

Avaya Solution & Interoperability Test Lab

Application Notes for dvsAnalytics Encore 7.2 with Avaya Contact Center Select 7.1 and Avaya IP Office Server Edition 11.1 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for dvsAnalytics Encore 7.2 to interoperate with Avaya Contact Center Select 7.1 and Avaya IP Office Server Edition 11.1. dvsAnalytics Encore is a call recording solution.

In the compliance testing, dvsAnalytics Encore used the Communication Control Toolkit Interface from Avaya Contact Center Select and the TAPI interface from Avaya IP Office to monitor Avaya Contact Center Select agent users, and used the port mirroring method to capture media associated with the monitored users for call recording.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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 dvsAnalytics Encore 7.2 to interoperate with Avaya Contact Center Select 7.1 and Avaya IP Office Server Edition 11.1. Encore is a call recording solution.

In the compliance testing, Encore used the Communication Control Toolkit (CCT) .Net Interface from Contact Center Select and the TAPI 2 in third party mode interface from IP Office to monitor Contact Center Select agent users, and used the port mirroring method to capture media associated with the monitored users for call recording. The TAPI events were used to determine when to start/stop call recordings, and the CCT events were used to obtain contact center information such as skillset and agent ID.

The IP Office Server Edition configuration consisted of two IP Office systems, a primary Linux server and an expansion IP500V2 that were connected via Small Community Network (SCN) trunk.

In the compliance testing, two Encore servers were deployed. One Encore server with Database, Encore UI, Encore VoIP Service, and Encore CTGateway Service components was used to interface with the primary IP Office system via TAPI, interface with Contact Center Select via CCT .Net, for centralized storage of recording entries and playback access, and for media capture. Another Encore server with Encore VoIP Service component was used for media capture.

Contact Center Select requires all agent users to be configured on the primary IP Office system. As such, the Encore server that interfaces with the primary IP Office system used TAPI to monitor all Contact Center Select agent users. The TAPI events were used to determine when to start/stop call recordings.

The port mirroring method was used by each Encore server to capture media associated with local Avaya H.323 IP Deskphones used by Contact Center Select agents. When there is an active call at an agent, the Encore server that interfaces with the primary IP Office system is informed via TAPI events of the call along with the associated phone extension used by the agent. This Encore server then uses CCT .Net with Contact Center Select to obtain relevant CDN, skillset, agent ID, and agent name information, and either starts the call recording when the phone used by the answering agent is local or instructs the other Encore server to start the call recording when the phone used by the answering agent is on the expansion IP Office system.

2. General Test Approach and Test Results

The feature test cases were performed manually. Each call was placed and handled manually with generation of unique audio content for the recording. Necessary agent actions such as hold and reconnect were performed from the agent desktops running the Avaya Agent Desktop application or from the agent phone to test the different call scenarios.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet connection to Encore.

The verification of tests included using the Encore logs for proper message exchanges and use of the Encore web interface for proper logging and playback of the calls.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

For the testing associated with these Application Notes, the media between IP Office IP Deskphones and Encore did not include use of encrypted media SRTP as requested by dvsAnalytics.

2.1. Interoperability Compliance Testing

The compliance testing included feature and serviceability areas.

The feature testing focused on verifying the following on Encore:

- Handling of CCT events.
- Handling of TAPI events.
- Proper recording, logging, and playback of calls for scenarios involving inbound, outbound, internal, external, hold, reconnect, transfer, conference, multiple calls, multiple agents, call observe, barge-in, emergency, join calls, and outbound campaign.

The serviceability testing focused on verifying the ability of Encore to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to Encore.

2.2. Test Results

All test cases were executed and verified.

2.3. Support

Technical support on Encore can be obtained through the following:

• **Phone:** (800) 910-4564

• Email: Support@dvsAnalytics.com

3. Reference Configuration

As shown in **Figure 1**, the RTP stream for Contact Center Select agents with H.323 IP Deskphones were mirrored from the layer 2 switch and replicated over to the local Encore server.

