**Avaya Solution & Interoperability Test Lab**

# Application Notes for Envision Performance Suite with Avaya Proactive Contact – Issue 1.0

## Abstract

These Application Notes describe the configuration steps required for Envision Performance Suite 8.4 to successfully interoperate with Avaya Proactive Contact 3.0.

Envision Performance Suite 8.4 delivers enterprise call recording capabilities to optimize call center quality and performance. Envision Performance Suite 8.4 uses the Event Service of Avaya Proactive Contact 3.0 to extract agent and call event information. The test configuration consisted of Avaya S8700 Servers with an MCC1 Media Gateway running Avaya Communication Manager 4.0 and Avaya Proactive Contact 3.0.

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

AT; Reviewed:
SPOC 9/22/2008

Solution & Interoperability Test Lab Application Notes
©2008 Avaya Inc. All Rights Reserved.

1 of 25
AvayaPC3EnvSuit

# 1. Introduction

These Application Notes describe the compliance-tested configuration utilizing Avaya Proactive Contact 3.0 (PC3) and Envision Performance Suite 8.4. Envision Performance Suite 8.4 is a hardware and software solution that consists of a Performance Suite Server (Envision Server) and Performance Suite Quality Monitor (Quality Monitor). Envision Server is supported on Windows 2000 Server and Windows 2003 Server operating systems. Envision Server monitors, records, and stores phone calls. The Quality Monitor plays back phone calls for verification and quality assurance. During the compliance testing, the Service Observing feature was used to do the call recording.

Envision Server uses the Event Services interface available on PC3 and T1 lines on the Avaya Media Gateway to record calls arriving at agent telephones. Envision Server registers with the PC3 for the following events:

- Call Events
    - o CALLINITIATED
    - o CALLANSWERED
    - o CALLCONNECTED
    - o CALLDISCONNNECT
    - o CALLENDED
    - o CALLHELD
    - o CALLRETRIEVED
    - o CALLTRANSFER
    - o CALLCONSULT
    - o CALLTRANSFER

- Agent Events
    - o AGENTLOGON
    - o AGENTLOGOFF
    - o AGENTONLINE
    - o AGENTNOTREADY
    - o AGENTPREVIEW
    - o AGENTOFFLINE
    - o AGETNREADY
    - o AGENTOFFCALL
    - o AGENTONCALL

Envision Server uses the AGENTONCALL event to start recording and the CALLENDED and CALLDISCONNECT events to stop recording.

There are three possible system deployments of Avaya Proactive Contact 3.0.
- Avaya Proactive Contact with computer telephony interface (CTI)
- Avaya Proactive Contact with Avaya Proactive Contact Gateway PG230

- Avaya Proactive Contact with the System Cabinet (the System Cabinet contains the PG230)

The compliance testing was configured for Avaya Proactive Contact with the System Cabinet as shown in Figure 1.
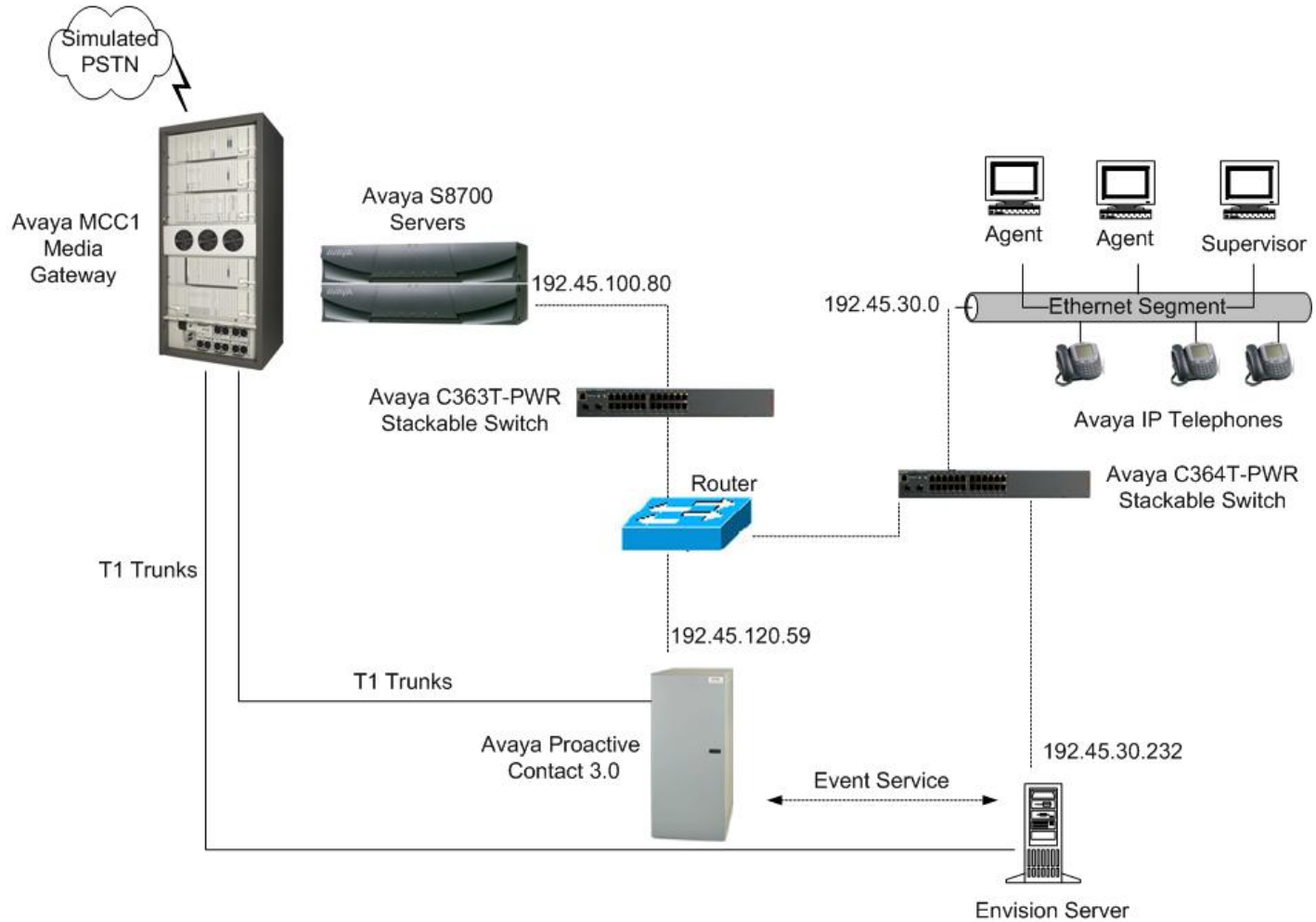


