Avaya Solution & Interoperability Test Lab

Application Notes for Presence CRM Optimizer Voice with Avaya Communication Manager and Avaya Application Enablement Services Server – Issue 1.0

Abstract

These Application Notes describe the configuration steps required in order for Presence CRM Optimizer to successfully interoperate with Avaya Communication Manager Release 3.0 and Avaya Application Enablement Service Release 3.0.

Presence CRM Optimizer is a multi-channel contact management suite able to handle voice, text chat, e-mail and web contact mechanisms. Avaya Telephony Service API (TSAPI) interface is used to monitor and control agent stations, and handle routing of external calls. Presence CRM Optimizer consists of four modules. CRM Optimizer Voice was the only module that was compliance tested.

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

1. Introduction

These Application Notes describe the compliance-tested configuration using a Presence CRM Optimizer server and an Avaya Communication Manager system with Avaya Application Enablement Services (AES) Server used for CTI.

Presence CRM Optimizer is a multi-channel contact management suite able to handle voice, e-mail and web chat contact mechanisms. Avaya's Telephony Service API (TSAPI) interface is used to monitor and control agent stations, generate phantom calls for non-voice contacts, and handle routing of external calls. Presence CRM Optimizer consists of four modules. These are:

1. CRM Optimizer Voice,
2. CRM Optimizer Messaging,
3. CRM Optimizer Internet and
4. CRM Optimizer Scripting

CRM Optimizer Voice was the only module that was compliance tested.

Upon start of the CRM Optimizer Voice application, the application automatically queries Avaya Application Enablement Services (AES) for device status and requests monitoring. The CRM Optimizer Voice specifies where to route each call and hence what call treatments to provide, based on agent status information that the application tracks, based on CTI device query results and event reports received from Avaya Application Enablement Services (AES) Server.

Figure 1 shows the reference configuration.

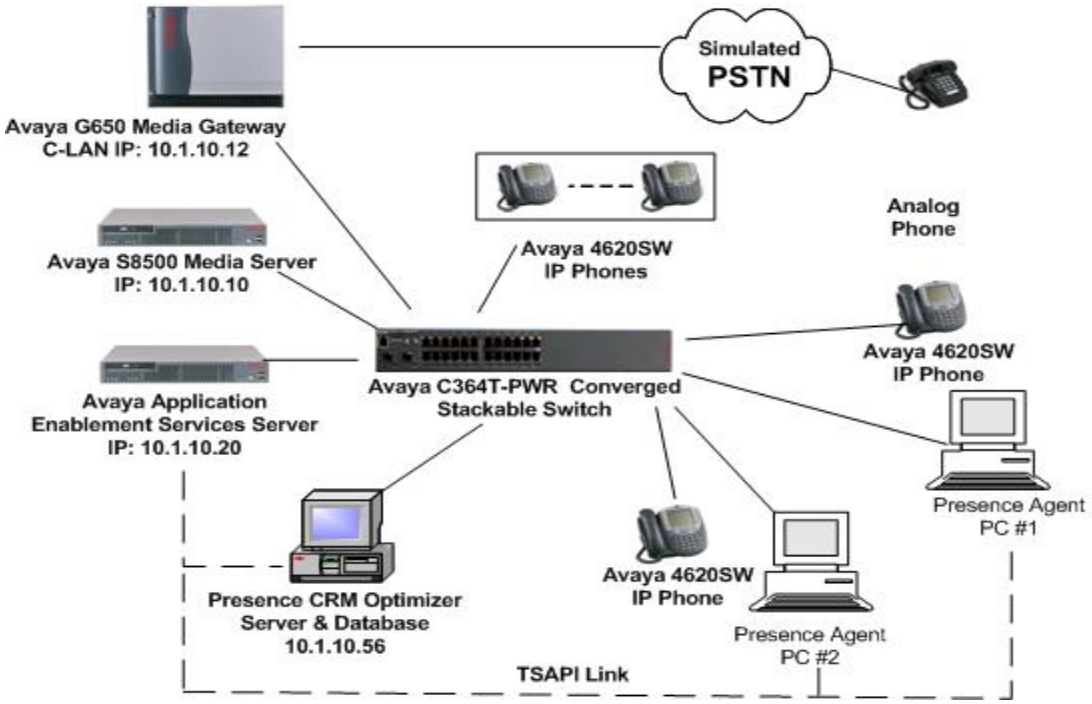


Figure 1: Avaya Communication Manager System with Presence CRM Optimizer Server

2. Equipment and Software Validated

Equipment	Software
Avaya S8500 Media Server	CM 3.0.1 (346.0)
Avaya G650 Media Gateway	N/A
Application Enablement Services Server	3.0, build 46
Avaya C364T-PWR Converged Stackable Switch	4.3.12
Avaya 4600 Series IP Telephones	2.2.3 (4620SW)
Presence CRM Optimizer Server	5.13
Oracle Database	8i
Operating System for Presence Agent PC's	Windows XP

3. Configure Avaya Communication Manager

Basic configuration of Avaya Communication Manager and Avaya Application Enablement Services Server are beyond the scope of these Application Notes. See Section 10 for Avaya documentation details.

3.1. Verify Avaya Communication System parameters

Log into the System Access Terminal (SAT) to verify that the Avaya Communication Manager license has proper permissions for features illustrated in these Application Notes. On Page 3, OPTIONAL FEATURES form of the system-parameters customer options verify the following options are set to "yes", as shown below.

- **Answer Supervision by Call Classifier** to "y"
- **Computer Telephony Adjunct Links**? 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
```

On Page 6, CALL CENTER OPTIONAL FEATURES form of the system-parameters features, verify the following customer options are set to “yes” as shown below.

- **ACD** to “y”
- **Vectoring (Basic)** to “y”
- **Expert Agent Selection (EAS)** to “y”

```
display system-parameters customer-options                    Page   6 of  11
                          CALL CENTER OPTIONAL FEATURES

                           Call Center Release: 3.0

                               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 (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
```

On Page 11, CALL CENTER SYSTEM PARAMETERS form of the system-parameters features, verify the following option is set to “yes” as shown below.

- **Expert Agent Selection (EAS) Enabled** to “y”

```
display system-parameters features                            Page  11 of  16
                        FEATURE-RELATED SYSTEM PARAMETERS

CALL CENTER SYSTEM PARAMETERS
  EAS
         Expert Agent Selection (EAS) Enabled? y
        Minimum Agent-LoginID Password Length:
          Direct Agent Announcement Extension:                     Delay:
    Message Waiting Lamp Indicates Status For: station
```

On Page 12, AGENT AND CALL SELECTION form of the system-parameters features, verify the following option is set to “yes” as shown below.

- **Call Classification After Answer Supervision** to “y”

```
display system-parameters features                              Page  12 of  16
                         FEATURE-RELATED SYSTEM PARAMETERS

  AGENT AND CALL SELECTION
                         MIA Across Splits or Skills? n
                          ACW Agents Considered Idle? y
                          Call Selection Measurement: current-wait-time
    Service Level Supervisor Call Selection Override? n
                                Auto Reserve Agents: none
  ASAI
            Copy ASAI UUI During Conference/Transfer? n
        Call Classification After Answer Supervision? y
                                  Send UCID to ASAI? n
```

3.2. Administer CTI Link with TSAPI Service

Enter **add cti-link n** command, where “n” is an available CTI link number. Enter an available extension number in the **Extension** field. The **Type** must be set to “ADJ-IP” and enter a descriptive name in the **Name** field.

```
add cti-link 3                                              Page   1 of   2
                                     CTI LINK
 CTI Link: 3
Extension: 13000
     Type: ADJ-IP
                                                                     COR: 1
     Name: TSAPI link 3
```

3.3. Administer Trunk for Inbound and Outbound Campaign Calls

Enter **change trunk group <xxx>** where xxx is the trunk group number for the pre-configured ISDN trunk which will be used for inbound and outbound campaign calls. It is assumed that the ISDN trunk and the corresponding signaling group are already configured.

Set the following values **UUI IE Treatment** to "shared" and **Maximum Size of UUI IE Contents** to "32". Default values may be used in the remaining fields.

```
change trunk-group 73                                          Page   2 of  21
TRUNK FEATURES
        ACA Assignment? n            Measured: none      Wideband Support? n
                               Internal Alert? n        Maintenance Tests? y
                             Data Restriction? n     NCA-TSC Trunk Member:
                                    Send Name: y      Send Calling Number: y
            Used for DCS? n
   Suppress # Outpulsing? n    Format: public
Outgoing Channel ID Encoding: preferred     UUI IE Treatment: shared
                                          Maximum Size of UUI IE Contents: 32
                                                 Replace Restricted Numbers? n
                                                Replace Unavailable Numbers? n
                                                      Send Connected Number: y
```

3.4. Administer SIT Treatment for Call Classification

This form is used to specify the treatment of Special Information Tones (SITs) used for Outbound Call Management type calls with USA tone characteristics.
Enter the **change sit-treatment** command. Set the **Pause Duration** to "0.8" and **Talk Duration** to "3.0". Note the values are in seconds.

Note: Answering Machine Detected (AMD) - An ASAI adjunct can request AMD for a call. If Answering Machine is detected, one of two treatments is specified. Valid entries are dropped and answered. Default is dropped.

