

## Avaya Solution & Interoperability Test Lab

# Application Notes for Verint Impact 360 with Avaya Proactive Contact and Avaya Communication Manager Using Single Step Conference – Issue 1.0

#### **Abstract**

These Application Notes describe the configuration steps required for Verint Impact 360 to interoperate with Avaya Proactive Contact and Avaya Communication Manager using Single Step Conference. Verint Impact 360 is a call recording solution for contact centers. In the compliance testing, the Verint Impact 360 used the Event Services interface from Avaya Proactive Contact to obtain information on agent states and outbound calls, and used the Single Step Conference feature via the Avaya Application Enablement Services Telephony Services Application Programming Interface and Device, Media, and Call Control interfaces to capture the media associated with the outbound calls from Avaya Communication Manager for call recording.

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.

#### 1. Introduction

These Application Notes describe the configuration steps required for Verint Impact 360 to interoperate with Avaya Proactive Contact and Avaya Communication Manager using Single Step Conference. Verint Impact 360 is a call recording solution for contact centers. In the compliance testing, the Verint Impact 360 used the Event Services interface from Avaya Proactive Contact to obtain information on agent states and outbound calls, and used the Single Step Conference feature via the Avaya Application Enablement Services (AES) Telephony Services Application Programming Interface (TSAPI) and Device, Media, and Call Control (DMCC) interfaces to capture the media associated with the outbound calls from Avaya Communication Manager for call recording.

The Avaya Proactive Contact Event Services interface is used by Verint Impact 360 to monitor the states and outbound calls for the agents. When an outbound call is delivered to the agent, the Verint Impact 360 is informed of the call via call events from the Avaya Proactive Contact Event Services interface. Verint Impact 360 starts the call recording by using the Single Step Conference feature from the Avaya AES TSAPI interface to add a virtual IP softphone to the dedicated audio connection between the agent and Avaya Proactive Contact, and using Media Control Events from the Avaya AES DMCC interface to obtain the media for the virtual IP softphone. The virtual IP softphone will stay connected to the agent until Verint Impact 360 receives notification from the Avaya Proactive Contact Event Service interfaces that the call has ended.

Verint Impact 360 only uses the Avaya Proactive Contact Event Services to record outbound calls, therefore the compliance test only covered the recording of outbound calls from Avaya Proactive Contact.

## 1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on the Verint Impact 360:

- Handling of real-time agent states and call events from Avaya Proactive Contact.
- Use of Avaya AES DMCC registration services to register and un-register the virtual IP softphones.
- Use of Avaya AES TSAPI call control services to activate Single Step Conference for the virtual IP softphones.
- Use of Avaya AES DMCC monitoring services and media control events to obtain the media from the virtual IP softphones.
- Proper recording, logging, and playback of outbound calls for scenarios involving basic, hold, reconnect, simultaneous, conference, and transfer calls.

The serviceability testing focused on verifying the ability of Verint Impact 360 to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable to Verint Impact 360.

# 1.2. Support

Technical support on Verint Impact 360 can be obtained through the following:

• **Phone:** (800) 776-2462

• Email: contactcenter@verint.com

# 2. Reference Configuration

Verint Impact 360 can be configured on a single server or with components distributed across multiple servers. The compliance test configuration used two servers to host Verint Impact 360 components, as shown in **Figure 1**.

The detailed administration of basic connectivity between Avaya Communication Manager and Avaya AES, and between Avaya Communication Manager and Avaya Proactive Contact, are not the focus of these Application Notes and will not be described.

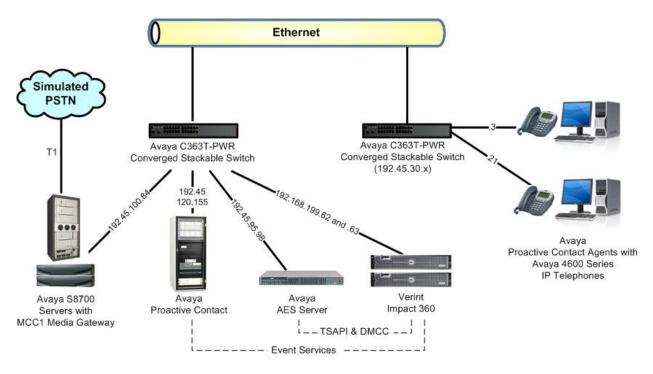


Figure 1: Verint Impact 360 with Avaya Proactive Contact and Avaya Communication Manager Using Single Step Conference

