



Application Notes for Witness Contact Store and Avaya Proactive Contact using Computer Telephony Interface - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Witness Contact Store 7.7 to successfully interoperate with Avaya Proactive Contact 4.0 using Computer Telephony Interface. Witness Contact Store is a call recording solution capable of capturing audio from Avaya Communication Manager using a variety of integration mechanisms. Witness Contact Store uses Avaya Proactive Contact Event Services to extract call event information and DMCC interface to Avaya Application Enablement Services Server to obtain the audio.

Information in these Application Notes has been obtained through interoperability 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 a compliance-tested configuration comprised of Avaya Proactive Contact 4.0.1 using Computer Telephony Interface (CTIDialer) and Witness Contact Store Server 7.7.1 using PDS connector 3.0.2 (Witness CSS). Witness CSS uses the Event Service of Avaya CTIDialer to extract call event information and DMCC interface to Avaya Application Enablement Services Server (AES) to obtain the audio from Avaya Communication Manager. Witness CSS uses the CMAPI extensions on Avaya Communication Manager to service observe the stations/extensions to be recorded. Additionally, Witness CSS uses the DMCC interface to Avaya AES to receive inbound call information for Predictive Agent Blending (PAB) campaigns. For Outbound and Managed campaigns, Avaya CTIDialer interacts directly with Avaya Communication Manager. The Avaya CTIDialer is a software only solution. Figure 1 shows the configuration used for the compliance testing.

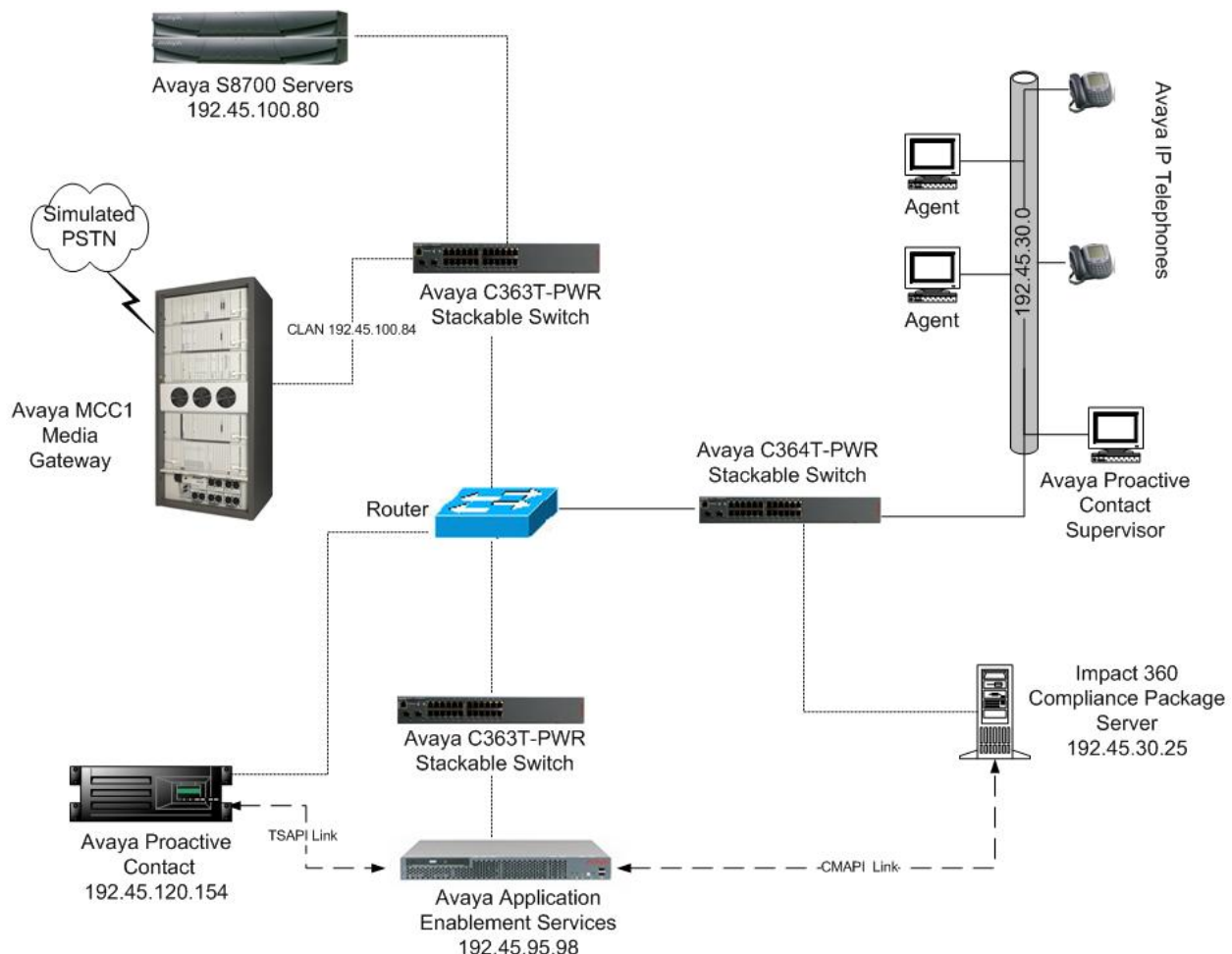


Figure 1: Avaya Proactive Contact, Avaya Communication Manager, Avaya AES and Witness Contact Store Configuration

2. Equipment and Software Validated

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

Equipment	Software
HP Proliant DL385G2	Proactive Contact 4.0.1 Build 105
Avaya S8700 Media Server	Avaya Communication Manager 4.0 (R014x.00.0.730.5)
Avaya MCC1 Media Gateway	
TN464 DS1 Interface	HW02, FW019
TN799DP C-LAN Interface	HW01 FW024
TN2302AP IP Media Processor	HW13 FW116
Avaya 4610 (H323)	2.1.3
Avaya Application Enablement Services Server	3.1.1
Avaya C363T-PWR Converged Stackable Switch	4.5.14
Witness Contact Store	7.7.1
Witness PDS connector	3.0.2

3. Configure Avaya Communication Manager

This section provides the procedures for configuring Avaya Communication Manager. The following will be configured:

- Verify Avaya Communication Manager is configured for Computer Telephony Interface (CTI)
- Configure Avaya Communication Manager for Adjunct Routing for Avaya CTIDialer
- Configure Avaya Communication Manager for Predictive Agent Blending on Avaya CTIDialer
- Configure Service Observing feature
- Configure CMAPI stations

Configuration in the following sections is only for the fields where a value needs to be entered or modified. Default values are used for all other fields. These steps are performed from the Avaya Communication Manager System Access Terminal (SAT) interface and all changes are saved. Refer to [1] for additional details.

