



Application Notes for configuring Enghouse Interactive Communications Portal 9.0 using CTI Connect Media Gateway with Avaya IP Office 9.1 - Issue 1.0

Abstract

These Application Notes describe the configuration steps for Enghouse Interactive Communications Portal 9.0 using CTI Connect Media Gateway to successfully interoperate with Avaya IP Office Server Edition 9.1. Communications Portal is an IVR application server that connects to IP Office via a SIP Trunk.

Readers should pay attention to section 2, in particular the scope of testing as outlined in Section 2.1 as well as the 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 for Enghouse Interactive Communications Portal 9.0 to successfully interoperate with Avaya IP Office 9.1 Server Edition and 500v2 Expansion.

Enghouse Interactive Communications Portal is an open standards-based platform with integrated application development and management components.

- Voice self-service solutions, such as interactive voice response (IVR), interactive voice and video response (IVVR), outbound dialing, and speech-enabled self-service systems.
- SMS, email, standards-based voice mail.
- Contact center solutions, including outbound dialing, intelligent routing applications and screen pop applications.
- Unified communications solutions, including standards-based voice-mail systems and applications that combine traditional voice, IP telephony, video messaging, SMS, email, and fax communication.

2. General Test Approach and Test Results

The IVR application telephony functionality of Communications Portal 9.0 (CP) was the only module tested. This IVR application (CP script) connects to IP Office as a SIP Trunk on the IP Office Server Edition. CP passes SIP calls to and from the IP Office. The calls are placed over SIP trunks to CP scripts which in turn handles the call depending on the digits dialed using SIP signaling. Communications Portal utilizes CTI Connect Media Gateway to perform all telephony functions on the server.

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.

2.1. Interoperability Compliance Testing

The interoperability compliance test included both feature functionality and serviceability testing. The feature functionality testing focused on placing various calls to the Communications Portal IVR:

- **Basic Inbound/Outbound** – Tests inbound calls to Enghouse Interactive Communications Portal.
- **Call Hold** – Tests held calls to/from Enghouse Interactive Communications Portal.
- **Call Transfer** – Tests transferred calls to/from Enghouse Interactive Communications Portal.
- **IVR Functionality** – Tests of various IVR features like is ANI/DNIS detection, leaving voice message/voice mail (Recording), DTMF collection, Barge-in on the Enghouse Interactive Communications Portal.
- **Failover/Service** – Tests the behaviour of Enghouse Interactive Communications Portal when there are certain failed conditions.

The serviceability testing focused on verifying the ability of Communications Portal to recover from disconnection and reconnection to the Avaya solution.

2.2. Test Results

All functionality and serviceability test cases were completed successfully, however the following observation was made.

- CTI Media Gateway does not support Trombone Referral.

2.3. Support

Technical support can be obtained for Enghouse Interactive as follows:

USA

- Email: scpsupport@enghouse.com
- Website: <http://enghouseinteractive.com/support.php>
- Phone: +1 800.788.9730 Self-Service
- Phone: +1 800.872.2272 Live-Service

EMEA

- Email: supportenvox@syntellect.com
- Website: http://enghouseinteractive.co.uk/support/contact_support/
- Phone: +44 203 357 3001

3. Reference Configuration

The configuration in **Figure 1** will be used to compliance test Enghouse Interactive Communications Portal 9.0 with Session Manager and Communication Manager using SIP signalling over SIP trunks to route calls from Communication Manager to Communications Portal 9.0.

