AVAYA

Avaya Solution & Interoperability Test Lab

Application Notes for Witness Contact Store and Avaya Proactive Contact using Avaya PG230 - 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 Avaya PG230 switch. Witness Contact Store is a call recording solution capable of capturing audio from Avaya Communication Manager using a variety of integration mechanism. Witness Contact Store uses Avaya Proactive Contact Event Services to extract call event information and the 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.

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Solution & Interoperability Test Lab Application Notes
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1. Introduction

These Application Notes describe a compliance-tested configuration comprised of Avaya Proactive Contact 4.0.1 using Avaya PG230 switch (HardDialer) and Witness Contact Store Server 7.7.1 using PDS connector 3.0.2 (Witness CSS). Witness CSS uses the Event Service of Avaya HardDialer to extract call event information and the DMCC interface to Avaya Application Enablement Services Server (AES) to obtain the audio from Avaya Communication Manager. Additionally, Witness CSS uses the DMCC interface to Avaya AES to receive inbound call information for Predictive Agent Blending (PAB) campaign. For Outbound, Managed and Intelligent Call Blending (ICB) campaigns, Avaya HardDialer interacts directly with Avaya Communication Manager. The Avaya Proactive Contact using PG230 is a software and hardware solution.

Witness CSS uses the CMAPI extensions on Avaya Communication Manager to service observe the stations/extensions to be recorded. Witness CSS connects to Avaya Communication Manager via the DMCC interface to Avaya AES to get the audio traffic. Figure 1 shows the configuration used for the compliance testing.
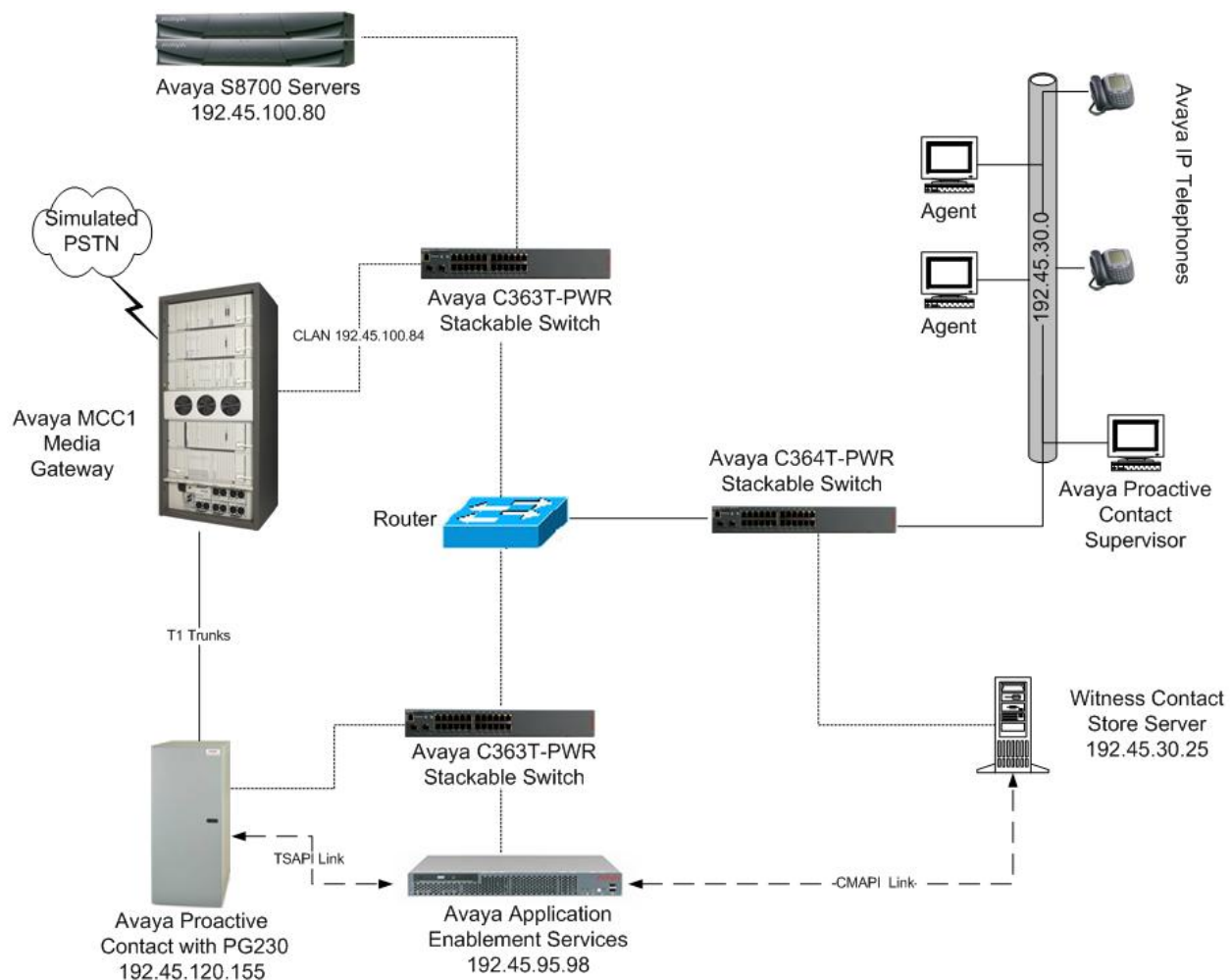
Figure 1: Avaya Proactive Contact, Avaya Communication Manager, Avaya AES and Witness Contact Store Configuration