**Figure 1: Avaya DevConnect Compliance Test Configuration**

## 2. Equipment and Software Validated

The following equipment and software were used for the test configuration.

| Equipment | Version |
|---|---|
| Avaya Proactive Contact System Cabinet with B2600 HP Server and Digital PG230 Switch | Avaya Proactive Contact 3.0 SP 1, Build 36 |
| Avaya S8700 Media Server | Avaya Communication Manager 4.0 (R014x.00.0.730.5) |
| Avaya MCC1 Media Gateway | |
|      TN464 DS1 Interface | HW02, FW016 |
| Avaya 4610SW IP Telephones (H.323) | 2.1.3 |
| Avaya C363T-PWR Converged Stackable Switch | 4.5.14 |
| Avaya C364T-PWR Converged Stackable Switch | 4.5.14 |
| Envision Server | 8.4 Service Pack 9, Hotfix 1 |
| Envision Performance Suite (Quality Monitor) | 8.4 Service Pack 9 |

## 3. Configure Avaya Communication Manager

These Application Notes address provisioning of Avaya Communication Manager as it relates to integration with Envision Server. The trunk and station provisioning details along with setting up the Service Observing feature for recording calls are included here. 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.

The Avaya Communication Manager to Avaya Proactive Contact configuration is outside the scope of these Application Notes and should already be operating successfully. The trunks between Avaya Communication Manager and Avaya PC3 have already been configured during the installation of Avaya PC3.

## 3.1. Configure Service Observing feature

Envision Server uses the Service Observing feature to record agent calls. Configuration steps in Avaya Communication Manager are as follows:

| Step | Description |
|------|-------------|
| 1. | Enter **change system-parameters customer-options** and configure as follows:<br><br>• **Service Observing (Basic)** – Set to **y**.<br><br>• **Service Observing (Remote/By FAC)** – Set to **y**.<br><br>**Note**: A license is required to activate these features<br><br><pre>change system-parameters customer-options                    Page   6 of  11<br>                          CALL CENTER OPTIONAL FEATURES<br><br>                           Call Center Release: 12.0<br><br>                                ACD? y      PASTE (Display PBX Data on Phone)? y<br>                        BCMS (Basic)? y                        Reason Codes? y<br>           BCMS/VuStats Service Level? y             Service Level Maximizer? n<br>    BSR Local Treatment for IP & ISDN? n          Service Observing (Basic)? y<br>                   Business Advocate? n    Service Observing (Remote/By FAC)? y<br>                    Call Work Codes? y           Service Observing (VDNs)? y<br>        DTMF Feedback Signals For VRU? n                          Timed ACW? y<br>                    Dynamic Advocate? n                   Vectoring (Basic)? y<br>         Expert Agent Selection (EAS)? y              Vectoring (Prompting)? y<br>                            EAS-PHD? y          Vectoring (G3V4 Enhanced)? y<br>                   Forced ACD Calls? n    Vectoring (ANI/II-Digits Routing)? y<br>                Least Occupied Agent? n    Vectoring (G3V4 Advanced Routing)? y<br>           Lookahead Interflow (LAI)? y                   Vectoring (CINFO)? y<br>   Multiple Call Handling (On Request)? y    Vectoring (Best Service Routing)? n<br>      Multiple Call Handling (Forced)? y             Vectoring (Holidays)? n<br>                                                    Vectoring (Variables)? n<br><br>           (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**.<br><br><pre>change feature-access-codes                              Page   5 of   8<br>                         FEATURE ACCESS CODE (FAC)<br><br>                    Automatic Call Distribution Features<br><br>                  After Call Work Access Code: *13<br>                         Assist Access Code:<br>                        Auto-In Access Code: *15<br>                      Aux Work Access Code: *16<br>                         Login Access Code: *17<br>                        Logout Access Code: *20<br>                     Manual-in Access Code: *12<br>   Service Observing Listen Only Access Code: *05<br>   Service Observing Listen/Talk Access Code: *06<br>                 Add Agent Skill Access Code:<br>              Remove Agent Skill Access Code:</pre>Remote Logout of Agent Access Code: |

## 3.2. DS1FD Lines from the MCC1 Media Gateway to Envision Performance Suite Server

Envision Server uses T1 lines configured as DS1FD stations to record telephone calls. Configuration steps in Avaya Communication Manager are as follows:

| Step | Description |
|------|-------------|
| 1. | Enter **add ds1 1a17** and configure as follows: <br><br> • **Name** - Enter any descriptive name. <br><br> • **Line Coding** – Set to **ami-zcs** for this testing. <br><br> • **Framing Mode** – Set to **d4** for this testing. <br><br> • **Signaling Mode** – Set to **robbed-bit** for this testing. <br><br> <pre>add ds1 1a17<br>                        DS1 CIRCUIT PACK<br><br>          Location: 01A17                    Name: Envision<br>          Bit Rate: 1.544              Line Coding: ami-zcs<br>   Line Compensation: 1                Framing Mode: d4<br>     Signaling Mode: robbed-bit<br><br><br>Interface Companding: mulaw<br>          Idle Code: 11111111<br><br><br><br>     Slip Detection? n             Near-end CSU Type: other</pre> |

