



## **Application Notes to Integrate Avaya Contact Recorder 12.0 with Avaya Proactive Outreach Manager 3.0 using Avaya Aura® Application Enablement Services 6.3 – Issue 1.1**

### **Abstract**

These Application Notes describe the configuration steps required for Avaya Contact Recorder 12.0 to successfully integrate with Avaya Proactive Outreach Manager 3.0 using Computer Telephony Integration and Avaya Aura® Application Enablement Services 6.3. Avaya Contact Recorder is a call recording solution capable of capturing audio from Avaya Aura® Communication Manager. Avaya Proactive Outreach Manager integrates with Avaya Contact Recorder using a switch side recording approach and records calls to meet compliance needs and for bulk recordings.

Information in these Application Notes has been obtained through interoperability test conducted at the Avaya Solution and Interoperability Test Lab.

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# 1 Introduction

These Application Notes describe the configuration steps required for Avaya Contact Recorder 12.0 to successfully integrate with Avaya Proactive Outreach Manager 3.0 using Computer Telephony Integration and Avaya Aura® Application Enablement Services. Avaya Contact Recorder is a component of the Avaya Aura® Workforce Optimization solution. It provides call recording functions and is capable of capturing audio from Avaya Aura® Communication Manager.

Call recording is an integral feature of any outbound offering and is a critical feature to have as Avaya Proactive Outreach Manager 3.0 supports agent based campaigns. To meet this requirement Avaya Proactive Outreach Manager integrates with Avaya Contact Recorder for call recording capabilities. Avaya Proactive Outreach Manager integrates with Avaya Contact Recorder using a switch side recording approach and records calls to meet compliance needs and for bulk recordings. While integrating and extending the recording capabilities, Avaya Contact Recorder controls the way the calls are recorded. The recordings are driven by Avaya Contact Recorder, and Avaya Proactive Outreach Manager does not drive the recordings. Avaya Proactive Outreach Manager integrates with Avaya Contact Recorder with the help of socket-based messages sent from Avaya Proactive Outreach Manager to Avaya Contact Recorder.

In the test configuration agents are configured to support both outbound calls and inbound calls in a Preview Agent Blending environment. Based upon the load of inbound calls Avaya Proactive Outreach Manager acquires agents to handle outbound calls and releases agents for handling inbound calls on a continuous basis. Both outbound calls and inbound calls directed to the agent stations are recorded by Avaya Contact Recorder.

To implement the call recording solution, a number of Device, Media and Call Control (DMCC) virtual IP softphones are configured within Avaya Contact Recorder. At the time when Avaya Contact Recorder is launched, Avaya Contact Recorder registers the virtual IP softphones with Avaya Aura® Communication Manager. When outbound calls are received by those target stations, Avaya Contact Recorder will receive Avaya Proactive Outreach Manager events and TSAPI events to trigger recording of the calls. It will send a Single Step Conference request via TSAPI to conference in one of its virtual IP softphones for capturing the media. When inbound calls are received by the target stations, Avaya Contact Recorder will use TSAPI events to trigger the Single Step Conference request for capturing the media.

## 2 Interoperability Testing

The interoperability test included feature and serviceability testing.

### 2.1 Test Description and Coverage

The feature testing focused on verifying the following on Avaya Contact Recorder:

- Handling of real-time agent states and call events from Avaya Proactive Outreach Manager
- Use of Application Enablement Services DMCC registration services to register and un-register the virtual IP softphones
- Use of Single Step Conference to connect virtual IP softphones to calls participated by target stations
- Use of Application Enablement Services DMCC monitoring services and media control events to obtain the media from the virtual IP softphones
- Proper recording, logging, and playback of calls for scenarios involving inbound, outbound, agent drop, customer drop, hold, reconnect, transfer, conference, simultaneous calls, agent blending, and managed jobs

The serviceability testing focused on verifying the ability of Avaya Contact Recorder to recover from adverse conditions, such as network outage and server reboot.

Feature and serviceability test cases were executed manually. During the test, outbound calls were placed by Avaya Proactive Outreach Manager and routed to an available agent. The agent accepted the call and the conversation between the customer and the agent was recorded. The recordings were reviewed using Avaya Contact Recorder Replay function. Inbound calls were placed manually to an Automatic Call Distribution (ACD) queue during the test. The agent was released by Avaya Proactive Outreach Manager to handle the inbound call which was also recorded by Avaya Contact Recorder.

An important focus of the test was to make sure that calls were recorded from the beginning to the end. In addition, for calls that have multiple segments (e.g. transfer and conference calls) attention was paid on whether all the segments were recorded. Because the Avaya Proactive Outreach Manager SynTelate Agent Desktop provides in-built hold, transfer, conference and consult capabilities.

## 2.2 Test Results and Observations

All the following scenarios were tested successfully with Avaya Proactive Outreach Manager 3.0 and Avaya Contact Recorder 12.0

- Audio and Screen Recordings for Outbound jobs
- Audio and Screen Recordings for hold, transfer, consult and conferences with other outbound and inbound agents
- Data associated with outbound jobs for recording to be aligned with Avaya Proactive Outreach Manager reports
- Audio and Screen Recording for blended agents handling inbound and outbound jobs

Failover and Negative scenarios were carried out in order to verify the functionality under rainy day conditions as mentioned below. Few issues observed related to Avaya Contact Recorder 12.0

- Impact of Avaya Contact Recorder/Avaya Proactive Outreach Manager restart on call recording of the ongoing and subsequent outbound jobs
- Impact of AES restart on call recording of the ongoing and subsequent outbound jobs
- Impact of Avaya Proactive Outreach Manager failover to Aux Avaya Proactive Outreach Manager on the call recordings of outbound jobs

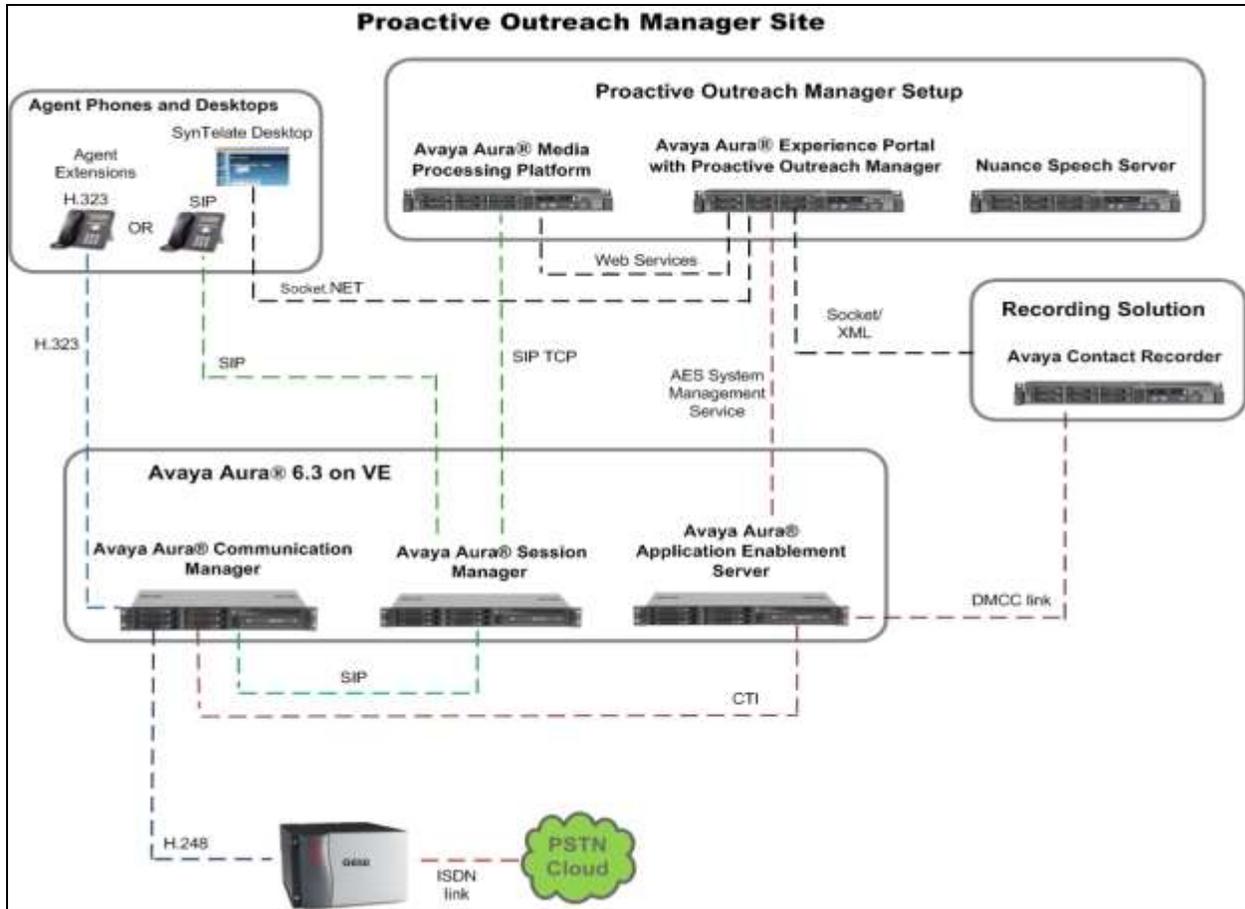
Limitations:

- Outbound Agent's ID and parties (the caller and called station details along with DMCC stations) are not associated with the call recordings in case of hold, transfer and conference call scenarios
- If multiple Avaya Proactive Outreach Manager Servers are integrated with Avaya Contact Recorder then in case of failovers, Avaya Proactive Outreach Manager needs to be restarted manually in order to have job information associated with outbound call recordings
- For Avaya Proactive Outreach Manager SynTelate agent desktops installed on Windows XP, registry entry for screen capture module (CaptureLayeredWindows to be set to 1) needs to be modified to have all the portions of screen to be captured properly

### 3 Reference Configuration

Avaya Contact Recorder is a software only solution and runs on an industry standard server. It uses a web browser for administration and recording review and playback.

The administration of basic connectivity among Communication Manager, Avaya Proactive Outreach Manager, and Application Enablement Services is not the focus of these Application Notes, and will not be described. In addition, it is assumed that the administration of contact center entities (e.g. agents, skills, vectors, and VDN's) is already in place.



**Figure 1: Avaya Proactive Outreach Manager with Avaya Contact Recorder and Avaya Aura® Application Enablement Services**

## 4 Equipment and Software Validated

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

| Equipment/Software                                       | Release/Version   |
|--|---|
| VMWare ESXi 5.0.1 with vCenter 5.1 OVA                   | Avaya Aura® System Manager 6.3 (Build No 6.3.3.5.1829)                |
|  | Avaya Aura® Session Manager 6.3.2.0.632023                            |
|  | Avaya Aura® Communication Manager (Evolution Server) R016x.03.0.124.0 |
|  | Avaya Aura® Application Enablement Services R6.3.0.0.212-0            |
| Avaya Contact Recorder                                   | 12.0  |
| Avaya Aura® Experience Portal                            | 7.0   |
| Avaya Proactive Outreach Manager                         | 3.0   |
| Avaya Proactive Outreach Manager SynTelate Agent Desktop | 4.4.0   |
| Avaya 96x1 Series H.323 IP Deskphones                    | 6.3   |
| Avaya 96x1 Series SIP IP Deskphones                      | 6.3   |

## 5 Configure Avaya Aura® Communication Manager

This section provides the procedures for configuring Communication Manager as follows:

- Verify Avaya Aura® Communication Manager License
- Administer CTI link for TSAPI
- Administer System Parameters Features
- Administer Class of Restriction
- Administer Agent Stations
- Administer Codec Set
- Administer Network Region
- Administer Virtual IP Softphones
- Assign Virtual IP Softphones to Network Region

### 5.1 Verify Avaya Aura® Communication Manager License

Log in to the System Access Terminal (SAT) to verify that the Communication Manager license has proper permissions for features illustrated in these Application Notes. Use the **display system-parameters customer-options** command to verify that the **Computer Telephony Adjunct Links** customer option is set to **y** on **Page 3**.

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

Abbreviated Dialing Enhanced List? y                               Audible Message Waiting? y
Access Security Gateway (ASG)? y                                   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? y                                 DCS Call Coverage? y
    ASAI Link Plus Capabilities? y                                 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
```

Navigate to **Page 4**. Verify that the **Enhanced Conferencing** customer option is set to **y** on **Page 4**.

```

display system-parameters customer-options                               Page 4 of 11
                                OPTIONAL FEATURES

Emergency Access to Attendant? y                                       IP Stations? y
  Enable 'dadmin' Login? y
  Enhanced Conferencing? y                                           ISDN Feature Plus? n
    Enhanced EC500? y                                                  ISDN/SIP Network Call Redirection? y
Enterprise Survivable Server? n                                         ISDN-BRI Trunks? y
  Enterprise Wide Licensing? n                                         ISDN-PRI? y
    ESS Administration? y                                             Local Survivable Processor? n
  Extended Cvg/Fwd Admin? y                                           Malicious Call Trace? y
  External Device Alarm Admin? y                                       Media Encryption Over IP? y
  Five Port Networks Max Per MCC? n                                     Mode Code for Centralized Voice Mail? n
    Flexible Billing? n
  Forced Entry of Account Codes? y                                       Multifrequency Signaling? y
  Global Call Classification? y                                         Multimedia Call Handling (Basic)? y
    Hospitality (Basic)? y                                             Multimedia Call Handling (Enhanced)? y
  Hospitality (G3V3 Enhancements)? y                                   Multimedia IP SIP Trunking? y
    IP Trunks? y

IP Attendant Consoles? y
  
```

If any option specified in this section does not have a proper value, contact the Avaya sales team or business partner for a proper license file.

## 5.2 Administer CTI Link for TSAPI

Add a CTI link 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.

```

add cti-link 1                                                         Page 1 of 3
                                CTI LINK
CTI Link: 26
Extension: 301-1000
  Type: ADJ-IP
                                COR: 1
  Name: EMCAES
  
```

### 5.3 Administer System Parameters Features

Use the **change system-parameters features** command to enable **Create Universal Call ID (UCID)** and enter an available node ID in the **UCID Network ID** field on **Page 5**. This node ID will be prepended to all the UCID's generated by Communication Manager.

```
change system-parameters features                               Page 5 of 20
                        FEATURE-RELATED SYSTEM PARAMETERS

SYSTEM PRINTER PARAMETERS
  Endpoint:                               Lines Per Page: 60

SYSTEM-WIDE PARAMETERS
                        Switch Name:
  Emergency Extension Forwarding (min): 10
  Enable Inter-Gateway Alternate Routing? y IGAR Over IP Trunks: skip
  Enable Dial Plan Transparency in Survivable Mode? y
                        COR to Use for DPT: station
                        EC500 Routing in Survivable Mode: dpt-then-ec500
MALICIOUS CALL TRACE PARAMETERS
  Apply MCT Warning Tone? n MCT Voice Recorder Trunk Group:
  Delay Sending Release (seconds): 0
SEND ALL CALLS OPTIONS
  Send All Calls Applies to: station Auto Inspect on Send All Calls? n
  Preserve previous AUX Work button states after deactivation? n
UNIVERSAL CALL ID
  Create Universal Call ID (UCID)? y UCID Network Node ID: 1
```

Navigate to **Page 13**, and enable **Send UCID to ASAI**. This parameter allows for the universal call ID to be sent to Avaya Contact Recorder.

