_CM\_7\_8 | Set Type: 9641SPCC  
 Port: 500003 | Security Code:   
 Name: 7100, SIPExt

General Options (G) | Feature Options (F) | Site Data (S) | Abbreviated Call Dialing (A) | Enhanced Call Fwd (E) | Button Assignment (B) | Profile Settings (P) | Group Membership (M)

Class of Restriction (COR): 1 | Class Of Service (COS): 1  
 Emergency Location Ext: 7100 | Message Lamp Ext.: 7100  
 Tenant Number: 1 | Type of 3PCC Enabled: Avaya  
 SIP Trunk: aar | Coverage Path 2:   
 Coverage Path 1:   
 Lock Message:  | Localized Display Name: 7100, SIPExt  
 Multibyte Language: Not Applicable | Enable Reachability for Station Domain Control: system

\*Required

Click on the **Feature Options** tab and ensure that **IP Softphone** is ticked as shown. Click on **Done**, at the bottom of the screen, once this is set.

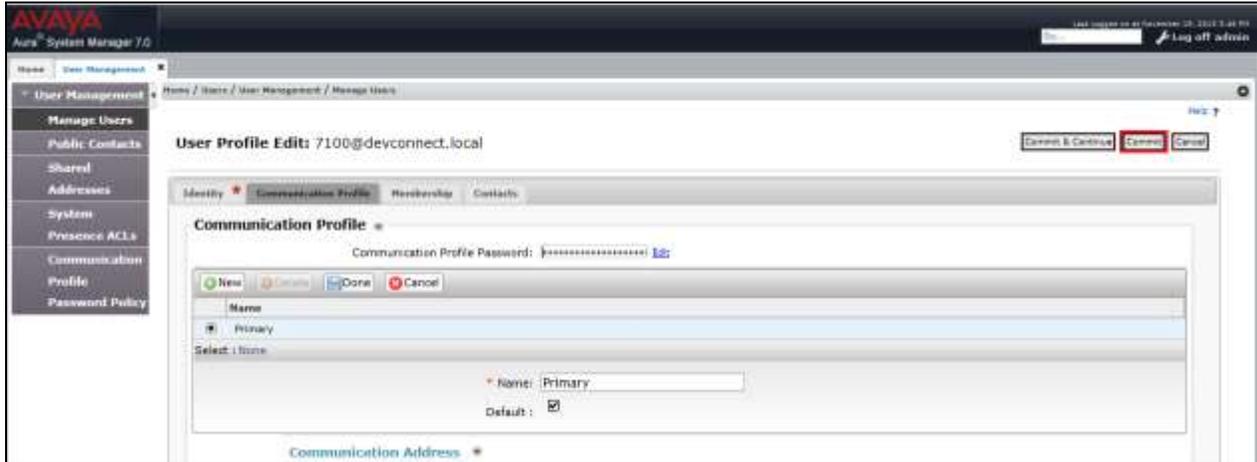
General Options (G) | Feature Options (F) | Site Data (S) | Abbreviated Call Dialing (A) | Enhanced Call Fwd (E) | Button Assignment (B) | Profile Settings (P) | Group Membership (M)

Active Station Ringing: single | Auto Answer: none  
 MWI Served User Type: sip-adjunct | Coverage After Forwarding: system  
 Per Station CPN - Send Calling Number: none | Display Language: english  
 IP Phone Group ID:   
 Remote Soft Phone Emergency Calls: aar-on-local | Hunt-to Station:   
 LWC Reception: sip | Loss Group: 19  
 AUDIX Name:   
 Short/Prefixed Registration Allowed: default | Survivable COR: internal  
 Time of Day Lock Table: None  
 Voice Mail Number:   
 Music Source:   
 Features:  
 Always Use |  Idle Appearance Preference  
 IP Audio Hairpinning |  IP SoftPhone  
 Bridged Call Alerting |  LWC Activation  
 Bridged Idle Line Preference |  CDR Privacy  
 Coverage Message Retrieval |  Direct IP-IP Audio Connections  
 Data Restriction |  H.323 Conversion  
 Survivable Trunk Dest |  IP Video Softphone  
 Bridged Appearance Origination Restriction |  Per Button Ring Control  
 Restrict Last Appearance

\*Required

Done Cancel

Click on **Commit** once this is done to save the changes.



## 5.8. Configure Virtual Stations for Service Observe

Add virtual stations to allow SpeechLog record calls using Service Observe. Type **add station x** where x is the extension number of the station to be configured also note this extension number for configuration required in **Section 7.1**. Note the **Security Code** and ensure that **IP SoftPhone** is set to **y**. Note also the **COR** for the stations, this will be set to that configured in **Section 5.5**.

```

add station 58900                                     Page 1 of 6
                                                    STATION
Extension: 58900                                     Lock Messages? n          BCC: 0
Type: 4624                                           Security Code: *          TN: 1
Port: S00026                                         Coverage Path 1:         COR: 1
Name: Recorder1                                     Coverage Path 2:         COS: 1
                                                    Hunt-to Station:         Tests? y

STATION OPTIONS
                                                    Time of Day Lock Table:
Loss Group: 19                                       Personalized Ringing Pattern: 1
                                                    Message Lamp Ext: 58900
Speakerphone: 2-way                                  Mute Button Enabled? y
Display Language: english
Survivable GK Node Name:
Survivable COR: internal                             Media Complex Ext:
Survivable Trunk Dest? y                             IP SoftPhone? y

                                                    IP Video Softphone? n
Short/Prefixed Registration Allowed: default

```

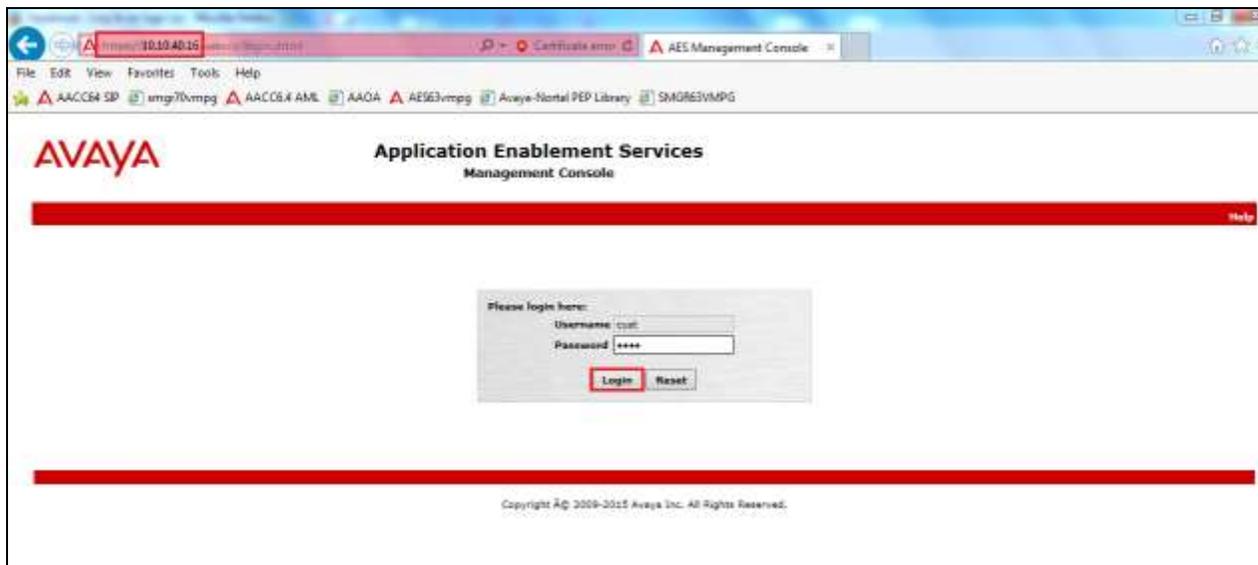
## 6. Configure Avaya Aura® Application Enablement Services

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

- Verify Licensing
- Create Switch Connection
- Administer TSAPI link
- Identify Tlinks
- Enable TSAPI Ports
- Create CTI User
- Associate Devices with CTI User

### 6.1. Verify Licensing

To access the AES Management Console, enter **https://<ip-addr>** as the URL in an Internet browser, where <ip-addr> is the IP address of AES. At the login screen displayed, log in with the appropriate credentials and then select the **Login** button.



The Application Enablement Services Management Console appears displaying the **Welcome to OAM** screen (not shown). Select **AE Services** and verify that the **TSAPI Service** is licensed by ensuring that **TSAPI Service** is in the list of **Services** and that the **License Mode** is showing **NORMAL MODE**. If not, contact an Avaya support representative to acquire the proper license for your solution.

**AVAYA** Application Enablement Services Management Console

Welcome! User: root  
 Last login: Tue Nov 17 10:07:45 2015 from 10.10.40.222  
 Number of prior failed login attempts: 1  
 HostName: 01\_0670vnmjg  
 Server Offer Type: VIRTUAL\_APLIANCE\_ON\_VMWARE  
 SW Version: 7.0.0.0.13-0  
 Server Date and Time: Tue Nov 24 18:15:51 GMT 2015  
 HA Status: Not Configured

**AE Services**

IMPORTANT! AE Services must be restarted for administrative changes to fully take effect. Changes to the Security Database do not require a restart.

Service	Status	State	License Mode	Cases <sup>®</sup>
ASAE Link Manager	N/A	Running	N/A	N/A
CVLAN Service	OFFLINE	Running	N/A	N/A
DLG Service	OFFLINE	Running	N/A	N/A
DMCC Service	ONLINE	Running	NORMAL MODE	N/A
<b>TSAPI Service</b>	<b>ONLINE</b>	<b>Running</b>	<b>NORMAL MODE</b>	N/A
Transport Layer Service	N/A	Running	N/A	N/A
AE Services HA	Not Configured	N/A	N/A	N/A

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

\* - For more detail, please mouse over the Cases, you'll see the tooltip, or go to help page.

License Information:  
 You are licensed to run Application Enablement (CT) release 7.0

## 6.2. Create Switch Connection

From the AES Management Console navigate to **Communication Manager Interface** → **Switch Connections** to set up a switch connection. Enter a name for the Switch Connection to be added and click the **Add Connection** button.

**AVAYA** Application Enablement Services Management Console

Welcome! User: root  
 Last login: Tue Nov 17 10:07:45 2015 from 10.10.40.222  
 Number of prior failed login attempts: 1  
 HostName: 01\_0670vnmjg  
 Server Offer Type: VIRTUAL\_APLIANCE\_ON\_VMWARE  
 SW Version: 7.0.0.0.13-0  
 Server Date and Time: Tue Nov 24 18:18:50 GMT 2015  
 HA Status: Not Configured

**Communication Manager Interface | Switch Connections**

Switch Connections

Enter a name for the Switch Connection to be added and click the **Add Connection** button.

Connection Name	Processor Ethernet	Plug Format	Number of Active Connections

Buttons: Add Connection, Edit PE/CLAN 3rs, Edit H.323 Gatekeeper, Delete Connection, Sunnability Hierarchy

In the resulting screen enter the **Switch Password**; the Switch Password must be the same as that entered into Communication Manager AE Services Administration screen via the **change ip-services** command, described in **Section 5.3**. Default values may be accepted for the remaining fields. Click **Apply** to save changes.

The screenshot shows the Avaya Application Enablement Services Management Console. The left sidebar contains a navigation menu with 'Switch Connections' highlighted. The main content area is titled 'Connection Details - cm70vmpg' and contains the following fields:

- Switch Password: [Redacted]
- Confirm Switch Password: [Redacted]
- Msg Period: 30 Minutes (1 - 72)
- Provide AE Services certificate to switch:
- Secure H323 Connection:
- Processor Ethernet:

At the bottom of the form are 'Apply' and 'Cancel' buttons.