3.1. Verify Avaya Communication Manager is configured for Computer Telephony Interface

Step	Description
1.	<p>Use the display system-parameters customer-options command. On Page 3, verify that the Computer Telephony Adjunct Links option is set to y.</p> <pre> display system-parameters customer-options Page 3 of 11 OPTIONAL FEATURES Abbreviated Dialing Enhanced List? n Audible Message Waiting? n Access Security Gateway (ASG)? n Authorization Codes? n Analog Trunk Incoming Call ID? n Backup Cluster Automatic Takeover? n A/D Grp/Sys List Dialing Start at 01? n CAS Branch? n Answer Supervision by Call Classifier? y CAS Main? n ARS? y Change COR by FAC? n ARS/AAR Partitioning? y Computer Telephony Adjunct Links? y ARS/AAR Dialing without FAC? y Cvg Of Calls Redirected Off-net? n ASAI Link Core Capabilities? n DCS (Basic)? n ASAI Link Plus Capabilities? n DCS Call Coverage? n Async. Transfer Mode (ATM) PNC? n DCS with Rerouting? n Async. Transfer Mode (ATM) Trunking? n ATM WAN Spare Processor? n Digital Loss Plan Modification? n ATMS? n DS1 MSP? n Attendant Vectoring? n DS1 Echo Cancellation? n </pre>
2.	<p>On Page 6, verify that the ACD and Vectoring (Basic) fields are set to y.</p> <pre> display system-parameters customer-options Page 6 of 11 CALL CENTER OPTIONAL FEATURES Call Center Release: 4.0 ACD? y Reason Codes? y BCMS (Basic)? n Service Level Maximizer? n BCMS/VuStats Service Level? n Service Observing (Basic)? y BSR Local Treatment for IP & ISDN? n Service Observing (Remote/By FAC)? y Business Advocate? n Service Observing (VDNs)? y Call Work Codes? n Timed ACW? n DTMF Feedback Signals For VRU? n Vectoring (Basic)? y Dynamic Advocate? n Vectoring (Prompting)? y Expert Agent Selection (EAS)? y Vectoring (G3V4 Enhanced)? n EAS-PHD? n Vectoring (3.0 Enhanced)? n Forced ACD Calls? n Vectoring (ANI/II-Digits Routing)? n Least Occupied Agent? n Vectoring (G3V4 Advanced Routing)? n Lookahead Interflow (LAI)? n Vectoring (CINFO)? n Multiple Call Handling (On Request)? n Vectoring (Best Service Routing)? n Multiple Call Handling (Forced)? n Vectoring (Holidays)? n PASTE (Display PBX Data on Phone)? n Vectoring (Variables)? n </pre>

3.	<p>On Page 9, verify that the CTI Stations, Phantom Calls and Agent States fields are set to y.</p> <pre> display system-parameters customer-options ASAI ENHANCED FEATURES CTI Stations? y Increased Adjunct Route Capacity? y Phantom Calls? y ASAI PROPRIETARY FEATURES Agent States? y (NOTE: You must logoff & login to effect the permission changes.) </pre>
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3.2. Configure Avaya Communication Manager for Adjunct Routing for Avaya CTIDialer

A vector and VDN are configured in Avaya Communication Manager to handle the calls initiated by the Avaya CTIDialer using the CTI link to Avaya AES.

Step	Description
1.	<p>Add a CTI link using the add cti-link <i>n</i> command; where <i>n</i> is an available CTI link number and configure as follows:</p> <ul style="list-style-type: none"> • Extension – Set to an available extension as per the dial plan. • Type – Set to ADJ-IP • Name – Set to any descriptive name. <pre> add cti-link 15 CTI LINK CTI Link: 15 Extension: 24998 Type: ADJ-IP Name: AES DEVCON2715 COR: 1 </pre>

2.	<p>Enter the change vector n command, where n is an unused vector number. This vector will use the CTI link configured in Step 1. Below is a vector configured with an adjunct routing link step for this compliance testing. This vector will be used by CTIDialer to make outbound calls.</p> <div data-bbox="280 373 1429 810" data-label="Code-Block"> <pre> change vector 400 Page 1 of 3 CALL VECTOR Number: 400 Name: Dialer Adjunct Route Multimedia? n Meet-me Conf? n Lock? n Basic? y EAS? y G3V4 Enhanced? y ANI/II-Digits? y ASAI Routing? y Prompting? y LAI? y G3V4 Adv Route? y CINFO? y BSR? n Holidays? n Variables? n 3.0 Enhanced? n 01 adjunct routing link 15 02 wait-time 2 secs hearing silence 03 04 05 06 07 </pre> </div>
3.	<p>Enter add vdn n command, where n is an unused VDN and configure as follows:</p> <ul style="list-style-type: none"> • Name – Set to any descriptive name. • Vector Number – Set the vector configured in Step 2. <p>Note: This VDN is also configured on Avaya CTIDialer and passed to Avaya Communication Manager to make outbound calls for an Outbound campaign.</p> <div data-bbox="280 1052 1409 1501" data-label="Code-Block"> <pre> add vdn 54400 Page 1 of 2 VECTOR DIRECTORY NUMBER Extension: 54400 Name: Dialer Adjunct Route Vector Number: 400 Meet-me Conferencing? n Allow VDN Override? n COR: 1 TN: 1 Measured: none VDN of Origin Annc. Extension: 1st Skill: 2nd Skill: 3rd Skill: </pre> </div>

3.3. Configure Avaya Communication Manager for Predictive Agent Blending

Avaya CTIDialer via the CTI link monitors the activity on Avaya Communication Manager such as the inbound VDN and hunt groups, and uses this information to determine when to acquire agents for outbound calling and when to release the agents to handle inbound calls.