# 3. Equipment and Software Validated

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

Equipment	Software	
Avaya S8700 Servers	Avaya Communication Manager 5.1.2, R015x.01.2.416.4	
<ul> <li>Avaya MCC1 Media Gateway</li> <li>TN799DP C-LAN Circuit Pack</li> <li>TN2302AP IP Media Processor</li> </ul>	HW01 FW024 HW13 FW116	
Avaya Application Enablement Services	4.2	
Avaya Proactive Contact with PG230 Switch	4.0	
Avaya 4600 Series IP Telephones (H.323)	2.9	
Verint Impact 360  • Verint Impact 360 HUB  • Verint Impact 360 VoIP	ULTRA 10 SP3 ULTRA 10 SP3	

# 4. Configure Avaya Communication Manager

This section provides the procedures for configuring Avaya Communication Manager. The procedures include the following areas:

- Verify Avaya Communication Manager License
- Administer CTI link
- Administer virtual IP softphones

# 4.1. Verify Avaya Communication Manager License

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. Use the "display system-parameters customer-options" command to verify that the **Computer Telephony Adjunct Links** customer option is set to "y" on **Page 3**. If this option is not set to "y", then contact the Avaya sales team or business partner for a proper license file.

```
display system-parameters customer-options
                                                                     Page 3 of 11
                                  OPTIONAL FEATURES
       reviated Dialing Enhanced List? y

Audible Message Waiting? y

Access Security Gateway (ASG)? n

Analog Trunk Incoming Call ID? y

CAS Branch? n
                                                    Audible Message Waiting? y
    Abbreviated Dialing Enhanced List? y
A/D Grp/Sys List Dialing Start at 01? n
                                                                      CAS Main? n
Answer Supervision by Call Classifier? y
                                                            Change COR by FAC? y
                                   ARS? y Computer Telephony Adjunct Links? y
                 ARS/AAR Partitioning? y Cvg Of Calls Redirected Off-net? y
          ARS/AAR Dialing without FAC? y
                                                                  DCS (Basic)? y
          ASAI Link Core Capabilities? y
                                                            DCS Call Coverage? y
          ASAI Link Plus Capabilities? y
                                                           DCS with Rerouting? y
       Async. Transfer Mode (ATM) PNC? n
```

Navigate to Page 10, and verify that there is sufficient IP Soft license.

```
display system-parameters customer-options

MAXIMUM IP REGISTRATIONS BY PRODUCT ID

Product ID Rel. Limit Used

AgentSC : 12000 0

IP_API_A : 12000 0

IP_API_B : 100 0

IP_API_C : 100 0

IP_Agent : 12000 0

IP_IR_A : 100 0

IP_IR_A : 100 0

IP_IR_A : 100 0

IP_Soft : 12000 0

IP_Soft : 12000 0

IP_eCons : 128 0

oneX_Comm : 12000 0

: 0
```

#### 4.2. Administer CTI Link

Add a CTI link using the "add cti-link n" command, where "n" is an available CTI link number. Enter an available extension number in the **Extension** field. Note that the CTI link number and extension number may vary. Enter "ADJ-IP" in the **Type** field, and a descriptive name in the **Name** field. Default values may be used in the remaining fields.

add cti-link 15 Page 1 of 3

CTI LINK CTI Link: 15

Extension: 24998
Type: ADJ-IP

COR: 1

Name: Verint CTI Link

# 4.3. Administer Virtual IP Softphones

Add a virtual softphone using the "add station n" command, where "n" is an available extension number. Enter the following values for the specified fields, and retain the default values for the remaining fields.

• **Type:** "4602+"

Name: A descriptive name.
Security Code: A desired value.

• IP SoftPhone: "y'

```
add station 22991
                                                             Page
                                                                   1 of
                                   STATION
                                                                    BCC: 0
Extension: 22991
                                      Lock Messages? n
                                       Security Code: 12345
    Type: 4602+
                                                                     TN: 1
    Port: S00147
                                     Coverage Path 1:
                                                                    COR: 1
                                                                    cos: 1
    Name: Verint Virtual Softphone 1 Coverage Path 2:
                                     Hunt-to Station:
STATION OPTIONS
                                        Time of Day Lock Table:
             Loss Group: 19
                                 Personalized Ringing Pattern: 1
                                           Message Lamp Ext: 22991
           Speakerphone: 1-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
```

Repeat this section to administer the desired number of virtual softphones, using sequential extension numbers and the same security code for all virtual softphones. For the compliance testing, two virtual softphones were administered as shown below, to allow for two simultaneous recordings.