2. Equipment and Software Validated

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

Equipment	Software
HP Proliant DL385G2	Avaya 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:

- Configure Avaya Communication Manager for Intelligent Call Blending on Avaya HardDialer
- Configure Avaya Communication Manager for Predictive Agent Blending on Avaya HardDialer
- 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.

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3.1. Configure Avaya Communication Manager for Intelligent Call Blending

Intelligent Call Blending uses T1 ports configured as DS1FD stations for inbound calls. The AAS option is used to allow the inbound ports to automatically log into the hunt group via the Agent LoginIDs. Implementation of the required DS1FD stations on Avaya Communication Manager can be achieved using the following series of steps.

Step	Description

1.	Enter the **add ds1 xxxxx** command, where **xxxxx** is the location of the DS1 circuit pack. Configure the following.
	
	• **Name** – Set to any descriptive string value.
	• **Bit Rate** – Set to **1.544**.
	• **Line Coding** – set to **ami-zcs**.
	• **Framing Mode** – set to **d4**.
	• **Signaling Mode** – set to **robbed-bit**.
	
	<pre>add ds1 1a14
	                          DS1 CIRCUIT PACK
	
	            Location: 01A14 Name: PDS 1-21-1
	            Bit Rate: 1.544 Line Coding: ami-zcs
	   Line Compensation: 1 Framing Mode: d4
	      Signaling Mode: robbed-bit
	
	Interface Companding: mulaw
	           Idle Code: 11111111
	
	      Slip Detection? n Near-end CSU Type: other
	</pre>

Step	Description

2.	Enter **add station** *n* command, where *n* is a valid extension as per the dial plan configure as follows:
	• **Type** – Set to **DS1FD**.
	• **Port** – Enter DS1 port number. Ports 17 through 20 are used for inbound calls.
	• **Name** – Set to any descriptive string value.
	• Repeat this step to configure additional DS1 ports for inbound calls.
	
	<pre>add station 30501 Page 1 of 3
	                             STATION
	
	Extension: 30501 Lock Messages? n BCC: 0
	    Type: DS1FD Security Code: TN: 1
	    Port: 01A1417 Coverage Path 1: COR: 1
	    Name: PDS Sta 30501 s1-21-1-17 Coverage Path 2: COS: 1
	                                    Hunt-to Station: Tests? y
	
	STATION OPTIONS
	              Loss Group: 4
	    Off Premises Station? y
	        R Balance Network? n</pre>

Step	Description

3.	Enter **add hunt-group** *n* command, where *n* is an unused hunt group number and configure as follows:
	• **Group Name** – Set to any descriptive string value.
	• **Group Extension** – Set to a valid extension provisioned in the dial plan.
	• **ACD** – Set to **y**.
	• **Queue** – Set to **y**.
	• **Vector** – Set to **y**.
	