Step	Description																		
1.	<p>Shown below is a table of the Vector Directory Numbers (VDN), Vectors, Hunt groups, Phantom Stations and Agent Logins configured for the Avaya CTIDialer during compliance testing for a PAB campaign. Dialer Acquire-Out is used to determine when an outbound agent is to be acquired by the Avaya CTIDialer to handle outbound calls. Similarly, Dialer Inbound is used to route inbound calls to the extensions on Avaya Communication Manager in PAB campaigns.</p> <table><tr><th></th><th>Dialer Acquire-Out</th><th>Dialer Inbound</th></tr><tr><td>VDN</td><td>54401</td><td>54402</td></tr><tr><td>Vector</td><td>401</td><td>402</td></tr><tr><td>Skill Ext/ Hunt group</td><td>50401/401</td><td>50402/402</td></tr><tr><td>Phantom Stations</td><td>22516-22520</td><td></td></tr><tr><td>Agent Login</td><td>25020-25024</td><td></td></tr></table>		Dialer Acquire-Out	Dialer Inbound	VDN	54401	54402	Vector	401	402	Skill Ext/ Hunt group	50401/401	50402/402	Phantom Stations	22516-22520		Agent Login	25020-25024	
	Dialer Acquire-Out	Dialer Inbound																	
VDN	54401	54402																	
Vector	401	402																	
Skill Ext/ Hunt group	50401/401	50402/402																	
Phantom Stations	22516-22520																		
Agent Login	25020-25024																		

2.	<p>Enter add hunt-group <i>n</i> command, where <i>n</i> is an unused hunt group number and configure as follows:</p> <ul style="list-style-type: none"> • Group Name – Set to any descriptive name. • Group Extension – Set to a valid extension provisioned in the dial plan. • ACD – Set to y. • Queue – Set to y. • Vector – Set to y. <div data-bbox="284 495 1417 833"> <pre> add hunt-group 401 Page 1 of 3 HUNT GROUP Group Number: 401 ACD? y Group Name: Dialer Acquire-Out Queue? y Group Extension: 50401 Vector? y Group Type: ucd-mia TN: 1 COR: 1 Security Code: ISDN/SIP Caller Display: MM Early Answer? n Local Agent Preference? n </pre> </div> <p>On Page 2 of the HUNT GROUP form, set the Skill field to y as shown below.</p> <div data-bbox="284 907 1417 1108"> <pre> add hunt-group 401 Page 2 of 3 HUNT GROUP Skill? y AAS? n Measured: none Supervisor Extension: Controlling Adjunct: none </pre> </div>
3.	Repeat the above step to create a hunt group with hunt-group extension 50402 for Dialer Inbound .
4.	<p>Enter change vector <i>n</i> command, where <i>n</i> is associated to hunt group 401. Enter the commands to queue to skill 401 as shown below.</p> <div data-bbox="284 1318 1417 1623"> <pre> change vector 401 Page 1 of 3 CALL VECTOR Number: 401 Name: Dialer Acquire-Out Attendant Vectoring? n Meet-me Conf? n Lock? n Basic? y EAS? y G3V4 Enhanced? n ANI/II-Digits? n ASAI Routing? y Prompting? y LAI? n G3V4 Adv Route? n CINFO? n BSR? n Holidays? n Variables? n 3.0 Enhanced? n 01 queue-to skill 401 pri h 02 wait-time 60 secs hearing ringback 03 04 </pre> </div>
5.	Repeat the above step to modify vector 402 for Dialer Inbound .

6.

Enter **add vdn *n*** command, where *n* is an unused VDN and configure as follows:

- Name** - Enter a descriptive name
- Vector Number** – Set to the vector configured in **Step 4**.

Note: This VDN is also configured on Avaya CTIDialer and passed to Avaya Communication Manager to make outbound calls for a PAB campaign.

add vdn 54401

Page 1 of 2

VECTOR DIRECTORY NUMBER

Extension: 54401

Name: Dialer Acquire-Out

Vector Number: 401

Attendant Vectoring? N

Meet-me Conferencing? N

Allow VDN Override? N

COR: 1

TN: 1

Measured: none

1st Skill:

2nd Skill:

3rd Skill:

7.

Repeat the above step for the VDN **54402** pointing to Skill **402** for **Dialer Inbound**.

8.

Enter **change announcement *n*** command, where *n* is an announcement number. Configure four announcements for the messages that will be used by CTIDialer to play on the agent’s telephone. In the sample configuration, announcement numbers 6 through 9 were used with extensions 20206, 20207, 20208, and 20209. The following four messages in the table below should be administered and recorded.

Announcement Extension	Message Type	Recorded Message
20206	Greeting	“Welcome to Proactive Contact”
20207	Inbound	“You are now in inbound mode”
20208	Outbound	“You are now in outbound mode”
20209	Not Logged In	“You are not logged in”

change announcements 5

ANNOUNCEMENTS/AUDIO SOURCES

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Ann.

Group/

Ann. No.	Ext.	Type	COR	TN	Name	Q	QLen	Pr	Rt	Port
5	20205	integrated	1	1	annouce05	n	NA	n	32	01D14
6	20206	integrated	1	1	annouce06	n	NA	n	32	01D14
7	20207	integrated	1	1	annouce07	n	NA	n	32	01D14
8	20208	integrated	1	1	annouce08	n	NA	n	32	01D14
9	20209	integrated	1	1	annouce09	n	NA	n	32	01D14
10	20210	integrated	1	1	annouce10	n	NA	n	32	01D14

9.	<p>Phantom Stations are used for PAB campaigns to put the agents in aux-work mode when switching from inbound to outbound mode. Enter add station <i>n</i> command, where <i>n</i> is a valid extension to configure the phantom stations.</p> <ul style="list-style-type: none">• Type – Set to CTI.• Name – Enter any descriptive name. <div><div>add station 22516</div><div>Page 1 of 4</div><div>STATION</div><div>Extension: 22516</div><div>Lock Messages? n</div><div>BCC: 0</div><div>Type: CTI</div><div>Security Code:</div><div>TN: 1</div><div>Port: X</div><div>Coverage Path 1:</div><div>COR: 1</div><div>Name: Phantom1 for CTIDialer</div><div>Coverage Path 2:</div><div>COS: 1</div><div>Hunt-to Station:</div></div>
10.	Repeat the above step to configure additional Phantom Stations.
11.	<p>Enter the change reason-code-names command, to add a reason code. Set Reason Code 1 to Outbound Work. The reason code will be used when the agent is acquired for outbound calls and put into the aux-work mode.</p> <div><div>change reason-code-names</div><div>REASON CODE NAMES</div><div>Aux Work</div><div>Logout</div><div>Reason Code 1: Outbound Work</div><div>Reason Code 2:</div><div>Reason Code 3:</div><div>Reason Code 4:</div><div>Reason Code 5:</div></div>