list station	22991 cc	ount 2					
STATIONS							
Ext/ Hunt-to	Port/ Type	Name/ Surv GK NN	Move	Room/ Data Ext	Cv1/ COR/ Cable/ Cv2 COS Jack		
22991	S00147 4602+	Verint Virtual So	oftphone 1		1 1		
22992	S00139 4602+	Verint Virtual So	oftphone 2 no		1 1		

# 5. Configure Avaya Application Enablement Services

This section provides the procedures for configuring Avaya AES. The procedures include the following areas:

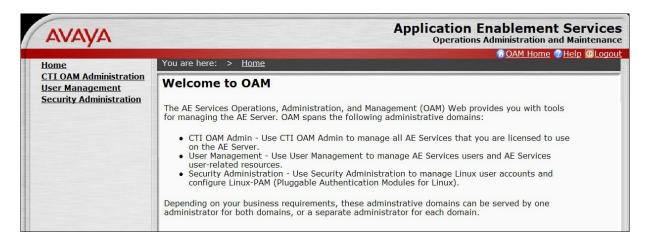
- Verify AES license
- Administer TSAPI link
- Obtain Tlink name
- Obtain H.323 gatekeeper
- Administer Verint user
- Restart TSAPI service

# 5.1. Verify AES License

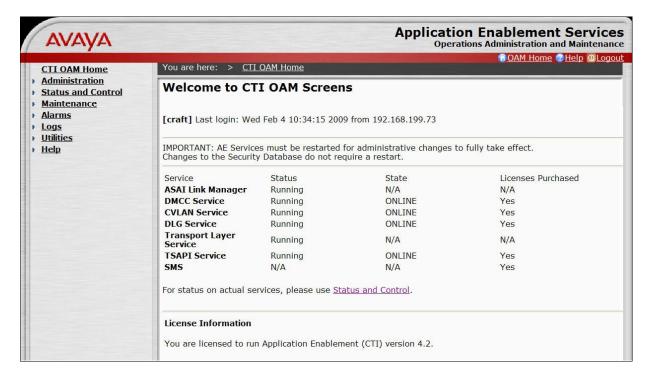
Access the AES OAM web-based interface by using the URL "https://ip-address:8443/MVAP" in an Internet browser window, where "ip-address" is the IP address of the AES server. The **Logon** screen is displayed as shown below. Log in with the appropriate credentials.



The **Welcome to OAM** screen is displayed next. Select **CTI OAM Administration** from the left pane.



The **Welcome to CTI OAM Screens** is displayed. Verify that AES is licensed for the **DMCC Service** and the **TSAPI Service**, as shown below. If the services are not licensed, contact the Avaya sales team or business partner for a proper license file.

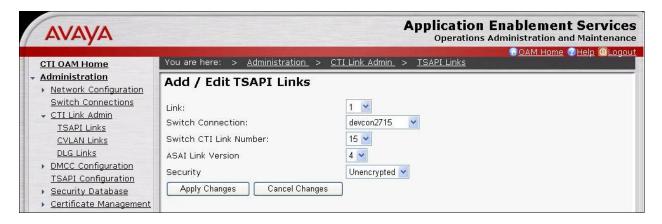


#### 5.2. Administer TSAPI Link

To administer a TSAPI link, select **Administration > CTI Link Admin > TSAPI Links** from the left pane. The **TSAPI Links** screen is displayed, as shown below. Click **Add Link**.



The Add / Edit TSAPI Links screen is displayed next. The Link field is only local to the AES server, and may be set to any available number. For Switch Connection, select the relevant switch connection from the drop-down list. In this case, the existing switch connection "devcon2715" is selected. For Switch CTI Link Number, select the CTI link number from Section 4.2. Retain the default values in the remaining fields, and click Apply Changes.



#### 5.3. Obtain Tlink Name

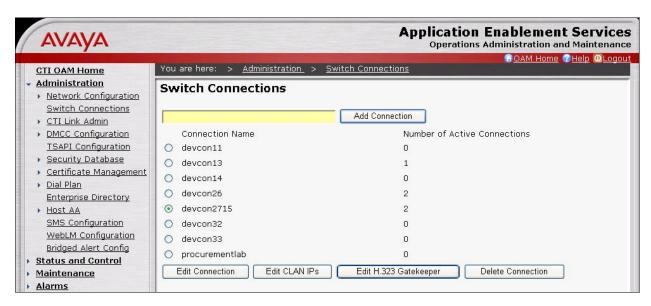
Select **Administration > Security Database > Tlinks** from the left pane. The **Tlinks** screen shows a listing of the Tlink names. A new Tlink name is automatically generated by the AES server for the TSAPI service. Locate the Tlink name associated with the relevant switch connection, which would use the name of the switch connection as part of the Tlink name. Make a note of the associated Tlink name, to be used later for configuring the Verint Impact 360 server.