```
change system-parameters features                               Page 13 of 20
                        FEATURE-RELATED SYSTEM PARAMETERS

CALL CENTER MISCELLANEOUS
  Callr-info Display Timer (sec): 10
                        Clear Callr-info: next-call
  Allow Ringer-off with Auto-Answer? n

  Reporting for PC Non-Predictive Calls? n

                        Agent/Caller Disconnect Tones? n
  Interruptible Aux Notification Timer (sec): 3
                        Zip Tone Burst for Callmaster Endpoints: double

ASAI
  Copy ASAI UII During Conference/Transfer? y
  Call Classification After Answer Supervision? y
                        Send UCID to ASAI? y
  For ASAI Send DTMF Tone to Call Originator? y
  Send Connect Event to ASAI For Announcement Answer? y
```

## 5.4 Administer Class of Restriction

Use the **change cor n** command, where **n** is the class of restriction (COR) number to be assigned to the target stations and virtual IP softphones. Set the **Calling Party Restriction** field to **none**, as shown below.

```

change 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: none
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: none                   Facility Access Trunk Test? n
Restricted Call List? n                      Can Change Coverage? n

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? n
Can Use Directed Call Pickup? n
Group Controlled Restriction: inactive
  
```

## 5.5 Administer Agent Stations

Modify each physical station used by the Avaya Proactive Outreach Manager agents to allow the station to be involved in an outbound call by using the COR defined in **Section 5.4**. Use the **change station n** command, where **n** is the station extension, to change the **COR** field to **1**. Make sure that the **Name** field is populated with the name of the station; otherwise Avaya Contact Recorder will report an error and no recording will be done.

```

change station 3011441                           Page 1 of 5
                                     STATION
Extension: 301-1441                           Lock Messages? n                BCC: 0
Type: 9641                                    Security Code: 123456           TN: 1
Port: S00001                                  Coverage Path 1:                COR: 1
Name: Station 3011441                       Coverage Path 2:                COS: 1
Hunt-to Station:                              Tests? y

STATION OPTIONS
Location:                                     Time of Day Lock Table:
Loss Group: 19                               Personalized Ringing Pattern: 1
                                           Message Lamp Ext: 301-1441
Speakerphone: 2-way                          Mute Button Enabled? y
Display Language: english                     Button Modules: 0
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
Customizable Labels? y
  
```

## 5.6 Administer Codec Set

Enter the **change ip-codec-set n** command where **n** is the codec set for the virtual IP softphones. Enter **G.711MU** and **G.729A** to the **Audio Codec** field and **6** to the **Frames Per Pkt** field. The entry of **G.729A** is needed because Avaya Contact Recorder uses **G.729A** recording format in the test configuration (see **Section 8.3**). Retain the values of other fields.

```
change ip-codec-set 1                                     Page 1 of 2

                               IP Codec Set

Codec Set: 1

Audio          Silence      Frames   Packet
Codec          Suppression  Per Pkt  Size(ms)
1: G.729A      n                6        20
2: G.711MU    n                6        20
3: G.711A      n                6        20
4:
5:
6:
7:

Media Encryption
1: none
2:
3:
```

## 5.7 Administer Network Region

Enter the **change ip-network-region n** command where **n** is the network region the virtual IP softphones will belong to. Set the **Codec Set** field to the codec set value administered in **Section 5.6**.

```
change ip-network-region 1                               Page 1 of 20

                               IP NETWORK REGION

Region: 1
Location: 1      Authoritative Domain: sol002.fst.silpunelab.com
Name: CM1A      Stub Network Region: n
MEDIA PARAMETERS      Intra-region IP-IP Direct Audio: yes
Codec Set: 1      Inter-region IP-IP Direct Audio: yes
                    IP Audio Hairpinning? n
UDP Port Min: 2048
UDP Port Max: 3329
DIFFSERV/TOS PARAMETERS
Call Control PHB Value: 46
Audio PHB Value: 46
Video PHB Value: 26
802.1P/Q PARAMETERS
Call Control 802.1p Priority: 6
Audio 802.1p Priority: 6
Video 802.1p Priority: 5      AUDIO RESOURCE RESERVATION PARAMETERS
H.323 IP ENDPOINTS      RSVP Enabled? n
H.323 Link Bounce Recovery? y
Idle Traffic Interval (sec): 20
Keep-Alive Interval (sec): 5
Keep-Alive Count: 5
```

## 5.8 Administer Virtual IP Softphones

Virtual IP Softphones are used by Avaya Contact Recorder to conference into calls involving target stations and to capture media. Add a virtual IP softphone using the **add station n** command, where **n** is an available extension number. Enter the following values for the specified fields, and retain the default values for the remaining fields.

- **Type:** Set as **4624**
- **Name:** Enter a descriptive name
- **Security Code:** Enter a desired value
- **COR** Set as **1** which is defined in **Section 5.4**
- **IP SoftPhone:** **y**

```
add station 3011450                                     Page 1 of 6
                                                    STATION
Extension: 301-1450                                     Lock Messages? n          BCC: 0
  Type: 4624                                           Security Code: 123456    TN: 1
  Port: S00009                                         Coverage Path 1:         COR: 1
  Name: Avaya Contact Recorder Test 1                 Coverage Path 2:
COS: 1
                                                    Hunt-to Station:         Tests? y
STATION OPTIONS
  Location:                                           Time of Day Lock Table:
  Loss Group: 19                                     Personalized Ringing Pattern: 1
                                                    Message Lamp Ext: 301-1450
  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
```

Navigate to **Page 4**. Enter button type **conf-dsp** to the Button 4 field. Empty the value in the Button 3 field.

```

change station 3011450                                     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:                                               9:
4: conf-dsp                                     10:
5:                                               11:
6:                                               12:

```

Repeat this section to administer the desired number of virtual IP softphones, using sequential extension numbers and the same security code for all virtual IP softphones.