The detailed administration of call center devices is not the focus of these Application Notes and will not be described. In addition, the port mirroring of the layer 2 switches is also outside the scope of these Application Notes and will not be described. In the compliance testing, each Encore server monitored the local phone extensions used by the agents.

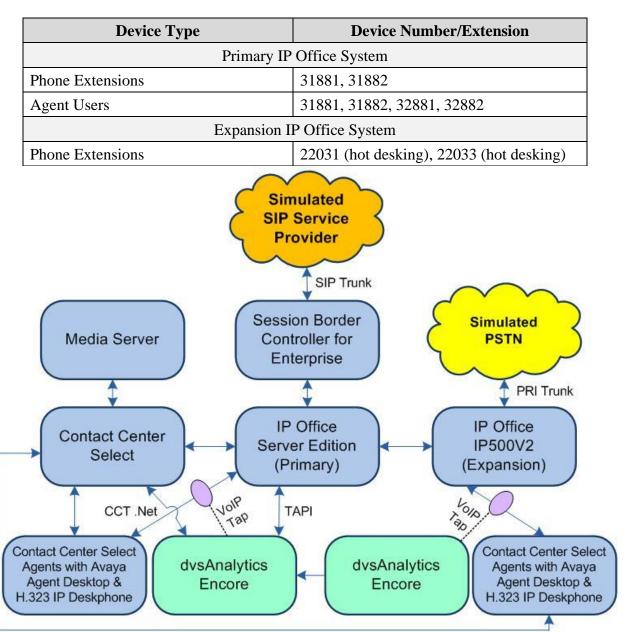


Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Primary	
Avaya Contact Center Select	7.1.0.3
Avaya Aura® Media Server	8.0.0.205
Avaya Agent Desktop on Windows 10 Pro	7.1
Avaya IP Office Server Edition (Primary) in Virtual Environment	11.1.0.1.0
Avaya 9611G & J179 IP Deskphones (H.323)	6.8304
dvsAnalytics Encore on Windows 2016 Server Standard • Encore UI	7.2 3.15.21531
 Database Encore VoIP Service Encore CTGateway Service Avaya IP Office TAPI2 Driver (tspi2w_64.tsp) 	2.38.21498 2.38.21558 1.0.0.44
Expansion	
Avaya Agent Desktop on Windows 10 Pro	7.1
Avaya IP Office on IP500V2 (Expansion)	11.1.0.1.0
Avaya 1608-I IP Deskphone (H.323)	1.3120
Avaya J169 IP Deskphone (H.323)	6.8304
dvsAnalytics Encore on Windows Server 2016 Standard • Encore VoIP Service	7.2 2.38.21498

Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

5. Configure Avaya Contact Center Select

This section provides the procedures for configuring Contact Center Select. The procedures include the following areas:

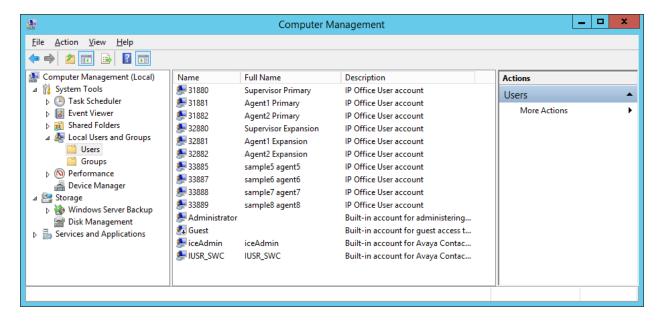
- Administer windows account
- Launch CCT Administration
- Administer CCT user

5.1. Administer Windows Account

From the Contact Center Select server, right click on **Start** and select **Computer Management** (not shown), to display the **Computer Management** screen.

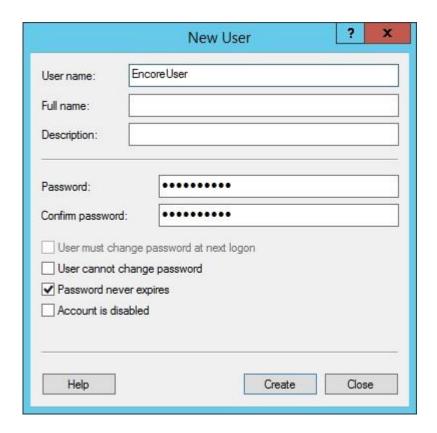
Select Computer Management → System Tools → Local Users and Groups → Users from the left pane, to display a list of users in the middle pane.