	<pre>add hunt-group 621 Page 1 of 3
	                              HUNT GROUP
	
	              Group Number: 621 ACD? y
	                Group Name: Dialer ICB Queue? y
	           Group Extension: 30500 Vector? y
	                Group Type: ucd-mia
	                        TN: 1
	                       COR: 1 MM Early Answer? n
	             Security Code: Local Agent Preference? n
	   ISDN/SIP Caller Display:
	
	               Queue Limit: unlimited
	 Calls Warning Threshold: Port:
	  Time Warning Threshold: Port:</pre>
	On **Page 2** of the **HUNT GROUP** form, set the **Skill** and **AAS** fields to **y** as shown below.
	<pre>add hunt-group 621 Page 2 of 3
	                              HUNT GROUP
	                     Skill? y
	                       AAS? y
	                  Measured: none
	      Supervisor Extension:
	       Controlling Adjunct: none</pre>

Step	Description
4.	Enter **add agent-loginID *n*** command, where *n* is valid and configure as follows: • **Name** – Set to any descriptive string value. • **AAS** – Set to **y**. • **Port Extension** – Set to **Port Extension** field value configured in **Step 2**. • Repeat this step for other agent login ids to be configured.

```
add agent-loginID 20521                                    Page   1 of   2
                            AGENT LOGINID

                   Login ID: 20521                               AAS? y
                       Name: Dialer ICB                         AUDIX? n
                         TN: 1                          LWC Reception: spe
                        COR: 1                 LWC Log External Calls? n
             Coverage Path:                    AUDIX Name for Messaging:
             Security Code:

                                               LoginID for ISDN Display? n
                                                     Port Extension: 30501

                                                       Auto Answer: station
                                                   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


         WARNING:  Agent must log in again before changes take effect
```

Navigate to Page 2 on the **AGENT LOGINID** form. Set the **SN** (Skill Number) field to **621**, this is the hunt group number administered in **Step 3**. Set the **SL** (Skill Level) field to **1**.

```
change agent-loginID 20521                                 Page   2 of   2
                            AGENT LOGINID
       Direct Agent Skill:
Call Handling Preference: skill-level             Local Call Preference? n

    SN      SL         SN      SL         SN      SL         SN      SL
 1: 621     1       16:               31:               46:
 2:                 17:               32:               47:
 3:                 18:               33:               48:
 4:                 19:               34:               49:
```

Step	Description
5.	Enter the **change vector n** command, where **n** is an unused vector number. This vector will be used to send inbound calls to Avaya HardDialer. The vector should queue to the **skill** configured in **Step 4**.

```
change vector 621                                       Page   1 of   3
                              CALL VECTOR

    Number: 621               Name: PDS ICB
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? y
01 queue-to     skill 621  pri m
02
03
```

Step	Description
6.	This VDN will be used to send inbound calls to Avaya HardDialer. Enter **add vdn n** command, where **n** is an unused extension and configure as follows: • **Name** – Set to any descriptive string value. • **Vector Number** – Set to vector configured in **Step 5**.

```
add vdn 20600                                           Page   1 of   3
                        VECTOR DIRECTORY NUMBER

                          Extension: 20600
                              Name*: Dialer ICB
                      Vector Number: 621

                    Meet-me Conferencing? n
                       Allow VDN Override? n
                                     COR: 1
                                     TN*: 1
                                Measured: internal
            Acceptable Service Level (sec): 20

        VDN of Origin Annc. Extension*:
                           1st Skill*:
                           2nd Skill*:
                           3rd Skill*:
```

3.2. Configure Avaya Communication Manager for Predictive Agent Blending

Avaya HardDialer via the CTI link monitors the activity on Avaya Communication Manager contact centre devices 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.	Use the **display system-parameters customer-options** command. On **Page 3**, verify that the **Computer Telephony Adjunct Links** option is set to **y**.
	