```

list station 3011450 count 5
                                     STATIONS
Ext/      Port/      Name/      Room/      Cv1/  COR/      Cable/
 Hunt-to   Type        Surv GK NN   Move      Data Ext   Cv2  COS TN Jack
301-1450   S00009      Avaya Contact Recorder Test 1
1          4624                no                1  1
301-1451   S00012      Avaya Contact Recorder Test 2
1          4624                no                1  1
301-1452   S00015      Avaya Contact Recorder Test 3
1          4624                no                1  1
301-1453   S00018      Avaya Contact Recorder Test 4
1          4624                no                1  1
301-1454   S00021      Avaya Contact Recorder Test 5
1          4624                no                1  1

```

## 5.9 Assign Virtual IP Softphones to Network Region

Use the **change ip-network-map** command to add the IP address of the Application Enablement Services server to network region **1** administered in **Section 5.7**. As all the virtual IP softphones register through the Application Enablement Services server, they will automatically be assigned to that network region.

| change ip-network-map |   | IP ADDRESS MAPPING |                |      | Page 1 of 63       |     |
|-----------------------|---|--------------------|----------------|------|--------------------|-----|
| IP Address            |   | Subnet Bits        | Network Region | VLAN | Emergency Location | Ext |
| -----                 |   |                    |                |      |                    |     |
| FROM: x.x.x.x         | / | 1                  | 1              |      |                    |     |
| TO: x.x.x.x           |   |                    |                |      |                    |     |

Configuration of Communication Manager is complete. Use the **save translation** command to save these changes.

## 6 Configure Avaya Aura® Application Enablement Services

This section provides the procedures for configuring Application Enablement Services as follows:

- Launch Avaya Aura® Application Enablement Services Console
- Verify DMCC and TSAPI Licenses
- Administer TSAPI Link
- Obtain Tlink Name
- Obtain H.323 Gatekeeper IP Address
- Disable Security Database
- Restart TSAPI service
- Administer Avaya Contact Recorder User for DMCC
- Administer Avaya Contact Recorder User for TSAPI

### 6.1 Launch Avaya Aura® Application Enablement Services Console

Access Application Enablement Services web-based interface by using the URL **http://<ip-address>** in an Internet browser window, where **ip-address** is the IP address of the Application Enablement Services server.

The **Welcome to Avaya Application Enablement Services** screen is displayed (not shown). Click **Continue to Login**. Log in using the appropriate credentials in **Please login here:** screen.



The screenshot shows the Avaya Application Enablement Services Management Console login interface. At the top left is the AVAYA logo. The title is "Application Enablement Services Management Console". A central login box contains the text "Please login here:" followed by "Username" and "Password" labels, each with a corresponding input field, and a "Login" button below them. The footer contains the copyright notice: "© Copyright © 2009-2012 Avaya Inc. All Rights Reserved."

The **Welcome to OAM** screen is displayed.

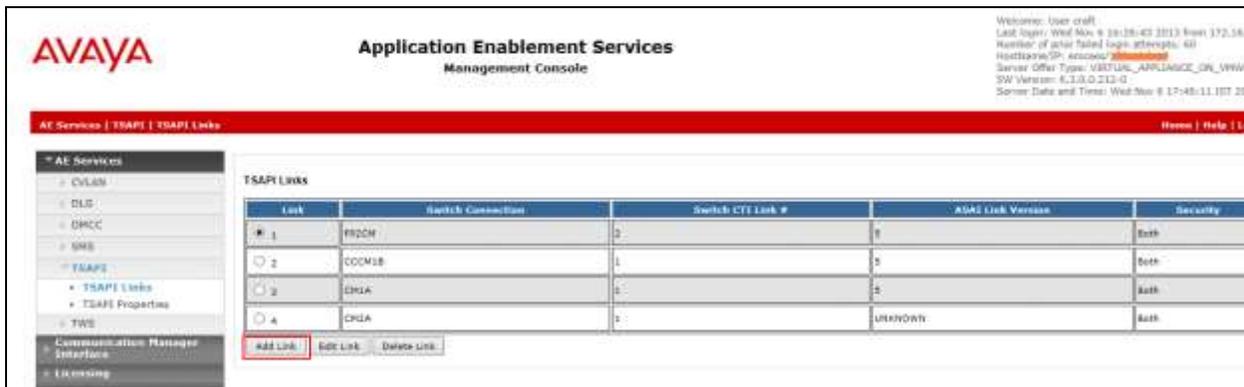


## 6.2 Verify DMCC and TSAPI Licenses

As an Avaya product Avaya Contact Recorder is always granted unrestricted access to the DMCC and TSAPI interfaces. No additional **Device Media and Call Control** and **TSAPI Simultaneous Users** licenses are required for DMCC and TSAPI access.

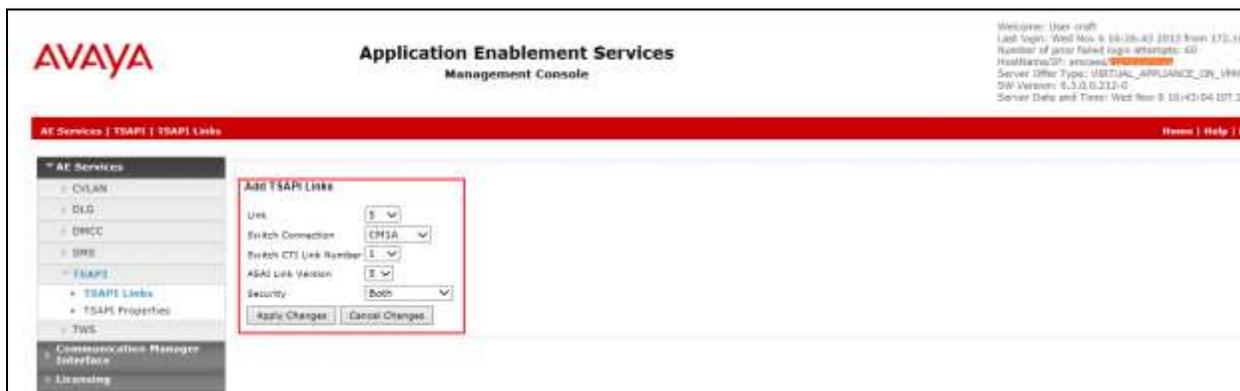
## 6.3 Administer TSAPI Link

To administer a TSAPI link, select **AE Services** → **TSAPI** → **TSAPI Links** from the left pane. The **TSAPI Links** screen is displayed, as shown below. Click **Add Link**. Note that the TSAPI link used for this test is CM1A which is already system configured. The screen below is for illustration purpose only.



The **Add TSAPI Links** screen is displayed next.

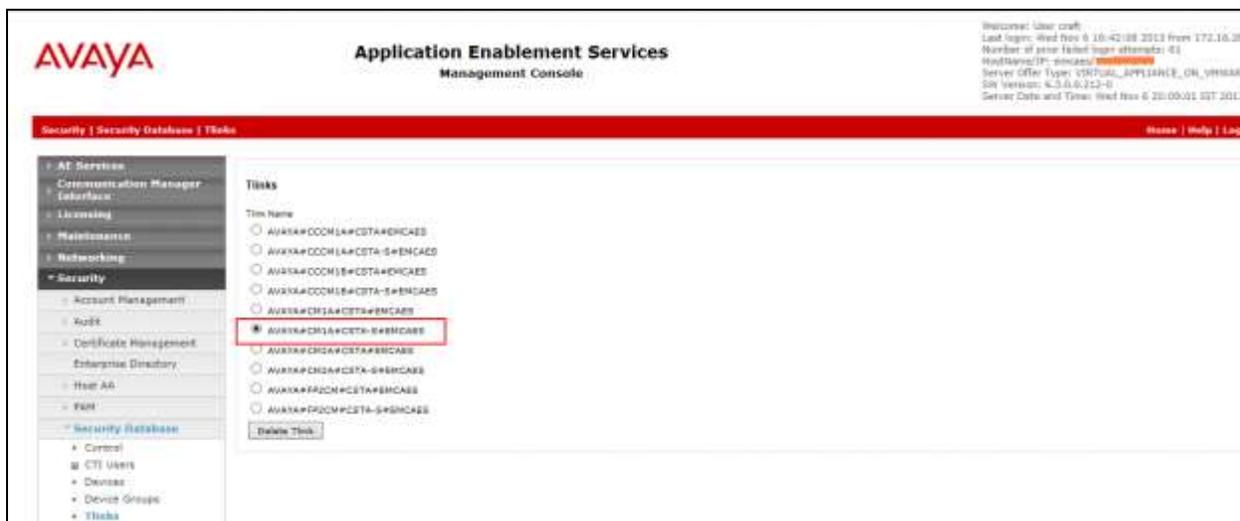
The **Link** field is only local to the Application Enablement Services server, and may be set to any available number. For **Switch Connection**, select the relevant switch connection from the drop-down list. In this case, the existing switch connection **CM1A** is selected. For **Switch CTI Link Number**, select the CTI link number configured in **Section 5.2**. Retain the default values in the remaining fields, and click **Apply Changes**. Note that the TSAPI link used for this test is Link 1 and is already configured. The screen below is for illustration purpose only.