From the **Switch Connections** screen, select the radio button for the recently added switch connection and select the **Edit PE/CLAN IPs** button (not shown, see screen at the bottom of the previous page). In the resulting screen, enter the IP address of the procr as shown in **Section 5.2** that will be used for the AES connection and select the **Add/Edit Name or IP** button.

The screenshot shows the Avaya Application Enablement Services Management Console. The left sidebar contains a navigation menu with 'Switch Connections' highlighted. The main content area is titled 'Edit Processor Ethernet IP - cm70vmpg' and contains the following fields:

- IP Address: 10.10.40.13
- Action: Add/Edit Name or IP
- Table with header 'Name or IP Address' and one row containing '10.10.40.13'
- Back button

### 6.3. Administer TSAPI link

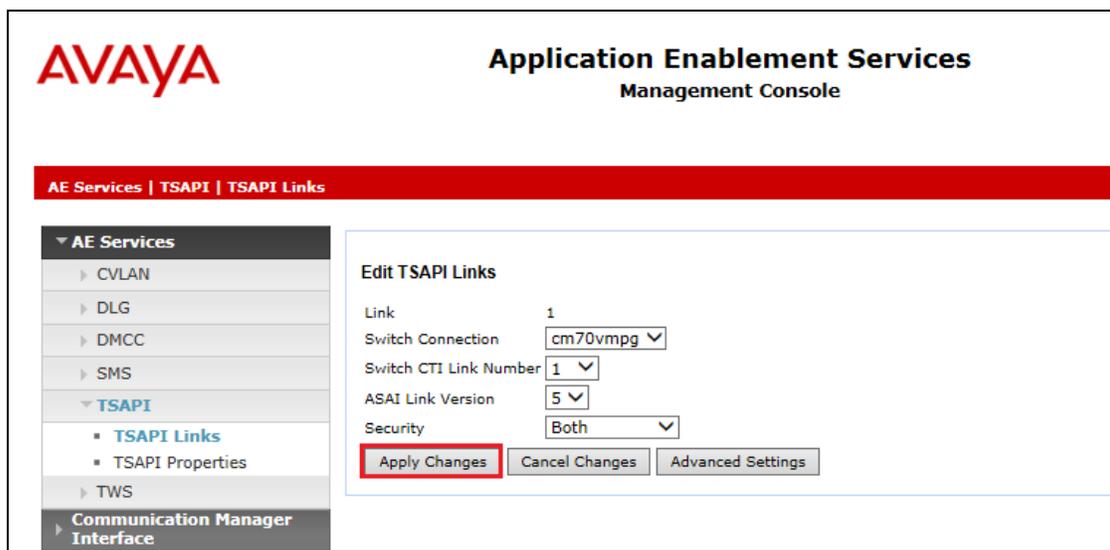
From the Application Enablement Services Management Console, select **AE Services** → **TSAPI** → **TSAPI Links**. Select **Add Link** button as shown in the screen below.



On the **Add TSAPI Links** screen (or the **Edit TSAPI Links** screen to edit a previously configured TSAPI Link as shown below), enter the following values:

- **Link:** Use the drop-down list to select an unused link number.
- **Switch Connection:** Choose the switch connection **cm70vmpg**, which has already been configured in **Section 6.2** from the drop-down list.
- **Switch CTI Link Number:** Corresponding CTI link number configured in **Section 5.4** which is **1**.
- **ASAI Link Version:** This can be left at the default value of **5**.
- **Security:** This can be left at the default value of **both**.

Once completed, select **Apply Changes**.



Another screen appears for confirmation of the changes made. Choose **Apply**.

**AVAYA** Application Enablement Services Management Console

AE Services | TSAPI | TSAPI Links

▼ AE Services

- ▶ CVLAN
- ▶ DLG
- ▶ DMCC
- ▶ SMS
- ▼ TSAPI
  - TSAPI Links
  - TSAPI Properties
- ▶ TWS
- ▶ Communication Manager Interface

**Apply Changes to Link**

Warning! Are you sure you want to apply the changes?  
These changes can only take effect when the TSAPI server restarts.

**⚠ Please use the Maintenance -> Service Controller page to restart the TSAPI server.**

When the TSAPI Link is completed, it should resemble the screen below.

**AVAYA** Application Enablement Services Management Console

AE Services | TSAPI | TSAPI Links Home | Help | Logout

▼ AE Services

- ▶ CVLAN
- ▶ DLG
- ▶ DMCC
- ▶ SMS
- ▼ TSAPI
  - TSAPI Links
  - TSAPI Properties
- ▶ TWS
- ▶ Communication Manager Interface
- ▶ High Availability
- ▶ Licensing
- ▶ Maintenance
- ▶ Networking
- ▶ Security
- ▶ Status
- ▶ User Management
- ▶ Utilities
- ▶ Help

**TSAPI Links**

Link	Switch Connection	Switch CTI Link #	AGAI Link Version	Security
1	zmt0vring	1	1	Both

IP Address: 10.10.10.10  
 Last Login: Tue Nov 17 10:07:45 2015 from 10.10.10.220  
 Number of prior failed login attempts: 1  
 HostName/IP: aa70mrg  
 Server ID/Rev Type: VIRTUAL\_APPLIANCE\_OPEL\_VMWARE  
 SW Version: 7.0.0.0.127-E  
 Server Date and Time: Tue Nov 24 16:26:03 GMT 2015  
 HA Status: Not Configured

The TSAPI Service must be restarted to effect the changes made in this section. From the Management Console menu, navigate to **Maintenance** → **Service Controller**. On the Service Controller screen, tick the **TSAPI Service** and select **Restart Service**.

The screenshot shows the Avaya Management Console interface. At the top left is the Avaya logo. The main title is "Application Enablement Services Management Console". Below this is a red navigation bar with "Maintenance | Service Controller". On the left is a sidebar menu with categories like "AE Services", "Communication Manager Interface", "High Availability", "Licensing", "Maintenance", "Security Database", "Server Data", "Networking", "Security", "Status", "User Management", "Utilities", and "Help". The "Maintenance" category is expanded, and "Service Controller" is selected and highlighted with a red box. The main content area is titled "Service Controller" and contains a table with two columns: "Service" and "Controller Status". The table lists several services, with "TSAPI Service" checked and its status "Running". Below the table is a link "Status and Control" and a row of buttons: "Start", "Stop", "Restart Service" (highlighted with a red box), "Restart AE Server", "Restart Linux", and "Restart Web Server".

Service	Controller Status
<input type="checkbox"/> ASAI Link Manager	Running
<input type="checkbox"/> DMCC Service	Running
<input type="checkbox"/> CVLAN Service	Running
<input type="checkbox"/> DLG Service	Running
<input type="checkbox"/> Transport Layer Service	Running
<input checked="" type="checkbox"/> TSAPI Service	Running

## 6.4. Identify Tlinks

Navigate to **Security** → **Security Database** → **Tlinks**. Verify the value of the **Tlink Name**. This will be needed to configure SpeechLog in **Section 7.1**.

The screenshot displays the Avaya Application Enablement Services Management Console. The top left features the Avaya logo, and the top right shows the title "Application Enablement Services Management Console". A red navigation bar contains the breadcrumb "Security | Security Database | Tlinks". On the left is a sidebar menu with categories: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security (expanded), Account Management, Audit, Certificate Management, Enterprise Directory, Host AA, PAM, Security Database (expanded), Control, CTI Users, Devices, Device Groups, Tlinks (highlighted), Tlink Groups, and Worktops. The main content area is titled "Tlinks" and shows a "Tlink Name" field with two radio button options: "AVAYA#CM70VMPG#CSTA#AES70VMPG" (selected and highlighted with a red box) and "AVAYA#CM70VMPG#CSTA-S#AES70VMPG". A "Delete Tlink" button is located below the options.

## 6.5. Enable TSAPI Ports

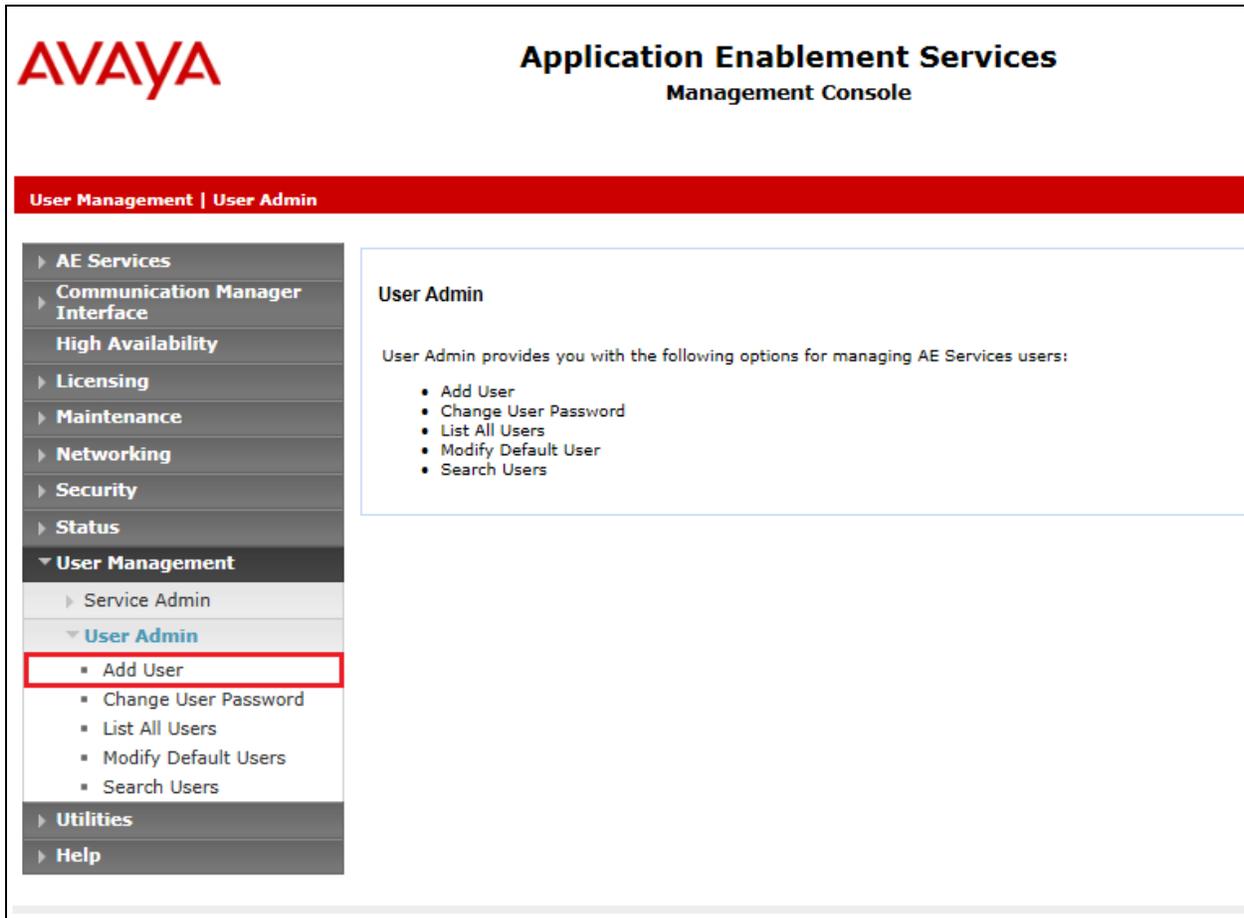
To ensure that TSAPI ports are enabled, navigate to **Networking** → **Ports**. Ensure that the TSAPI ports are set to **Enabled** as shown below. Ensure that the **DMCC Server Ports** are also **Enabled** and take note of the **Unencrypted Port 4721** which will be used later in **Section 7.1**.