	`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`

2.	On **Page 6**, verify that the **ACD** and **Vectoring (Basic)** fields are set to **y**.
	
	`display system-parameters customer-options                    Page   6 of  11`
	`                        CALL CENTER OPTIONAL FEATURES`
	`                         Call Center Release: 4.0`
	`                                  **ACD? y**                     Reason Codes? n`
	`                          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 (4.0 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`

3.	Add a CTI link using the **add cti-link** *n* command; where *n* is an available CTI link number and configure as follows:
	• **Extension** – Set to an available extension as per the dial plan.
	• **Type** – Set to **ADJ-IP**
	• **Name** – Set to any descriptive string value.

```
add cti-link 15                                          Page   1 of   2
                              CTI LINK
 CTI Link: 15
Extension: 24998
      Type: ADJ-IP
                                                               COR: 1

      Name: AES DEVCON2715
```

4.	Enter **add hunt-group** *n* command, where *n* is an unused hunt group number and configure as follows:
	• **Group Name** – Set to any descriptive string value.
	• **Group Extension** – Set to a valid extension provisioned in the dial plan.
	• **ACD** – Set to **y**.
	• **Queue** – Set to **y**.
	• **Vector** – Set to **y**.

```
add hunt-group 402                                       Page   1 of   3
                             HUNT GROUP
            Group Number: 402                          ACD? y
              Group Name: Dialer Inbound               Queue? y
         Group Extension: 50402                         Vector? y
              Group Type: ucd-mia
                      TN: 1
                     COR: 1                 MM Early Answer? n
           Security Code:               Local Agent Preference? n
  ISDN/SIP Caller Display:
```

On **Page 2** of the **HUNT GROUP** form, set the **Skill** field to **y** as shown below.

```
add hunt-group 402                                       Page   2 of   3
                             HUNT GROUP
                   Skill? y
                    AAS? n
                Measured: none
      Supervisor Extension:
       Controlling Adjunct: none
```

| 5. | Enter **change vector *n*** command, where ***n*** is associated to hunt group **402**. Enter the commands to **queue_to skill 402** as shown below.

```
change vector 402                                          Page   1 of   3
                            CALL VECTOR
    Number: 402                    Name: Dialer Inbound
                 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   4.0 Enhanced? n
01 queue-to      skill 402    pri h
02 wait-time     60  secs hearing ringback
03
04
```
|
| --- | --- |
| 6. | Enter **add vdn *n*** command, where ***n*** is an unused VDN and configure as follows:
- **Name** – Set to any descriptive string value.
- **Vector Number** – Set to the vector configured in above step.

```
add vdn 54402                                              Page   1 of   2
                        VECTOR DIRECTORY NUMBER
                         Extension: 54402
                              Name: Dialer Inbound
                     Vector Number: 402
                 Attendant Vectoring? N
                 Meet-me Conferencing? N
                  Allow VDN Override? N
                                 COR: 1
                                  TN: 1
                             Measured: none
                        1st Skill:
                        2nd Skill:
                        3rd Skill:
```
|

7.	Enter the **add agent-loginID** *n* command, where *n* is valid extension as per the dial plan and configure as follows:
	Name – Set to any descriptive string value. **Auto Answer** - Set to **all**. - Repeat this step to configure additional agent login IDs.

```
add agent-loginID 25020                                    Page   1 of   2
                                AGENT LOGINID
                 Login ID: 25020                                   AAS? n
                     Name: Agent1                                 AUDIX? n
                       TN: 1                           LWC Reception: spe
                      COR: 1                  LWC Log External Calls? n
            Coverage Path:                   AUDIX Name for Messaging:
            Security Code:

                                             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
```

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.

```
change agent-loginID 25020                                   Page   2 of   2
                                AGENT LOGINID
        Direct Agent Skill:
Call Handling Preference: skill-level               Local Call Preference? n
      SN        SL          SN      SL          SN      SL          SN      SL
  1: 402     2          16:                 31:                 46:
  2:                    17:                 32:                 47:
  3:                    18:                 33:                 48:
  4:                    19:                 34:                 49:
```

8.	Enter the **change station n** where n is already configured agent phone/headset extension used by the HardDialer. On **Page 3**, configure the following button assignments:
	• **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.
	• Repeat this step to configure additional agent phone/headset extensions.
	