Right click in the middle pane and select **New User** (not shown).



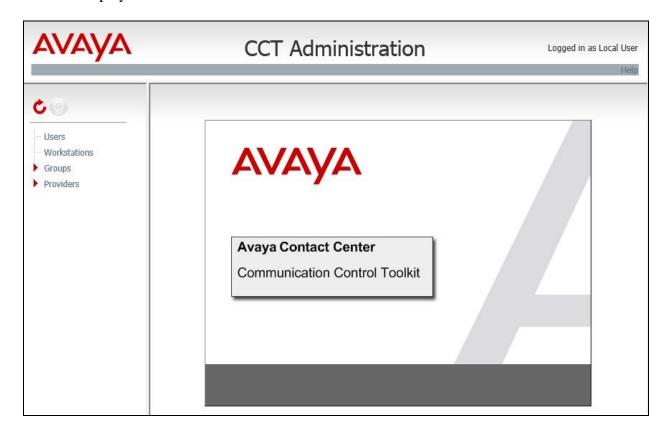
The **New User** screen is displayed. Enter desired values for **User name**, **Password**, **Confirm password**, and optional values for **Full name** and **Description**.

Uncheck **User must change password at next logon**, and check **Password never expires**, as shown below.



5.2. Launch CCT Administration

From the Contact Center Select server, access the CCT Administration web interface by using the pertinent URL in an Internet browser window, in this case "https://accs-ccs:8445/ WebAdmin" where "accs-ccs" is the hostname of the Contact Center Select server. The screen below is displayed.

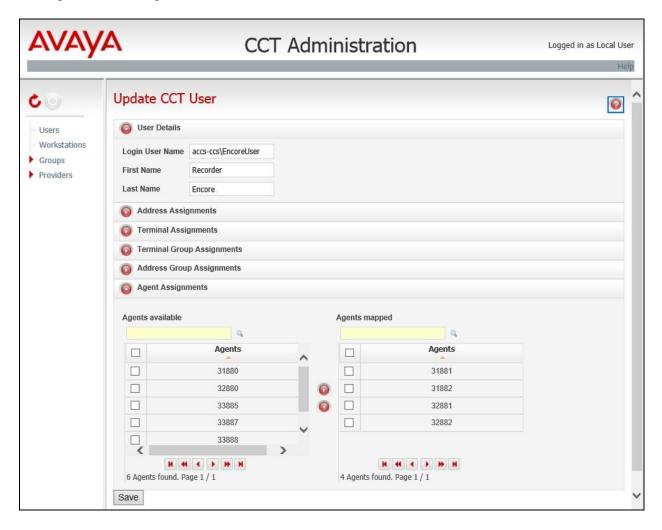


5.3. Administer CCT User

Right click on **Users** in the left pane, and select **Add new User** (not shown). The **Update CCT User** screen is displayed in the right pane.

For **Login User Name**, enter a user name in the format "x\y", where "x" is the hostname of the Contact Center Select server, and "y" is the newly created windows account from **Section 5.1**. Enter desired values for **First Name** and **Last Name**.

In the **Agent Assignments** sub-section, check the relevant agent users from **Section 3** in the left column, and use the arrow icon to move selected agents to the right. In the compliance testing, four agents were assigned, as shown below.



6. Configure Avaya IP Office

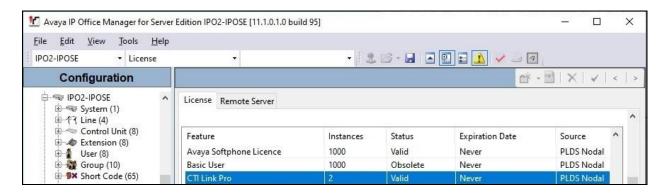
This section provides the procedures for configuring the IP Office systems. The procedures include the following area:

- Verify licenses
- Administer extensions
- Administer security settings
- Obtain phone IP address

6.1. Verify Licenses

From a PC running the IP Office Manager application, select **Start** → **Programs** → **IP Office** → **Manager** to launch the application. Select the proper primary IP Office system, and log in using the appropriate credentials. The **Avaya IP Office Manager for Server Edition IPO2-IPOSE** screen is displayed, where **IPO2-IPOSE** is the name of the primary IP Office system.