## 6.4 Obtain Tlink Name

Select **Security** → **Security Database** → **Tlinks** from the left pane. The **Tlinks** screen shows a listing of the Tlink names. A new Tlink name is automatically generated for the TSAPI service. Locate the Tlink name associated with the relevant switch connection, which would use the name of the switch connection as part of the Tlink name. Make a note of the associated Tlink name, to be used later for configuring Avaya Contact Recorder.

In this case, the associated Tlink name is **AVAYA#CM1A#CSTA-S#EMCAES** where the switch connection **CM1A** from **Section 6.3** is used as part of the Tlink name.



## 6.5 Obtain H.323 Gatekeeper IP Address

Select **Communication Manager Interface** → **Switch Connections** from the left pane. The **Switch Connections** screen shows a listing of the existing switch connections.

Locate the Connection Name associated with the relevant Communication Manager, in this case **CC1A**, and select the corresponding radio button. Click **Edit PE/CLAN IPs**.

The screenshot shows the Avaya Application Enablement Services Management Console. The left navigation pane is expanded to 'Communication Manager Interface' > 'Switch Connections'. The main area displays a table of switch connections:

| Connection Name                       | Processor Enabled | Reg Period | Number of Active Connections |
|---------------------------------------|-------------------|------------|------------------------------|
| <input type="radio"/> CC1A            | Yes               | 30         | 1                            |
| <input checked="" type="radio"/> CM1A | Yes               | 30         | 1                            |
| <input type="radio"/> CM2A            | Yes               | 30         | 0                            |
| <input type="radio"/> PE2CN           | Yes               | 30         | 1                            |

Below the table, the 'Edit PE/CLAN IPs' button is highlighted with a red box. Other buttons include 'Add Connection', 'Edit H.323 Gatekeeper', 'Delete Connection', and 'Survivability Hierarchy'.

The **Edit PE/CLAN IPs** screen is displayed. Note the IP address as this value will be used later to configure Avaya Contact Recorder.

The screenshot shows the 'Edit Processor Ethernet IP - CM1A' screen. The main area displays a table with the following data:

| Name of IP Address | Status |
|--------------------|--------|
| 10.10.10.10        | In Use |

Buttons for 'Add/Edit Name or IP' and 'Back' are visible.

## 6.6 Disable Security Database

In the test configuration, the Security Database is disabled as follows:

Select **Security** → **Security Database** → **Control** from the left pane, to display the **SDB Control for DMCC, TSAPI, JTAPI and Telephony Web Services** screen in the right pane. Uncheck **Enable SDB for DMCC Service** field and **Enable SDB TSAPI Service, JTAPI and Telephony Service** field. Click **Apply Changes**.

In a customer environment, the customer will typically only allow selected users to access the AES services. The procedure for doing so is not described here.



## 6.7 Restart TSAPI Service

Select **Maintenance** → **Service Controller** from the left pane, to display the **Service Controller** screen in the right pane. Check the **TSAPI Service**, and click **Restart Service**.



## 6.8 Administer Avaya Contact Recorder User for DMCC

Select **User Management** → **User Admin** → **Add User** from the left pane, to display the **Add User** screen in the right pane.

Enter desired values for **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password**. For **CT User**, select **Yes** from the drop-down list. Retain the default value in the remaining fields. Click **Apply** at the bottom of the screen.

The screenshot shows the 'Add User' configuration screen. The left pane has a navigation menu with 'User Management' expanded to 'User Admin', where 'Add User' is selected. The main area contains the 'Add User' form. A red box highlights the password fields: 'User Password' and 'Confirm Password', both containing '\*\*\*\*\*'. Another red box highlights the 'CT User' dropdown menu, which is set to 'Yes'. The form also includes fields for 'User Id', 'Common Name', 'Surname', 'Admin Role' (set to 'None'), 'Business Category', 'Car License', 'Call Home', 'Call Name', 'Department Number', 'Display Name', 'Employee Number', 'Employee Type', 'Enterprise Handle', 'Given Name', 'Home Phone', 'Home Postal Address', 'Initials', 'Labeled URI', 'Mail', 'Mail Home', 'Mobile', 'Organization', 'Pager', 'Preferred Language' (set to 'English'), 'Room Number', and 'Telephone Number'. At the bottom are 'Apply' and 'Cancel' buttons.