| Step | Description |
|------|-------------|
| 2. | Enter **change cor 5** and configure as follows:<br><br>• **COR Description** – Enter any descriptive name.<br><br>• **Can Be a Service Observer** – Set to **y**.<br><br><pre>change cor 5                                           Page   1 of   4<br>                         CLASS OF RESTRICTION<br><br>               COR Number: 5<br>          COR Description: Envision Server<br><br>                     FRL: 7                              APLT? y<br>  Can Be Service Observed? n      Calling Party Restriction: none<br>Can Be A Service Observer? y      Called Party Restriction: none<br>        Time of Day Chart: 1  Forced Entry of Account Codes? n<br>          Priority Queuing? n           Direct Agent Calling? n<br>      Restriction Override: all   Facility Access Trunk Test? n<br>      Restricted Call List? y           Can Change Coverage? n<br><br>            Access to MCT? y       Fully Restricted Service? n<br>Group II Category For MFC: 7       Hear VDN of Origin Annc.? n<br>        Send ANI for MFE? n         Add/Remove Agent Skills? n<br>           MF ANI Prefix:         Automatic Charge Display? n<br>Hear System Music on Hold? y   PASTE (Display PBX Data on Phone)? n<br>                     Can Be Picked Up By Directed Call Pickup? n<br>                            Can Use Directed Call Pickup? n<br>                          Group Controlled Restriction: inactive</pre> |
| 3. | Enter **add station <s>**, where **s** is an unused extension and configure as follows:<br><br>• **Type** – Set to **DS1FD**.<br><br>• **Port** – Set to a channel for the DS1 board configured.<br><br>• **COR** – Set to the class of restriction configured in **Step 2**.<br><br><pre>add station 22261                                      Page   1 of   3<br>                              STATION<br><br>Extension: 22261                  Lock Messages? n        BCC: 0<br>    Type: DS1FD                    Security Code:          TN: 1<br>    Port: 01A1701                  Coverage Path 1:       COR: 5<br>    Name: CR Port 1                Coverage Path 2:       COS: 1<br>                                  Hunt-to Station:      Tests? y<br><br>STATION OPTIONS<br>                                  Time of Day Lock Table:<br>          Loss Group: 4<br>   Off Premises Station? y<br>      R Balance Network? N<br><br>         Survivable COR: internal</pre>Survivable Trunk Dest? y |

| Step | Description |
|------|-------------|
| **4.** | On **Page 2** of the **STATION** screen, configure as follows:<br><br>• **Data Restriction** – Set to **n**.<br><br>• **Call Waiting Indication**– Set to **n**.<br><br>• **Att. Call Waiting Indication** – Set to **n**.<br><br>• **Distinctive Audible Alert** – Set to **n**.<br><br>• **Switchhook Flash** – Set to **n**.<br><br>• Repeat **Steps 3** and **4** for additional stations to be configured for all the DS1 channels. |

```
add station 22261                                          Page   2 of   3
                                STATION
FEATURE OPTIONS
          LWC Reception: none
         LWC Activation? n                    Coverage Msg Retrieval? n
 LWC Log External Calls? n                               Auto Answer: none
            CDR Privacy? n                          Data Restriction? n
   Redirect Notification? n                    Call Waiting Indication? n
 Per Button Ring Control? n               Att. Call Waiting Indication? n
                                            Distinctive Audible Alert? n
        Switchhook Flash? n                       Adjunct Supervision? y
    Ignore Rotary Digits? n
        H.320 Conversion? n      Per Station CPN - Send Calling Number?
       Service Link Mode: as-needed
         Multimedia Mode: basic                Audible Message Waiting? n
    MWI Served User Type:
              AUDIX Name:
                                           Coverage After Forwarding? s
                                             Multimedia Early Answer? n

Emergency Location Ext: 22261
```