From the configuration tree in the left pane, select **License** (not shown) under the primary IP Office system, in this case "IPO2-IPOSE", and a list of licenses is displayed in the right pane. Verify that there is a license for **CTI Link Pro**, and with license **Status** being "Valid", as shown below.

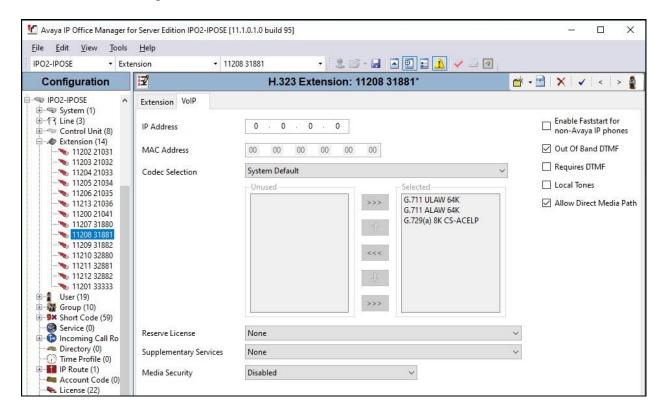


6.2. Administer Extensions

From the configuration tree in the left pane, under **Extension**, select the first extension under the primary IP Office system from **Section 3** that will be used by agents, in this case "31881".

Select the **VoIP** tab. For **Media Security**, select "Disabled" as shown below.

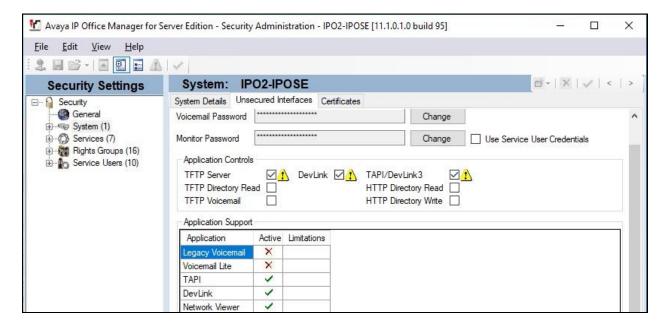
Repeat this section to disable media security for all extensions on both IP Office systems that will be used by agents. In the compliance testing, two extensions on each IP Office system from **Section 3** were configured.



6.3. Administer Security Settings

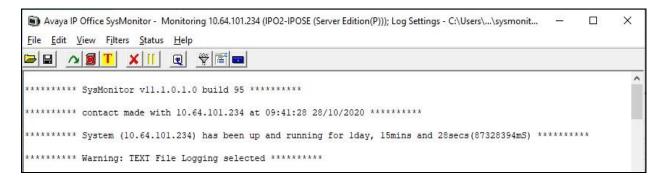
From the configuration tree in the left pane, select the primary IP Office system, followed by File \rightarrow Advanced \rightarrow Security Settings from the top menu.

The Avaya IP Office Manager for Server Edition – Security Administration - IPO2-IPOSE screen is displayed, where IPO2-IPOSE is the name of the selected IP Office system. Select Security → System to display the System screen in the right pane. Select the Unsecured Interfaces tab, and check TAPI/DevLink3 as shown below.