## 6.9 Administer Avaya Contact Recorder User for TSAPI

Use the same procedure specified in **Section 6.8** to configure a user for TSAPI service access.

Although different users can be used by Avaya Contact Recorder to log in to the DMCC and TSAPI services, the same user also can be used to achieve the same result as done on this test effort.

## 7 Configure Avaya Proactive Outreach Manager

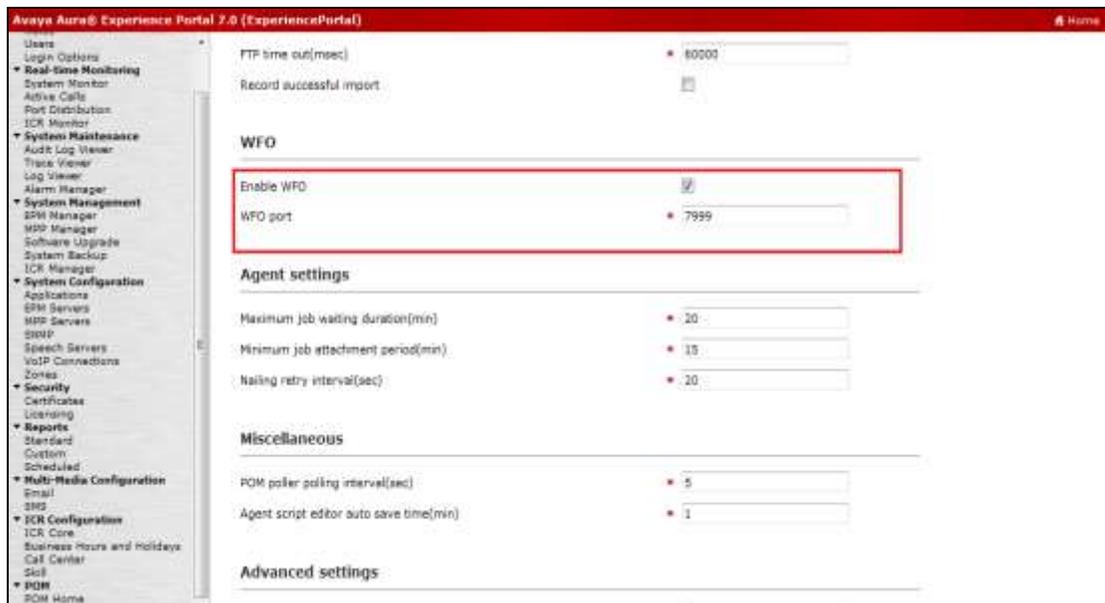
This section provides the procedure for configuring Avaya Proactive Outreach Manager so as to integrate with Avaya Contact Recorder.

### 7.1 Enable WFO Integration

Enable the Avaya Contact Recorder port on Avaya Proactive Outreach Manager server. From the Avaya Proactive Outreach Manager Home page, go to **Global Configurations** on the **Configurations** drop-down button.

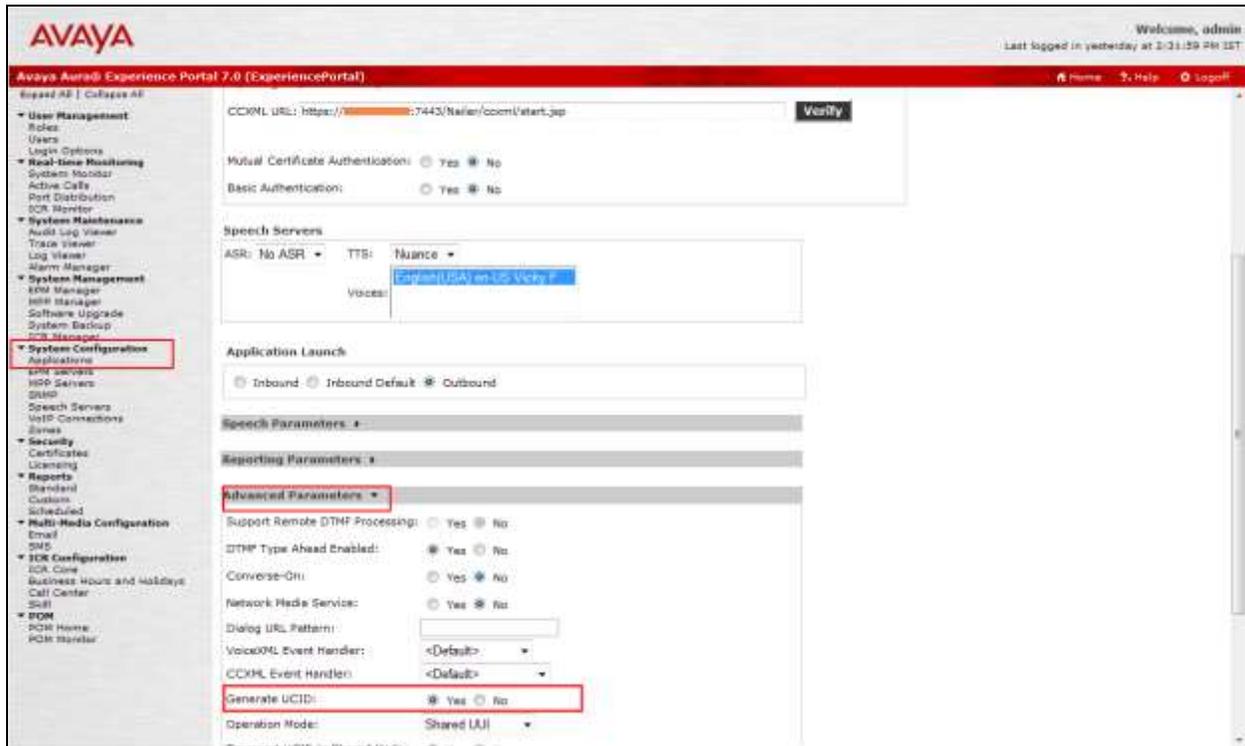


Scroll down to **WFO Field** and then click on **Enable WFO** check box as shown in screenshot below.



## 7.2 Configure Avaya Proactive Outreach Manager Applications

Go to System Configuration → Applications. Edit Avaya Proactive Outreach ManagerDriverApp and Nailer applications so as to enable Generate UCID under Advanced Parameters.



Once these changes are done, restart Avaya Proactive Outreach Manager service by logging into Avaya Proactive Outreach Manager server with root credentials and issuing the command: `/sbin/service Avaya Proactive Outreach Manager restart`.

## 8 Configure Avaya Contact Recorder

This section provides the procedures for configuring Avaya Contact Recorder as follows:

- Launch Avaya Contact Recorder
- Administer Recorder Information
- Administer Contact Center Information
- Administer Conferenced Mode
- Administer Avaya Proactive Outreach Manager Interface

### 8.1 Launch Avaya Aura® Contact Recorder

Launch a web browser, enter **http://<IP address of Avaya Contact Recorder>:8080** in the URL field. Log in using proper credentials.



The following screen is displayed.

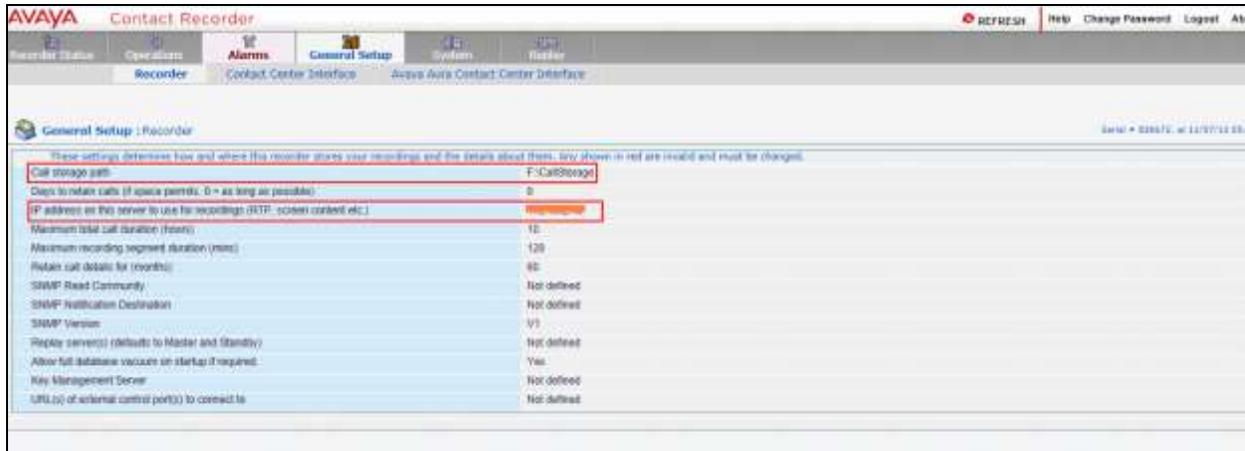


## 8.2 Administer Recorder Information

Navigate to **General Setup** → **Recorder** tab and set the following field:

**IP Address on this server to use for recordings (RTP, screen content etc.):** Enter IP address of Avaya Contact Recorder.

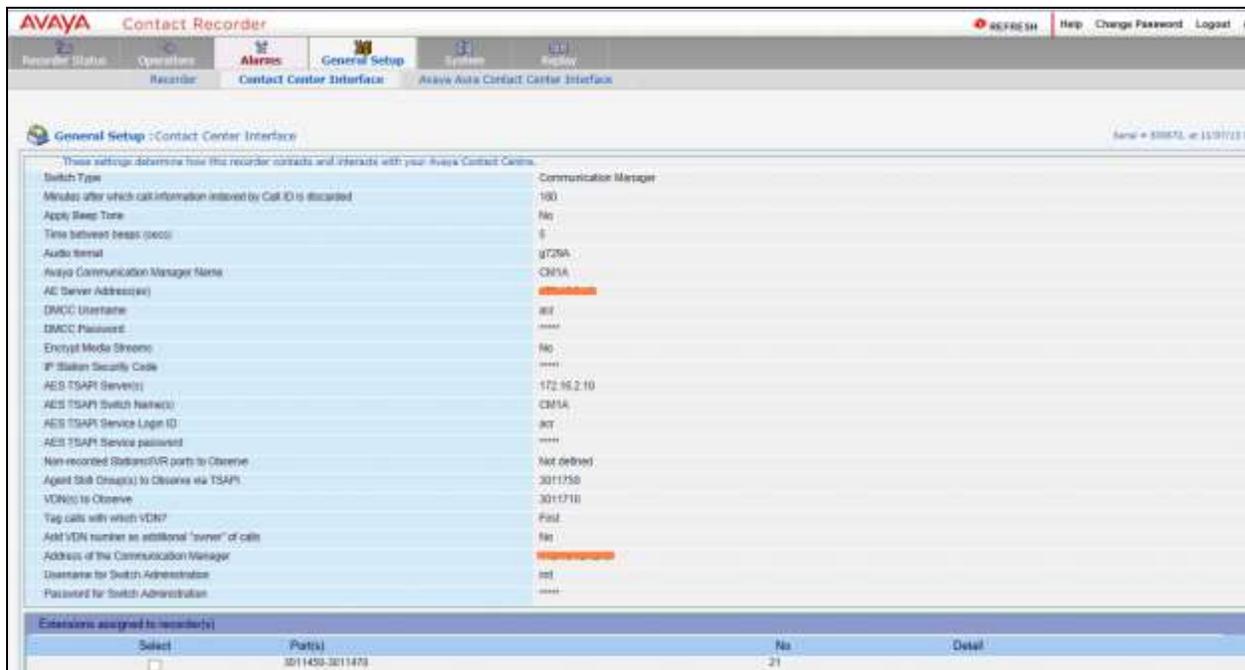
Specify the **Call Storage Path** by giving a location in Avaya Contact Recorder server for call storage, if Avaya Contact Recorder is configured on Windows OS.



### 8.3 Administer Contact Center Information

Navigate to **General Setup** → **Contact Center Interface** tab and set the following fields:

- **Switch Type:** Select **Communication Manager** from the dropdown list
- **Audio format:** Use default value **G.729A (8kbps)**
- **Avaya Communication Manager Name:** Enter **H.323 Gatekeeper IP** address obtained in **Section 6.4**
- **AE Server Address(es):** Enter IP address of the Avaya AES server
- **DMCC Username:** Enter **User Id** configured in **Section 6.8**
- **DMCC Password:** Enter **User Password** configured in **Section 6.8**
- **IP Station Security Code:** Enter **Security Code** configured in **Section 5.8**
- **AES TSAPI Server(s):** Enter IP address of the Avaya AES server
- **AES TSAPI Service Identifier(s):** Enter **Tlink Name** configured in **Section 6.3**
- **AES TSAPI Service Login ID:** Enter **User Id** configured in **Section 6.9**
- **AES TSAPI Service password:** Enter **User Password** configured in **Section 6.9**
- **Extensions assigned to recorder:** Use **Add Port(s)** to add the virtual IP softphone extensions configured in **Section 5.8**

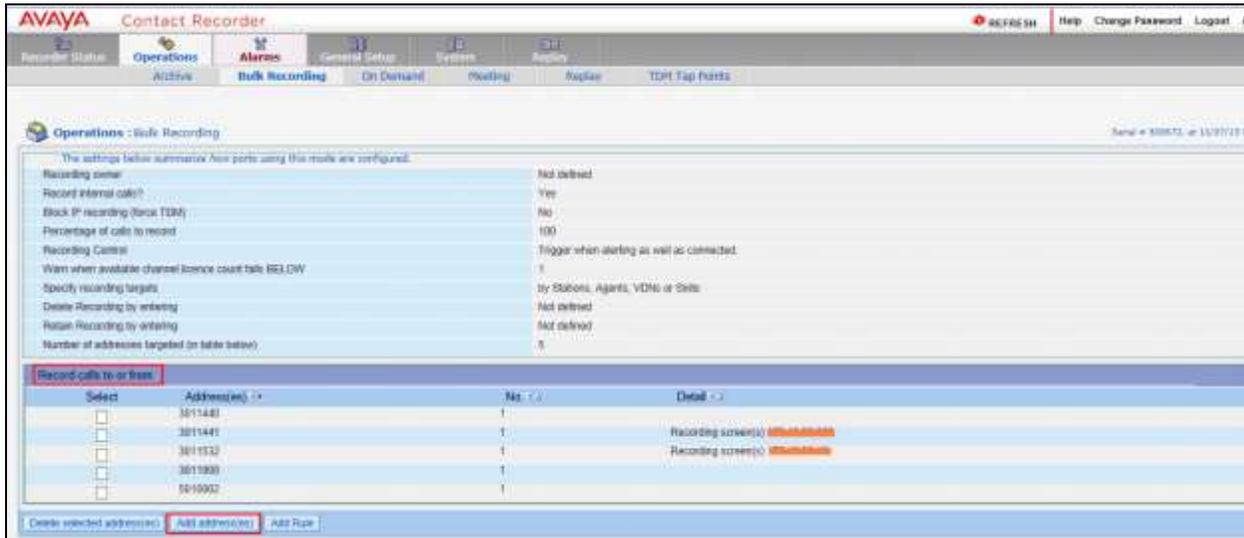


## 8.4 Administer Bulk Recording

Navigate to **Operations** → **Bulk Recording** tab and set the following fields:

- **Record calls to or from:** Use **Add address(s)** to add the target stations

Retain the default values for other fields.



## 8.5 Administer Avaya Proactive Outreach Manager Interface

Access Avaya Contact Recorder system and login in using user having administrative rights. Edit the Avaya Contact Recorder.properties file to include all the following lines:

```
acr.dialerlist=POM1
POM1.class=com.swhh.cti.pomdialer.POMDialer
POM1.dialer=x.x.x.x
POM1.port=7999
POM1.username=wfo
POM1.password=Avaya135
POM1.tracing=true
POM1.blockagentids=true
```

Please note that the **dialer** field must be set to the IP address of the Avaya Proactive Outreach Manager as obtained in **Section 7**. The **username** and **password** fields must be set to the user name and password that have the access permission to the Avaya Proactive Outreach Manager admin page.

In case there are multiple dialers that needs to be associated, provide the dialer list separated by “;” delimiter and provide the required information for other dialers as below:

```
acr.dialerlist=POM1, POM2
POM1.class=com.swhh.cti.pomdialer.POMDialer
POM1.dialer=x.x.x.x
POM1.port=7999
POM1.username=wfo
POM1.password=Avaya135
POM1.tracing=true
POM1.blockagentids=true
POM2.class=com.swhh.cti.pomdialer.POMDialer
POM2.dialer=y.y.y.y
POM2.port=7999
POM2.username=wfo
POM2.password=Avaya135
POM2.tracing=true
POM2.blockagentids=true
```

Save and close the file.

Restart **Avaya Contact Recorder** service (For **Windows** go to Services and select the **Avaya Contact Recorder** service and restart it, for Linux issue the command **/sbin/service cscm restart**).

## 9 Verification Steps

This section provides the steps that can be performed to verify proper configuration of Communication Manager, Avaya Proactive Outreach Manager, Avaya Contact Recorder, and Application Enablement Services.

### 9.1 Verify Avaya Aura® Communication Manager

On Communication Manager, verify the status of the administered CTI link by using the **status aesvcs cti-link** command. Verify that the **Service State** is **established** for the CTI link number administered in **Section 5.2**, as shown below.

```
status aesvcs cti-link
```

| AE SERVICES CTI LINK STATUS |         |          |                    |                    |           |           |
|-----------------------------|---------|----------|--------------------|--------------------|-----------|-----------|
| CTI Link                    | Version | Mnt Busy | AE Services Server | Service State      | Msgs Sent | Msgs Rcvd |
| 1                           | 5       | no       | emcaes             | <b>established</b> | 11873     | 5989      |

Verify the registration status of the virtual IP softphones by using the **list registered-ip-stations** command. Verify that extensions used by this test from **Section 5.8** are displayed, as shown below.