12.	<p>Enter the add agent-loginID <i>n</i> command, where <i>n</i> is a valid extension as per the dial plan and configure as follows:</p> <ul style="list-style-type: none"> • Name - Enter any descriptive name. • Auto Answer - Set to all. <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> add agent-loginID 25020 AGENT LOGINID Page 1 of 2 Login ID: 25020 Name: Agent1 TN: 1 COR: 1 Coverage Path: Security Code: AAS? n AUDIX? n LWC Reception: spe LWC Log External Calls? n AUDIX Name for Messaging: LoginID for ISDN Display? n Password: Password (enter again): Auto Answer: all MIA Across Skills: system ACW Agent Considered Idle: system Aux Work Reason Code Type: system Logout Reason Code Type: system Maximum time agent in ACW before logout (sec): system </pre> </div> <p>On Page 2 of the AGENT LOGINID form, specify the list of skills in the SN (Skill Number) field and level in the SL (Skill Level) field assigned to this agent login as shown below.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px 0;"> <pre> change agent-loginID 25020 AGENT LOGINID Page 2 of 2 Direct Agent Skill: Call Handling Preference: skill-level Local Call Preference? n SN SL SN SL SN SL SN SL 1: 401 1 16: 31: 46: 2: 402 2 17: 32: 47: 3: 18: 33: 48: 4: 19: 34: 49: </pre> </div>
13.	Repeat the above step to configure additional agent login IDs.

14.	<p>Enter the change station n where n is pre-configured agent phone/headset extension used by the CTIDialer. On Page 3, configure the following button assignments:</p> <ul style="list-style-type: none"> • aux-work – agent is logged on to the phone for outbound calls. • auto-in – agent goes to auto-in to accept inbound calls. • after-call – when the agent is in wrap up state after the call has ended. • release – to drop the call. <div> <div>change station 22720</div> <div>Page 3 of 4</div> <div> <div>STATION</div> <div> <div>SITE DATA</div> <div> Room:Headset? n Jack:Speaker? n Cable:Mounting: d Floor:Cord Length: 0 Building:Set Color: </div> </div> <div> <div>ABBREVIATED DIALING</div> <div> List1:List2:List3: </div> </div> <div> <div>BUTTON ASSIGNMENTS</div> <div> 1: call-appr5: aux-work RC: Grp: 2: call-appr6: auto-in Grp: 3: call-appr7: after-call Grp: 4: call-fwd Ext:8: release </div> </div> </div> </div>
15.	Repeat the above step for other agent phone/headset extensions to be configured.

3.4. Configure Service Observing

Witness CSS uses Avaya Communication Manager Service Observing feature to record calls on agent telephones. Implementation of the required Service Observing feature on Avaya Communication Manager can be achieved using the following steps.

Step	Description
1.	<p>Enter display system-parameters customer-options and configure as follows:</p> <ul style="list-style-type: none"> • Service Observing (Basic) – Set to y. • Service Observing (Remote/By FAC) – Set to y. <p>Note: A license is required to activate these features</p> <pre> change system-parameters customer-options Page 6 of 11 CALL CENTER OPTIONAL FEATURES Call Center Release: 4.0 ACD? y PASTE (Display PBX Data on Phone)? y BCMS (Basic)? y Reason Codes? y BCMS/VuStats Service Level? y Service Level Maximizer? n BSR Local Treatment for IP & ISDN? n Service Observing (Basic)? y Business Advocate? n Service Observing (Remote/By FAC)? y Call Work Codes? y Service Observing (VDNs)? y DTMF Feedback Signals For VRU? n Timed ACW? y Dynamic Advocate? n Vectoring (Basic)? y Expert Agent Selection (EAS)? y Vectoring (Prompting)? y EAS-PHD? y Vectoring (G3V4 Enhanced)? y Forced ACD Calls? n Vectoring (ANI/II-Digits Routing)? y Least Occupied Agent? n Vectoring (G3V4 Advanced Routing)? y Lookahead Interflow (LAI)? y Vectoring (CINFO)? y Multiple Call Handling (On Request)? y Vectoring (Best Service Routing)? n Multiple Call Handling (Forced)? y Vectoring (Holidays)? n Vectoring (Variables)? n (NOTE: You must logoff & login to effect the permission changes.) </pre>
2.	<p>Enter change feature-access-codes and set Service Observing Listen Only Access Code to *05.</p> <p>Note: Values entered for the feature access code must conform to the dial plan.</p> <pre> change feature-access-codes Page 5 of 8 FEATURE ACCESS CODE (FAC) Automatic Call Distribution Features After Call Work Access Code: *13 Assist Access Code: Auto-In Access Code: *15 Aux Work Access Code: *16 Login Access Code: *17 Logout Access Code: *20 Manual-in Access Code: *12 Service Observing Listen Only Access Code: *05 Service Observing Listen/Talk Access Code: *06 Add Agent Skill Access Code: Remove Agent Skill Access Code: Remote Logout of Agent Access Code: </pre>

3.5. Configure CMAPI Stations for Witness Contact Store

CMAPI stations on Avaya Communication Manager are required to record telephone calls by Witness CSS. CMAPI stations are configured as follows:

Step	Description
1.	<p>Enter change cor 5 and configure as follows:</p> <ul style="list-style-type: none"> • COR Description – Enter any descriptive string value. • Can Be a Service Observer – Set to y. <pre> change cor 5 Page 1 of 4 CLASS OF RESTRICTION COR Number: 5 COR Description: Witness Server FRL: 7 APLT? y Can Be Service Observed? n 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? n Restriction Override: all Facility Access Trunk Test? n Restricted Call List? y 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 </pre>
2.	<p>Enter add station <s>, where s is an unused extension and configure as follows:</p> <ul style="list-style-type: none"> • Type – Set to 4610. • Security Code - Set to any valid string. • Name – Set to any descriptive string value. • COR – Set to the class of restriction configured in Step 1. <pre> STATION Extension: 23301 Lock Messages? n BCC: 0 Type: 4610 Security Code: ***** TN: 1 Port: IP Coverage Path 1: COR: 5 Name: CMAPI Recording line 1 Coverage Path 2: COS: 1 Hunt-to Station: STATION OPTIONS Loss Group: 19 Time of Day Lock Table: Personalized Ringing Pattern: 1 Message Lamp Ext: 23301 Mute Button Enabled? y Speakerphone: 2-way Display Language: english Survivable GK Node Name: Survivable COR: internal Survivable Trunk Dest? y Media Complex Ext: IP SoftPhone? y IP Video Softphone? n </pre>