# 4. Configure Avaya Proactive Contact 3.0

These Application Notes assume that the interface with Avaya Proactive Contact 3.0, Avaya S8700 Servers and Avaya Communication Manager has been configured and is operational, and that a calling list has been successfully downloaded to PC3 [3]. The following features should have already been configured on PC3.
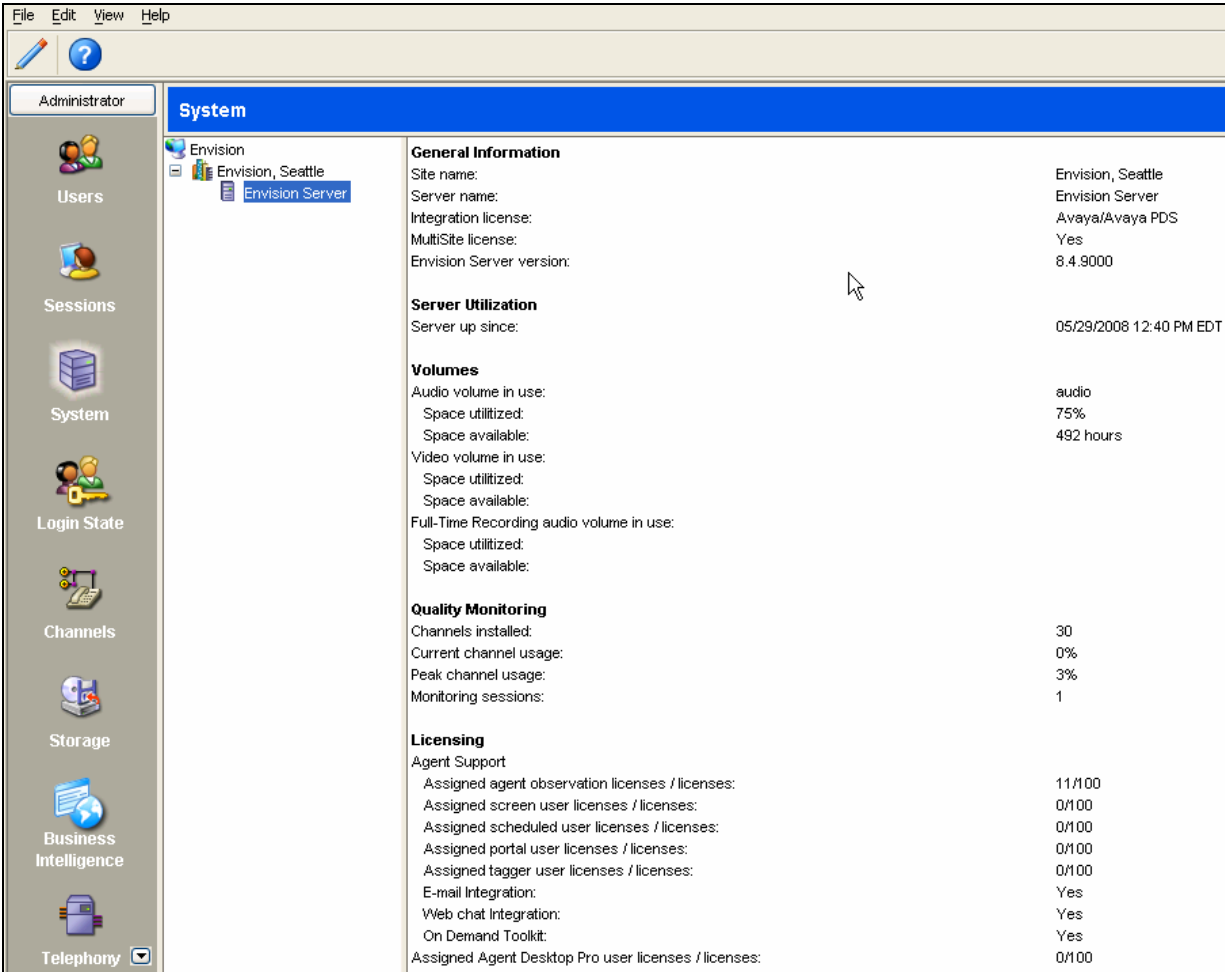
- Outbound Calling
- Intelligent Call Blending
- Predictive Agent Blending
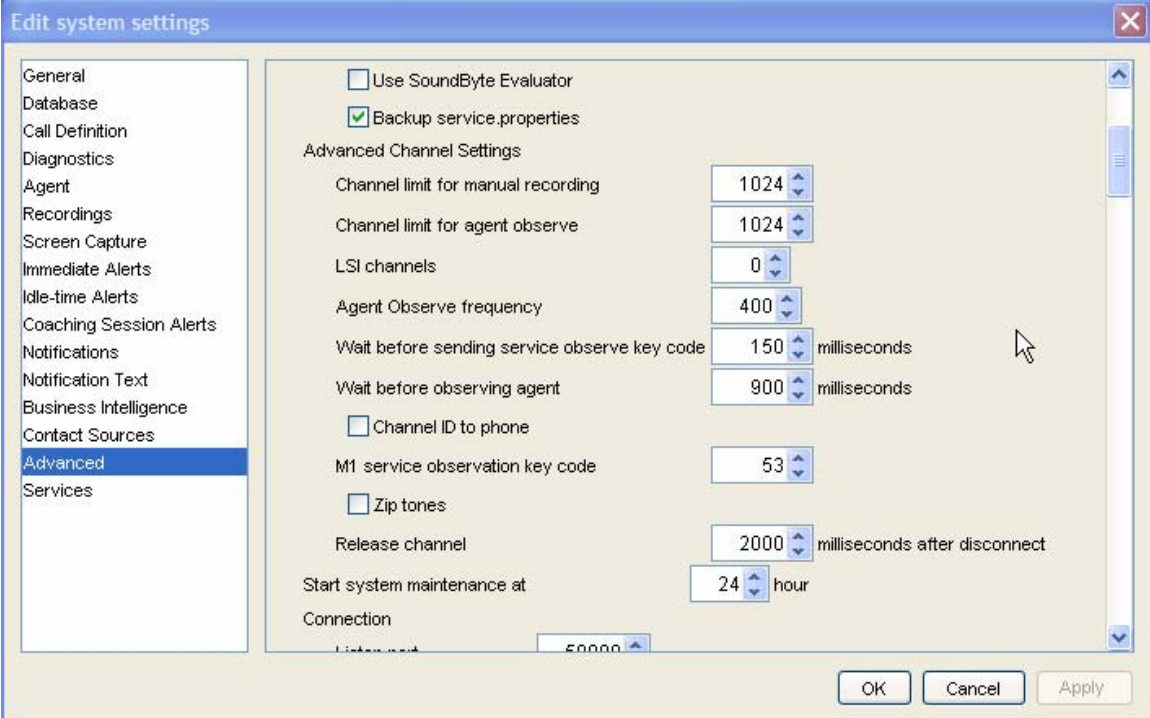
For the purpose of this compliance test only Outbound Calling features were exercised.
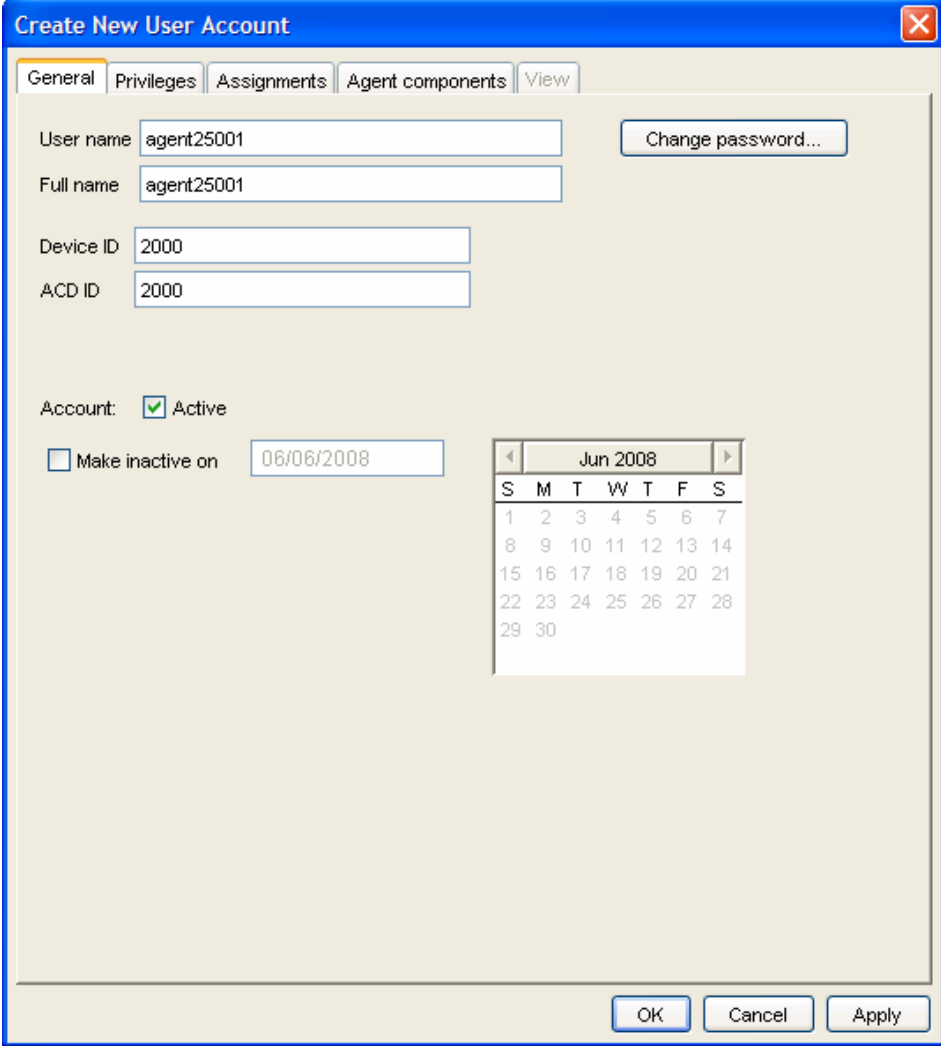