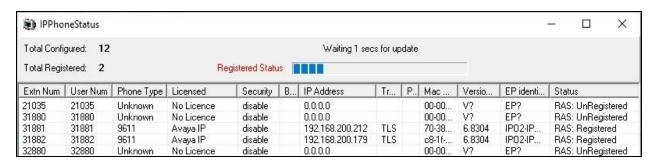


6.4. Obtain Phone IP Address

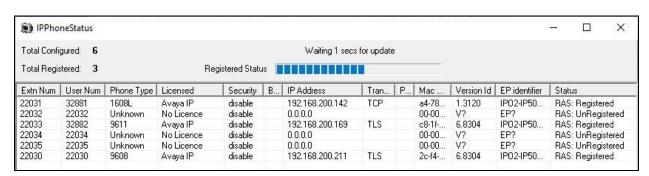
From a PC running the IP Office Monitor application, select Start → Programs → IP Office → Monitor to launch the application and connect to the primary IP Office system. The Avaya IP Office SysMonitor screen is displayed, as shown below. Select Status → H323 Phone Status from the top menu.



The **IPPhoneStatus** screen is displayed. Make a note of the IP address associated with each phone extension used by Contact Center Select agents on the primary IP Office system from **Section 3**, which will be used later to configure Encore.



Repeat this section to obtain IP address associated with each phone extension used by Contact Center Select agents on expansion IP Office system from **Section 3**. Note that Contact Center Select requires all agent users to be configured on the primary IP Office system, and for agents using physical phone extensions on the expansion IP Office system to log into agent users on the primary IP Office via hot desking.



7. Configure dvsAnalytics Encore

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

- Administer TAPI driver
- Administer CTISetup
- Encrypt CCT password
- Launch web interface
- Administer audio settings
- Administer users

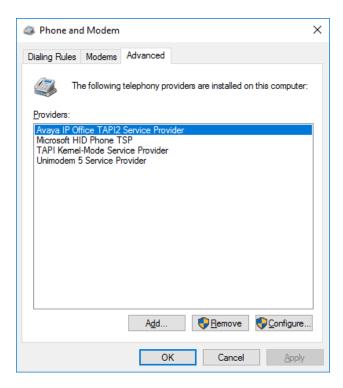
The configuration of Encore is performed by dvsAnalytics installers and dealers. The procedural steps are presented in these Application Notes for informational purposes.

The creation of pertinent site, team, and recording profiles were pre-configured and will not be described.

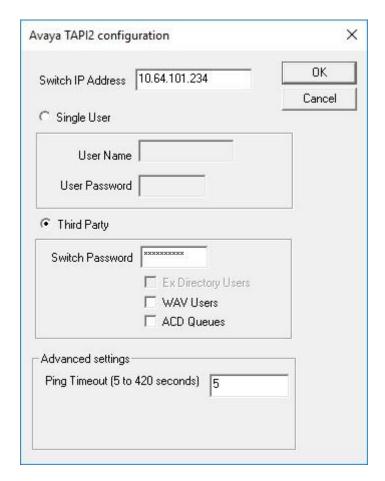
7.1. Administer TAPI Driver

From the first Encore server, select **Start > Control Panel**, and click on the **Phone and Modem** icon (not shown).

In the displayed **Phone and Modem** screen, select the **Advanced** tab. Select the **Avaya IP Office TAPI2 Service Provider** entry and click **Configure**.

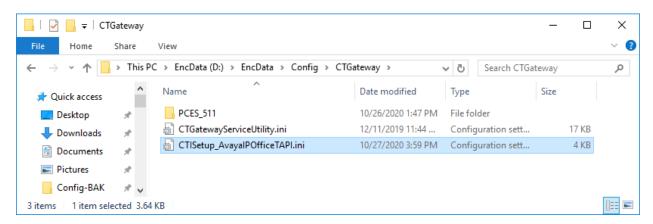


The **Avaya TAPI2 configuration** screen is displayed in the screenshot on the left below. For **Switch IP Address**, enter the IP address of the primary IP Office system. Select the radio button for **Third Party** and enter the system password of the primary IP Office system into the **Switch Password** field. Reboot the Encore server.



7.2. Administer CTISetup

Navigate to the **D:\EncData\Config\CTGateway** directory to edit the **CTISetup_AvayaIPOfficeTAPI.ini** file.



Scroll down to the **PBX-IPOfficeTAPI** sub-section. Enter the following values for the specified fields, and retain the default values for the remaining fields.