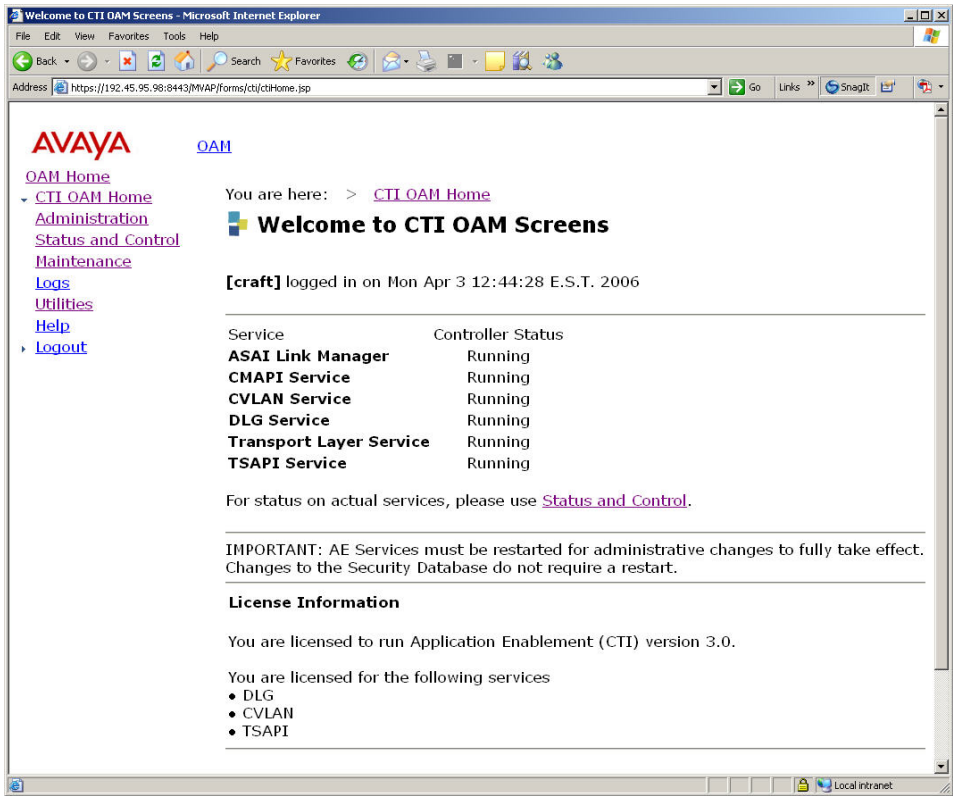
Step	Description
3.	<p>Go to Page 4 of the STATION form and add serv-obsrv in the BUTTON ASSIGNMENTS.</p> <pre> add station 23301 Page 4 of 6 STATION SITE DATA Room: Headset? n Jack: Speaker? n Cable: Mounting: d Floor: Cord Length: 0 Building: Set Color: ABBREVIATED DIALING List1: List2: List3: BUTTON ASSIGNMENTS 1: call-appr 7: 2: call-appr 8: 3: call-appr 9: 4: conf-dsp 10: 5: serv-obsrv 11: 6: no-hld-cnf 12: </pre>
4.	For additional CMAPI stations to be added, repeat Steps 2-3 .

4. Configure Avaya Proactive Contact

These Application Notes assume that the interfaces between the Avaya Proactive Contact, Avaya S8700 Server and Avaya AES have been configured and are operational, and that a calling list has been successfully configured on Avaya CTIDialer. Avaya CTIDialer uses a TSAPI link to Avaya AES to monitor the inbound calls coming into Avaya Communication Manager. Since Witness CSS 7.7.1 does not support security features of Avaya Proactive Contact 4.0.1, security was turned off on the Avaya Proactive Contact Server and Supervisor. Refer to [5] for additional details to turn off the security.

5. Configure Avaya Application Enablement Services Server

This section provides the procedures for configuring Avaya Application Enablement Services. Basic configuration related to the switch connection between Avaya Communication Manager and Avaya Application Enablement Services is assumed. Configuration in the following sections is only for the fields where a value needs to be entered or modified. Default values are used for all other fields.

Step	Description
1.	Launch a web browser, enter <a href="https://<IP address of AES server>:8443/MVAP">https://<IP address of AES server>:8443/MVAP in the URL, and log in with the appropriate credentials for accessing the AES CTI OAM pages.
2.	From the OAM Home menu, select CTI OAM Home and verify that the CMAPI service is licensed as shown below under the heading License Information. 

3. From the **CTI OAM Home** menu, select **Administration** → **Security Database** → **Devices**. Click on **Add Devices** at the next screen [not shown]. In the **Add/ Edit Device** screen shown below, configure the **Device ID** to match the CMAPI station configured in **Section 3.5, Steps 2-3**. Click on **Apply Changes**.

AVAYA **Application Enablement Services**
Operations Administration and Maintenance

[OAM Home](#) [Help](#) [Logout](#)

You are here: > [Administration](#) > [Security Database](#) > [Devices](#)

CTI OAM Home

- Administration
 - Network Configuration
 - Switch Connections
 - CTI Link Admin
 - DMCC Configuration
 - TSAPI Configuration
 - Security Database
 - SDB Control
 - CTI Users
 - Worktops
 - Devices
 - Device Groups
 - Tlinks
 - Tlink Groups
 - Certificate Management
 - Dial Plan
 - Enterprise Directory
 - Host AA
 - SMS Configuration
 - WebLM Configuration
 - Bridged Alert Config
 - Status and Control
 - Maintenance
 - Alarms
 - Logs
 - Utilities
 - Help

Add / Edit Device

Device ID

Location

Device Type

Tlink Group

4. From the **User Management Home Menu**, navigate to **User Management->Add User** and configure as follows:

- **User Id** – Set to any descriptive value.
- **Common Name** – Set to any descriptive value.
- **Surname** – Set to any descriptive value.
- **User Password** – Set to a valid password.
- **Confirm Password** – Set to the same value in **User Password** field.
- Click **Apply**.