```
change sit-treatment                                           Page   1 of   1
                      SIT TREATMENT FOR CALL CLASSIFICATION


                        SIT Ineffective Other: dropped
                                SIT Intercept: answered
                               SIT No Circuit: dropped
                                  SIT Reorder: dropped
                              SIT Vacant Code: dropped
                                  SIT Unknown: dropped

                                 AMD Treatment: dropped
                      Pause Duration (seconds): 0.8
                       Talk Duration (seconds): 3.0
```

3.5. Administer Class of Restriction

Enter the **change cor 1** command. Set the **Direct Agent Calling** to "y" on the CLASS OF RESTRICTION form, that will be used for the Hunt groups, VDNs, Vectors and agent logins.

```
change cor 1                                                    Page   1 of   4
                              CLASS OF RESTRICTION

               COR Number: 1
          COR Description: Main COR

                      FRL: 0                                 APLT? y
  Can Be Service Observed? y           Calling Party Restriction: none
Can Be A Service Observer? y            Called Party Restriction: none
 Partitioned Group Number: 1       Forced Entry of Account Codes? n
         Priority Queuing? n                 Direct Agent Calling? y
     Restriction Override: none       Facility Access Trunk Test? n
     Restricted Call List? n                  Can Change Coverage? n

            Access to MCT? y            Fully Restricted Service? n
Group II Category For MFC: 7
         Send ANI for MFE? 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
```

3.6. Administer Hunt Groups, Call Vectors and VDNs

Administer a set of hunt groups, vectors and Vector Directory Numbers (VDNs) per Presence CRM Optimizer installation documentation. VDNs and vectors were created to allow external calls to be handled by the CRM Optimizer server. These hunt groups, vectors and VDNs provide:

- Outbound Service (Progressive, Predictive)
  Progressive: In this outbound service mode, the Presence Server generates the calls through progressive dialing via the specified CTI link. The call is generated only when the contact handling has been finished and the agent status is back to available, so that a one-to-one relationship between an agent and a call is possible in this mode.
  Predictive: In this outbound service mode, the Presence Server generates the calls through predictive dialing via the specified CTI link. The call is anticipated before the contact handling has been finished and the agent status is back to available, so that a higher number of calls than the number of agents available for the service is possible in this mode.
- Outbound Service (Preview)
  Preview: In the preview mode, an agent working for an outbound service will receive a notification (through a phantom call) when the system detects that a call to an outbound record is due. Once the outbound record data have been retrieved, the agent will generate the call by clicking the Call button.
- Inbound Services

Below is a table of the configuration of the VDNs, Vectors, Huntgroups and Agent Logins configured for the different campaigns tested during compliance testing.

	Predictive/Progressive	**Preview**	**Inbound1**	**Inbound2**
VDN	17001	17002	17003	17004
Vector	1	2	3	3
Skill Ext/ Huntgroup	16001 / 1	16002 / 2	16003 / 3	16004 / 4
Agent Login	15001	15002	15003	15004

Enter the **add hunt-group n** command, where "n" is an unused hunt group number. On page 1 of the **hunt group** form, assign a **Group Name** and **Group Extension** valid under the provisioned dial plan. Set the following options to "yes" as shown below.

- **ACD** to "y"
- **Queue** to "y"
- **Vector** to "y"

```
add hunt-group 1                                          Page   1 of   3
                                   HUNT GROUP

            Group Number: 1                                 ACD? y
              Group Name: Predictive/Progressive          Queue? y
         Group Extension: 16001                          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:
```

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

```
add hunt-group 1                                          Page   2 of   3
                                   HUNT GROUP

                     Skill? y
                       AAS? n
                  Measured: none
     Supervisor Extension:

      Controlling Adjunct: none

                                       Redirect on No Answer (rings):
                                                   Redirect to VDN:
                    Forced Entry of Stroke Counts or Call Work Codes? n
```

Repeat the above step and create three more hunt groups with hunt-group extensions 16002 to 16004. The following figure lists the hunt-groups after the four hunt-groups are administered.

```
list hunt-group

                                HUNT GROUPS
Grp  Grp
No.  Name/           Grp     ACD/              No. Cov  Notif/  Dom   Message
     Ext             Type    MEAS Vec MCH  Que Mem Path Ctg Adj Ctrl  Center

1    Predictive/Progressive
     16001           ucd-mia y/N  SK  none y   0        n             n
2    Preview
     16002           ucd-mia y/N  SK  none y   0        n             n
3    Inbound
     16003           ucd-mia y/N  SK  none y   0        n             n
4    Inbound 2
     16004           ucd-mia y/N  SK  none y   0        n             n
```

Enter the **change vector n** command, where "n" is associated to hunt group 1 . Enter the commands to queue to the 1st skill on the VDN as shown below.

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

    Number: 1                Name: Predic/Progress
                  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 1  pri m
02 wait-time    5   secs hearing silence
03 disconnect   after announcement none
04 stop
05
```

Repeat the above step and configure two more vectors. These vectors will queue the agents to the skills described earlier. The following figure lists the vector after the three vectors are administered.

```
List vector
                                CALL VECTORS

                               Number      Name

                               1           Predic/Progress
                               2           Out Preview
                               3           Inbound
```

Enter the **add vdn n** command, where "n" is an unused VDN number. On Page 1 of the VECTOR DIRECTORY NUMBER form, assign a **Name** for the VDN and enter **Vector Number** "1" related to vector 1 and **1st Skill** to "1".

```
Add vdn 17001                                            Page   1 of   2
                            VECTOR DIRECTORY NUMBER

                             Extension: 17001
                                  Name: Predictive/Progressive
                        Vector Number: 1
                   Attendant Vectoring? N
                  Meet-me Conferencing? N
                    Allow VDN Override? N
                                   COR: 1
                                    TN: 1
                              Measured: none

                             1st Skill: 1
                             2nd Skill:
                             3rd Skill:
```

Repeat the above step and create three more VDNs with extensions 17002 to 17004. These VDNs will be sued for the different types of campaigns. The following figure lists the VDNs after the above administration is completed.

```
List vdn

                           VECTOR DIRECTORY NUMBERS
                                                                  Evnt
                                VDN         Vec       Orig      Noti    Skills
Name (22 characters)   Ext      Ovr COR TN  Num  Meas Annc      Adj  1st 2nd 3rd

Predictive/Progressive 17001     n  1   1   1    none                1
Outbound Preview       17002     n  1   1   2    none                2
Inbound 1              17003     n  1   1   3    none                3
Inbound 2              17004     n  1   1   3    none                4
```

3.7. Administer Agent Logins

Enter the **add agent-loginID n** command, where "n" is valid under the provisioned dial plan. Enter a descriptive name for the agent in the **Name** field. Ensure the **COR** field is set to "1" related to the COR configured in Section 3.5. The default value for **Auto Answer** is set to "station", except for those logins that will be used for progressive/predictive outbound services. In this case, the parameter value must be set to "all".

```
Add agent-loginID 15001                                    Page   1 of   2
                                 AGENT LOGINID

               Login ID: 15001                                  AAS? N
                   Name: Pred/Prog Outbound Agent             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 assigned to the login and the level for each of them in the **SN/SL** field as shown below.

```
Add agent-loginID 15001                                    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: 1       1       16:                 31:                 46:
 2:                 17:                 32:                 47:
 3:                 18:                 33:                 48:
```

Four hunt agent login's with extension from 15001 to 15004 were created for the different types of campaigns during compliance testing. This can be shown by entering a **list agent-loginID** command as shown below. Two inbound queues were configured so it is possible to transfer between agents in different Inbound queues. Agent 15003 & 15004 were also administered with two skills so Inbound 2 Agent would receive the call if Inbound 1 Agent was on a call.

```
list agent-loginID
                              AGENT LOGINID

Login    Name/           Dir  AAS/        Ag
ID       Extension       Agt  AUD     COR Pr SO Skil/Lv Skil/Lv Skil/Lv
Skil/Lv

15001    Pred/Prog Outbo                1 lvl      1/01     /       /       /
         unstaffe                                   /       /       /       /
15002    Preview Agent                  1 lvl      2/01     /       /       /
         unstaffe                                   /       /       /       /
15003    Inbound 1 Agent                 1 lvl      3/01    4/01    /       /
         unstaffe                                   /       /       /       /
15004    Inbound 2 Agent                1 lvl      4/01    3/01     /       /
         unstaffe                                   /       /       /       /
```

3.8. Administer Agent Phone's

Extension 10000 and 10001 were used as agent phones during the compliance testing. It is assumed that stations are already administered on the Avaya Communication Manager. The following buttons were assigned to each phone as shown below. Enter the **change station n** where "n" is the agent phone extension. On page 3 of the STATION form configure the following BUTTON ASSIGNMENTS.

- **aux-work** – Agent is logged on to the phone but not available
- **manual-in** – Agent goes available to accept ACD calls
- **after-call** – Agent state after the ACD call is completed ends the call
- **release** – To drop the call

```
change station 10000                                          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: manual-in          Grp:
 3: call-appr                          7: after-call         Grp:
 4: call-fwd   Ext:                    8: release
```

3.9. Administer Phantom Extensions

Extensions 10500 and 10501 were created as phantom extensions for Outbound Preview campaign calls. They are also needed for These are configured as stations that do not have a physical port assigned. The configuration for the first of these stations is shown below using the **add station n** command.

- **Type**: 6408D+
- **Port**: X (indicates that this is a virtual port)
- **COR**: 1

```
add station 10500                                          Page   1 of   4
                                     STATION

Extension: 10500                           Lock Messages? n          BCC: 0
     Type: 6408D+                          Security Code:             TN: 1
     Port: X                             Coverage Path 1:            COR: 1
     Name: Phantom 1                     Coverage Path 2:            COS: 1
                                         Hunt-to Station:

STATION OPTIONS
              Loss Group: 2              Personalized Ringing Pattern: 1
             Data Module? n                         Message Lamp Ext: 10500
            Speakerphone: 2-way                   Mute Button Enabled? y
        Display Language: english

                                                    Media Complex Ext:
                                                         IP SoftPhone? n
```

3.10. Administration for Direct transfer to Agents and Call Capturing

An additional vector and VDN is created for two additional Presence features Direct transfer to agents and Call capturing, configured in Section 5.8. The Direct Agent Calling (DAC) is an Expert Agent Selection (EAS) feature within Avaya Communication Manager that lets a caller calls the ACD agent directly.

- Contact a specific agent instead of a skill hunt group
- Queue for the agent if the agent is on a call
- Use Agent LoginID for callbacks and transfers

Enter the **change vector 4** command. The CTI link configured in Section 3.2 used by the Presence Server needs to be specified in the vector line 1. The command running in this line provides control over the call to the Presence Server so that the Presence Server may transfer it to a specific agent. Lines 3, 4 and 5 provide treatment to the call in case of an unsuccessful routing of the call by the adjunct link.