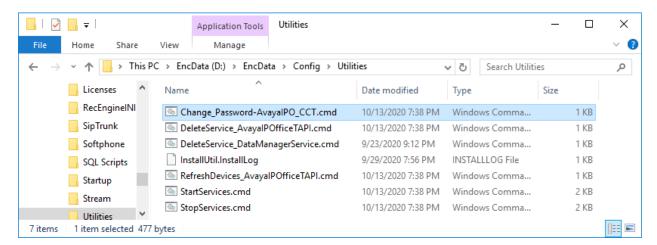
• CCTServerAddress: IP address of Contact Center Select server.

UserDomain: The hostname of the Contact Center Select server.
 CCTUserID: The Encore user credential from Section 5.1.

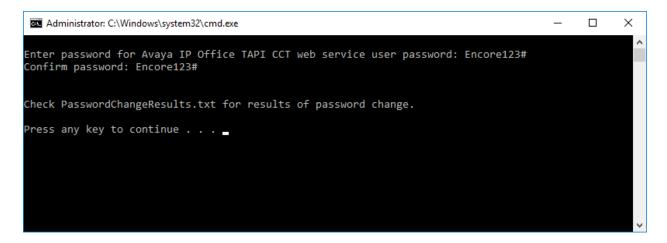
```
CTISetup_AvayalPOfficeTAPI.ini - Notepad
                                                                                                X
<u>File Edit Format View Help</u>
# PBX Section
#
  IPOfficeTAPI - Avaya IP Office TAPI
#
  This section is used by CTIPOfficeTAPI.dll.
#
[PBX-IPOfficeTAPI]
    DebugLogLevel=9
    SimulationMode=No
    PlaybackUseFixedInterval=Yes
    LastPlaybackFile=
    PlaybackFixedInterval=1000
    AACCBridgeAddress=127.0.0.1
    AACCBridgePort=1567
    CCTServerPort=29373
    CCTServerAddress=10.64.101.232
    UserDomain=accs-ccs
    CCTUserID=EncoreUser
    CCTPassword=0A3FD56C36881B3CC42BA1DAB06A45E7
    CCTCampusAlternateServerAddress=
    CCTGeographicAlternateServerAddress=
```

7.3. Encrypt CCT Password

Navigate to the **D:\EncData\Config\Utilities** directory and double click on **Change_Password-AvayaIPO_CCT.cmd**.

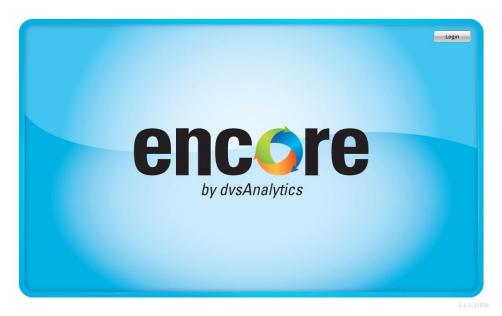


A command prompt window is launched automatically. Enter the Encore user password from **Section 5.1** as shown below.



7.4. Launch Web Interface

Access the Encore web interface by using the URL "http://ip-address/encore" in an Internet Explorer browser window, where "ip-address" is the IP address of the Encore server with the Encore UI component. The **encore** screen below is displayed. Click **Login** and log in using the appropriate credentials.

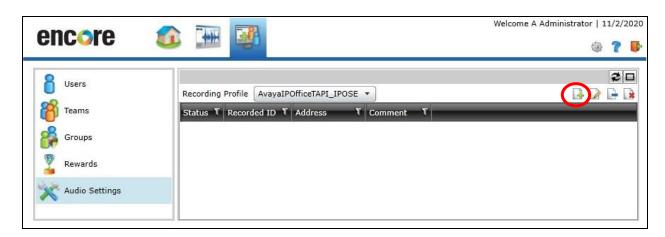


7.5. Administer Audio Settings

The **encore** screen below is displayed. Select the **User and System Configuration** icon from the top menu, followed by **Audio Settings** in the left pane to display the **Recording Profile** screen.