The screenshot displays the Avaya Application Enablement Services (AES) web interface. The top header features the Avaya logo and the text 'Application Enablement Services Operations Administration and Maintenance'. A navigation bar includes links for 'QAM Home', 'Help', and 'Logout'. The left sidebar shows a 'User Management Home' menu with options like 'List All Users', 'Add User', 'Search Users', 'Modify Default User', 'Change User Password', 'Service Management', and 'Help'. The main content area is titled 'Add User' and includes a breadcrumb trail: 'You are here: > User Management > Add User'. Below the title, a note states 'Fields marked with * can not be empty.' The form contains several input fields: '* User Id' (text), '* Common Name' (text), '* Surname' (text), '* User Password' (password), '* Confirm Password' (password), 'Admin Note' (text), 'Avaya Role' (dropdown menu set to 'None'), 'Business Category' (text), 'Car License' (text), 'CM Home' (text), 'Css Home' (text), and 'CT User No.' (text).

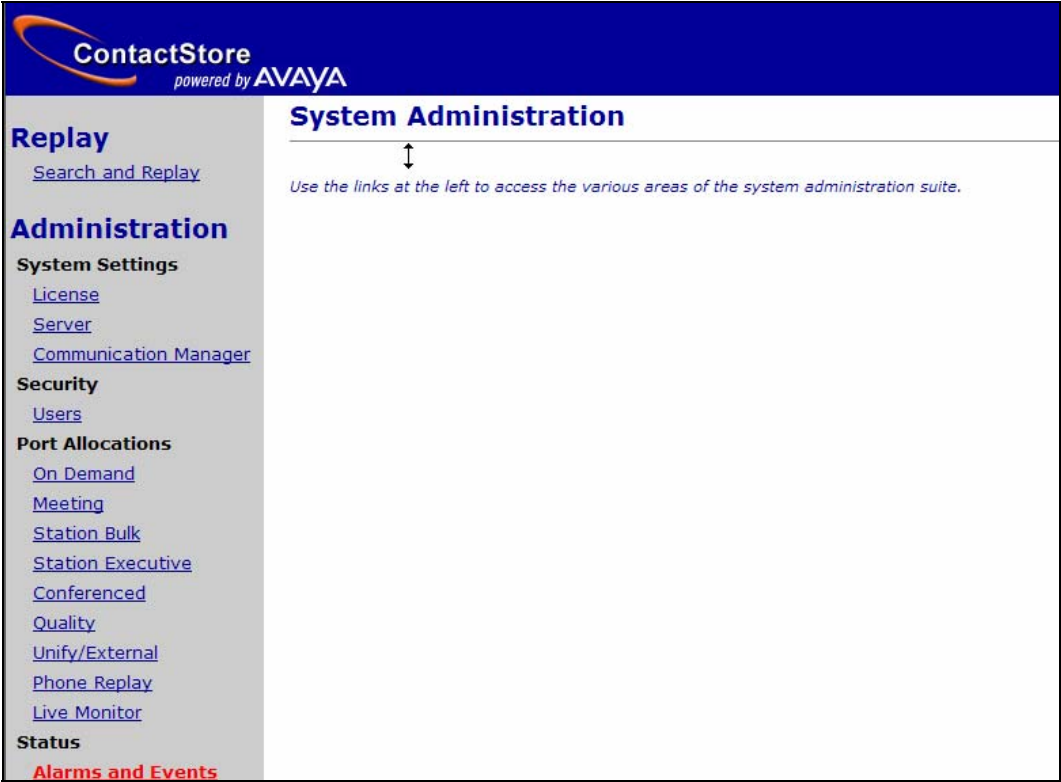
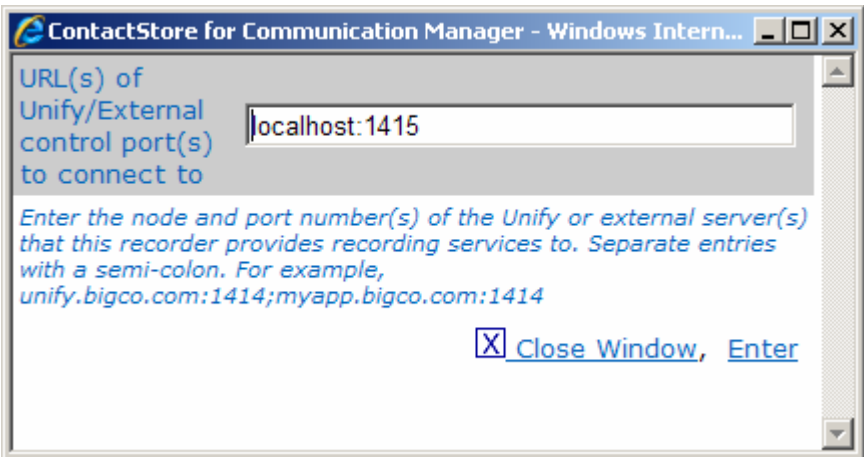
6. Configure Witness Contact Store Server

The following steps describe the configuration to integrate Witness CSS with Avaya Proactive Contact.


6.1. Witness Contact Store Server System Administration

The steps in this section describe the system configuration of Witness CSS.

Step	Description
1.	Launch a web browser, enter <a href="http://<IP address of Contact Store server>:8080/">http://<IP address of Contact Store server>:8080/ in the URL.
2.	Log in to Witness CSS using proper credentials. <div></div>

Step	Description
3.	<p>Following screen is displayed after logging on to the system.</p> 
4.	<p>Select Server tab on the System Administration screen at Step 3 to configure the URL(s) of Unify/External Control port(s) to connect to field. The port number should match the value of CSCMRecorder.Port in Section 6.2. The recommended value is 1919.</p> 

Step	Description
5.	<p>Select Communication Manager tab on the System Administration screen at Step 3 to display the screen below and verify the following:</p> <ul style="list-style-type: none"> • Default Avaya Communication Manager Name – Set to CLAN IP Address of the Avaya Communication Manager. • Communication Manager Version – Set to the right version of the Avaya Communication Manager. • AE Server Address(es) – Set to the IP address of the Avaya AES server. • CMAPI Username – Set to the User Id field value configured in Section 5, Step 4. • CMAPI Password – Set to the User Password field value configured in Section 5, Step 4. • IP Station Security Code – Set to the Security Code field value in Section 3.5, Step 2. • Ports/Port range specified in the screen should match the CMAPI stations defined in Section 3.5, Step 2-3. In this example, Port range specified is from 23301 to 23304.