# 5. Configure Envision Performance Suite 8.4
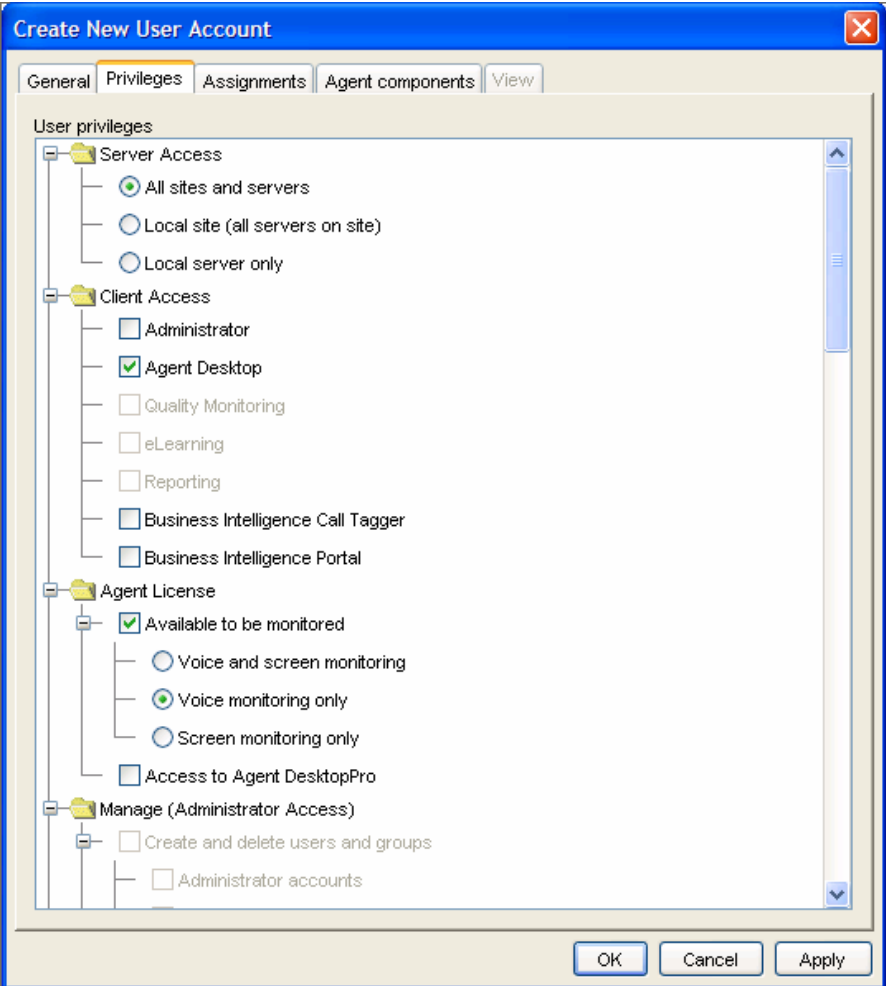
Initial provisioning of Envision Performance Suite Server is done by Envision on behalf of their customers. The following section provides an overview of the configuration steps necessary for Envision Performance Suite 8.4. Steps described here apply only to the fields where a value needs to be entered or modified. Default values are used for all other fields. Refer to [4] for additional information.
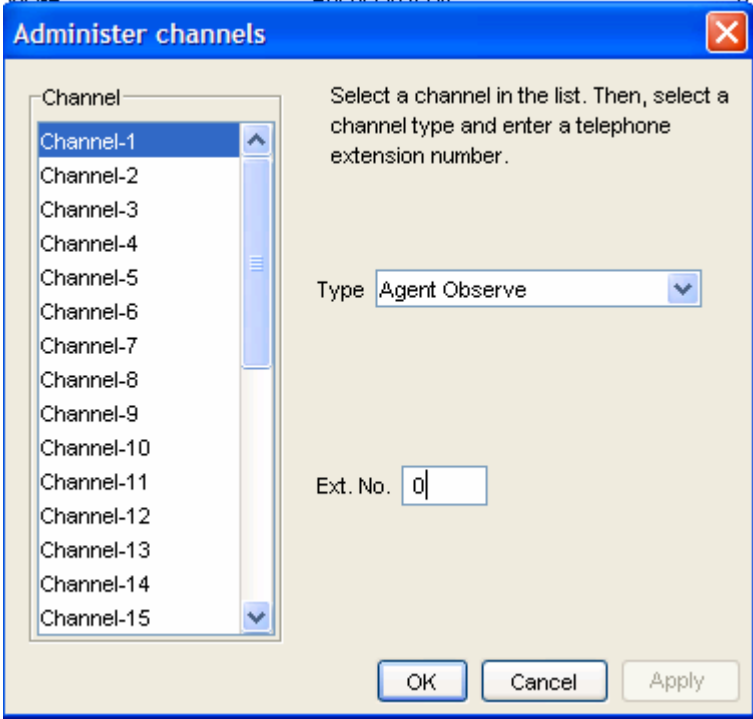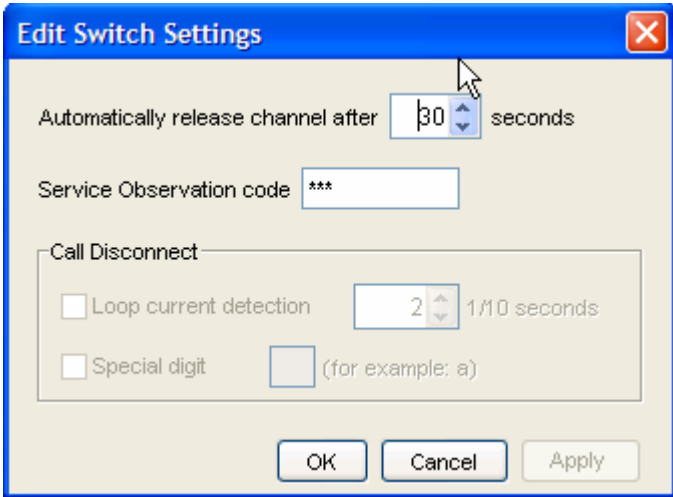
| Step | Description |
|------|-------------|
| 1. | Log into Envision Server Administrator with proper credentials. |