For **Recording Profile**, select the pre-configured profile to be used with the primary IP Office system, in this case "AvayaIPOfficeTAPI_IPOSE".

Select the **Add recorded ID** icon shown below.



The **Add Recorded ID** pop-up box is displayed. Retain the default value and click **OK**.



The **Recorded ID** pop-up box is displayed next. Enter the following values for the specified fields and retain the default values for the remaining fields.

• Status: "Active"

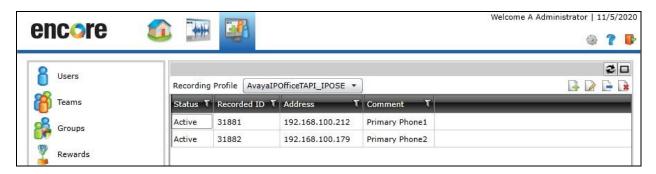
• **Recorded ID:** The first phone extension of the primary IP Office system from **Section 3**.

• **IP Address:** The IP address associated with this phone extension from **Section 6.4**.

• **Comment:** An optional comment.



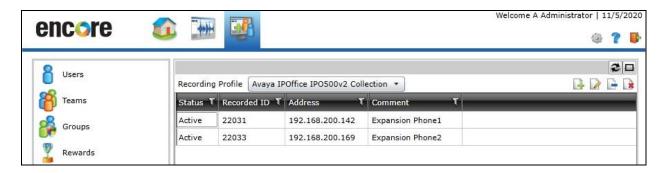
Repeat this section to add all phone extensions for the primary IP Office system from **Section 3**. In the compliance testing, two entries were created as shown below.



Repeat the procedures in this section to add all phone extensions for the expansion IP Office system from **Section 3**.

In **Recording Profile**, select the pre-configured profile to be used with the expansion IP Office system, in this case "Avaya IPOffice IPO500v2 Collection".

In the compliance testing, two entries were created as shown below.



7.6. Administer Users

Select Users from the left pane to display a list of users. Select the **Add user** icon shown below.



The **Add user** pop-up box is displayed. Retain the default values and click **OK**.



The **User - New** pop-up box is displayed next. Enter the following values for the specified fields and retain the default values for the remaining fields.

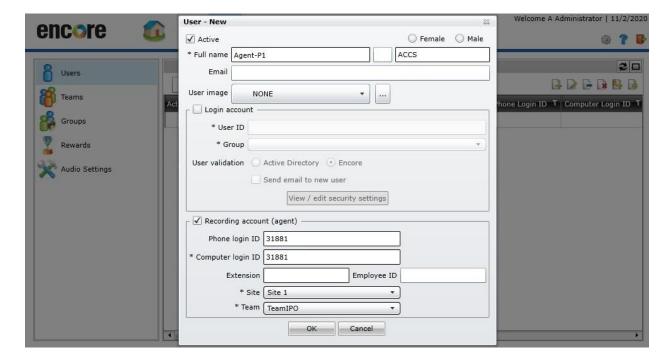
• **Full name:** The full name for the agent.

• Recording account (agent): Check this field.

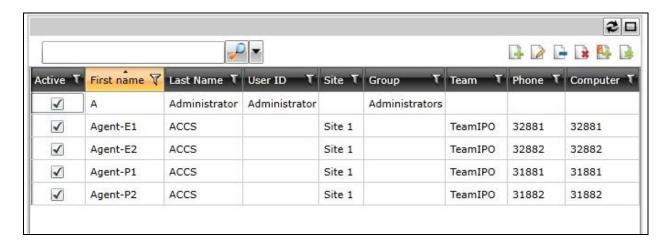
• **Phone login ID:** The first agent user number from **Section 3**.

• **Computer login ID:** Required to be configured but not used in the integration.

Site: Select the pertinent site that was pre-configured.
 Team: Select the pertinent team that was pre-configured.



Repeat this section to add all agent users from **Section 3**. In the compliance testing, four users were created as shown below.