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Communication Manager Settings


These settings determine how the recorder contacts and interacts with your Avaya Communication Manager

Item	Setting
Default Avaya Communication Manager Name	192.45.100.84
Communication Manager Version	3.x
AE Server Address(es)	192.45.95.98
CMAPI Username	cmapi
CMAPI Password	*****
Encrypt Media Streams	No
IP Station Security Code	*****
Avaya CT Server(s)	Not defined
Avaya CT Service Identifier(s)	Not defined
Avaya CT Service Login ID	Not defined
Avaya CT Service password	Not defined
Extensions assigned to recorder	4
Unassigned Capacity	158

The table below lists the range(s) of station numbers that the recorder will register its ports as. These must match the station numbers you have c Avaya Communication Manager.

Select	Port(s)	No.	Detail
<input type="checkbox"/>	23301-23304	4	

[Add port\(s\)](#), [Delete selected port\(s\)](#)

Step	Description
6.	<p>Select Station Bulk tab on the System Administration screen at Step 3 to display the screen below and verify the following:</p> <ul style="list-style-type: none"> • Audio format – Set to G.729A. • Record calls that do NOT have a VDN number? – Set to Yes. • Filter calls by VDN and/or Skill Hunt Group? – Set to ALL Calls with a VDN. • Station/Station range specified in the screen should match the Agent headset extensions to be recorded by Witness CSS. In this example, Station range specified is from 22720 to 22721. 

6.2. Witness Contact Store PDS Connection Configuration

For Witness CSS to work with the Avaya CTIDialer, the PDS Connector needs to be configured as follows:

- Log in to the Witness Contact Store Server as **witness**.
- Edit the /opt/witness/properties/pdscon.properties file to modify the following:
 - **PDS.UserName** – User name created on the Avaya CTIDialer Server.
 - **PDS.Password** – Password corresponding to the **Username**.
 - **PDS.DialerHost** – Name of the Avaya CTIDialer Server. This name should be defined in /etc/hosts file.
 - **CSCMRecorder.Port** – Set to the port no. of the URL in **Section 6.1, Step 4**.
 - Save the changes.
- Start/restart the PDS connector service by issuing the command **service pdscon start**.

7. Interoperability Compliance Testing

This interoperability compliance test covers feature functionality, serviceability and basic load testing. Feature functionality focused on verifying that Witness CSS could successfully record calls when using events from the Avaya CTIDialer Event Service. Serviceability testing verified that the Witness CSS server recovered from adverse conditions, such as rebooting, power failure and network disconnect. Basic load testing verified that Witness CSS could successfully record calls for an extended period of time.

7.1. General Test Approach

Serviceability and basic functionality test cases were performed manually. During the manual tests, outbound calls were placed by Avaya CTIDialer 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 viewed using Witness CSS web interface. During the basic load testing, Avaya CTIDialer executed a calling list which delivered calls to the agents for sustained periods.

7.2. Test Results

Witness CSS successfully recorded, stored and played back the calls between the agents and the customers. Witness CSS was successfully able to record and correlate calls put on hold. For transfers and conferences, only the first part of the call prior to completion of the transfer is properly tagged. For serviceability testing, Witness CSS was able to resume recording calls after the restoration of connectivity to the Avaya CTIDialer, after network disconnect/re-connect, and after a reset of Witness CSS. For stability testing, Witness CSS successfully recorded calls for a sustained period of time.

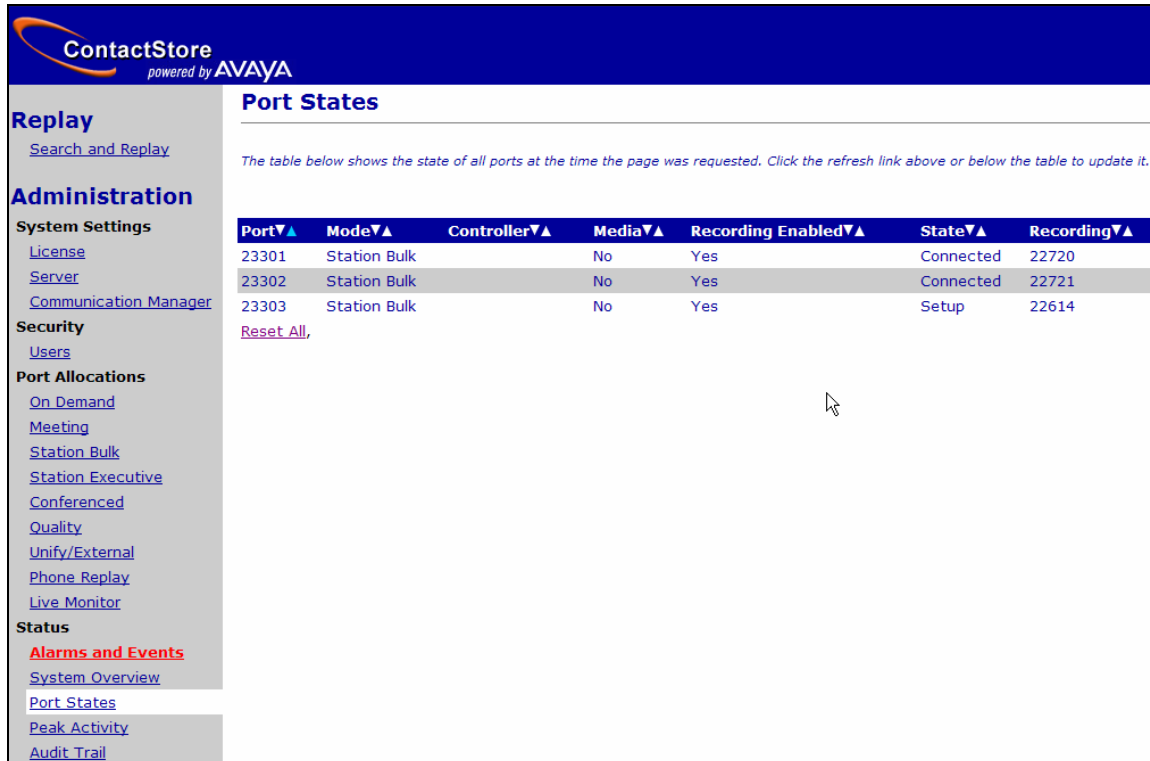
The following observations were made during testing:

- Witness CSS is not able to connect back to the Avaya CTIDialer after the PDS connector on Witness CSS is stopped and restarted. Witness CSS service needs to be started to re-establish the connection.
- Agents need to log off and log back on after the Avaya CTIDialer restarts.

8. Verification

8.1. Port States

On the Witness CSS Administration interface, click on **Port States** to make sure that the ports configured in **Section 6.1, Step 4** are recording the Agent extensions to be supervised as configured in **Section 6.1, Step 5**.