	<pre>change station 22720 Page 3 of 4
	                              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: aux-work RC: Grp:
	 2: call-appr 6: auto-in Grp:
	 3: call-appr 7: after-call Grp:
	 4: call-fwd Ext: 8: release</pre>

3.3. 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.	Enter **change system-parameters customer-options** and configure as follows:
	• **Service Observing (Basic)** – Set to **y**.
	• **Service Observing (Remote/By FAC)** – Set to **y**.
	
	Note: A license is required to activate these features
	
	<pre>change system-parameters customer-options Page 6 of 11
	                        CALL CENTER OPTIONAL FEATURES
	
	                        Call Center Release: 12.0
	
	                              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.	Enter change **feature-access-codes** and set **Service Observing Listen Only Access Code** to ***05**.
	
	<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>

3.4. 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.	Enter **change cor 5** and configure as follows:
	• **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.	Enter **add station <s>**, where **s** is an unused extension and configure as follows: • **Type** – Set to **4610**. • **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 Time of Day Lock Table: Loss Group: 19 Personalized Ringing Pattern: 1 Message Lamp Ext: 23301 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</pre>

Step	Description
3.	Go to **Page 4** of the **STATION** form and add **serv-obsrv** in the **BUTTON ASSIGNMENTS**. ``` 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: ```
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 Media Server and Avaya AES have been configured and are operational, and that a calling list has been successfully downloaded to Avaya HardDialer. Avaya HardDialer 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 [6] 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 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.
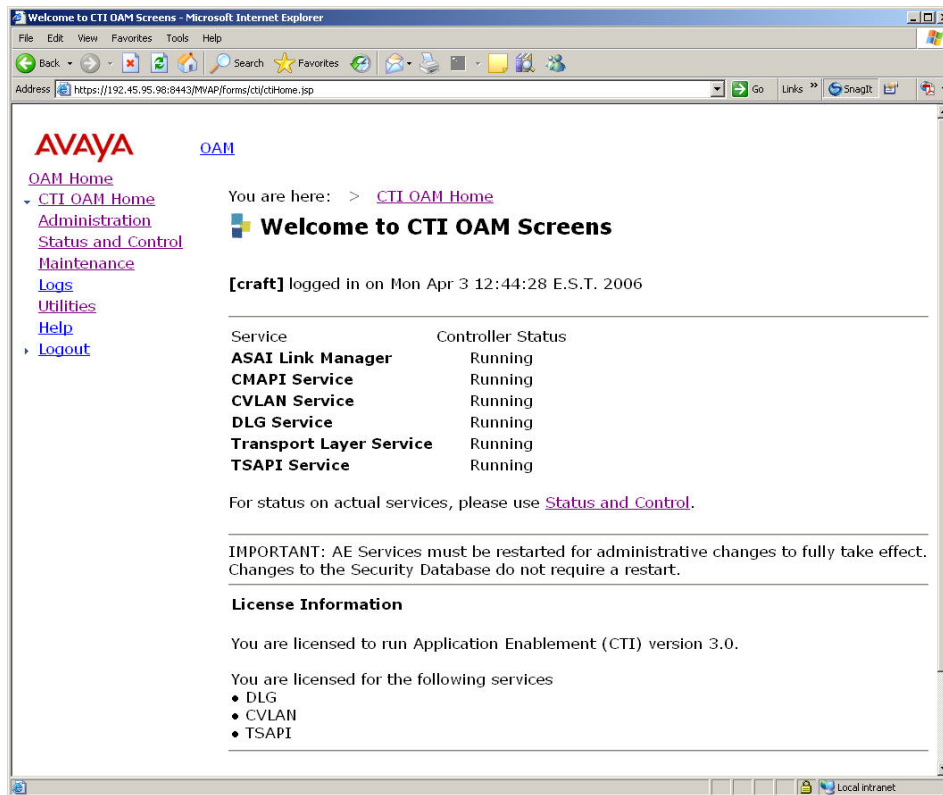
3.	From the **CTI OAM Home** menu, select **Administration → Security Database → Devices**. Click on **Add Devices** at the next screen [not shown]. In the **Add/ Edit Device** screen shown below, configure the **Device ID** to match the CMAPI station configured in **Section 3.4**, **Step 2-3**. Click on **Apply Changes**.