In this case, the associated Tlink name is "AVAYA#**DEVCON2715**#CSTA#DEVCONAES01". Note the use of the switch connection "DEVCON2715" from **Section 5.2** as part of the Tlink name.



## 5.4. Obtain H.323 Gatekeeper

Select **Administration > Switch Connections** from the left pane. The **Switch Connections** screen shows a listing of the existing switch connections. Locate the connection name associated with the relevant Avaya Communication Manager, in this case "devcon2715", and select the corresponding radio button. Click **Edit H.323 Gatekeeper**.

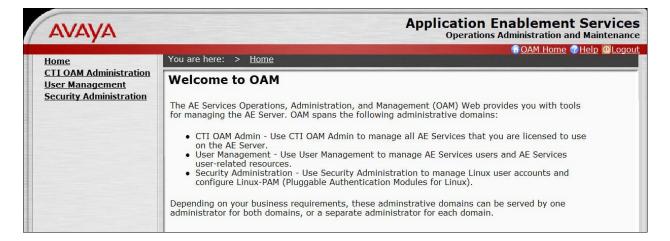


The **Edit H.323 Gatekeeper** screen is displayed. Note the IP address, for this value will be used later to configure the Verint Impact 360 server.

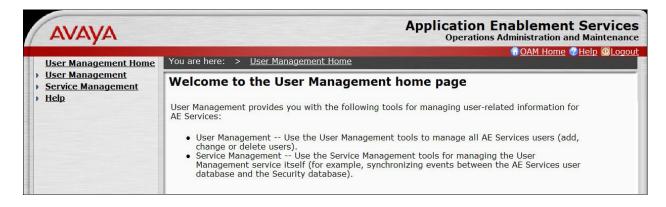


#### 5.5. Administer Verint User

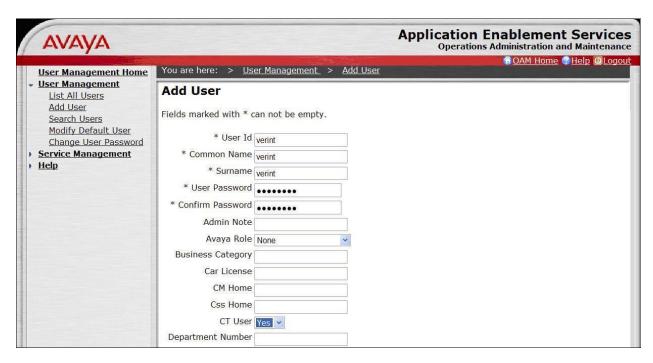
Administer a new user account for Verint Impact 360, which is created from the AES User Management web pages. Select **OAM Home**, located at the upper right corner of the screen, to display the **Welcome to OAM** screen below. Select **User Management** from the left pane.



The Welcome to the User Management home page screen is displayed, as shown below.



Select **User Management > Add User** from the left pane. In the **Add User** screen shown below, enter descriptive values for the **User Id**, **Common Name**, **Surname**, **User Password**, and **Confirm Password** fields. For the **CT User** field, select "Yes" from the drop-down list. Retain the default value in the remaining fields. Click **Apply** at the bottom of the screen (not shown below).



#### 5.6. Restart TSAPI Service

Select Maintenance > Service Controller from the left pane. The Service Controller screen is displayed, and shows a listing of the services and associated status. Check the TSAPI Service, and click Restart Service.



# 6. Configure Verint Impact 360

This section provides the procedures for configuring Verint Impact 360. The procedures include the following areas:

- Launch Configuration Manager
- Administer acquisition director
- Administer acquisition configuration
- Administer recording control
- Generate and distribute configuration
- Launch IntelliLink Configuration
- Administer Communication Manager connection
- Administer active CTI
- Administer Proactive Contact connection

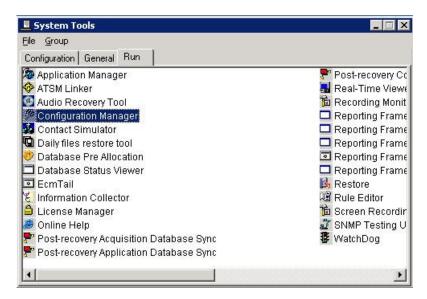
The configuration of Verint Impact 360 is performed by Verint technicians. The procedural steps are presented in these Application Notes for informational purposes.