| Step | Description |
|---|---|
| **2.** | Click on **System** in the left pane of the **Administrator** screen to display the following screen. |

| Step | Description |
|---|---|
| 3. | Click on **Edit** menu on the screen at **Step 2** and select **Edit system settings** and then click on **Advanced** in the left pane of the **Edit system settings** screen. Following timing parameters need to be adjusted for recording:<br><br>   • **Wait before sending observe key code** - Set to 150 in this example.<br><br>   • **Wait before observing agent** - Set to 900 in this example.<br><br>   • Click **OK.**<br><br>**Note**: These values need to be fine tuned in the field to record properly.<br><br> |

| Step | Description |
|------|-------------|
| **4.** | Click **Users** on the screen at **Step 2** and select the **General** tab at the **Create New User Account** screen to configure agents as follows:<br><br>• **User name** – Set to any descriptive name.<br><br>• **Full name** – Set to any descriptive name.<br><br>• **Device ID** – Set to the same value as the Agent Id in PC3.<br><br>• **ACD ID** – Set to the same value as the Agent Id in PC3.<br><br>• Click **OK.** |

| Step | Description |
|------|-------------|
| **5.** | Select the **Privileges** tab on the **Create New User Account** Screen and make sure the **Voice monitoring only** option is checked. The **Voice and screen monitoring** option can also be used.<br><br> |

| Step | Description |
|------|-------------|
| 6. | Click **Channel** on the screen at **Step 2** and select the channel in the left pane of the **Administer Channel** screen. Set the **Type** field to **Agent Observe** from the pull down menu and then click **OK**. Repeat this step for the number of channels to be configured. |



| Step | Description |
|------|-------------|
| 7. | Click **Telephony** on the screen at **Step 2** and select the **Switch Settings** at the next screen [not shown]. On the **Edit Switch Settings** screen that appears, enter the **Service Observation code** then click **OK**. |

| Step | Description |
|------|-------------|
| **8.** | Verify that the server name used in the **Host Name** field in **Step 9** is defined in the hosts file on Envision Server typically found at C:\WINDOWS\SYSTEM32\DRIVERS\ETC\HOSTS. |
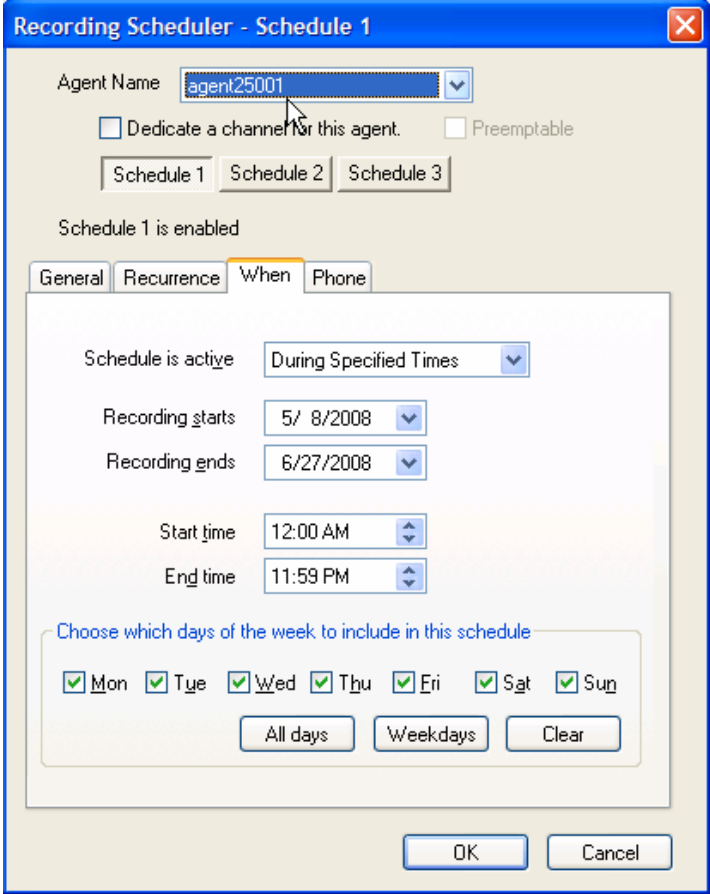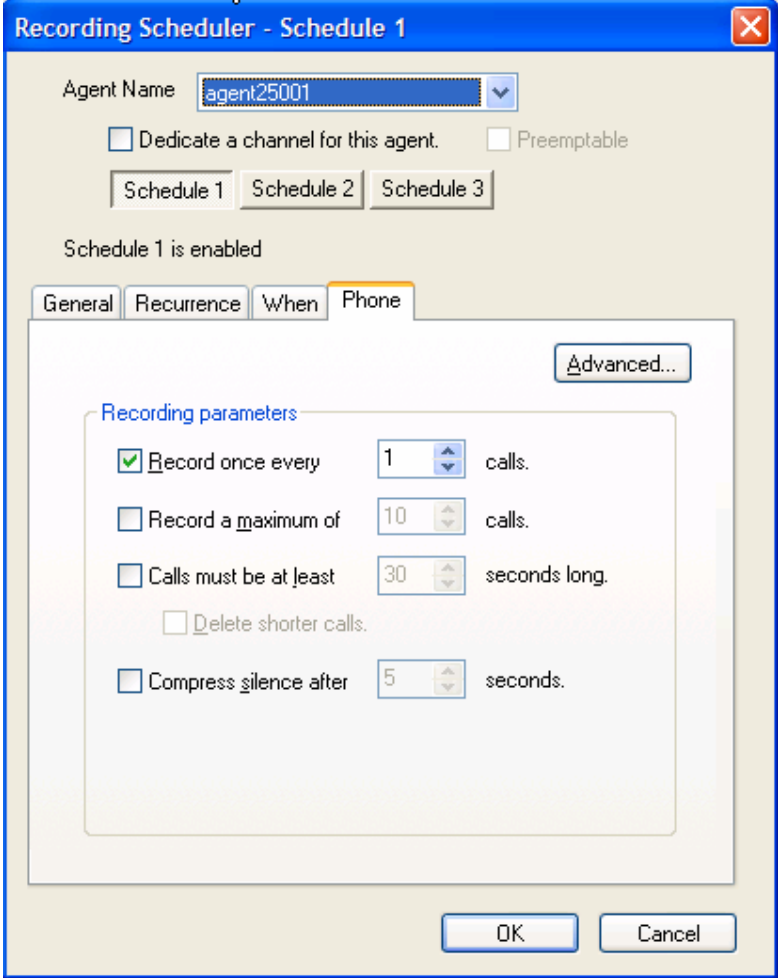
```
hosts - Notepad
File  Edit  Format  View  Help

# Copyright (c) 1993-1999 Microsoft Corp.
#
# This is a sample HOSTS file used by Microsoft TCP/IP for Windows.
#
# This file contains the mappings of IP addresses to host names. Each
# entry should be kept on an individual line. The IP address should
# be placed in the first column followed by the corresponding host name.
# The IP address and the host name should be separated by at least one
# space.
#
# Additionally, comments (such as these) may be inserted on individual
# lines or following the machine name denoted by a '#' symbol.
#
# For example:
#
#      102.54.94.97     rhino.acme.com          # source server
#       38.25.63.10     x.acme.com              # x client host

127.0.0.1       localhost
192.45.120.59   lzpds
```