8. Verification Steps

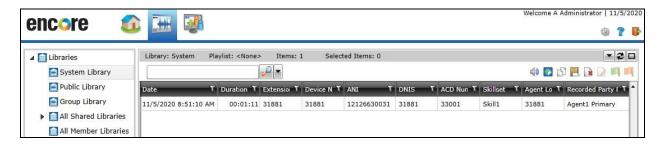
This section provides the tests that can be performed to verify proper configuration of Contact Center Select, IP Office, and Encore.

8.1. Verify Recording of Primary Agent

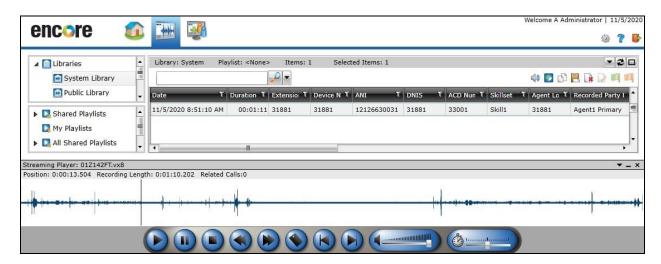
Complete a Contact Center Select voice call from the PSTN with answering agent user using phone on the primary IP Office system. From the Encore web interface, select the **Recorded Contacts** icon from the top menu, to display a listing of recordings.

Verify that there is an entry in the right pane reflecting the last call, with proper values in the relevant fields. In this case, **Extension** contained the agent user number "31881", and **Device Name** contained the phone extension "31881" used by the answering agent on the primary IP Office system.

ACD Number, **Skillset**, **Agent Login ID**, and **Recorded Party Name** are parameters with values obtained from the Contact Center Select CCT .Net events.



Right click on the entry and select **Play** to listen to the playback. Verify that the screen is updated and that the call recording can be played back.

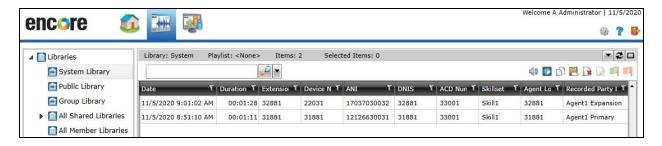


8.2. Verify Recording of Expansion Agent

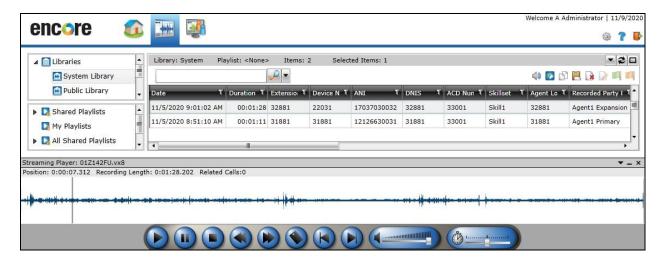
Complete a Contact Center Select voice call from the PSTN with answering user using phone on the expansion IP Office system. From the Encore web interface, verify that there is an entry in the right pane reflecting the last call, with proper values in the relevant fields.

Verify that there is an entry in the right pane reflecting the last call, with proper values in the relevant fields. In this case, **Extension** contained the agent user number "32881", and **Device Name** contained the phone extension "22031" used by the answering agent on the expansion IP Office system.

ACD Number, **Skillset**, **Agent Login ID**, and **Recorded Party Name** are parameters with values obtained from the Contact Center Select CCT .Net events.



Right click on the entry and select **Play** to listen to the playback. Verify that the screen is updated and that the call recording can be played back.



9. Conclusion

These Application Notes describe the configuration steps required for dvsAnalytics Encore 7.2 to successfully interoperate with Avaya Contact Center Select 7.1 and Avaya IP Office Server Edition 11.1. All feature and serviceability test cases were completed.

10. Additional References

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

- **1.** Administering Avaya IP Office™ Platform with Manager, Release 11.1, Issue 1, April 2020, available at http://support.avaya.com.
- **2.** Avaya IP Office TAPI and ACCS Installation Addendum, Version 7.2, September 23, 2020, available from dvsAnalaytics Support.
- **3.** Avaya IP Office TAPI and ACCS Integration Guide, Version 7.0, November 8, 2018, available from dvsAnalaytics Support.

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