```
change vector 4                                                Page   1 of   3
                                   CALL VECTOR

  Number: 4                 Name: CallCapture/DirectTransfer
                  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 adjunct      routing link 3
02 wait-time    10  secs hearing silence
03 queue-to     skill 1st  pri m
04 wait-time    10  secs hearing silence
05 disconnect   after announcement none
06 stop
```

Enter the **add vdn 17005** command. On Page 1 of the VECTOR DIRECTORY NUMBER form, assign a **Name** for the VDN and enter **Vector Number** "4" related to vector 4 and **1st Skill** to "3". Set the **Allow VDN Override** to "y". This VDN is used to configure the Direct Agent transfer in Section 5.8.

```
add vdn 17005                                                  Page   1 of   2
                             VECTOR DIRECTORY NUMBER

                              Extension: 17005
                                   Name: Routing
                         Vector Number: 4
                   Attendant Vectoring? n
                  Meet-me Conferencing? n
                    Allow VDN Override? y
                                   COR: 1
                                    TN: 1
                              Measured: none

                             1st Skill: 3
                             2nd Skill:
                             3rd Skill:
```

Enter the **change agent-loginID 15004** command. On Page 2 of the AGENT LOGINID form, specify the list of skills assigned to the login and the level for each of them in the **SN/SL** field as shown below. Set the **Direct Agent Skill** to "3". This skill will be used to queue direct calls to the agent.

```
change agent-loginID 15004                                     Page   2 of   2
                                  AGENT LOGINID
      Direct Agent Skill: 3
Call Handling Preference: skill-level               Local Call Preference? n

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

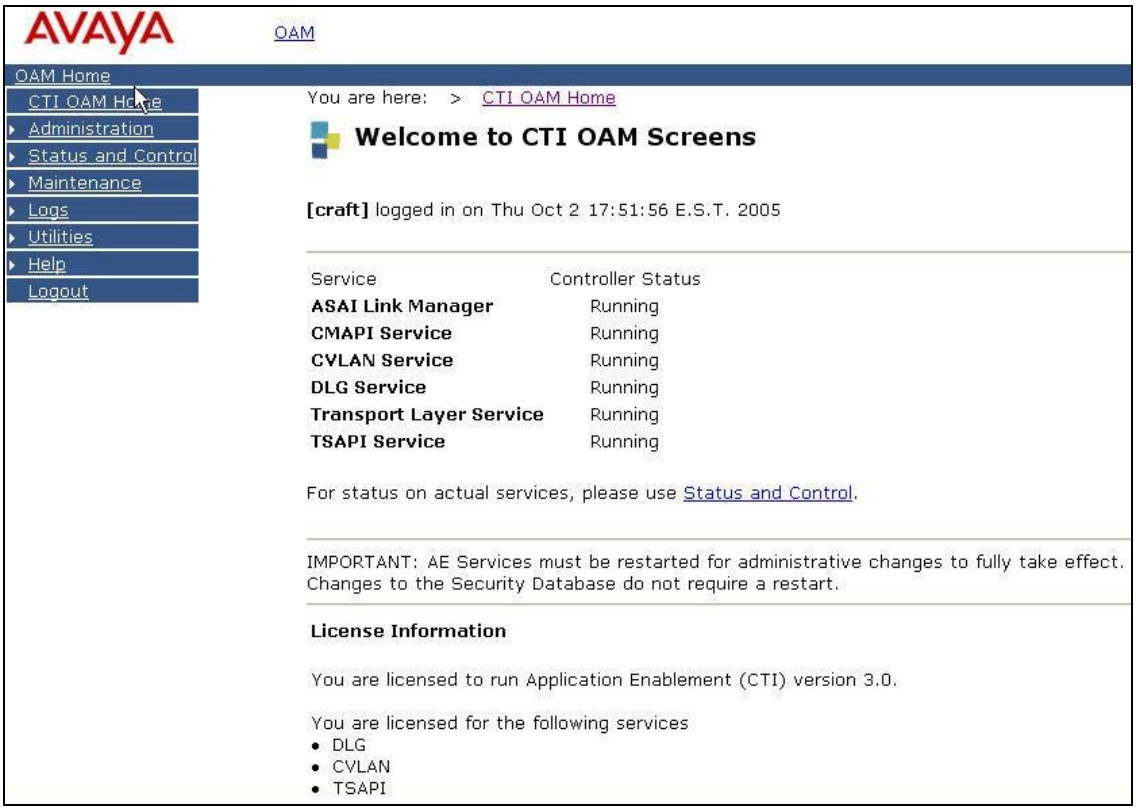
4. Configure Avaya Application Enablement Services Server

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

- Verify Avaya Application Enablement Services License
- Administer TSAPI link
- Administer security database
- Administer CRM Optimizer user

4.1. Verify Avaya Application Enablement Services License

Log into the Avaya Application Enablement Services (AES) Server OAM web interface to verify that the Avaya Application Enablement Services license has proper permissions for features illustrated in these Application Notes. Select **CTI OAM Admin** and check to make sure the TSAPI service is licensed as shown below.

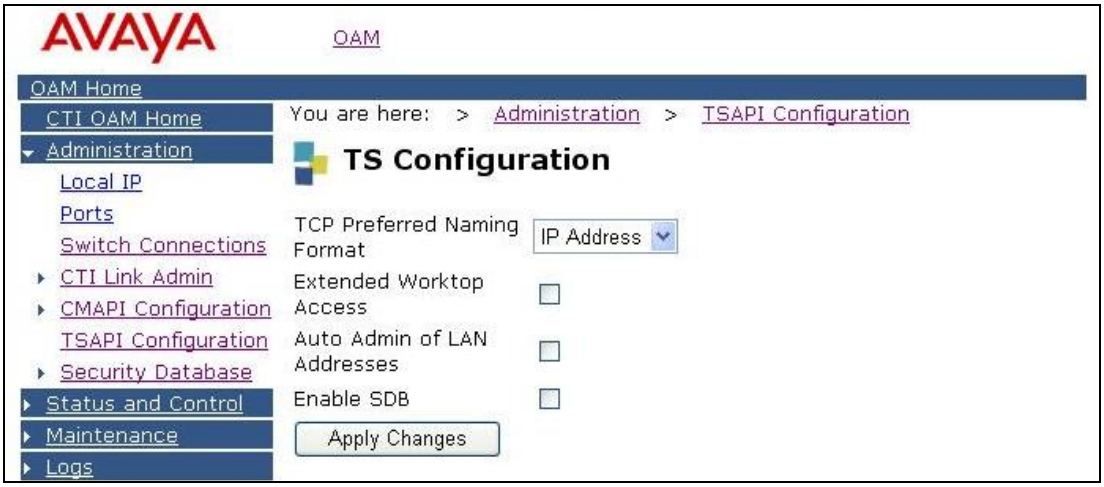


4.2. Administer TSAPI Service

From the CTI OAM Admin menu, select **Administration → CTI Link Admin → TSAPI Links**. Click on **Add Link.** In the Add/ Edit TSAPI Links form shown below enter the Link, Switch Connection and Switch CTI Link Number. Click on **Apply Changes**.

- **Switch Connection:** Choose a switch number between 1 and 16 that is available
- **Switch CTI Link Number:** Corresponding CTI link number configured in Section 3.2

During compliance testing, the TSAPI Security Database (SDB) was not used for testing. Verify that Enable SDB is not set on the **Administration → TSAPI Configuration → TS Configuration** form.