## 6.1. Launch Configuration Manager

From the Verint Impact 360 server running the HUB component, double-click on the **System Tool** icon shown below, which is created as part of the installation.



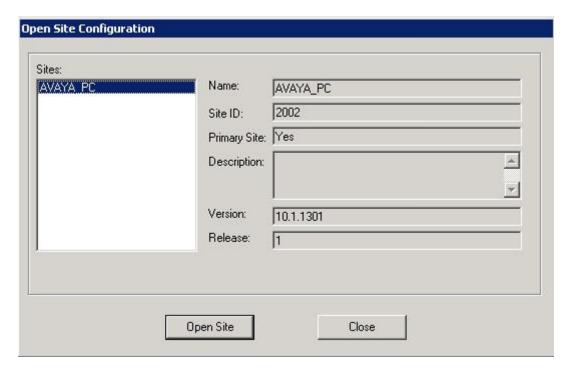
The **System Tools** screen is displayed. Select the **Run** tab, followed by **Configuration Manager** to launch the application.



In the Configuration Manager Login screen, enter the appropriate credentials.

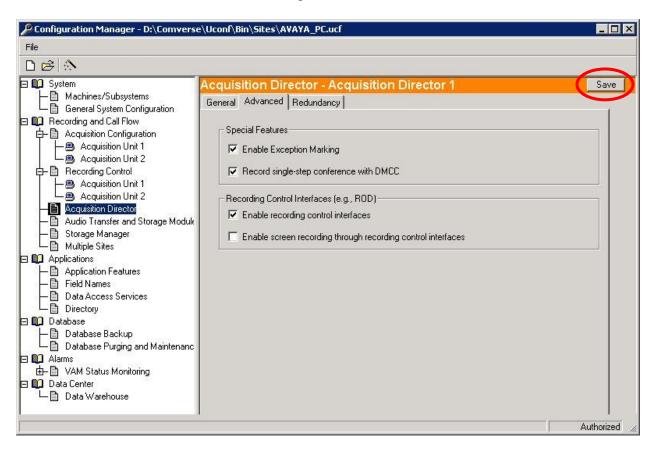


The **Open Site Configuration** screen is displayed next. Select the appropriate site under **Sites** and click **Open Site**. Note that the applicable sites are created by the Verint technicians as part of the initial configuration.



### 6.2. Administer Acquisition Director

The Configuration Manager screen is displayed. Select Recording and Call Flow > Acquisition Director from the left pane, to display the Acquisition Director – Acquisition Director 1 screen. Check the Record single-step conference with DMCC field shown below, and retain the default values in the remaining fields. Click Save.



# 6.3. Administer Acquisition Configuration

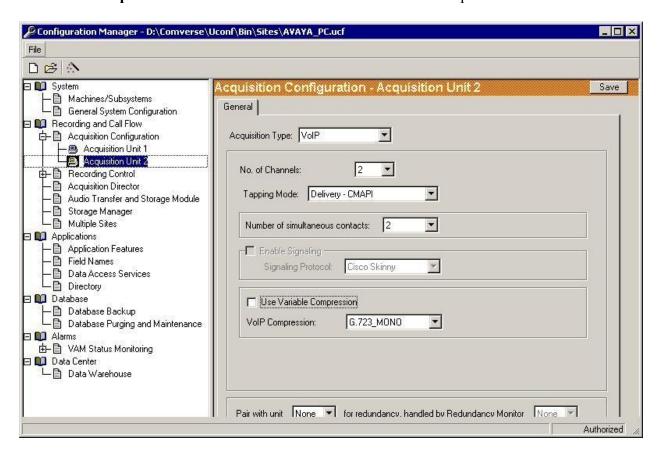
The Configuration Manager screen is displayed. Select Recording and Call Flow > Acquisition Configuration > Acquisition Unit 2 from the left pane, to display the Acquisition Configuration - Acquisition Unit 2 screen. Enter the following values for the specified fields, and retain the default values for the remaining fields.

• **No. of Channels:** The number of virtual softphones from **Section 4.3**.

• Tapping Mode: "Delivery – CMAPI"

• Number of simultaneous contacts: The number of virtual softphones from Section 4.3.

• **VoIP Compression:** Select a desired VoIP compression.