The screenshot shows the ContactStore Administration interface. The left sidebar contains navigation links for **Replay** (Search and Replay), **Administration** (System Settings: License, Server, Communication Manager; Security: Users; Port Allocations: On Demand, Meeting, Station Bulk, Station Executive, Conferenced, Quality, Unify/External, Phone Replay, Live Monitor; Status: Alarms and Events, System Overview, Port States, Peak Activity, Audit Trail), and **Port States**. The main content area is titled **Port States** and includes a note: "The table below shows the state of all ports at the time the page was requested. Click the refresh link above or below the table to update it." Below this is a table with the following data:













Port▼▲	Mode▼▲	Controller▼▲	Media▼▲	Recording Enabled▼▲	State▼▲	Recording▼▲
23301	Station Bulk		No	Yes	Connected	22720
23302	Station Bulk		No	Yes	Connected	22721
23303	Station Bulk		No	Yes	Setup	22614

Below the table is a link labeled [Reset All](#).

8.2. PDS Connector Link

Log in to the Witness Contact Store Server as **witness** and verify in the `/opt/witness/logs/pdscon.log` file that there is an entry **PDS Connector – checkTimeout : connected to PDS true** indicating that the connectivity to the Avaya CTIDialer has been established.

8.3. Witness CSS Recording Playback

Step	Description																																																																		
1.	<p>On the Witness CSS Administration interface [not shown], click on Search and Replay. Enter the search criteria and select the recording to be heard by checking the radio button on the left.</p> <div><div><div><div><div><div>powered by AVAYA</div></div><div><div>15:31:0015:31:10</div></div></div></div><div><div><div><div>Administration</div><div>Administer System</div><div>Search Filters</div><div>Call Start Range</div><div><div><div>09/22/08</div><div></div><div>12:00:00 AM</div></div><div><div>09/22/08</div><div></div><div>11:59:59 PM</div></div></div><div>Parties</div><div><div></div><div></div></div><div>Agent</div><div><div></div><div></div></div><div>Length</div><div><div></div><div></div></div><div>Service</div><div><div></div><div></div></div><div>Universal Call ID</div><div><div></div><div></div></div></div></div><div><div>Results</div><div><div>1</div><div>2</div><div>Next</div><div>Show All</div></div><table><thead><tr><th></th><th>Call Start</th><th>Len</th><th>Agent</th><th>Parties</th><th>Service</th></tr></thead><tbody><tr><td><input type="radio"/></td><td>09/22/08 02:20:20 PM</td><td>00:03</td><td>N/A</td><td>22721 (Customer)</td><td>N/A</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:28:41 PM</td><td>00:07</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:29:09 PM</td><td>00:15</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:29:21 PM</td><td>00:03</td><td>N/A</td><td>22721 (Customer)</td><td>N/A</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:29:46 PM</td><td>00:15</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:29:49 PM</td><td>00:07</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 22721 (Customer)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:30:14 PM</td><td>00:08</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 22721 (Customer)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:30:22 PM</td><td>00:15</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr><tr><td><input type="radio"/></td><td>09/22/08 03:30:39 PM</td><td>00:59</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 22721 (Customer)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr><tr><td><input checked="" type="radio"/></td><td>09/22/08 03:30:58 PM</td><td>00:15</td><td>N/A</td><td>12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)</td><td>54400 (PC4-Izpsds4 Adjunct Link)</td></tr></tbody></table></div></div></div></div>		Call Start	Len	Agent	Parties	Service	<input type="radio"/>	09/22/08 02:20:20 PM	00:03	N/A	22721 (Customer)	N/A	<input type="radio"/>	09/22/08 03:28:41 PM	00:07	N/A	12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)	54400 (PC4-Izpsds4 Adjunct Link)	<input type="radio"/>	09/22/08 03:29:09 PM	00:15	N/A	12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)	54400 (PC4-Izpsds4 Adjunct Link)	<input type="radio"/>	09/22/08 03:29:21 PM	00:03	N/A	22721 (Customer)	N/A	<input type="radio"/>	09/22/08 03:29:46 PM	00:15	N/A	12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)	54400 (PC4-Izpsds4 Adjunct Link)	<input type="radio"/>	09/22/08 03:29:49 PM	00:07	N/A	12025234567 (IP TRUNK TO DEVCON3), 22721 (Customer)	54400 (PC4-Izpsds4 Adjunct Link)	<input type="radio"/>	09/22/08 03:30:14 PM	00:08	N/A	12025234567 (IP TRUNK TO DEVCON3), 22721 (Customer)	54400 (PC4-Izpsds4 Adjunct Link)	<input type="radio"/>	09/22/08 03:30:22 PM	00:15	N/A	12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)	54400 (PC4-Izpsds4 Adjunct Link)	<input type="radio"/>	09/22/08 03:30:39 PM	00:59	N/A	12025234567 (IP TRUNK TO DEVCON3), 22721 (Customer)	54400 (PC4-Izpsds4 Adjunct Link)	<input checked="" type="radio"/>	09/22/08 03:30:58 PM	00:15	N/A	12025234567 (IP TRUNK TO DEVCON3), 26614 (Shailja's station 26614)	54400 (PC4-Izpsds4 Adjunct Link)
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9. Support

For technical support on any Witness product, contact Witness Systems Customer Support at 1-800-4-WITNESS (1-800-494-8637). Technical support email may be sent to support@witness.com.

10. Conclusion

These Application Notes describe the configuration steps required for Witness Systems Contact Store 7.7.1 to successfully interoperate with the Avaya CTIDialer. All feature functionality and serviceability test cases were completed successfully.

11. Additional References

The following documents may be found at <http://support.avaya.com>:

- [1] *Administrator Guide for Avaya Communication Manager*, Document ID 03-300509, Issue 4.0, February 2007
- [2] *Implementing Proactive Contact 4.0*, May, 2008
- [3] *Administering Avaya Proactive Contact (Linux-based Interface)*, January 2008
- [4] *Sample Avaya Proactive Contact 3.0 with CTI Installation and Configuration*, Issue 1.0
- [5] *PSN #2070U Instructions to disable CORBA SSL security on Avaya Proactive Contact 4.0.1* <http://support.avaya.com/elmodocs2/PSN/PSN2070u.doc>

Witness Documentation:

- [6] Witness Contact Store 7.7.1 documentation can be accessed using online help

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