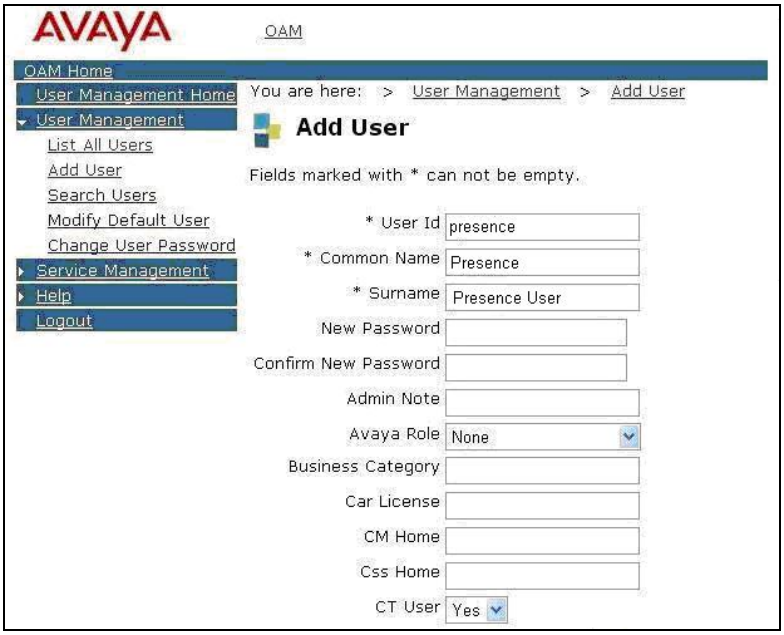
Note: In environments where the TSAPI SDB is enabled, the devices to be monitored must be configured in the TSAPI SDB.

Navigate to the Tlinks screen by selecting **Administration > Security Database > Tlinks**. Note the value of the **Tlink Name**, as this will be needed for configuring the CRM Optimizer server in Section 5.1. The **Tlink Name** shown below is automatically created by the AES server.

4.3. Administer CRM Optimizer User

An User Id and password needs to be configured for the CRM Optimizer server to communicate as a TSAPI Client with the AES server. Click on **OAM Home → User Management** and log into the User Management pages. Note that the user will be prompted with the User Management user name and password. Click on **User Management** and then **Add User**. In the **Add User** screen shown below, enter the following values:

- **User Id:** This will be used by the CRM Optimizer Server in Section 5.1
- **Common Name and Surname:** A descriptive names need to be entered
- **CT User:** Select "Yes" from the dropdown menu.
- **New Password and Confirm Password:** This will be used with the User Id in Section 5.1

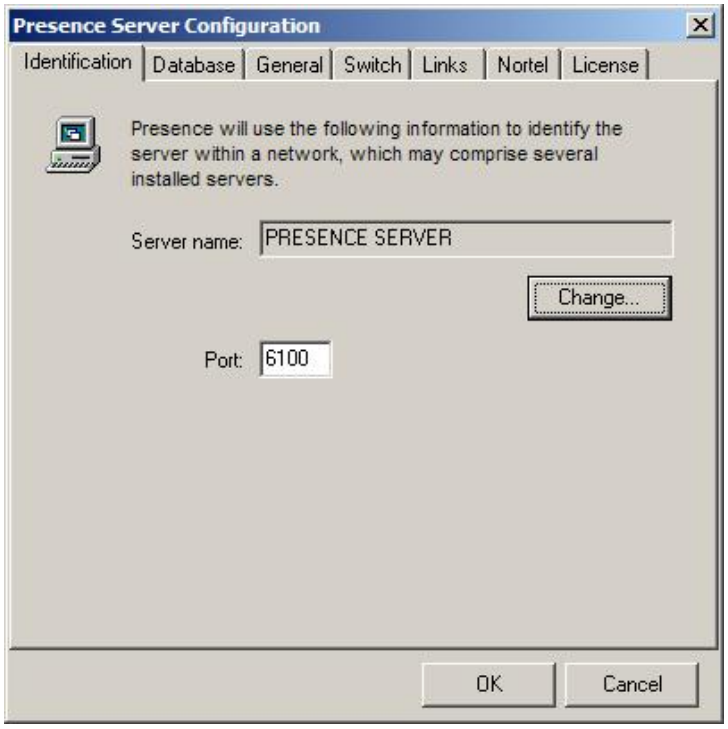


5. Configure the Presence CRM Optimizer Server

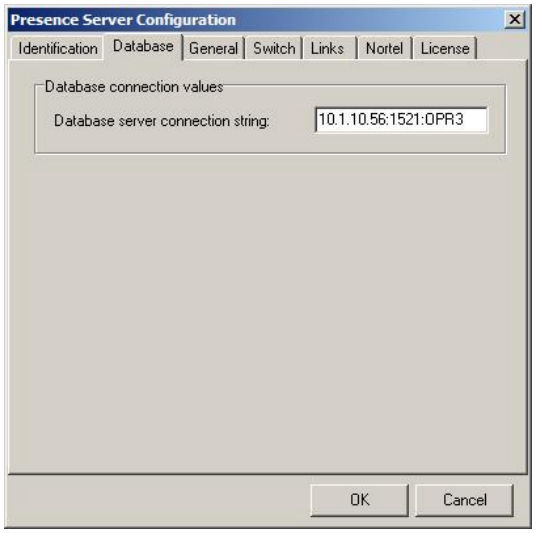
The Presence Server and Oracle database was pre-installed on the same machine for convenience, during the compliance testing. The standard practice would be to install the Oracle database on a separate machine. The configuration applications Presence Administrator (Section 5.2) and Presence Agent configuration (Section 5.6) and were also installed and configured on the same machine.

5.1. Presence Server Configuration

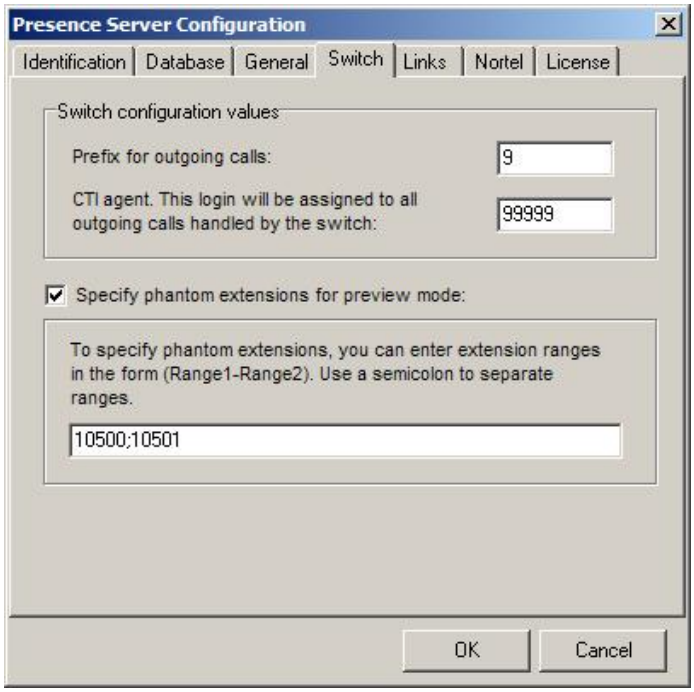
Launch the Presence Server configuration application by double clicking the **pcoservercfg.exe** located in the Presence folder on the Presence Server. In the **Identification** tab, enter the **Server name**. The server name entered is for identification of the server configuration. The **Port** can be left as the default value "6100". Note that, the actual value for server port can vary.



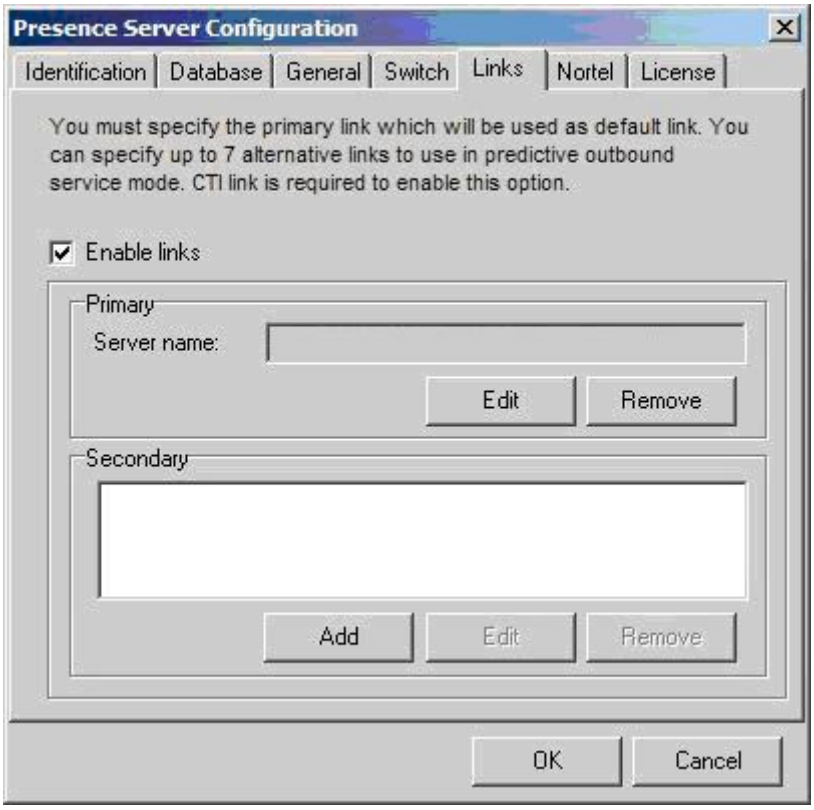
The Presence Server also has the database installed of the customer records for convenience during compliance testing. This Oracle database, OPR3 is installed on the Presence CRM Server. Click on the **Database** tab. In the **Database server connection string** field, enter the IP address of the Oracle Server followed by a colon and then the default port number for the Oracle database “1521”followed by another colon and then the pre-administered Oracle instance “OPR3”.