| Step | Description |
|---|---|
| 9. | Click **Telephony** on the screen at **Step 2** and select the **AvayaPDS Settings** at the next screen [not shown] to configure the **New Avaya PDS** screen as follows:<br><br>• **Host name** – Set to the hostname of the Avaya Proactive Dialer.<br><br>• **Event Service Port** – Set to 23200.<br><br>• **User ID** – Set to the id created in PC3 for Envision Server to logon to PC3.<br><br>• **ACD ID** – Set to the password created in PC3 for Envision Server to logon to PC3.<br><br>• Click **OK.**<br><br> |
| 10. | Log into Envision Performance Suite Quality Monitor with proper credentials. |

| Step | Description |
|---|---|
| 11. | At the **Quality Monitor** client screen [not shown] select the **Recording Schedule** from the **Options** menu. Select the **Agent Name** from the drop down lists of agents configured in **Step 4** and then select **When** at the **Recording Scheduler** screen to specify the recording start and end times and date. In the following example, recording starts on 5/8/2008 and ends on 6/27/2008 and records between hours of 12:00AM to 11:59PM on all days of the week. Click **OK** after configuring the recording schedule. |

AT; Reviewed:
SPOC 9/22/2008

Solution & Interoperability Test Lab Application Notes
©2008 Avaya Inc. All Rights Reserved.

17 of 25
AvayaPC3EnvSuit

| Step | Description |
|------|-------------|
| **12.** | At the **Recording Scheduler** Screen, select the **Phone** tab and check the **Record once every** field to set it to **1** to record every call and then click **OK**. <br><br> |

# 6. Interoperability Compliance Testing

This interoperability compliance test covers feature functionality, serviceability and basic load testing.  Feature functionality focused on verifying that Envision Server could successfully record calls when using events from Avaya PC3.  Serviceability testing verified that Envision Server recovered from adverse conditions, such as rebooting, power failure and network disconnect.  Basic load testing verified that Envision Server could successfully record calls for an extended period of time.

## 6.1. General Test Approach

All feature functionality test cases were performed manually to verify proper operation.  The general test approach entailed:

- Establishing connectivity between Envision Server and Avaya Proactive Contact 3.0.
- Verifying calls could be recorded using the Service Observing Method.
- Verifying call recording using basic telephony operations such as answer, hold/retrieve, transfer, consult, conference, and disconnect.
- Verifying call recording with outbound calls.

The basic load testing was automated with outbound calls delivered to agents from Avaya PC3.  The Avaya PC3 executed a calling list, which delivered answered calls to agents.

## 6.2. Test Results

All feature and performance tests passed.  Envision Server successfully recorded, displayed and replayed the recordings of agents.  For all calls involving transfers, only the first part of the call was recorded (i.e., the call prior to getting transferred to another extension). For serviceability testing, Envision Server was able to resume call recording after restoration of connectivity to the PC3 server, from network disconnect/re-connect, and Envision Server resets.  For performance testing, Envision Server successfully recorded calls for a sustained period of time.