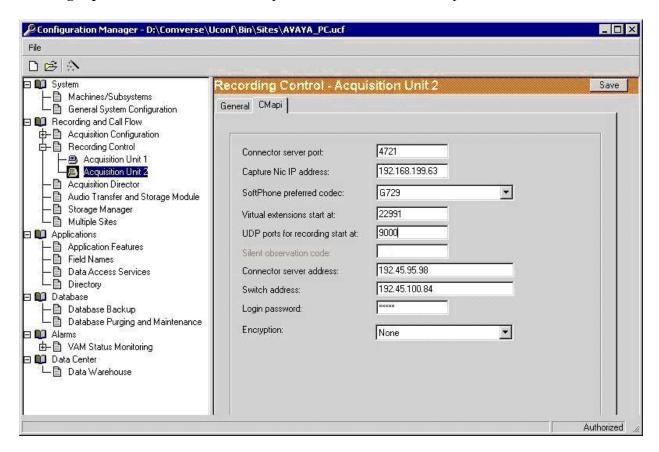
## 6.4. Administer Recording Control

From the Configuration Manager screen, select Recording and Call Flow > Recording Control > Acquisition Unit 2 from the left pane, to display the Recording Control - Acquisition Unit 2 screen. Select the CMapi tab. Enter the following values for the specified fields, and retain the default values for the remaining fields.

• Virtual extensions start at: The starting virtual softphone extension from Section 4.3.

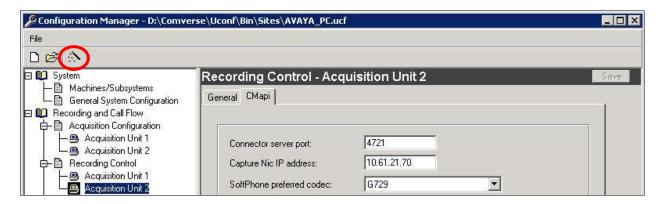
• **Connector server address:** The IP address of the Avaya AES server.

Switch address: The IP address of the H.323 gatekeeper from Section 5.4.
 Login password: The password for the virtual softphones from Section 4.3.

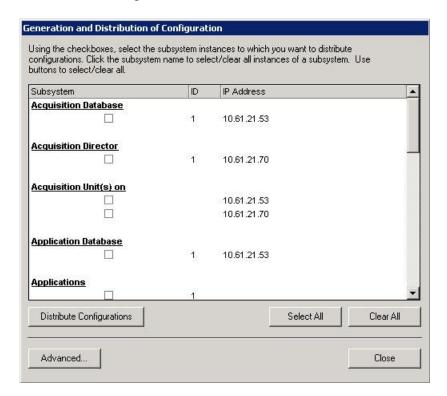


## 6.5. Generate and Distribute Configuration

Click on the Generate and Distribute Configuration To Site icon circled below.



The Generation and Distribution of Configuration screen is displayed. Click Select All, followed by Distribute Configurations to distribute the updated configuration to all components. Reboot all Verint Impact 360 servers.

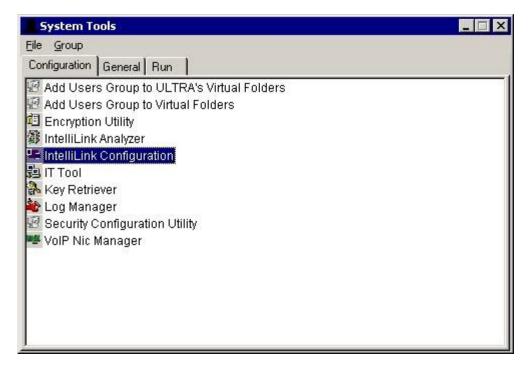


# 6.6. Launch IntelliLink Configuration

From the Verint Impact 360 server running the VoIP component, double-click on the **System Tool** icon shown below, which is created as part of the installation.

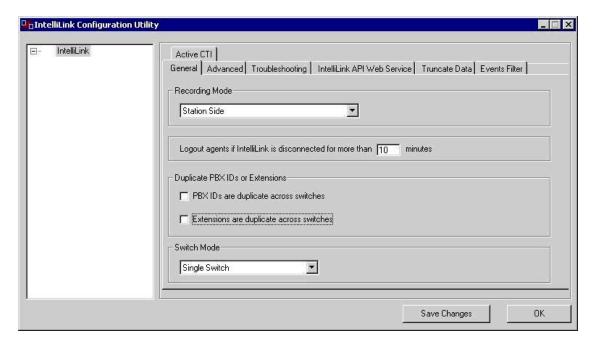


The **System Tools** screen is displayed. Select the **Configuration** tab, followed by **IntelliLink Configuration** to launch the application.