Click on the **Switch** tab, in the **Switch configuration** section. The default values are kept on this tab for the Switch configuration values. The **CTI agent** field is the extension that is used for reporting on outbound call statistics to the Oracle Server. Click on the check box, **Specify phantom extension for preview mode**, these are the phantom extensions that have been configured in Section 3.9 and will be used for the preview mode campaigns.



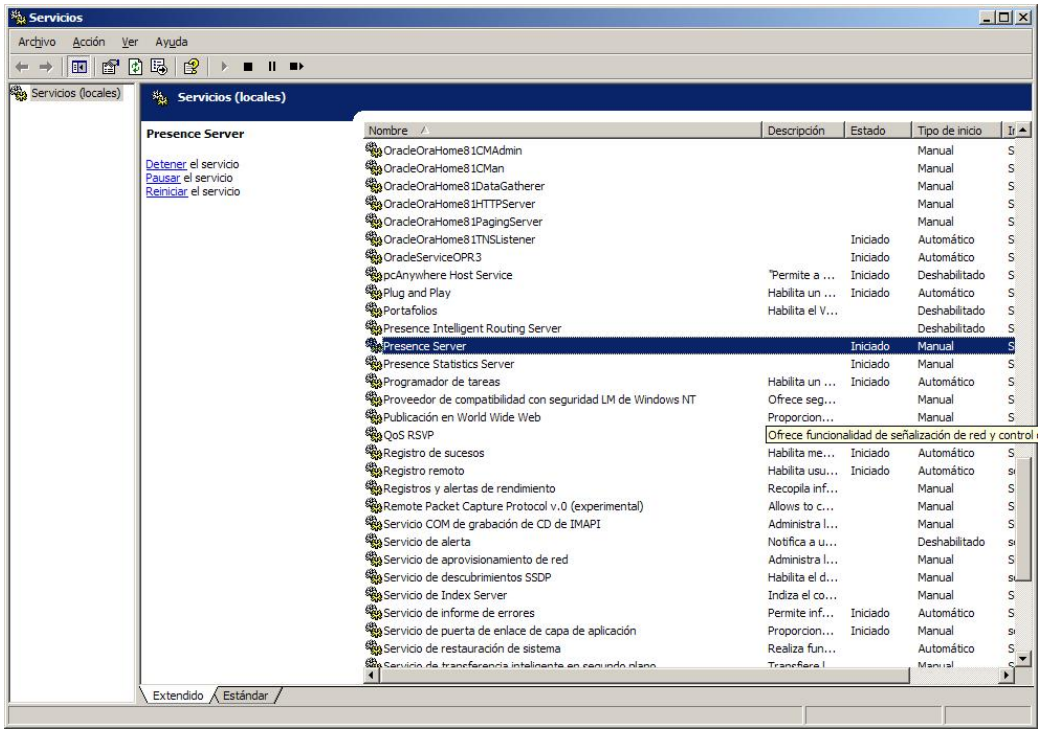
Click on the **Links** tab, click the **Enable links** check box, then click the **Edit** button in the **Primary** section.



In the **Name** field enter the Tlink name from Section 4.2 and the user name and password configured in Section 4.3 on the Avaya AES.

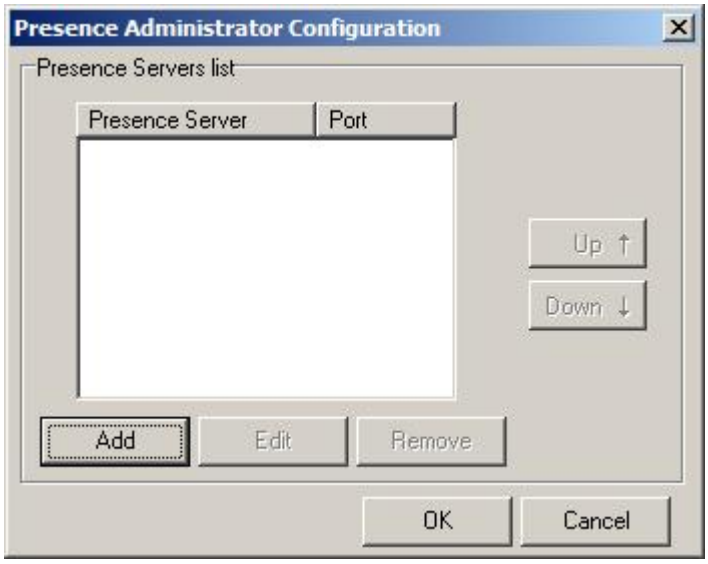
Click on the **License** tab, and enter a license key that is be provided by Presence and then click **OK**. The figure below has no license information. Either have a figure with the license information or remove the figure.

The final Presence Server configuration step is to start the Presence Server service from Windows Services Screen shown below.

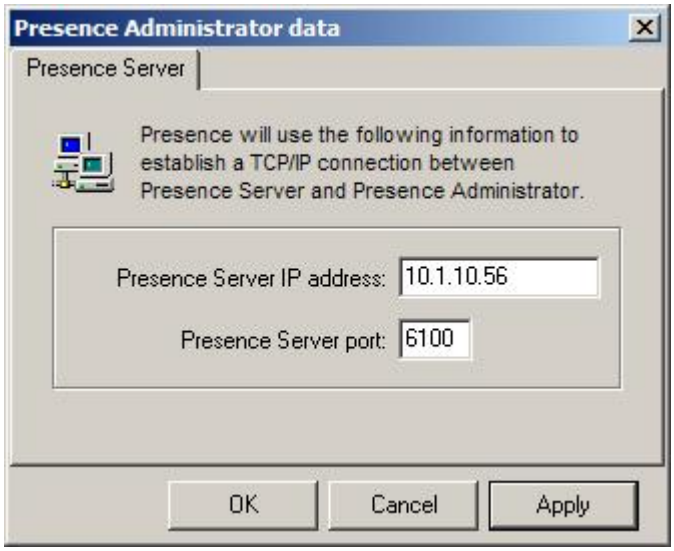


5.2. Presence Administrator Configuration

Launch the Presence Administrator Configuration application by double clicking the **pcoadmincfg.exe** located in the Presence folder. For testing convenience, the Presence Administrator Configuration Application was also located on the Presence Server machine. Click the **Add** button in the Presence Administrator Configuration screen.



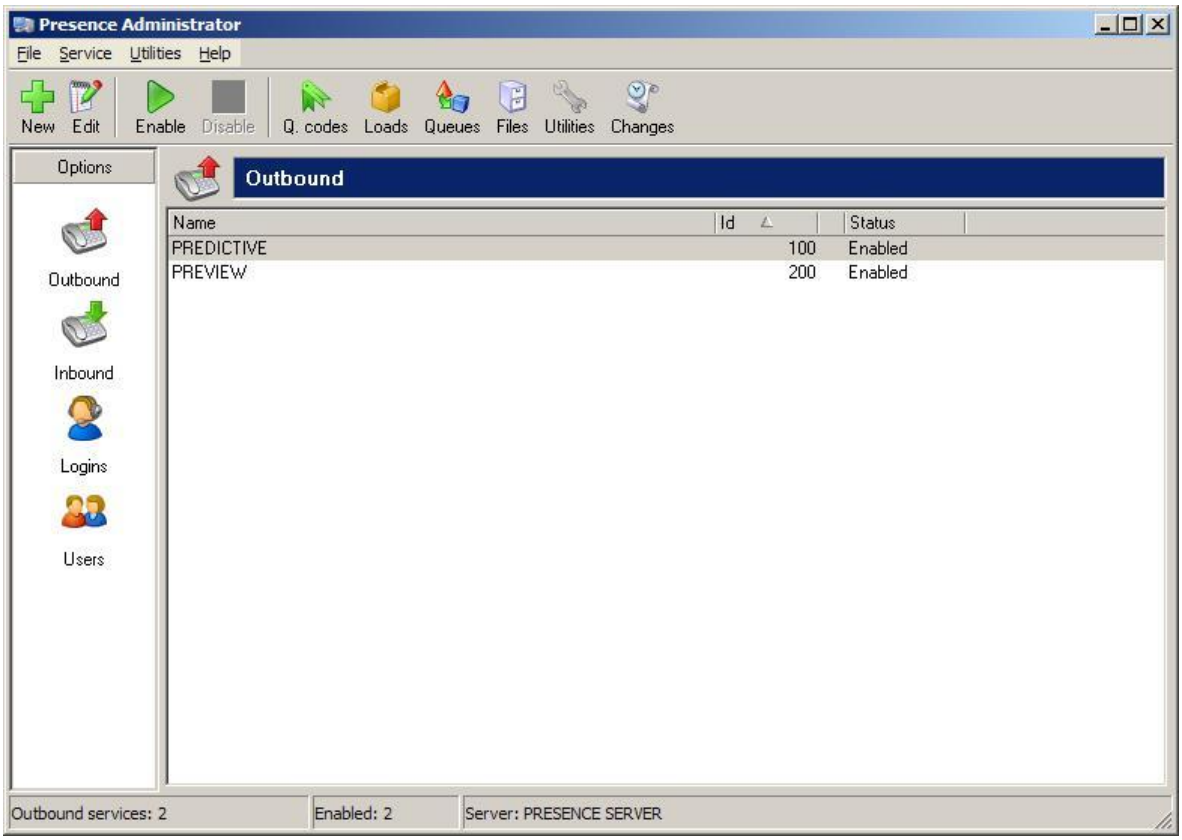
Enter the **Presence Server IP address**. The **Presence Server port** can be left as the default value "6100". Click **OK**.