The screenshot displays the Avaya Application Enablement Services Management Console. The left sidebar contains a navigation menu with the following items: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking (expanded), AE Service IP (Local IP), Network Configure, Ports (highlighted with a red box), TCP Settings, Security, Status, User Management, Utilities, and Help. The main content area is titled "Ports" and is divided into several sections:

- CVLAN Ports:** Includes "Unencrypted TCP Port" (9999) and "Encrypted TCP Port" (9998), both with "Enabled" radio buttons selected.
- DLG Port:** Includes "TCP Port" (5678).
- TSAPI Ports:** Includes "TSAPI Service Port" (450) with "Enabled" selected, and "Local TLINK Ports" (TCP Port Min: 1024, TCP Port Max: 1039) and "Unencrypted TLINK Ports" (TCP Port Min: 1050, TCP Port Max: 1065).
- DMCC Server Ports:** Includes "Unencrypted Port" (4721), "Encrypted Port" (4722), and "TR/87 Port" (4723), all with "Enabled" radio buttons selected. The "Unencrypted Port" field and its corresponding radio button are highlighted with a red box.

## 6.6. Create CTI User

A User ID and password needs to be configured for SpeechLog to communicate with the Application Enablement Services server. Navigate to the **User Management** → **User Admin** screen then choose the **Add User** option.



The screenshot displays the Avaya Application Enablement Services Management Console. The top left features the Avaya logo, and the top right shows the title "Application Enablement Services Management Console". A red navigation bar contains the text "User Management | User Admin". On the left is a sidebar menu with categories: AE Services, Communication Manager Interface, High Availability, Licensing, Maintenance, Networking, Security, Status, User Management (expanded), Service Admin, User Admin (expanded), Utilities, and Help. The "Add User" option under "User Admin" is highlighted with a red box. The main content area is titled "User Admin" and lists the following options for managing AE Services users:

- Add User
- Change User Password
- List All Users
- Modify Default User
- Search Users

In the **Add User** screen shown below, enter the following values:

- **User Id** - This will be used by the SpeechLog setup in **Section 7.1**.
- **Common Name** and **Surname** - Descriptive names need to be entered.
- **User Password** and **Confirm Password** - This will be used with the SpeechLog setup in **Section 7.1**.
- **CT User** - Select **Yes** from the drop-down menu.

**AVAYA** Application Enablement Services Management Console

User Management | User Admin | 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

Cms Home

CT User

Department Number

Display Name

Employee Number

Employee Type

Scroll down and click on **Apply Changes**.

Employee Number

Employee Type

Enterprise Handle

Given Name

Home Phone

Home Postal Address

Initials

Labeled URI

Mail

MM Home

Mobile

Organization

Pager

Preferred Language

Room Number

Telephone Number

## 6.7. Associate Devices with CTI User

Navigate to **Security** → **Security Database** → **CTI Users** → **List All Users** and click on **Edit Users**.

The screenshot shows the Avaya Application Enablement Services Management Console. The breadcrumb trail is Security > Security Database > CTI Users > List All Users. The left sidebar shows the 'Security Database' menu with 'List All Users' highlighted. The main content area displays a table of CTI Users:

User ID	Common Name	Worktop Name	Device ID
<input checked="" type="radio"/> Globaltel	Globaltel	NONE	NONE
<input type="radio"/> anya	anya	NONE	NONE

Buttons for 'Edit' and 'List All' are visible below the table.

In the main window ensure that **Unrestricted Access** is ticked. Once this is done click on **Apply Changes**.

The screenshot shows the 'Edit CTI User' page in the Avaya Application Enablement Services Management Console. The breadcrumb trail is Security > Security Database > CTI Users > List All Users. The left sidebar shows the 'List All Users' option highlighted. The main content area displays the 'Edit CTI User' form:

**Edit CTI User**

User Profile:

User ID	Globaltel
Common Name	Globaltel
Worktop Name	NONE
Unrestricted Access	<input checked="" type="checkbox"/>

Call and Device Control:

Call Origination/Termination and Device Status	None
--	------

Call and Device Monitoring:

Device Monitoring	None
Calls On A Device Monitoring	None
Call Monitoring	<input type="checkbox"/>

Routing Control:

Allow Routing on Listed Devices	None
---------------------------------	------

Buttons for 'Apply Changes' and 'Cancel Changes' are visible at the bottom.

## 7. Configure Globitel SpeechLog Voice Recorder

The installation of Globitel SpeechLog Voice Recorder is usually carried out by an engineer from Globitel and is outside the scope of these Application Notes. For information on the installation of SpeechLog contact Globitel as per the information provided in **Section 2.3**.

The following sections will outline the process involved in connecting SpeechLog to the Avaya solution. All configuration of SpeechLog for a connection with the AES is performed using **Configuration Manager** located on the SpeechLog server. From the SpeechLog server open Configuration Manager, this will bring up a log in window, enter the proper credentials and click on **OK**.



## 7.1. Configure connection to Avaya Aura® Application Enablement Services

Click on the **General** tab, the **VoIP Settings** should be set as follows:

- **VoIP Signaling Type** Set to **Avaya TSAPI**.
- **Local Management IP** Set to the IP address of the SpeechLog server.

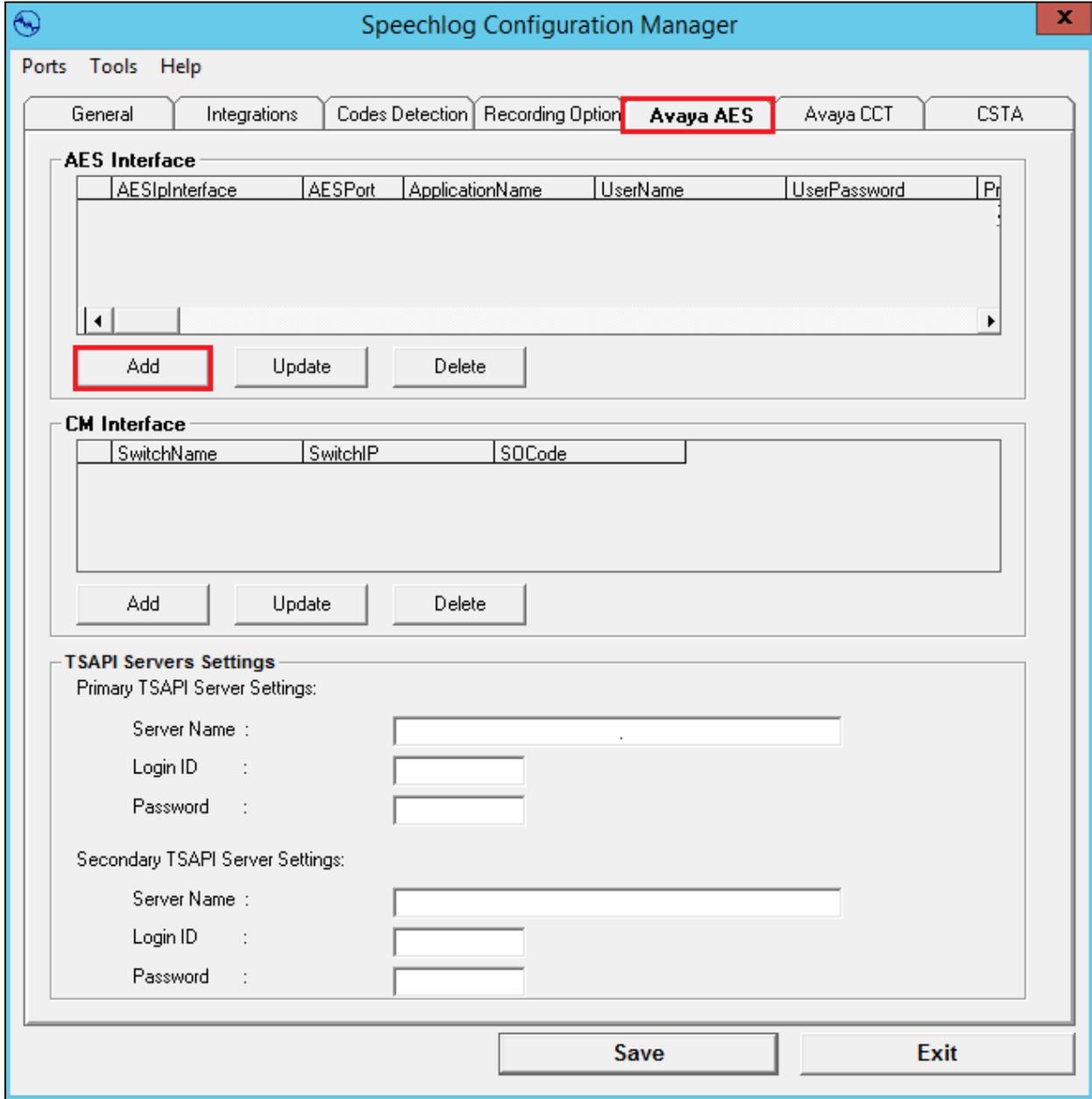
The other settings can be left as default.

The screenshot shows the 'Speechlog Configuration Manager' window. The 'General' tab is active. The 'VoIP Settings' section is highlighted with a red box. The settings are as follows:

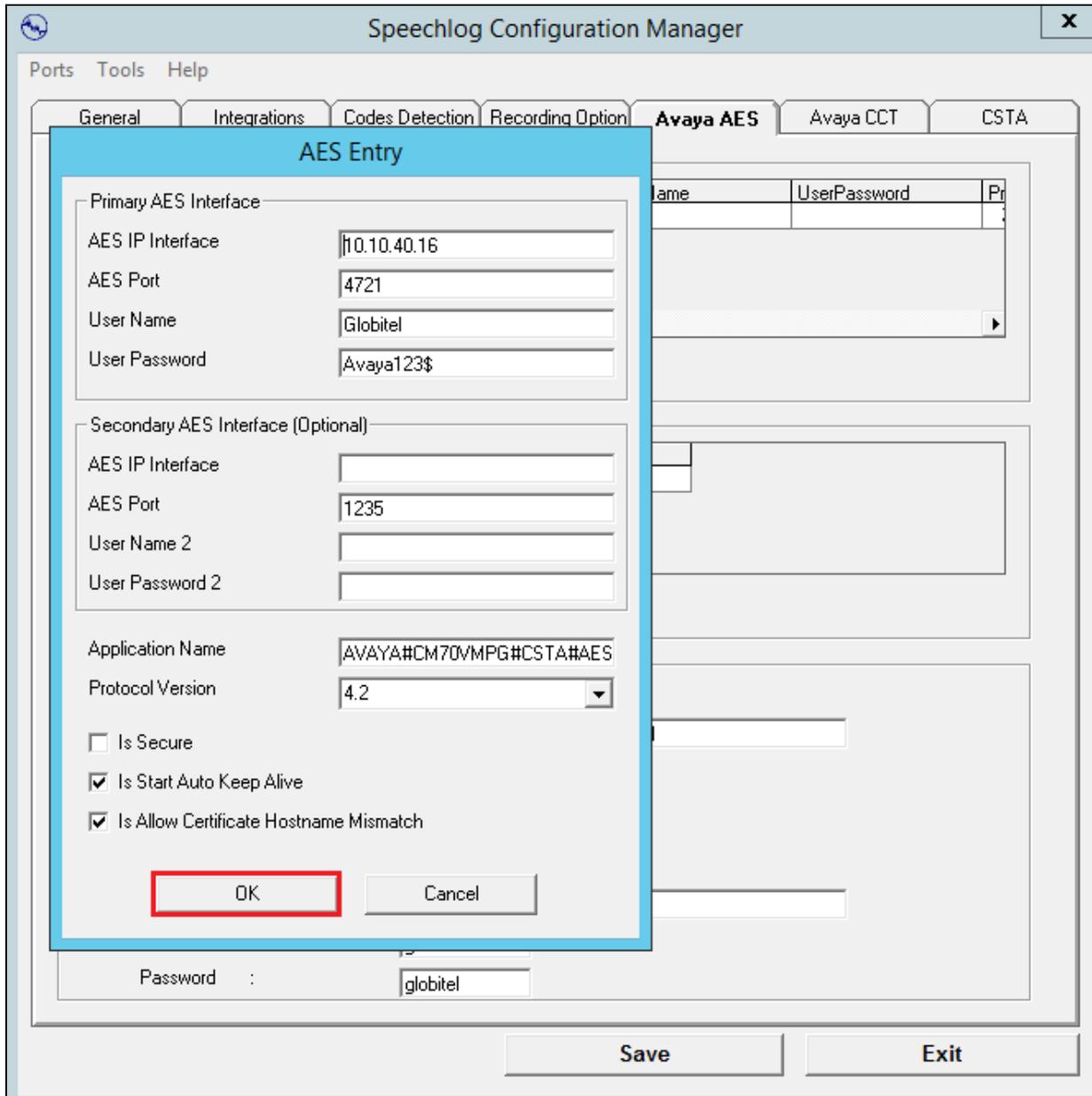
Section	Setting	Value
System Settings	Storage Path	C:\Program Files (x86)\Globitel\Calls
	Recording Format	GSM
	Minimum Call Duration (Sec)	1
	Maximum Call Duration (Min)	60
Analog Settings	Board Mode	SynWay
	Maximum Silence (Sec)	5
	Speech Threshold (dBm)	-40
Digital Settings	Board Mode	SynWay
	PBX Audio Format	aLaw
	CTBus Type	H100
E1 Settings	Board Mode	SynWay
	Standard Type	ISDN
VoIP Settings	VoIP Signaling Type	Avaya TSAPI
	Silence Suppression	On
	Local Management IP	10.10.40.58
	VoIP Recording Type	Extension
	License Type	MAC Address
	RTP Match Mode	IP Address
Enable RTP Active Mode		<input checked="" type="checkbox"/>
LAN Adapters		\Device\NPF_{C27C5F45-52AA-4FC3-964F-5BB144A78145}

Buttons: Save, Exit

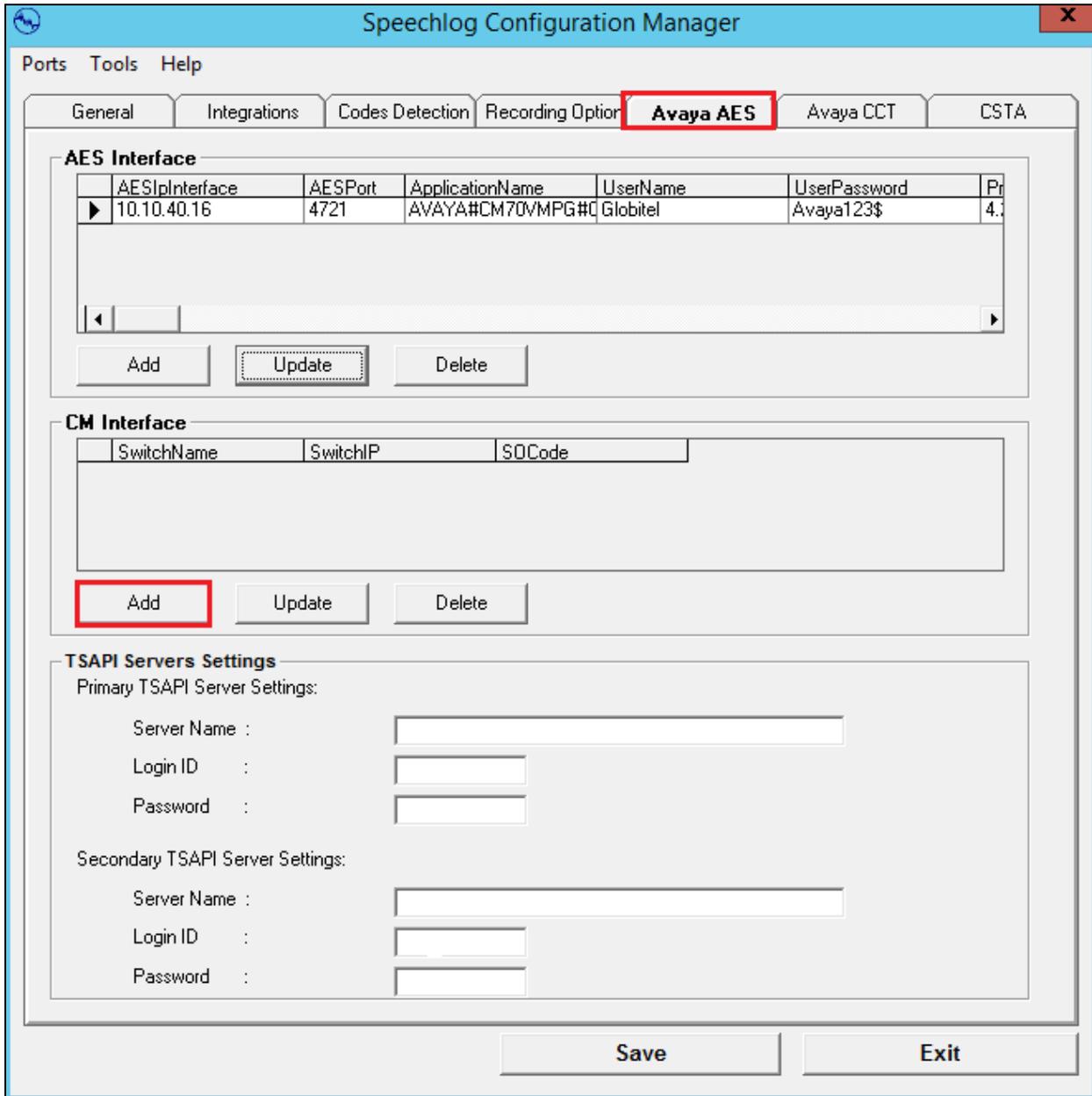
Click on the **Avaya AES** tab and **Add** a new **AES Interface**.



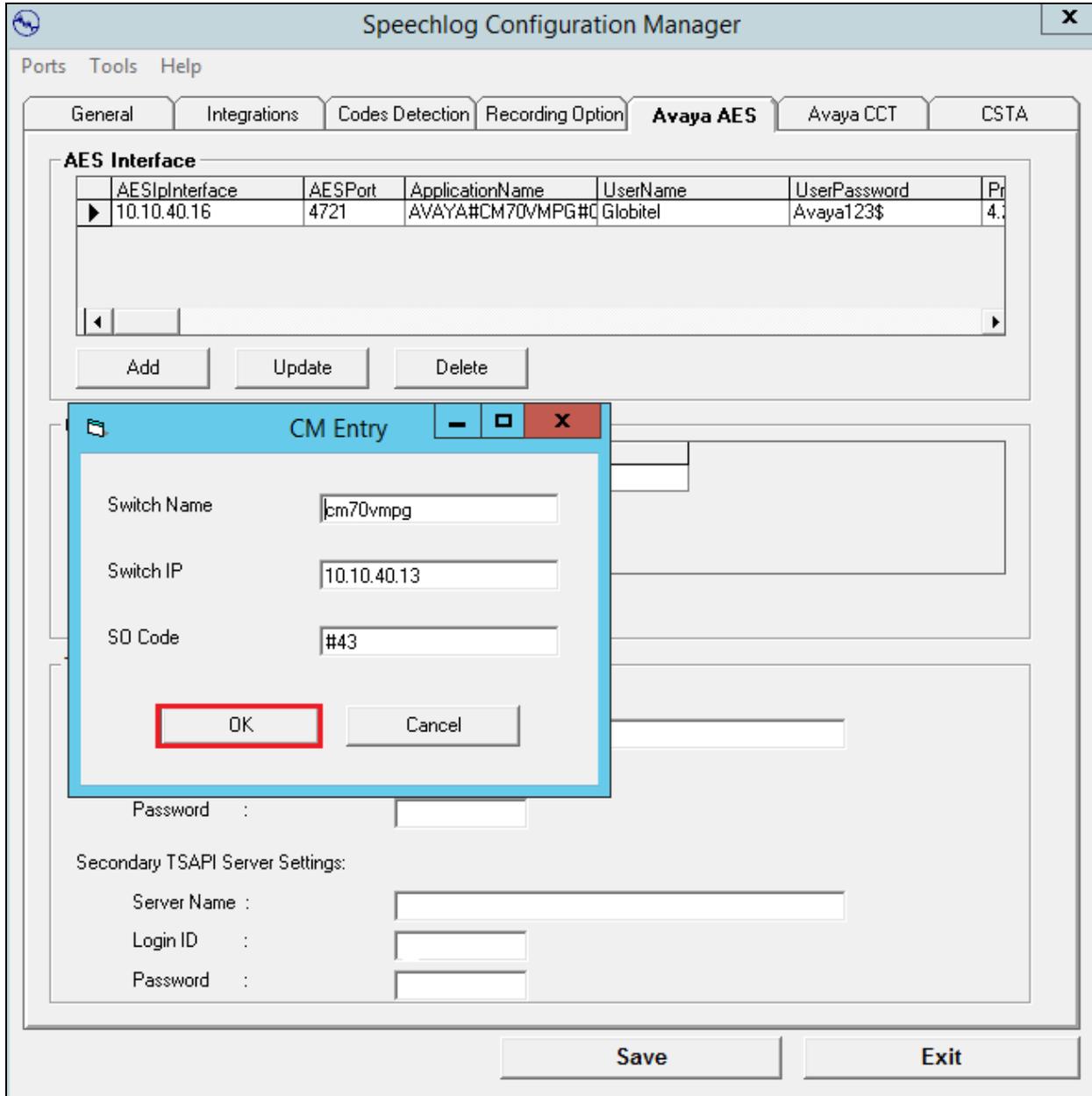
Enter the AES IP address for the **AES IP Interface** and the **AES Port** which should be the DMCC unsecured port number got from **Section 6.5**. The **User Name** and **User Password** is that which was configured in **Section 6.6**. The **Application Name** is the Tlink also secured from **Section 6.4**. The **Protocol Version** should be set to **4.2** and the tick boxes shown below should be ticked. Click on **OK** to continue.



A new Communication Manager interface also needs to be added. Click on **Add** under the **CM Interface** section.



Enter the name of the Communication Manager for **Switch Name** and the IP Address of the Communication Manager server for **Switch IP**, see **Section 6.2** for this information. The **SO Code** is the Service Observe feature access code that was configured in **Section 5.5**. Click on **OK** to continue.



The **TSAPI Servers Settings** must now be completed, enter the Tlink information obtained from **Section 6.4** as the **Server Name**, the **Login ID** and **Password** are that of the AES user created in **Section 6.6**. Click on **Save** to save all the information just entered in this section.