## 6.7. Administer Communication Manager Connection

The IntelliLink Configuration Utility screen is displayed. Right click on IntelliLink in the left pane, and select New to create a new switch connection.



The IntelliLink Configuration Wizard screen is displayed (not shown). Select Avaya Communication Manager, and click Next.

In the subsequent screen (not shown), select **TSAPI** for protocol, and click **Next**. Note that the TSAPI selection includes the DMCC.

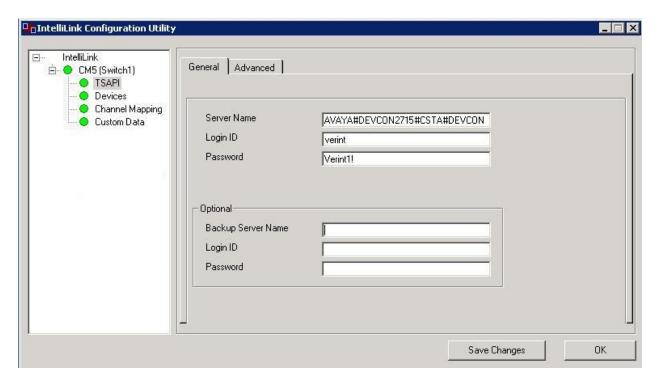
The screen below is displayed. Enter a desired name for Switch Name, and click Next.



The IntelliLink Configuration Utility screen is displayed again, and updated with the newly added switch connection shown in the left pane. Select CM5 (Switch1) > TSAPI from the left pane. Select the General tab in the right pane. Enter the following values for the specified fields, and retain the default values for the remaining fields. Click Save Changes.

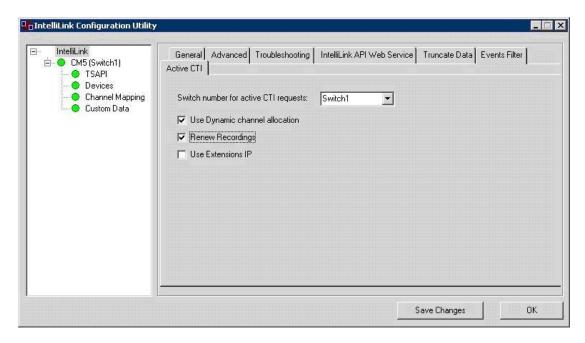
• Server Name: The Tlink name from Section 5.3.

Login ID: The Verint user credentials from Section 5.5.
 Password: The Verint user credentials from Section 5.5.



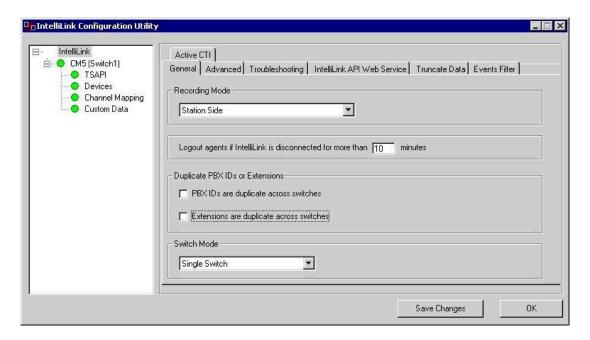
#### 6.8. Administer Active CTI

From the IntelliLink Configuration Utility screen, select IntelliLink in the left pane. Select the Active CTI tab in the right pane. For Switch number for active CTI requests, select "Switch1" from the drop-down list. Check the Use Dynamic channel allocation and Renew Recordings fields, and click Save Changes.



#### 6.9. Administer Proactive Contact Connection

From the **IntelliLink Configuration Utility** screen, right-click on **IntelliLink** in the left pane, and select **New** to create a new switch connection.



The IntelliLink Configuration Wizard screen is displayed (not shown). Select Avaya PDS, and click Next.

The screen below is displayed. For **Switch Name**, select the same switch name from **Section 6.7**, and click **Next**.

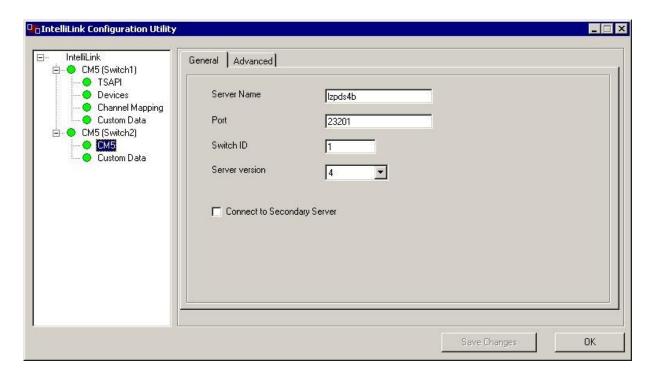


The IntelliLink Configuration Utility screen is displayed again, and updated with the newly added switch connection shown in the left pane. Select CM5 (Switch2) > CM5 from the left pane. Select the General tab in the right pane. Enter the following values for the specified fields, and retain the default values for the remaining fields. Click Save Changes.