5.3. Edit the Outbound Predictive or Preview Campaign

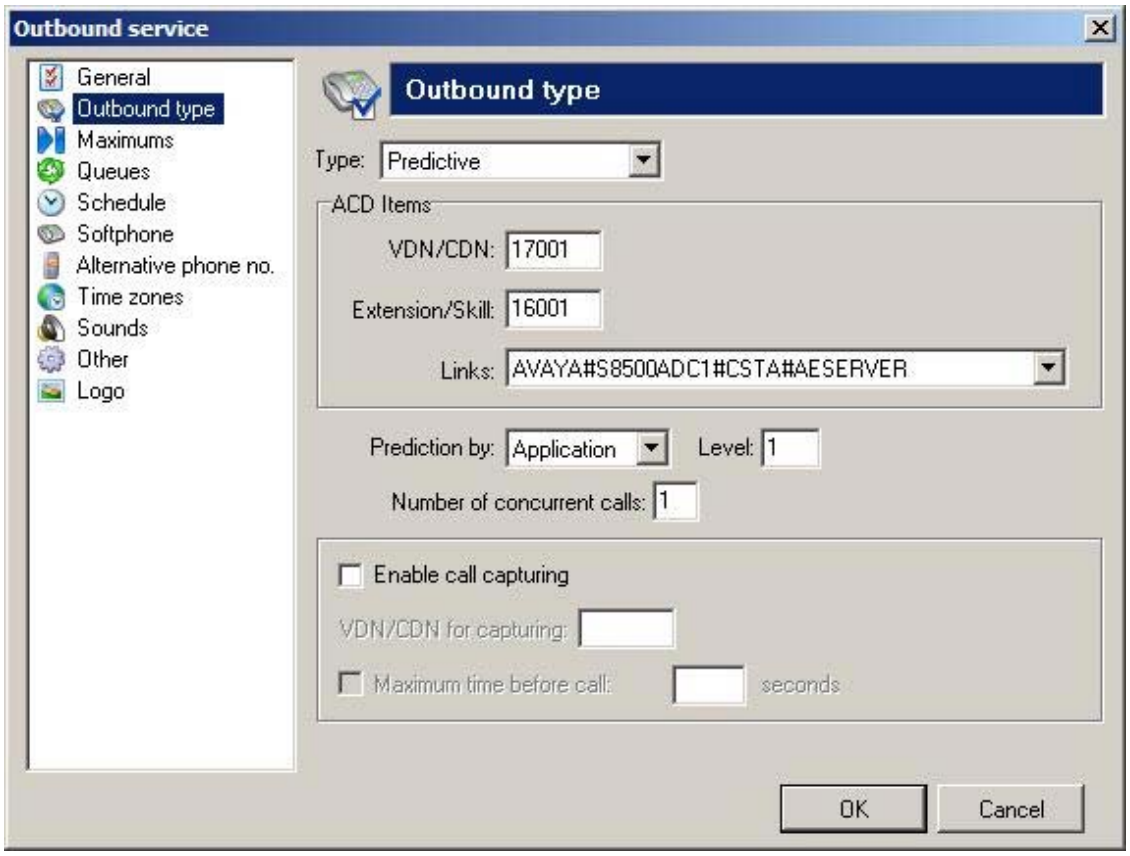
Launch the Presence Administrator application by double clicking the **pcoadmin.exe** located in the Presence folder. The username and password that appear in the User and Password field are created during the Presence Server installation.

Click on **Outbound** in the left hand pane under Options. Highlight the PREDICTIVE campaign in the main window and click on **Edit** in the task bar. The campaign must be disabled by clicking the **Disable** button in the task bar before the values can be edited within the campaign chosen. Please refer to the Presence documentation for creating campaigns in Section 10.



Click on **Outbound type** in the left pane. Choose **Type** "Predictive". In the ACD Items section, enter the VDN and huntgroup extension configured for Predictive outbound dialing on Avaya Communication Manager in Section 3.6. Enter the Tlink name configured in Avaya AES in Section 4.2. The Prediction by field in Predictive outbound mode has two options are available: Application and Time.

- Application: The application integrated with the service is responsible for generating the call based on a value defined in the numeric field Level.
- Time: A new predictive call is generated by the system when the specified time has elapsed after a call is received by an agent. All other fields should left with default values.

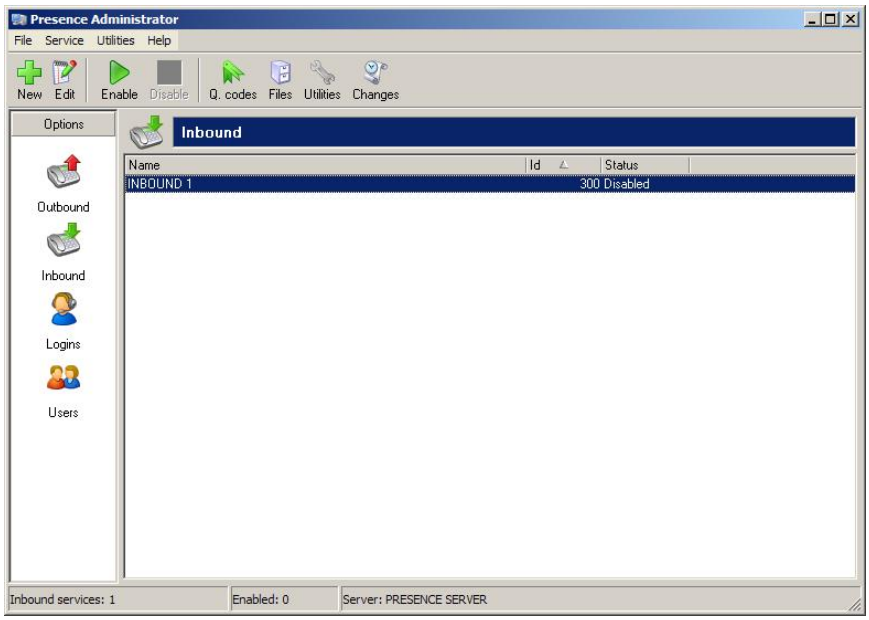


The configuration for the Preview campaign would be exactly the same, except to choose Preview from the **Type** drop down menu and the appropriate VDN. In this case, VDN 17002 and huntgroup extension 16002 will be entered. This should match the configuration on Avaya Communication Manager in Section 3.6.

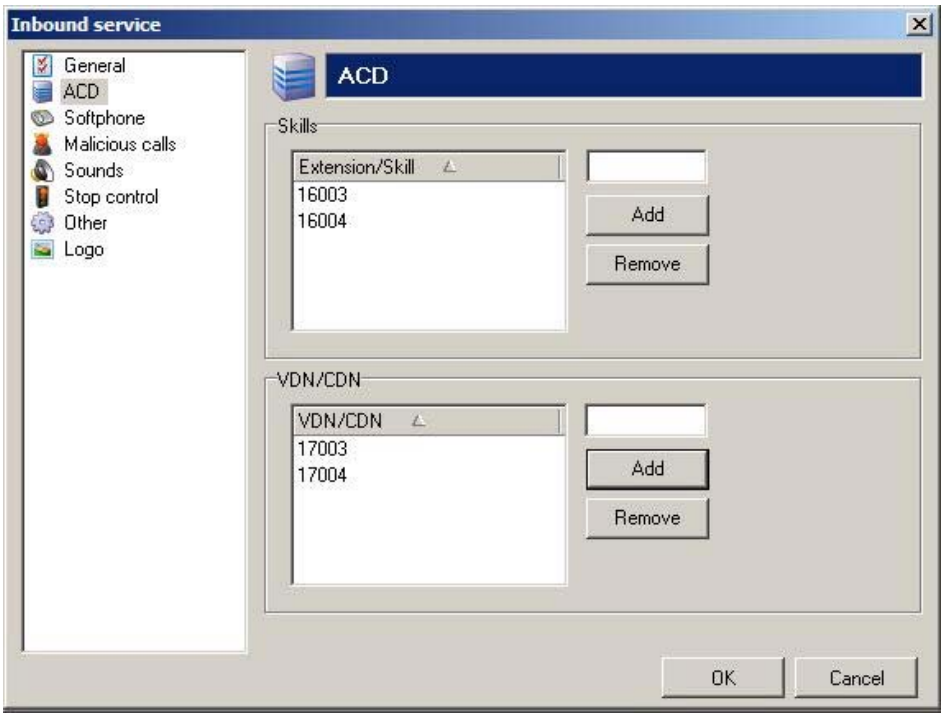
Finally enable the predictive campaign by clicking the **Enable** button on the taskbar in the main Presence Administrator screen.

5.4. Configure Inbound Campaign

Click on **Inbound** in the left hand pane under Options. Highlight the INBOUND1 campaign in the main window and click on **Edit** in the task bar.