The screenshot shows the 'Speechlog Configuration Manager' window with the 'Avaya AES' tab selected. The interface is divided into three main sections:

- AES Interface:** A table with columns: AESInterface, AESPort, ApplicationName, UserName, UserPassword, and Pr. The first row contains: 10.10.40.16, 4721, AVAYA#CM70VMPG#C, Globitel, Avaya123\$, and 4. Below the table are 'Add', 'Update', and 'Delete' buttons.
- CM Interface:** A table with columns: SwitchName, SwitchIP, and SDCode. The first row contains: cm70vmpg, 10.10.40.13, and #43. Below the table are 'Add', 'Update', and 'Delete' buttons.
- TSAPI Servers Settings:** This section is highlighted with a red box. It contains:
  - Primary TSAPI Server Settings:**
    - Server Name : AVAYA#CM70VMPG#CSTA#AES70VMPG
    - Login ID : Globitel
    - Password : Avaya123\$
  - Secondary TSAPI Server Settings:**
    - Server Name : [Empty field]
    - Login ID : [Empty field]
    - Password : [Empty field]

At the bottom of the window, there are 'Save' and 'Exit' buttons, with the 'Save' button highlighted by a red box.

## 7.2. Configure Extensions to be recorded

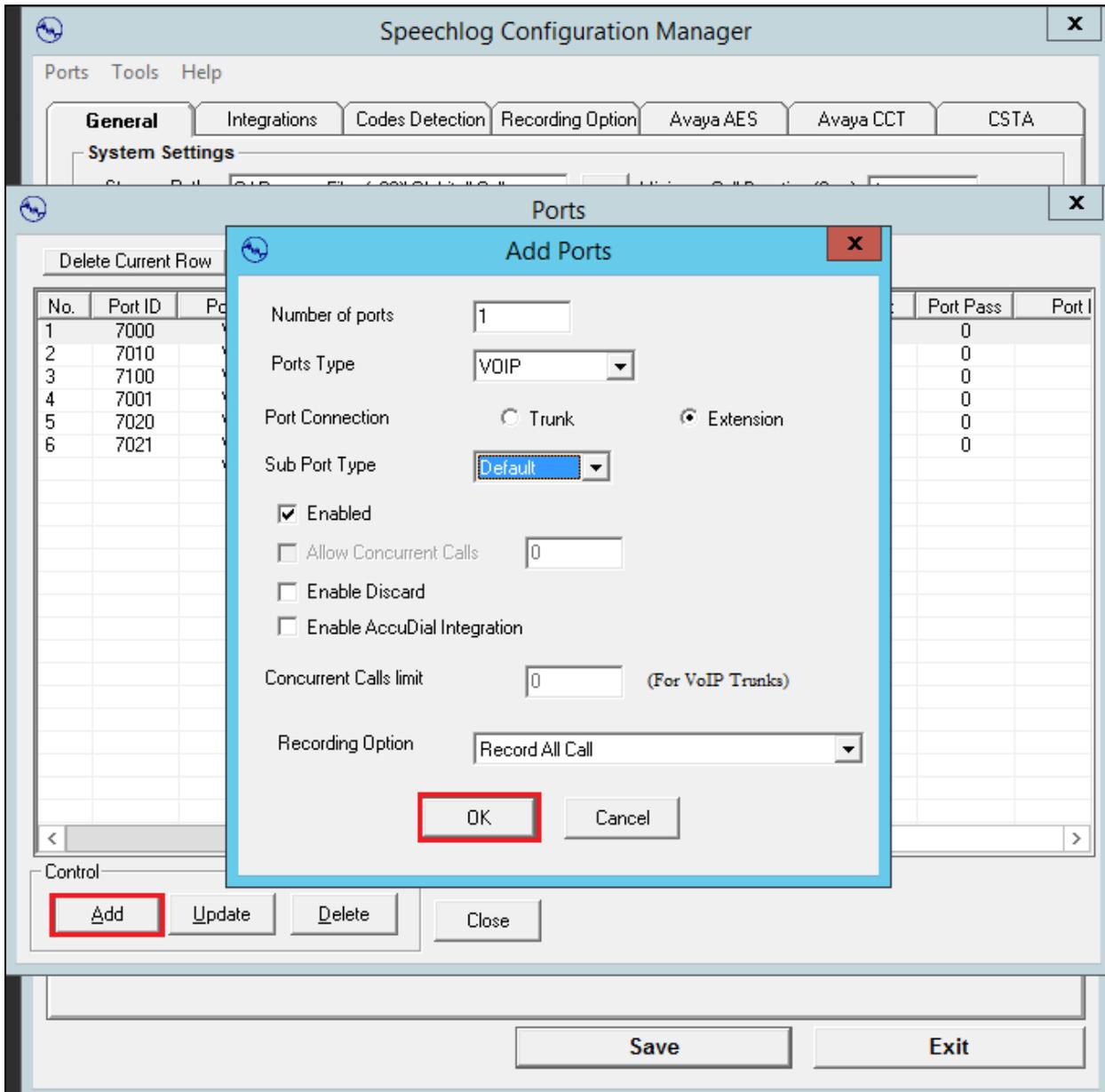
From the top left of the page click on **Ports** → **Extension Ports**.

The screenshot shows the 'Speechlog Configuration Manager' application window. The 'Ports' menu is open, and 'Extension Ports' is highlighted. The main configuration area is divided into several sections:

- Virtual Ports:** Storage Path (C:\Program Files (x86)\Globitel\Calls), Recording Format (GSM), Minimum Call Duration (Sec) (1), Maximum Call Duration (Min) (60). Checkboxes for 'Apply Minimum Duration Constraint for Outgoing Calls Only' (checked) and 'Encrypt Audio Files' (unchecked).
- Analog Settings:** Board Mode (SynWay, TOD, Pika), Maximum Silence (Sec) (5), Speech Threshold (dBm) (-40).
- Digital Settings:** Board Mode (SynWay, TOD), PBX Audio Format (aLaw), CTBus Type (H100).
- E1 Settings:** Board Mode (SynWay, TOD, Pika), Standard Type (ISDN).
- VoIP Settings:** VoIP Signaling Type (Avaya TAPI), VoIP Recording Type (Extension), Silence Suppression (On), License Type (MAC Address), Local Management IP (10.10.40.58), RTP Match Mode (IP Address), Enable RTP Active Mode (checked), LAN Adapters (\Device\NPF\_{C27C5F45-52AA-4FC3-964F-5BB144A78145}).

Buttons for 'Save' and 'Exit' are located at the bottom of the window.

The example below shows the addition of one extension but note that a number of extensions would usually be added together. The **Ports** window is opened, click on **Add** at the bottom left of this window, this will bring up the **Add Ports** window as shown where the **Number of ports** to be added window is filled in. The **Ports Type** should be **VOIP** and the **Port Connection** is **Extension**. The **Sub Port Type** can be left as **Default** and the **Enabled** box should be ticked. For compliance testing the **Recording Option** was set to **Record All Call**. Click on **OK** to add this one port.



Highlight the new extension and click on **Update**.

The screenshot shows a window titled "Ports" with a table of port configurations. The table has the following columns: No., Port ID, Port Type, Enabled, Connection, Agent PC Name, Address (IP/MAC), vPort, Port Pass, and Port I. The data rows are:

No.	Port ID	Port Type	Enabled	Connection	Agent PC Name	Address (IP/MAC)	vPort	Port Pass	Port I
1	7000	VOIP	True				0	0	
2	7010	VOIP	True				0	0	
3	7100	VOIP	True				0	0	
4	7001	VOIP	True				0	0	
5	7020	VOIP	True				0	0	
6	7021	VOIP	True				0	0	
7	1	VOIP	True				0	0	

Below the table is a "Control" panel with four buttons: "Add", "Update", "Delete", and "Close". The "Update" button is highlighted with a red border.

Enter the following information:

- **Port ID** The extension number of the phoneset to be recorded.
- **Port Connection** **Extension.**
- **Recording Option** **Record All Call.**
- **Enabled Box** Ticked.
- **AES Interface** The IP address of the AES, which is the AES Interface configured in **Section 7.1.**
- **CM Interface** The Communication Manager Interface that was configured in **Section 7.1.**

Click on **OK** to continue.

**Update Port**

**Port 7-VOIP**

Port ID: 7050

Agent PC Name: [ ]

Address (IP/MAC): [ ]

Port Connection: Extension

Recording Option: Record All Call

Concurrent Calls limit: 0 (For H323 Trunks)

SubPort Type: Default

Enabled  Enable Discard

Enable AccuDial Integration

Synway config file: 0

AES Interface: 10.10.40.16

CM Interface: cm70vmpg

AES Settings

Port Password: 0

Port Name: [ ]

**OK** Cancel

With this new extension updated, click on **Close** to continue.

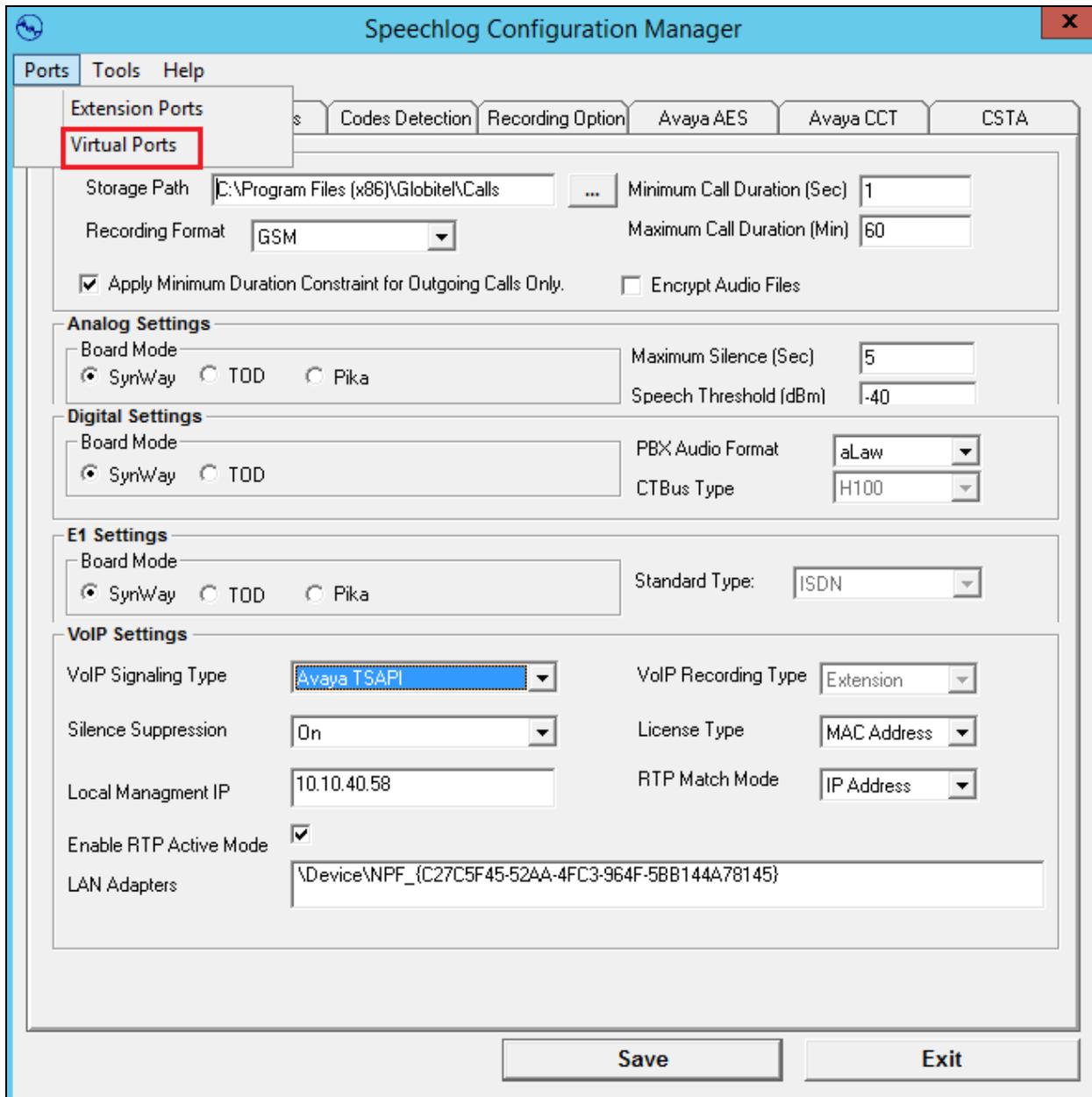
The screenshot shows a window titled "Ports" with a close button (X) in the top right corner. Below the title bar is a "Delete Current Row" button. The main area contains a table with the following data:

No.	Port ID	Port Type	Enabled	Connection	Agent PC Name	Address (IP/MAC)	vPort	Port Pass	Port I
1	7000	VOIP	True				0	0	
2	7010	VOIP	True				0	0	
3	7100	VOIP	True				0	0	
4	7001	VOIP	True				0	0	
5	7020	VOIP	True				0	0	
6	7021	VOIP	True				0	0	
7	7050	VOIP	True				0	0	

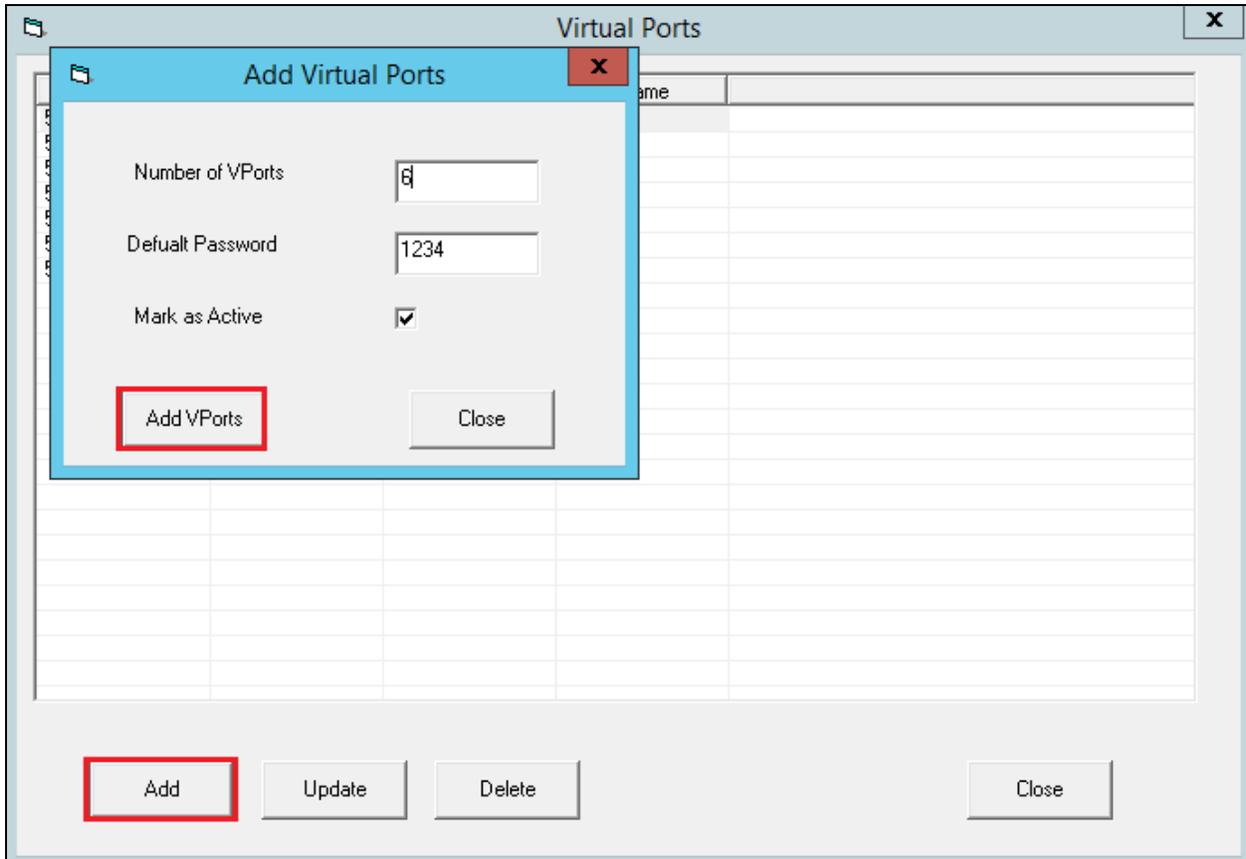
Below the table is a "Control" section with four buttons: "Add", "Update", "Delete", and "Close". The "Close" button is highlighted with a red border.

### 7.3. Configure Virtual Ports

From the top left of the window click on **Ports** → **Virtual Ports**.

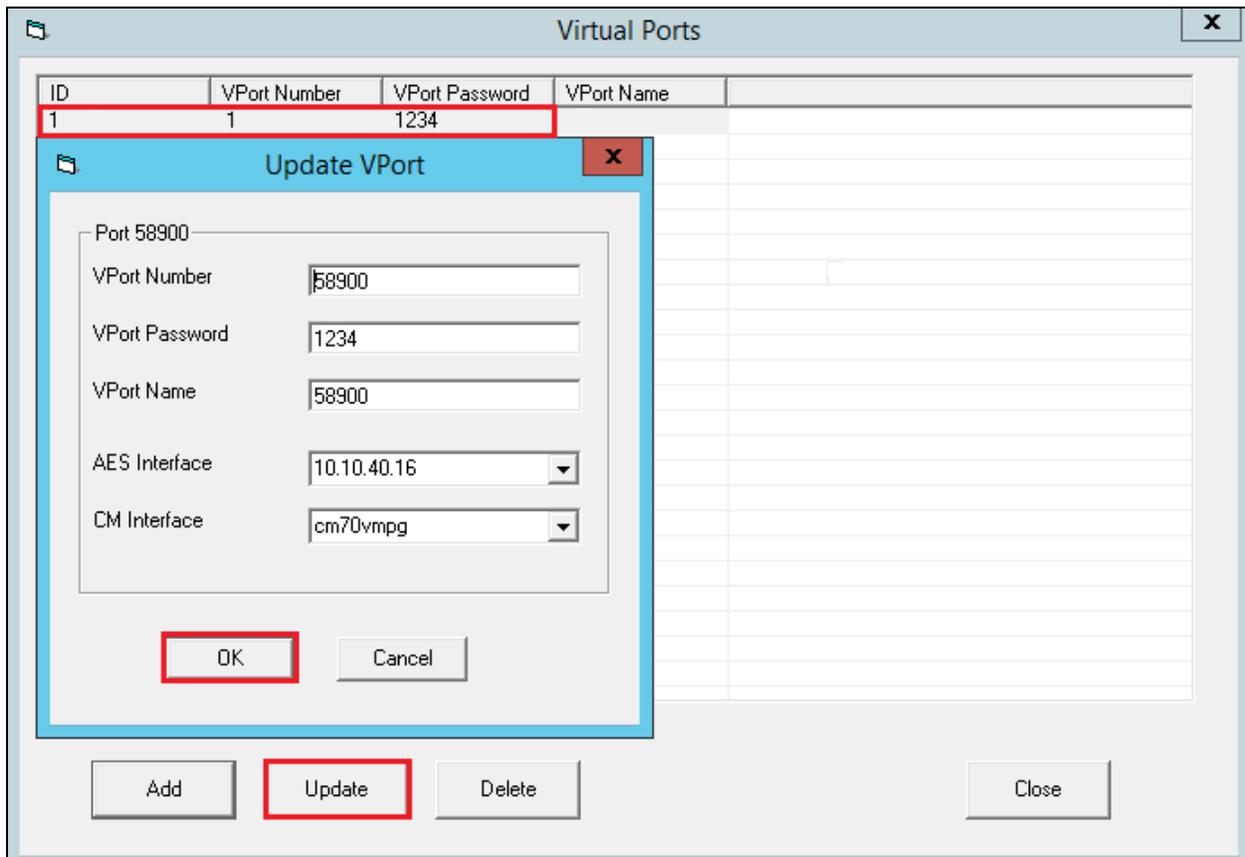


From the **Virtual Ports** window, click on **Add**. Enter the **Number of VPorts**, in the example below **6** virtual ports were added with a **Default Password** of **1234**, this being the password of the virtual stations created in **Section 5.8**. Click on **Add VPorts**.



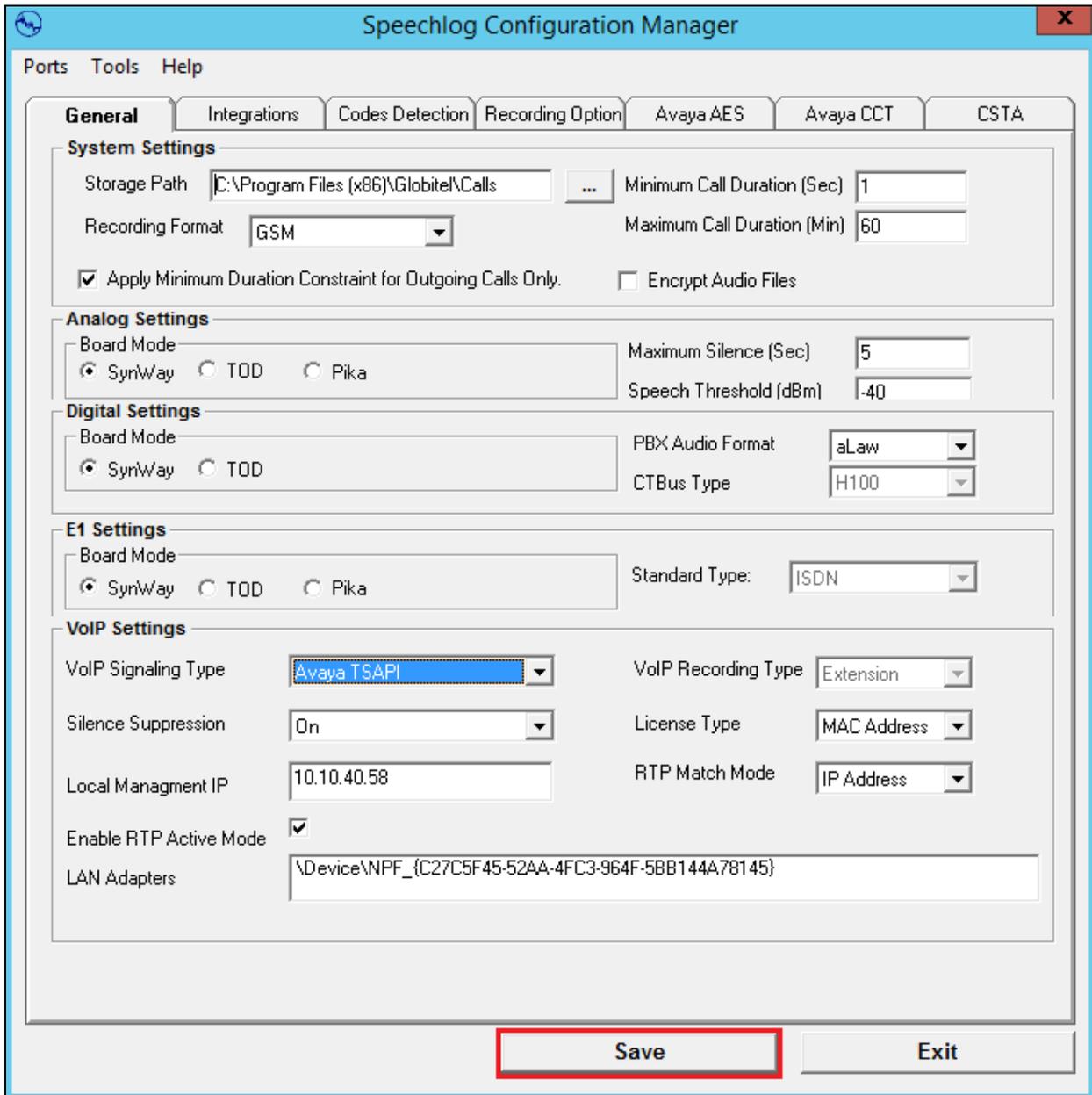
Highlight the new port and click on **Update**, this opens the **Update VPort** window where the following needs to be configured.