# 7. Verification Steps
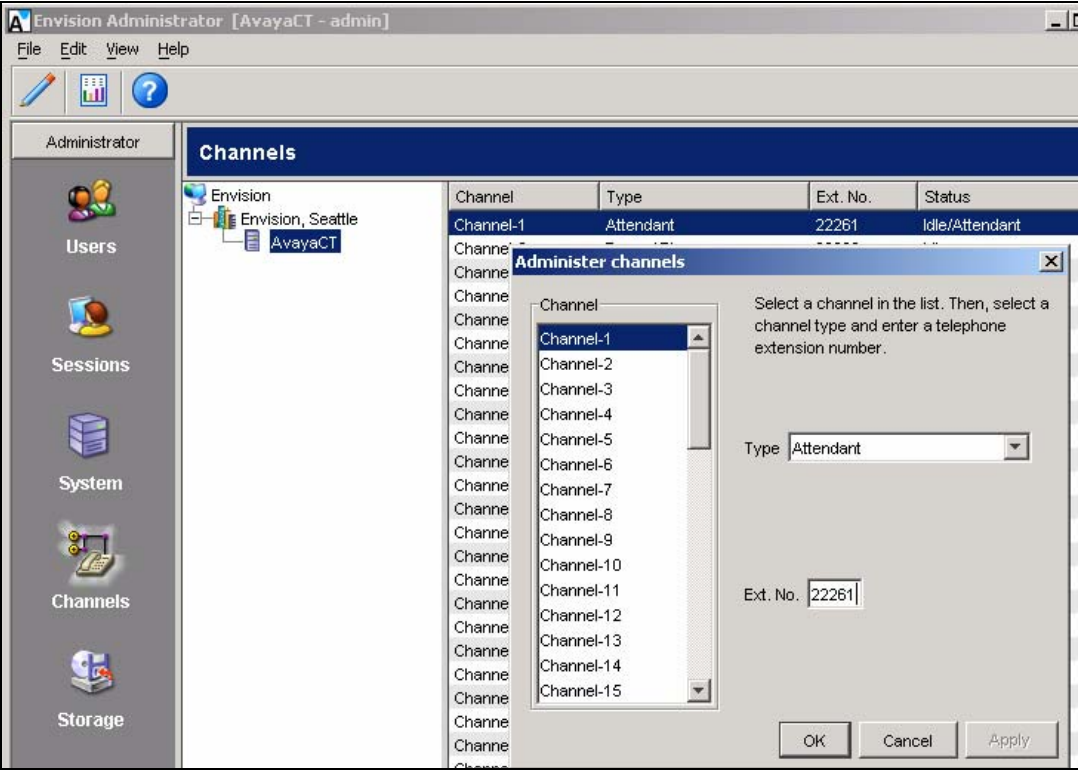
## 7.1. DS1FD Stations via the SAT

The T1 line(s) from the MCC1 Media Gateway to Envision Server can be verified through the SAT administration interface as follows:

| Step | Description |
|------|-------------|
| 1. | Run the **test board** command on the DS1 circuit pack assigned in **Step 1** of **Section 3.2**. Verify that tests 138 through 146 and tests 312 and 36 for each channel, all pass.<br><br>Note: An abort on test 1227 is expected for this configuration.<br><br><pre>test board 1a17                                                        Page   1<br><br>                          TEST RESULTS<br><br>Port          Maintenance Name  Alt. Name Test No. Result          Error Code<br><br>01A17         UDS1-BD                     138      PASS<br>01A17         UDS1-BD                     139      PASS<br>01A17         UDS1-BD                     140      PASS<br>01A17         UDS1-BD                     141      PASS<br>01A17         UDS1-BD                     142      PASS<br>01A17         UDS1-BD                     143      PASS<br>01A17         UDS1-BD                     144      PASS<br>01A17         UDS1-BD                     145      PASS<br>01A17         UDS1-BD                     146      PASS<br>01A17         UDS1-BD                     1227     ABORT           1951<br>01A1701       OPS-LINE         22261       312      PASS<br>01A1701       OPS-LINE         22261       36       PASS<br>01A1702       OPS-LINE         22262       312      PASS<br>01A1702       OPS-LINE         22262       36       PASS<br>01A1703       OPS-LINE         22263       312      PASS</pre> |

## 7.2. DS1FD Stations via Envision Server

The T1 line(s) from the MCC1 Media Gateway to Envision Server can be verified as follows:

| Step | Description |
|------|-------------|
| 1. | Run Envision Server Administrator and select any channel. Set the **Type** field to **Attendant** and the **Ext. No.** field to one of the DS1FD stations configured in **Section 3.2**, **Step 3**. Click OK.<br><br> |
| 2. | From any telephone on the system, dial the extension associated with Channel 1. Verify that Envision Server plays back "**Thank you for calling. You have been connected to Envision Telephony's Sound bite Enterprise System**." |

## 7.3. Recording on Envision Server

Agent recording on Envision Server can be verified as follows:

| Step | Description |
|------|-------------|
| 1. | At Envision Performance Suite Quality Monitor check that the recording is being done. Recording can be played by double clicking on the selected record.<br><br> |
| 2. | From any telephone on the system, dial the extension associated with Channel 1. Verify that Envision Server plays back "**Thank you for calling. You have been connected to Envision Telephony's Sound bite Enterprise System**." |

AT; Reviewed:
SPOC 9/22/2008

Solution & Interoperability Test Lab Application Notes
©2008 Avaya Inc. All Rights Reserved.

22 of 25
AvayaPC3EnvSuit

# 8. Support

For technical support on Envision Performance Suite, contact Envision Customer Support at (206) 225-0800 x600 or via e-mail at help@envisioninc.com. Technical support is also available at Envision's web site on http://www.envisioninc.com

# 9. Conclusion

These Application Notes describe the configuration steps required for Envision Performance Suite 8.4 to successfully interoperate with Avaya Proactive Contact 3.0.

Envision Performance Suite 8.4 delivers enterprise call recording capabilities to optimize call center quality and performance. Envision Performance Suite 8.4 uses the Event Service of Avaya Proactive Contact 3.0 to extract agent and call event information. The test configuration consisted of Avaya S8700 Servers with an MCC1 Media Gateway running Avaya Communication Manager 4.0 and Avaya Proactive Contact 3.0.

# 10. Additional References

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

[1]     *Administrator Guide for Avaya Communication Manager*, Issue 3.1, February 2007, Document Number 03-300509
[2]     *Avaya Proactive Contact 3.0 Installation and Configuration*, November 2005; Doc ID: 07-300491
[3]     *Avaya Proactive Contact 3.0 Administration (UNIX-based)*, October 2005; Doc ID: 07-300488

Product documentation for Envision Products may be found at http://support.envisioninc.com/

[4]     Envision Administrator User Guide, Version 8.4

## 10.1. Glossary

| Technical Term | Definition as it pertains to this document. |
|---|---|
| ANI | Automatic Number Identification |
| CTI | Computer Telephony Integration |
| DNS | Domain Name Service |
| DNIS | Dialed Number Identification Service |
| DS1FD | DS1 Forward Disconnect Station Type |
| PSTN | Public Switched Telephone Network |

**VDN**                Vector Directory Number