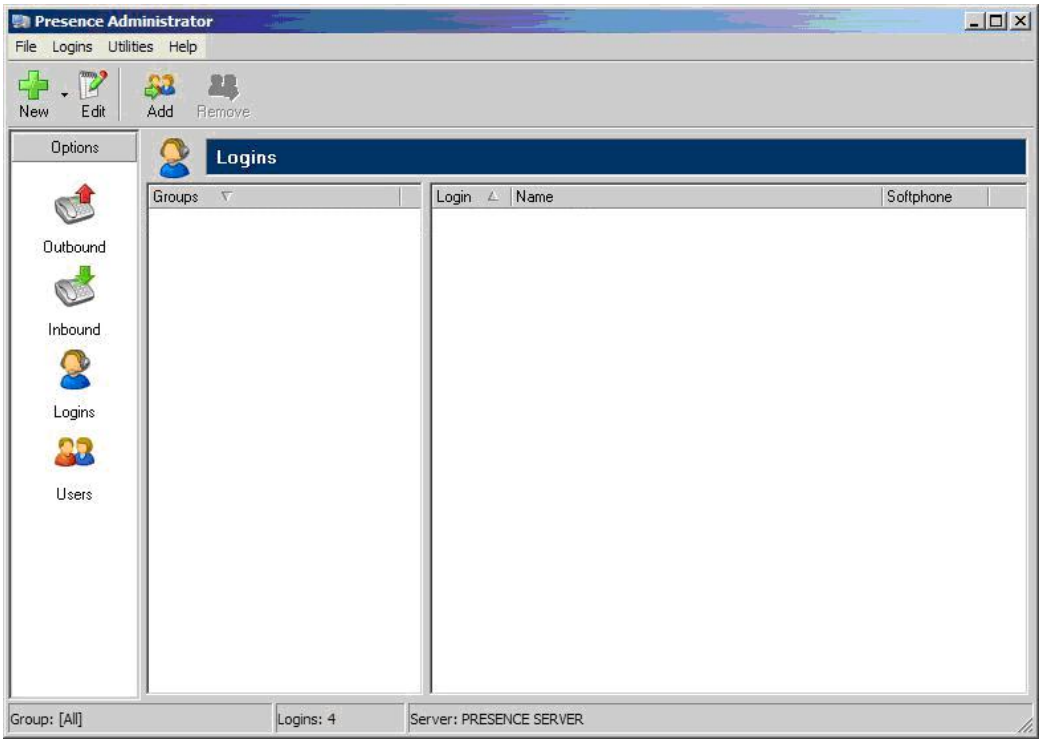


Click on ACD in the left pane. Enter the Huntgroup extensions in the Skills section and the VDNs in the VDN/CDN section, configured in Avaya Communication Manager in Section 3.6.



5.5. Create Presence Agent Logins

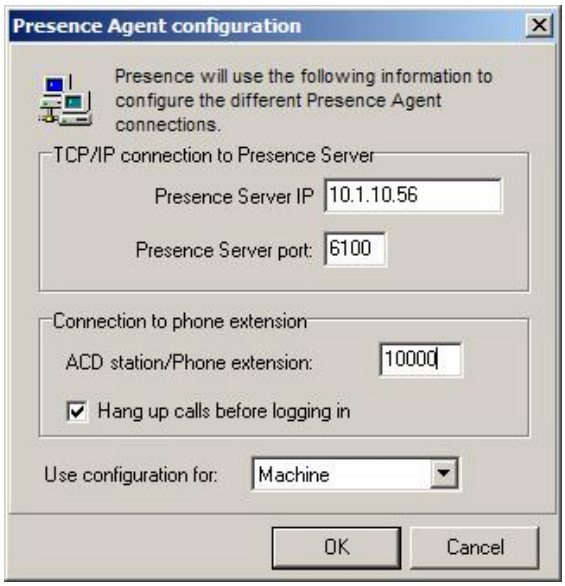
Click on **Logins** in the left hand pane under Options. Click on **New** in the task bar.



Enter the range of agent login IDs created in Avaya Communication Manager in Section 3.7 in the **Logins** field. Click the **Softphone always enabled** checkbox. Leave the password fields empty, as none was configured for the agent's logins in Avaya Communication Manager.

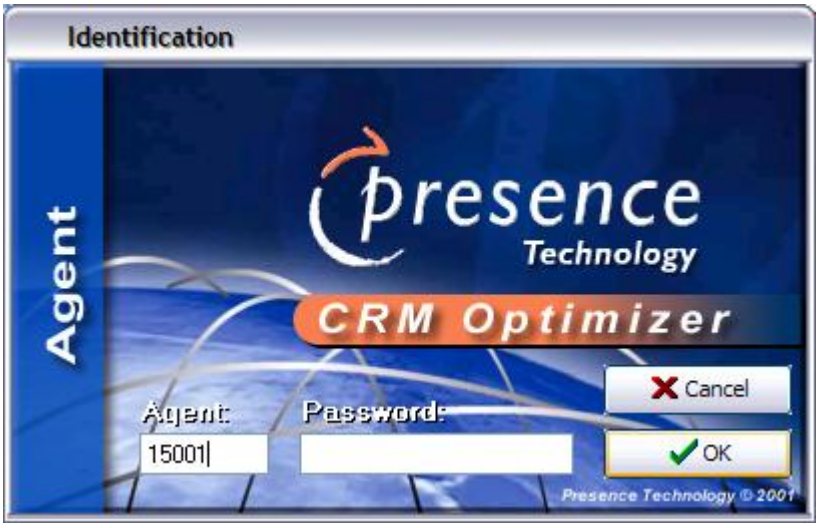
5.6. Presence Agent Configuration

Launch the Presence agent configuration application by double clicking the **pcoagentcfg.exe** located in the Presence folder. Enter the **Presence Server IP address**. The **Presence Server port** can be left as the default value of "6100". Enter the Agent phone extension in the **ACD/Phone extension** field configured Avaya Communication Manager in section 3.8. Check the **Hang up calls before logging in** check box. In the **Use configuration for field** choose "Machine" from the drop down menu. Click **OK**. This step is needed for every agent only the ACD station/Phone extension will vary.

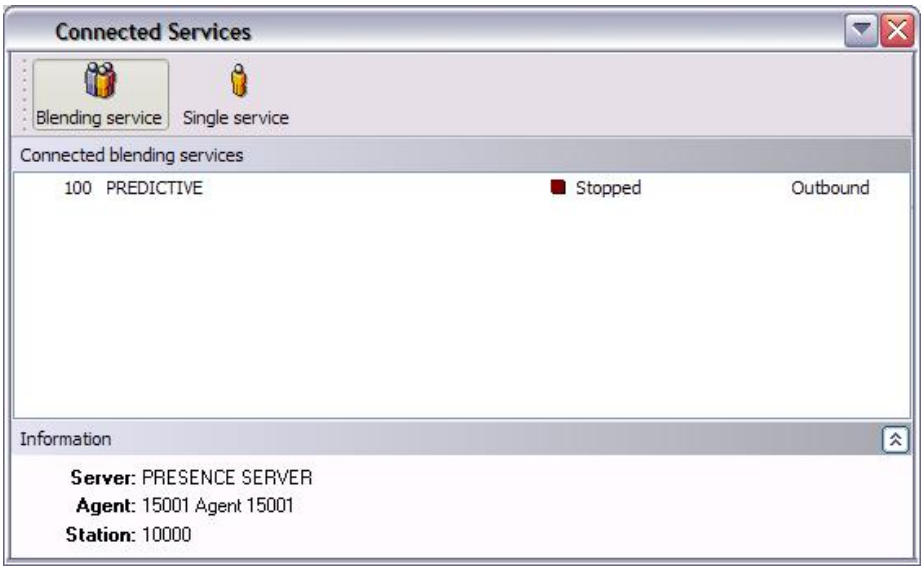


5.7. Presence Agent Application

Launch the Presence agent configuration application by double clicking the **pcoagent.exe** located in the Presence folder. Enter agent login Id and click on **OK**.



In the screen below click on the **Blending service** button in the task bar. Compliance testing was only carried for blending service.



A task bar is present at the top of the Agent PC. Click on the green arrow to make the agent in an available state.

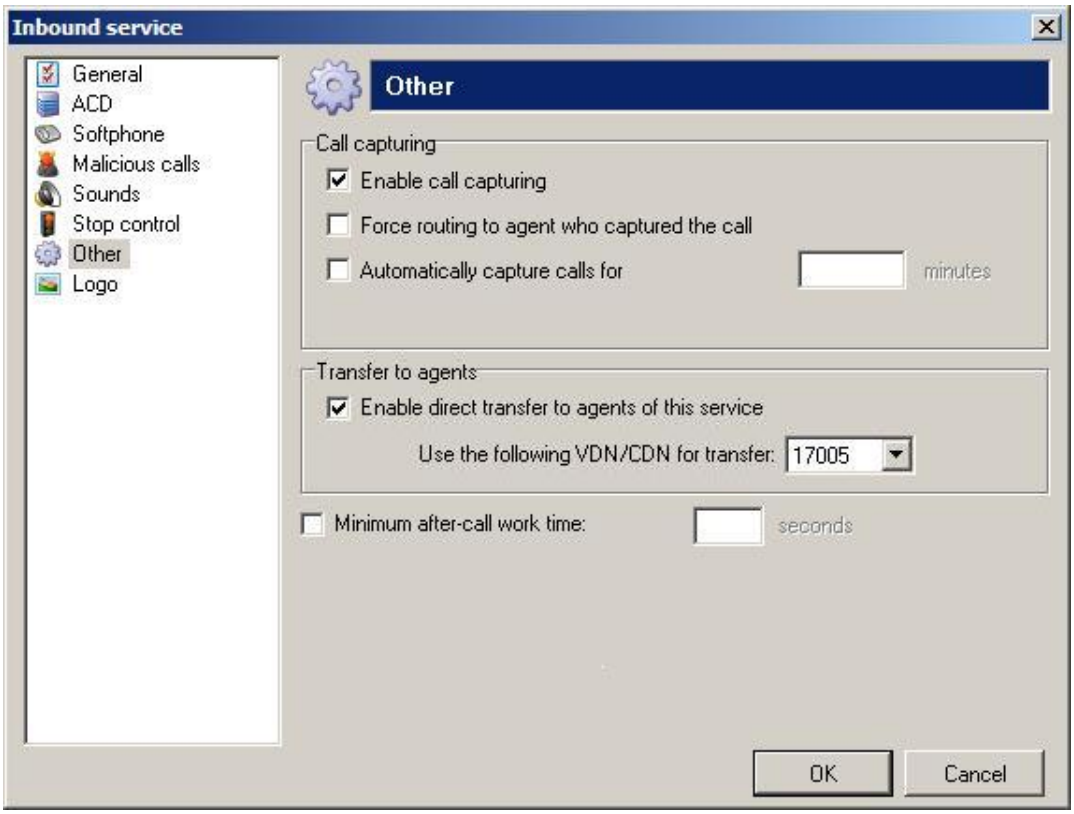
The information status on the task bar goes to available indicating the agent is ready to receive calls.