- **VPort Number** Virtual extension number from **Section 5.8**.
- **VPort Password** The password of the virtual extension created in **section 5.8**.
- **VPort Name** Any Suitable name will do, best to keep this the same as the extension number for convenience.
- **AES Interface** The IP address of the AES, which is the AES Interface configured in **Section 7.1**.
- **CM Interface** The Communication Manager Interface that was configured in **Section 7.1**.

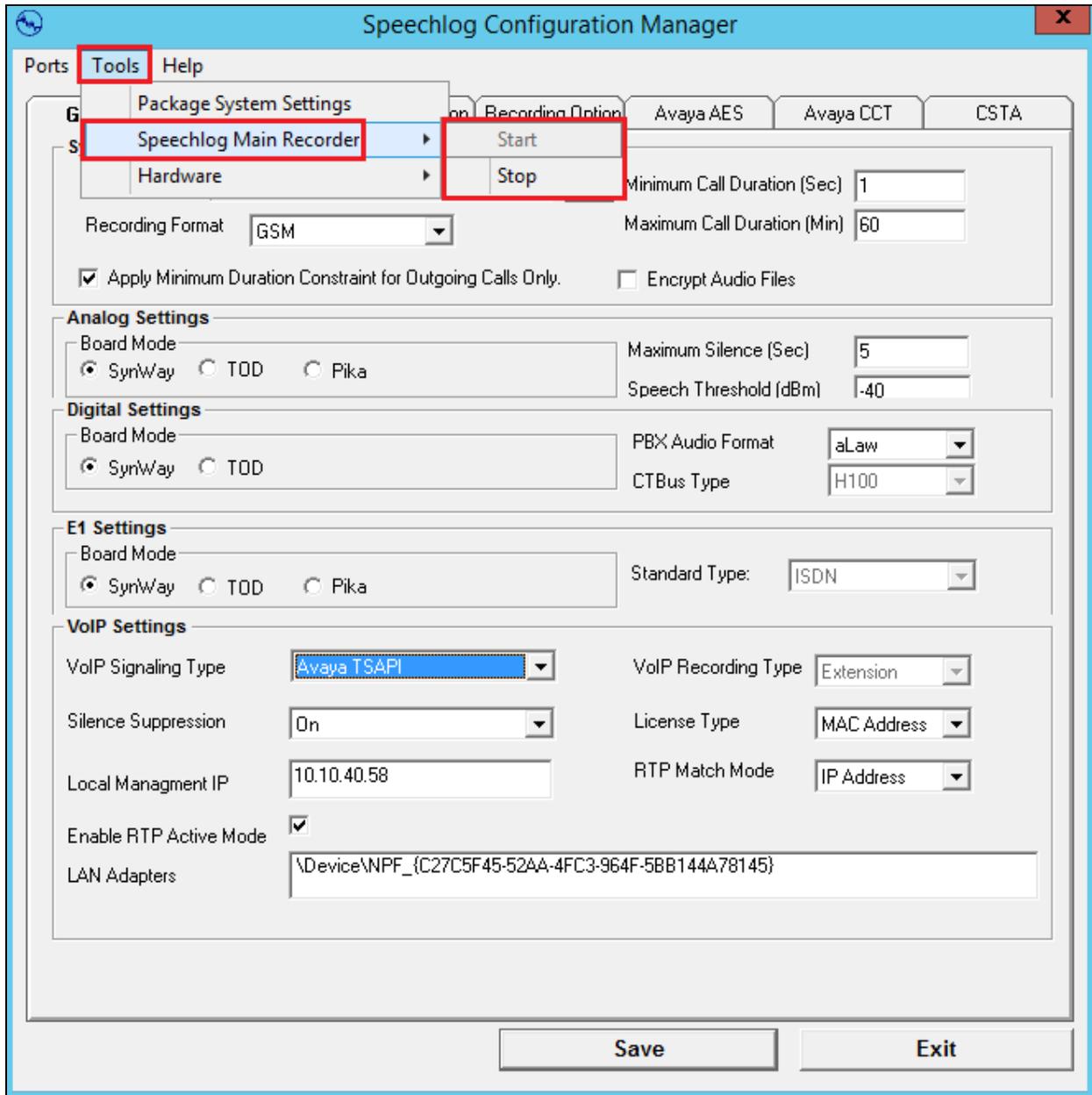




Click on **Save** at the bottom of the screen.



In order to complete the setup and place the recorder into service the main recorder service should be stopped and started. Note that this may already be in a stopped state, if so simply start the service. If stopping and starting the service allow a minute between stopping and starting the service in order to allow all services stop correctly before starting them back up again.



This concludes the setup of the SpeechLog Server for DMCC Service Observe recording.

## 8. Verification Steps

This section provides the steps that can be taken to verify correct configuration of Globitel's SpeechLog and Avaya Aura® Application Enablement Services (AES).

### 8.1. Verify Avaya Aura® Communication Manager CTI Service State

Before the connection between SpeechLog and the AES is check the connection between Communication Manager and AES can be check to ensure it is functioning correctly. Check the AESVCS link status by using the command **status aesvcs cti-link**. Verify the **Service State** of the CTI link is **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	4	no	aes70vmpg	<b>established</b>	18	18

### 8.2. Verify TSAPI link on Avaya Aura® Application Enablement Services

On the AES Management Console verify the status of the TSAPI link by selecting **Status** → **Status and Control** → **TSAPI Service Summary** to display the **TSAPI Link Details** screen. Verify the status of the TSAPI link by checking that the **Status** is **Talking** and the **State** is **Online**.

The screenshot shows the Avaya Application Enablement Services Management Console. The main content area displays the 'TSAPI Link Details' screen. A table lists the link details, with the first row highlighted. The 'Status' column shows 'Talking' and the 'State' column shows 'Online'. The 'Since' column shows 'Mon Nov 23 10:28:15 2015'. The 'Msgs to Switch' column shows '15', 'Msgs from Switch' shows '15', and 'Msgs Purged' shows '30'. The left sidebar shows the navigation menu with 'Status and Control' expanded and 'TSAPI Service Summary' selected. The top right corner displays system information including the last login time and HA status.

### 8.3. Verify DMCC link on Avaya Aura® Application Enablement Services

Verify the status of the DMCC link by selecting **Status** → **Status and Control** → **DMCC Service Summary** to display the **DMCC Service Summary – Session Summary** screen. The screen below shows that the user **Globitel** is connected from the IP address **10.10.40.58**, which is the SpeechLog server.

The screenshot shows the Avaya Application Enablement Services Management Console. The main content area displays the 'DMCC Service Summary - Session Summary' page. It includes a table of active sessions with columns for Session ID, User, Application, IP and Identifier, Connection Type, and # of Associated Devices. The first row shows a session for user 'Globitel' from IP '10.10.40.58' connected via 'mPL Unencrypted'.

Session ID	User	Application	IP and Identifier	Connection Type	# of Associated Devices
3365C58EAD3E441E 85E38F86960CAF132	Globitel	AVAYA#CM72VHRG#CSTA44E20VHRG	10.10.40.58	mPL Unencrypted	2
1E04807A051F89273 73D5FF62F02F720-146	ip:7000@ devconnect.local	AAOC	10.10.40.28:10.10.40.58	TR-87 Encrypted	1
2E5A8479C4A678E13 6C8D4E643E3F811-123	ip:7001@ devconnect.local	AAOC	10.10.40.28:10.10.40.58	TR-87 Encrypted	1
8F4591C0D3E43D918 A8DCDC15E4778C-148	ip:700@ devconnect.local	AAOC	10.10.40.58:10.10.40.58	TR-87 Encrypted	1
578700118C47718EE 8E2ACE2D191795D-154	ip:700@ devconnect.local	AAOC	10.10.40.58:10.10.40.58	TR-87 Encrypted	1

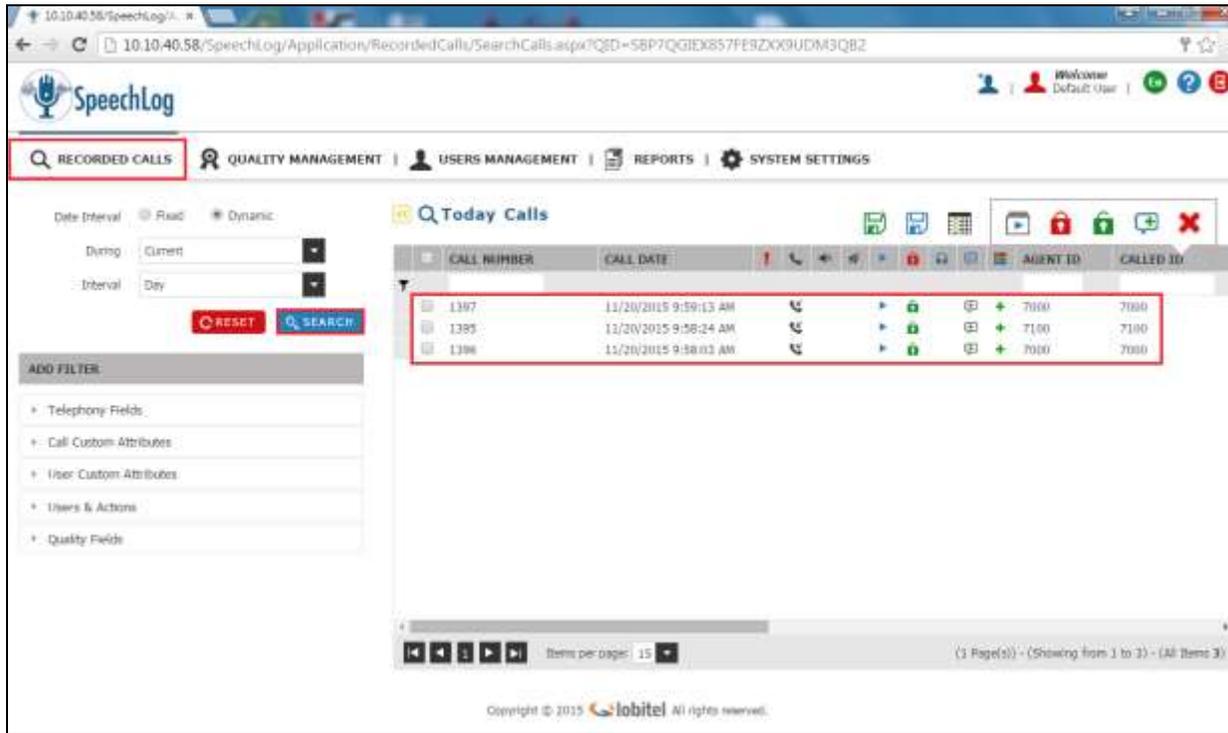
### 8.4. Verify calls are being recorded

From any of the monitored Avaya endpoints make a series of inbound and outbound calls. Once these calls are completed they should be available for playback through a web browser to the SpeechLog server.