• **Server Name:** The host name of the Avaya Proactive Contact server.

• **Switch ID:** The switch number for the Communication Manager connection.

• Server version: "4"



# 7. General Test Approach and Test Results

The feature test cases were performed both automatically and manually. Upon start of the Verint Impact 360 application, the application automatically registers the virtual IP softphones to Avaya Communication Manager using Avaya AES DMCC, and obtains the current status on Avaya Proactive Contact using Event Services.

For the manual part of the testing, each outbound call was handled manually on the agent with generation of unique audio content for the recordings. Necessary agent actions such as hold and reconnect were performed from the agent desktop to test the different call scenarios.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cables to the Verint Impact 360 servers.

The verification of tests included using the Verint Impact 360 logs for proper message exchanges, and using the Verint Impact 360 web interface for proper logging and playback of the calls.

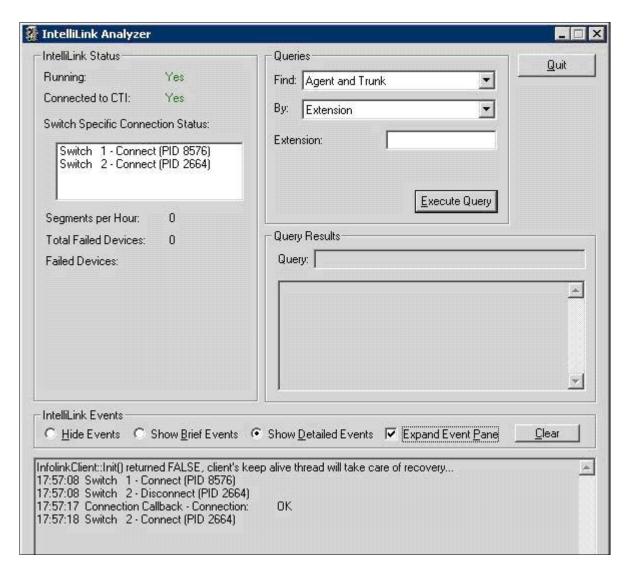
All test cases were executed and passed.

# 8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Communication Manager, Avaya AES, and Verint Impact 360.

Follow the procedures in **Section 6.6** to launch **System Tools** from the Verint Impact 360 server running the VoIP component, and select **IntelliLink Analyzer**.

The IntelliLink Analyzer screen is displayed. Verify that the Running and Connected to CTI status are "Yes", as shown below. Also verify that the Switch Specific Connection Status section shows both switch connections to be "Connect".



Launch an outbound job on Avaya Proactive Contact, and log an agent in to handle an outbound call. Launch the Verint Impact 360 web interface with the hostname or IP address of the Verint Impact 360 server running the VoIP component, and log in with the appropriate credentials.

The Contacts screen displays a list of the call recordings. Verify that the first entry reflects the last call, with proper values in the **Start Time**, **Duration**, **Dial To (DNIS)**, and **Extension** fields. Double click on the entry to view the details.



Click the play icon highlighted below to verify the proper playback of the call recording.



#### 9. Conclusion

These Application Notes describe the configuration steps required for Verint Impact 360 to successfully interoperate with Avaya Proactive Contact and Avaya Communication Manager using Single Step Conference. All feature and serviceability test cases were completed.

#### 10. Additional References

This section references the product documentation relevant to these Application Notes.

- **1.** Administrator Guide for Avaya Communication Manager, Document 03-300509, Issue 4.0, Release 5.0, January 2008, available at <a href="http://support.avaya.com">http://support.avaya.com</a>.
- **2.** Avaya MultiVantage Application Enablement Services Administration and Maintenance Guide, Release 4.2, Document ID 02-300357, Issue 10, May 2008, available at <a href="http://support.avaya.com">http://support.avaya.com</a>.
- **3.** Avaya Proactive Contact Release 4.0 Administering Avaya Proactive Contact, January 2008, available at http://support.avaya.com.
- 4. Verint Impact 360 documentation is available upon request to Verint technical support.

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