5.8. Direct Agent Transfer and Call Capturing feature Configurations

The Presence agent application has two additional features Direct agent transfer and Call capturing that were tested, the relevant VDNs and Vectors for these additional features have been configured in Section 3.10

- Enable direct transfer to agents of this service: This option enables the voice and data transfer to agents of this service from the Presence Agent softphone. When this option is selected, agents from this or another service can check the current status of agents (such as 'Available', Speaking', etc.) and then transfer the call and data to any agent of the service.
- Enable call capturing: When this option is enabled, an agent can mark a contact from the service as 'Captured' for a specific period of time. This way the call will automatically be transferred to the capturing agent if the customer calls the service again within the specified time and the agent who captured the contact is available.

In the main Presence Administrator screen, click on **Inbound** in the left hand pane under Options. Highlight the INBOUND1 campaign in the main window and click on **Edit** in the task bar. In the Inbound service screen, click on **Other** in the left pane and then click the **Enable call capturing** check box. **Enable direct transfer to agents of this service** checkbox.
Enter the VDN configured in Section 3.6 to be used for direct transfer on the **Use the following VDN/CDN for transfer** field.



6. Interoperability Compliance Testing

The Interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on verifying CRM Optimizer handling of TSAPI messages in the areas of routing, call control and event notification. The serviceability testing focused on verifying the CRM Optimizer ability to recover from adverse conditions, such as busying out the CTI link and disconnecting the Ethernet cable for the CTI link.

6.1. General Test Approach

Testing included validation of correct operation of typical CRM functions including, inbound voice calls and outbound campaign calls both in preview and predictive modes. Functionality testing included basic telephony operations such as answer, hold/retrieve, transfer, and conference exercised from both the agent telephones and the agent softphones for the inbound and outbound campaign calls. Additional features such as call capturing, direct agent transfer calls and malicious calls were tested. The serviceability test cases were performed manually by busying out and releasing the CTI link, and by disconnecting and reconnecting the LAN cables.

6.2. Test Results

All other test cases passed successfully. There were some issues on the serviceability test cases related to the length of time the AES was disconnected from the Presence Server In the situation where connection has been lost by the Presence Agent application then restart the Presence application.

7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya Application Enablement Services, and Presence CRM Optimizer.

7.1. Verify Avaya Communication Manager

The following steps can ensure that the communication between Avaya Communication Manager and the Avaya Application Enablement Services server is working.

Verify that the service state of the TSAPI link is established.

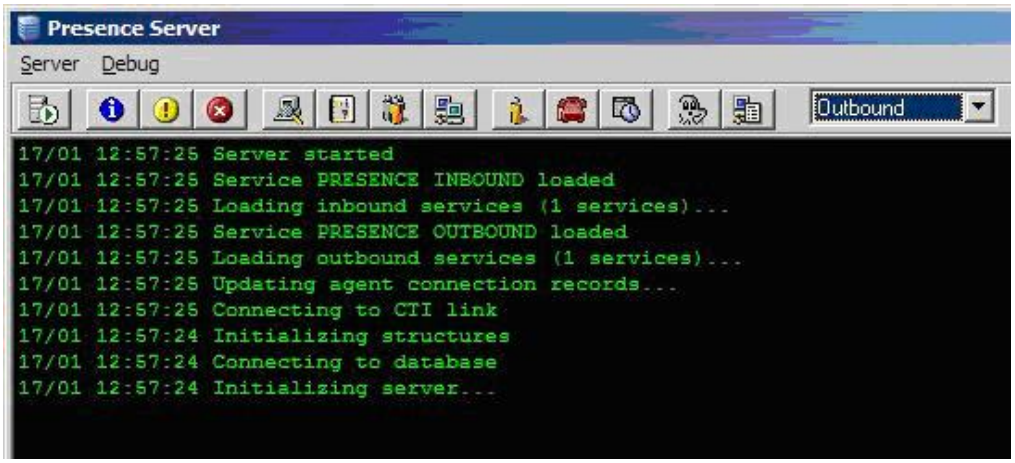
```
status aesvcs cti-link

                          AE SERVICES CTI LINK STATUS

CTI   Version  Mnt   AE Services      Service       Msgs     Msgs
Link           Busy  Server           State         Sent     Rcvd

1     4        no    AEServer         established   15       15
3     4        no    AEServer         established   15       15
```

7.2. Verify Avaya Enablement Services

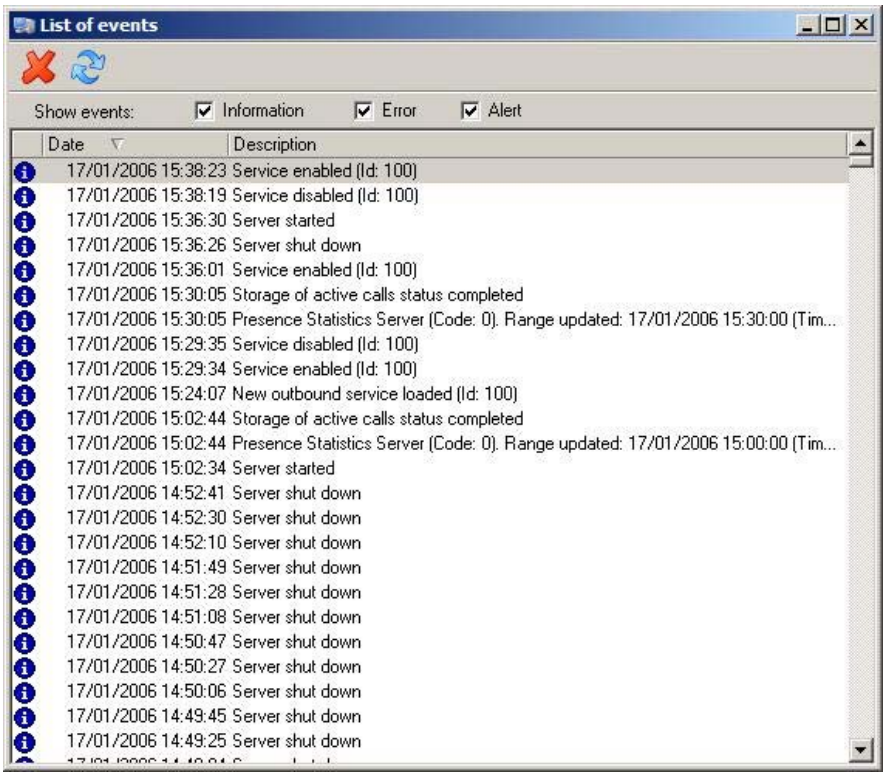
Verify the status of the TSAPI link by selecting **Status and Control → Services Summary**. Click on **TSAPI Service**, followed by **Details**. The TSAPI Link Details screen is displayed as shown below.

7.3. Presence CRM Optimizer

Presence CRM Optimizer has a CTI Message tracing capability to aid fault diagnosis in the field. A startup log is started when the Presence Server is trying to load and connect to the Avaya AES. The screen below indicates the server has started.



The Presence CRM Optimizer system maintains a log of the events that have occurred in the system. The Events command is located in the Utilities menu in the main administration menu and is used to display and delete the system event log.



8. Support

If technical support is required for the Presence CRM Server, contact their Technical Support Department. Email: support@presenceco.com

9. Conclusion

These Application Notes describe the configuration steps required for Presence CRM Optimizer 5.13 to successfully interoperate with Avaya Communication Manager 3.0.1 using Avaya Application Enablement Services 3.0. All feature functionality and serviceability test cases were completed successfully.

10. Additional References

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

- *Administrator Guide for Avaya Communication Manager*, Document ID 02-300309, Issue 1, June 2005, available at http://support.avaya.com
- *Avaya Application Enablement Services 3.0 Administration and Maintenance Guide*, Document ID 02-300357, Issue 1, June 2005, available at http://support.avaya.com

The following documentation is available on request from Presence:

- *ACD System Administration Guide (Avaya) Presence CRM Optimizer*
- *Presence Administrator Manual Presence CRM Optimizer*
- *Presence Installation Guides Presence Software*
- *PBX/ACD Requirements Presence Softwar*e

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya Developer*Connection* Program at devconnect@avaya.com.