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**.
	
	![Application Enablement Services - Operations Administration and Maintenance. Screenshot showing the Add User page with navigation menu on the left (User Management Home, User Management, List All Users, Add User, Search Users, Modify Default User, Change User Password, Service Management, Help). The form shows: User Id: cmapi, Common Name: cmapi, Surname: cmapi, User Password: *****, Confirm Password: *****, Admin Note: blank, Avaya Role: None, Business Category: blank, Car License: blank, CM Home: blank, Css Home: blank, CT User: No]
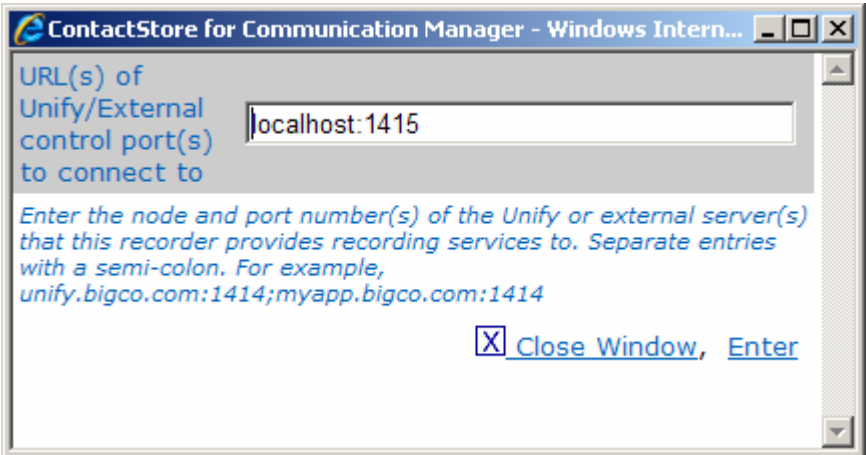
6. Configure Witness Contact Store Server

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

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 http://<IP address of Contact Store server>:8080/ in the URL.
2.	Login into Witness CSS using proper credentials.

Step	Description
3.	Following screen is displayed after logging on to the system.
4.	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**.

AT; Reviewed:
SPOC 2/20/2009

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PC4PG230CSS

Step	Description
5.	Select **Communication Manager** tab on the System Administration screen at **Step 3** to display this screen and verify the following:

- **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 Manger.
- A**E 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 3.4**, **Step 2**.
- Ports/Port range specified in the screen should match the CMAPI stations defined in **Section 3.4**, **Step 2-3**. In this example, Port range specified is from **23301** to **23304**.

ContactStore powered by AVAYA

Replay
Search and Replay

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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
☐	23301-23304	4	

Add port(s), Delete selected port(s)

Step	Description
6.	Select **Station Bulk** tab on the **System Administration** screen at **Step 3** to display this screen and verify the following: • **Audio format** – Set to **G.729A**. • **Record calls that do NOT have a VDN number?** – Set to **Yes**. • **Filter calls by VND 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 HardDialer, the PDS Connector needs to be configured as follows:

- Login into 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 HardDialer Server.
  - **PDS.Password** – Password corresponding to the **Username**.
  - **PDS.DialerHost** – Name of the Avaya HardDialer 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 Avaya HardDialer 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 HardDialer 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 HardDialer 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 first part of the call prior to completion of transfer is properly tagged. For serviceability testing, Witness CSS was able to resume recording calls after restoration of connectivity to the Avaya HardDialer, after network disconnect/re-connect, and after reset of Witness CSS. For stability testing, Witness CSS successfully recorded calls for a sustained period of time.
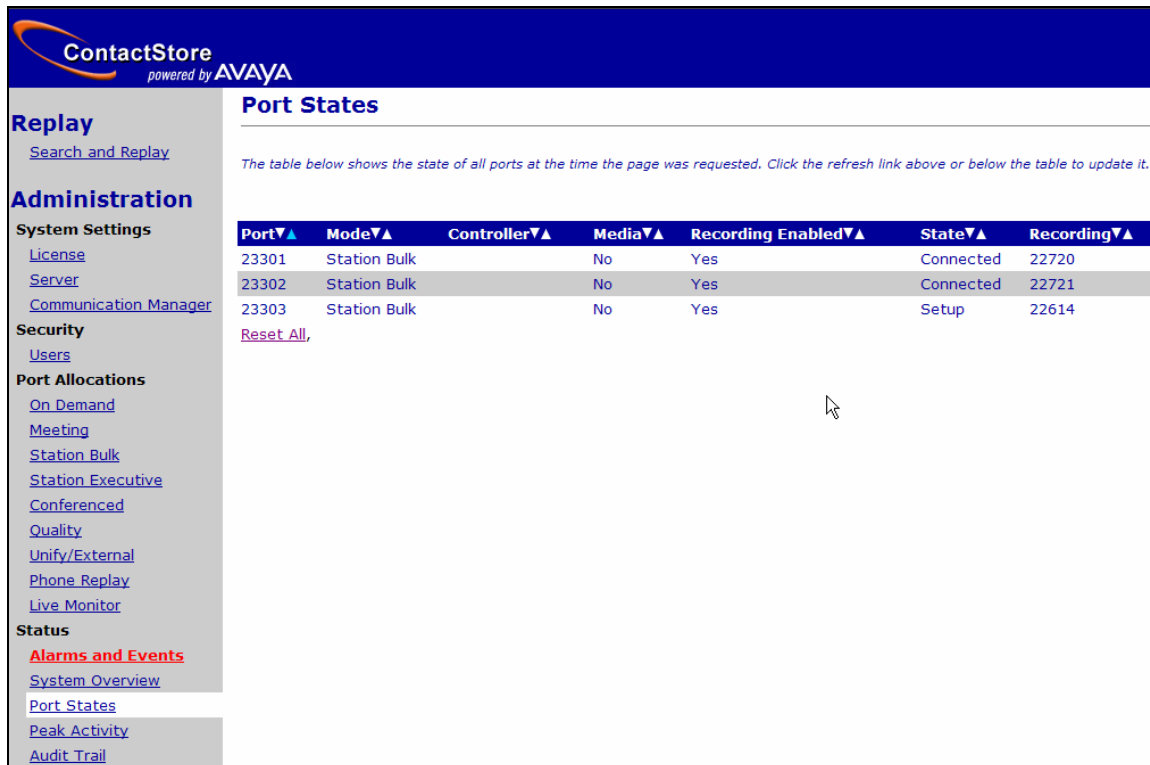
Following observations were made during testing:
- Witness CSS is not able to connect back to the Avaya HardDialer after the PDS connector on Witness CSS is stopped and restarted.
- Agent needs to logoff and log back on after the Avaya HardDialer restarts.

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 5** are recording the Agent extensions to be supervised as configured in **Section 6.1**, **Step 6**.

8.2. PDS Connector Link

Login into 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 HardDialer has been established.

8.3. Witness CSS Recording Playback

Step	Description
1.	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 box on the left.

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 HardDialer. 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]   *Sample Avaya Proactive Contact 3.0 Intelligent Call Blending Configuration*, Issue 1.0

[6]   *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:

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

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