```
list registered-ip-stations
```

Page 2

| REGISTERED IP STATIONS |          |         |          |                    |         |   |
|------------------------|----------|---------|----------|--------------------|---------|---|
| Station or Orig        | Ext Port | Set Net | Type Rgn | Prod ID/ Release   | TCP Skt | Station IP Address/ Gatekeeper IP Address |
| 301-1451               |          | 4624    |          | IP_API_A<br>3.2040 | y       | x.x.x.x<br>y.y.y.y                        |
| 301-1452               |          | 4624    |          | IP_API_A<br>3.2040 | y       | x.x.x.x<br>y.y.y.y                        |

### 9.2 Verify Avaya Proactive Outreach Manager

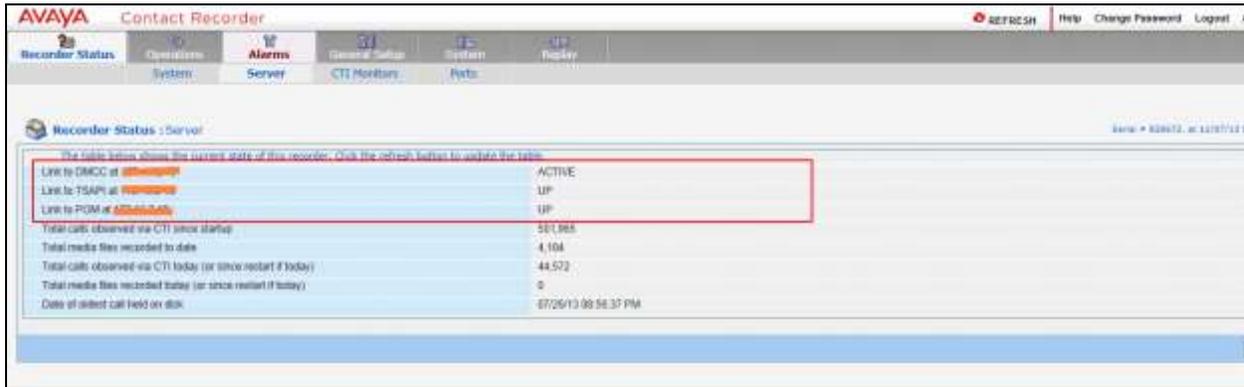
Log in to the Linux shell of the Avaya Proactive Outreach Manager server, and issue the **netstat | grep 7999** command. Verify that there is an entry showing an **ESTABLISHED** connection between the Avaya Proactive Outreach Manager (using port 7999) and Avaya Contact Recorder, as shown below.

```
[root@ep-primary logs]# netstat -na | grep 7999
```

|     |   |   |                      |                       |  |                    |
|-----|---|---|----------------------|-----------------------|--|--------------------|
| tcp | 0 | 0 | :::7999              | :::*                  |  | LISTEN             |
| tcp | 0 | 0 | :::ffff:x.x.x.x:7999 | :::ffff:y.y.y.y:57849 |  | <b>ESTABLISHED</b> |

### 9.3 Verify Avaya Aura® Contact Recorder

From Avaya Contact Recorder screen, navigate to **Recorder Status** → **Server**. The following screen is displayed. Verify that the **Link to DMCC at x.x.x.x** field shows **ACTIVE**, the **Link to TSAPI at x.x.x.x** field shows **UP**, and the **Link to Avaya Proactive Outreach Manager at x.x.x.x** field shows **UP**.



Navigate to **Recorder Status** → **Ports**. The following screen is displayed. Verify that the DMCC ports that are allocated under recorder ports column with reference to virtual soft phone configured in **Section 5.8**. Also verify that those ports are in either **Idle** or **Active** State. **Idle** means that the port has been assigned call is currently active on the target station. **Active** means that the port has been assigned and a call on the target station is being recorded.



## 9.4 Verify Avaya Aura® Application Enablement Services

Verify the status of the DMCC link by selecting **Status** → **Status and Control** → **DMCC Service Summary** from the left pane. The **DMCC Service Summary – Session Summary** screen is displayed. In the lower portion of the screen, verify that an active session with the user name configured in **Section 6.8** exists, and that the **# of Associated Devices** column reflects the number of virtual IP softphones being used by Avaya Contact Recorder.

Application Enablement Services Management Console

DMCC Service Summary - Session Summary

Session Summary **Device Summary**  
Generated on: Wed Nov 06 21:26:27 -07 2013  
Service Uptime: 18 days, 8 hours 47 minutes  
Number of Active Sessions: 1  
Number of Sessions Created Since Service Start: 18  
Number of Existing Sessions: 21  
Number of Sessions Created Since Service Start: 18

| Session ID                          | User | Application  | Ter. and Identifier | Connection Type | # of Associated Devices |
|-------------------------------------|------|--------------|---------------------|-----------------|-------------------------|
| 8932803F3A00A482C936C496943878CA-18 | acr  | ContactStore |                     | RPL Encrypted   | 21                      |

Terminate Sessions | Show Terminated Sessions

Verify the status of the TSAPI link by selecting **Status** → **Status and Control** → **TSAPI Service Summary** from the left pane. The **TSAPI Link Details** screen is displayed. Verify the **Status** is **Talking** for the TSAPI link administered in **Section 6.3**, as shown below.

TSAPI Link Details

| Link | Switch Name | Switch CTS Link ID | Status      | Time                     | State  | Switch Version | Acquisitions | Plugs to Switch | Plugs from Switch | Plugs Persec |
|------|-------------|--------------------|-------------|--------------------------|--------|----------------|--------------|-----------------|-------------------|--------------|
| 1    | PPDH        | 2                  | Talking     | Wed Oct 30 15:33:19 2013 | Online | 18             | 9            | 21              | 21                | 30           |
| 2    | CCDR18      | 2                  | Talking     | Thu Oct 21 09:13:19 2013 | Online | 18             | 17           | 129             | 130               | 30           |
| 3    | CHIA        | 3                  | Talking     | Wed Oct 23 14:09:43 2013 | Online | 18             | 88           | 6342            | 11976             | 30           |
| 4    | CHGA        | 3                  | Switch Over | Mon Oct 21 09:13:00 2013 | Online | 18             | 8            | 8               | 0                 | 30           |

Online | Offline

For per-second information, choose one of the following:  
TSAPI Service Status | Link Status | User Status

## 9.5 Verify Avaya Contact Recorder Recording Playback

Select **Replay** from Avaya Contact Recorder menu bar (not shown). The following screen is displayed.



Specify the search criteria in the left pane. Click **SEARCH** to update the screen with call recordings. Verify that the recording entries reflect the calls supposed to be recorded and displayed. Click the radio button to select an entry and click the play button (green triangle) to listen to the playback. Verify that the content of the recording matches the content of the call.



## 10 Conclusion

These Application Notes describe the configuration steps required for Avaya Contact Recorder 12.0 to successfully interoperate with Avaya Proactive Outreach Manager 3.0 and Avaya Aura® Application Enablement Services 6.3. All feature and serviceability test cases were executed. All observations were noted in **Section 2.2**.

## 11 Additional References

This section references the product documentation relevant to these Application Notes. They are available at <http://support.avaya.com>.

1. *Using Avaya Proactive Outreach Manager*
2. *Avaya Contact Recorder Release 12.0 Planning, Installation and Administration Guide*

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