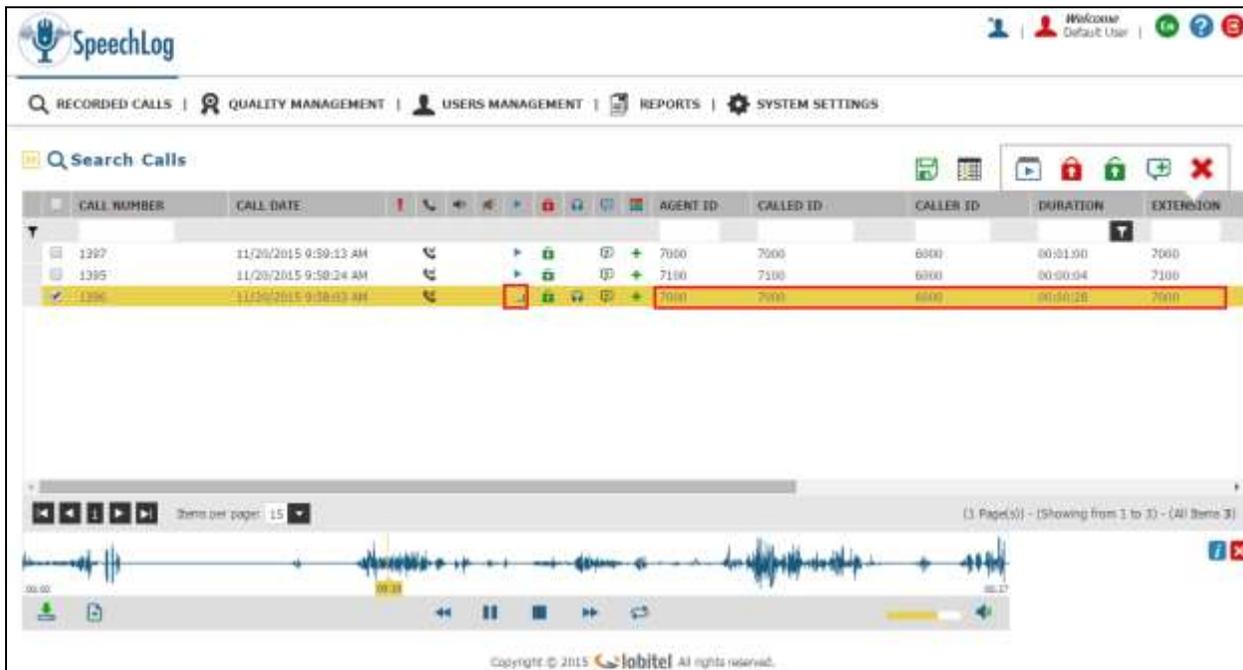
Open a browser session to the SpeechLog server as is shown below. Enter the proper credentials and click on **Sign in**.

The screenshot shows a web browser window with the URL '10.10.40.58/SpeechLog'. The page displays the SpeechLog logo and a login form with fields for 'admin' and '\*\*\*\*', and a 'Sign in' button. The footer indicates 'Copyright © 2015 Globitel All rights reserved.'

A list of calls should now be available for playback. If not a simply **Search** for calls on the day of recording should produce a list like the one shown below.



Click on the play icon of the call that is to be played back. This call should then be played back as shown below and should be audible through any speakers or headphones.



## 9. Conclusion

These Application Notes describe the configuration steps required for Globitel SpeechLog Voice Recorder to successfully interoperate with Avaya Aura® Communication Manager R7.0 using Avaya Aura® Application Enablement Services R7.0 to connect to using DMCC Service Observe to record calls. All feature functionality and serviceability test cases were completed successfully with some issues and observations noted in **Section 2.2**.

## 10. Additional References

This section references the Avaya and Globitel product documentation that are relevant to these Application Notes.

Product documentation for Avaya products may be found at <http://support.avaya.com>.

- [1] *Administering Avaya Aura® Communication Manager*, Document ID 03-300509
- [2] *Avaya Aura® Communication Manager Feature Description and Implementation*, Document ID 555-245-205
- [3] *Avaya Aura® Application Enablement Services Administration and Maintenance Guide Release 7.0*

Technical support can be obtained for Globitel SpeechLog Voice Recorder at:

Globitel  
Khalda, Amman, Jordan.  
[support@globitel.com](mailto:support@globitel.com)  
Hotline: +962 (7) 97315050  
Phone: +962 (6) 5300 130  
Fax: +962 (6) 5300 144  
P.O. Box 1786 Amman 11821 Jordan

# Appendix

## Avaya 9608 H.323 Deskphone

This is a printout of the Avaya 9608 H.323 deskphone used during compliance testing.

```
display station 7000                                     Page 1 of 5
                                                    STATION
Extension: 7000                                         Lock Messages? n          BCC: 0
  Type: 9608                                           Security Code: *         TN: 1
  Port: S00000                                         Coverage Path 1: 1      COR: 1
  Name: Ext7000                                        Coverage Path 2:        COS: 1
                                                    Hunt-to Station:        Tests? y

STATION OPTIONS
    Loss Group: 19                                     Time of Day Lock Table:
    Speakerphone: 2-way                               Personalized Ringing Pattern: 1
    Display Language: english                         Message Lamp Ext: 7000
Survivable GK Node Name:                               Mute Button Enabled? y
  Survivable COR: internal                             Button Modules: 0
  Survivable Trunk Dest? y                             Media Complex Ext:
                                                    IP SoftPhone? y
                                                    IP Video Softphone? n
Short/Prefixed Registration Allowed: yes
                                                    Customizable Labels? y
```

```
display station 7000                                     Page 2 of 5
                                                    STATION
FEATURE OPTIONS
  LWC Reception: spe                                  Auto Select Any Idle Appearance? n
  LWC Activation? y                                  Coverage Msg Retrieval? y
  LWC Log External Calls? n                          Auto Answer: none
  CDR Privacy? n                                     Data Restriction? n
  Redirect Notification? y                           Idle Appearance Preference? n
  Per Button Ring Control? n                         Bridged Idle Line Preference? n
  Bridged Call Alerting? n                           Restrict Last Appearance? y
  Active Station Ringing: single
                                                    EMU Login Allowed? n
  H.320 Conversion? n                               Per Station CPN - Send Calling Number?
  Service Link Mode: as-needed                       EC500 State: enabled
  Multimedia Mode: enhanced                           Audible Message Waiting? n
  MWI Served User Type: sip-adjunct                  Display Client Redirection? n
                                                    Select Last Used Appearance? n
                                                    Coverage After Forwarding? s
                                                    Multimedia Early Answer? n
Remote Softphone Emergency Calls: as-on-local Direct IP-IP Audio Connections? y
  Emergency Location Ext: 7000                       Always Use? n IP Audio Hairpinning? n
```

```

display station 7000                                     Page 3 of 5
                                     STATION
      Conf/Trans on Primary Appearance? n
      Bridged Appearance Origination Restriction? n      Offline Call Logging? y
      Require Mutual Authentication if TLS? n

      Call Appearance Display Format: disp-param-default
      IP Phone Group ID:
      Enhanced Callr-Info Display for 1-Line Phones? n

      ENHANCED CALL FORWARDING
      Forwarded Destination      Active
Unconditional For Internal Calls To: 7101              n
      External Calls To: 7101              n
      Busy For Internal Calls To:              n
      External Calls To:              n
      No Reply For Internal Calls To:          n
      External Calls To:              n

      SAC/CF Override: n

```

```

display station 7000                                     Page 4 of 5
                                     STATION
      SITE DATA
      Room:              Headset? n
      Jack:              Speaker? n
      Cable:             Mounting: d
      Floor:             Cord Length: 0
      Building:          Set Color:

      ABBREVIATED DIALING
      List1:              List2:              List3:

      BUTTON ASSIGNMENTS
      1: call-appr      5: call-park
      2: call-appr      6:
      3: call-appr      7:
      4: extnd-call     8:

      voice-mail

```

## Avaya Virtual softphone

This is a printout of the Avaya virtual extension used during compliance testing.

```
display station 58900                                     Page 1 of 6
                                                         STATION
Extension: 58900                                         Lock Messages? n          BCC: 0
Type: 4624                                               Security Code: *         TN: 1
Port: S00026                                             Coverage Path 1:        COR: 1
Name: Recorder1                                         Coverage Path 2:        COS: 1
                                                         Hunt-to Station:        Tests? y

STATION OPTIONS
Loss Group: 19                                           Time of Day Lock Table:
                                                         Personalized Ringing Pattern: 1
                                                         Message Lamp Ext: 58900
Speakerphone: 2-way                                     Mute Button Enabled? y
Display Language: english
Survivable GK Node Name:
Survivable COR: internal                               Media Complex Ext:
Survivable Trunk Dest? y                               IP SoftPhone? y

                                                         IP Video Softphone? n
                                                         Short/Prefixed Registration Allowed: default
```

```
display station 58900                                     Page 2 of 6
                                                         STATION
FEATURE OPTIONS
LWC Reception: spe                                     Auto Select Any Idle Appearance? n
LWC Activation? y                                       Coverage Msg Retrieval? y
LWC Log External Calls? n                               Auto Answer: none
CDR Privacy? n                                         Data Restriction? n
Redirect Notification? y                               Idle Appearance Preference? n
Per Button Ring Control? n                             Bridged Idle Line Preference? n
Bridged Call Alerting? n                               Restrict Last Appearance? y
Active Station Ringing: single

H.320 Conversion? n                                   Per Station CPN - Send Calling Number?
Service Link Mode: as-needed                           EC500 State: enabled
Multimedia Mode: enhanced                             Audible Message Waiting? n
MWI Served User Type:                                 Display Client Redirection? n
AUDIX Name:                                           Select Last Used Appearance? n
                                                         Coverage After Forwarding? s
                                                         Multimedia Early Answer? n
Remote Softphone Emergency Calls: as-on-local Direct IP-IP Audio Connections? y
Emergency Location Ext: 58900                         Always Use? n IP Audio Hairpinning? n
```

```

display station 58900                                     Page 3 of 6
                                     STATION
                                     Conf/Trans on Primary Appearance? n
                                     Bridged Appearance Origination Restriction? n   Offline Call Logging? y

Enhanced Callr-Info Display for 1-Line Phones? n

                                     ENHANCED CALL FORWARDING
                                     Forwarded Destination           Active
Unconditional For Internal Calls To:                n
                                     External Calls To:                n
      Busy For Internal Calls To:                    n
                                     External Calls To:                n
      No Reply For Internal Calls To:                n
                                     External Calls To:                n

      SAC/CF Override: n

```

```

display station 58900                                     Page 4 of 6
                                     STATION

SITE DATA
  Room:                                     Headset? n
  Jack:                                     Speaker? n
  Cable:                                    Mounting: d
  Floor:                                    Cord Length: 0
  Building:                                 Set Color:

ABBREVIATED DIALING
  List1:                                     List2:                                     List3:

BUTTON ASSIGNMENTS
  1: call-appr                               7:
  2: call-appr                               8:
  3: call-appr                               9:
  4:                                         10:
  5:                                         11:
  6:                                         12:

```

display station 58900

Page 5 of 6

STATION

FEATURE BUTTON ASSIGNMENTS

13:	19:
14:	20:
15:	21:
16:	22:
17:	23:
18:	24:

display station 58900

Page 6 of 6

STATION

SOFTKEY BUTTON ASSIGNMENTS

- 1: directory
- 2: drop
- 3: int-aut-an
- 4: timer
- 5: priority
- 6: auto-cback
- 7: abr-prog
- 8: abr-spchar Char: ~p
- 9: lwc-store
- 10: ringer-off
- 11: btn-view
- 12: admin

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