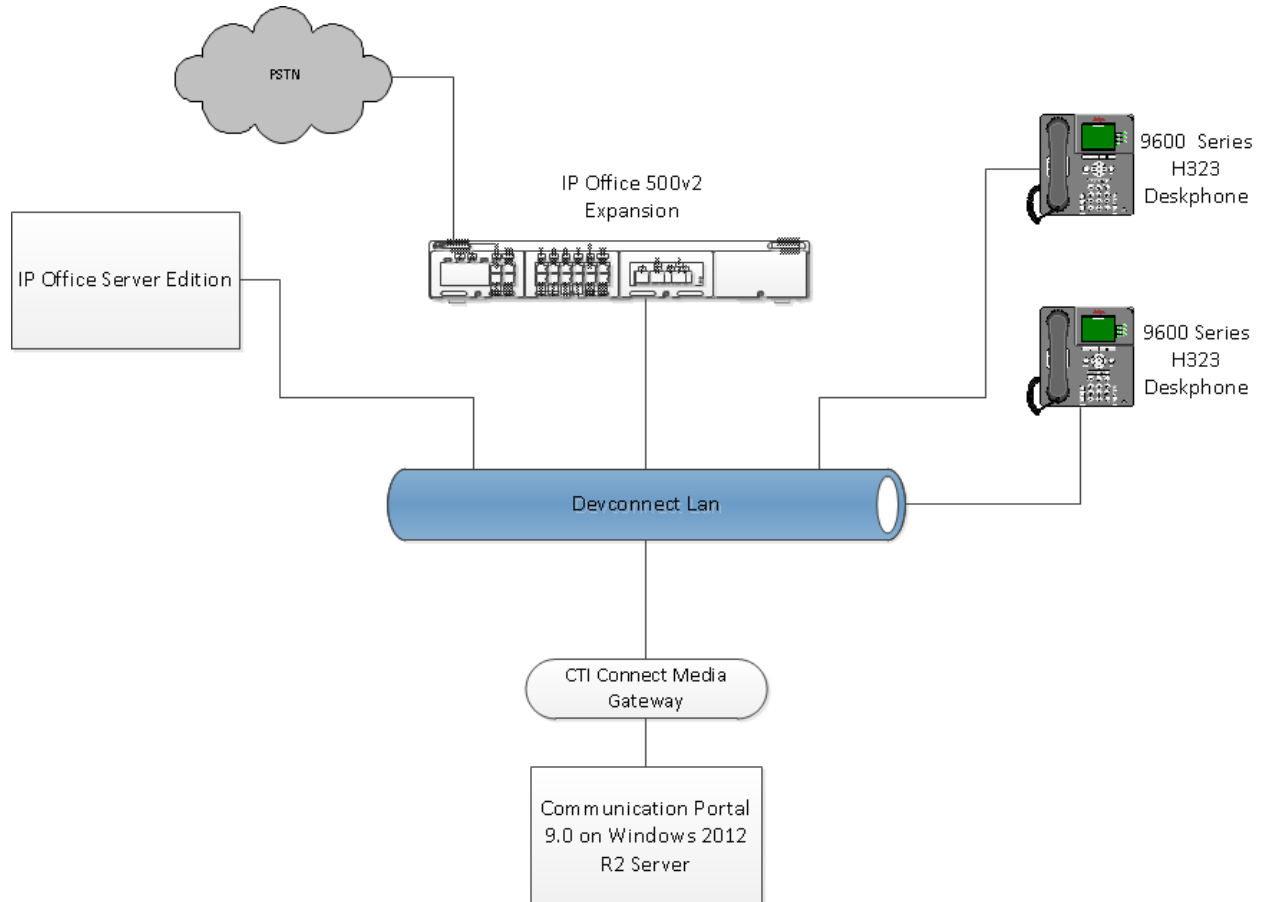


Figure 1: Connection of Enghouse Interactive Communications Portal 9.0 with Avaya IP Office 9.1 Server Edition

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office Server Edition running on a Virtual Platform	9.1.0.0 build 437
Avaya IP Office 500v2 Expansion	9.1.0.0 build 437
Avaya 9630 H323 Deskphones	H.323 Release s3.186a
Enghouse Interactive Communications Portal running on Windows 2012 R2 Server with CTI Connect Media Gateway	Communications Portal 9.0 PRC5 CTI Connect Media Gateway 8.2

Note: 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 IP Office

The configuration and verification operations illustrated in this section were all performed using IP Office Manager. The information provided in this section describes the configuration of IP Office for this solution. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 9**.

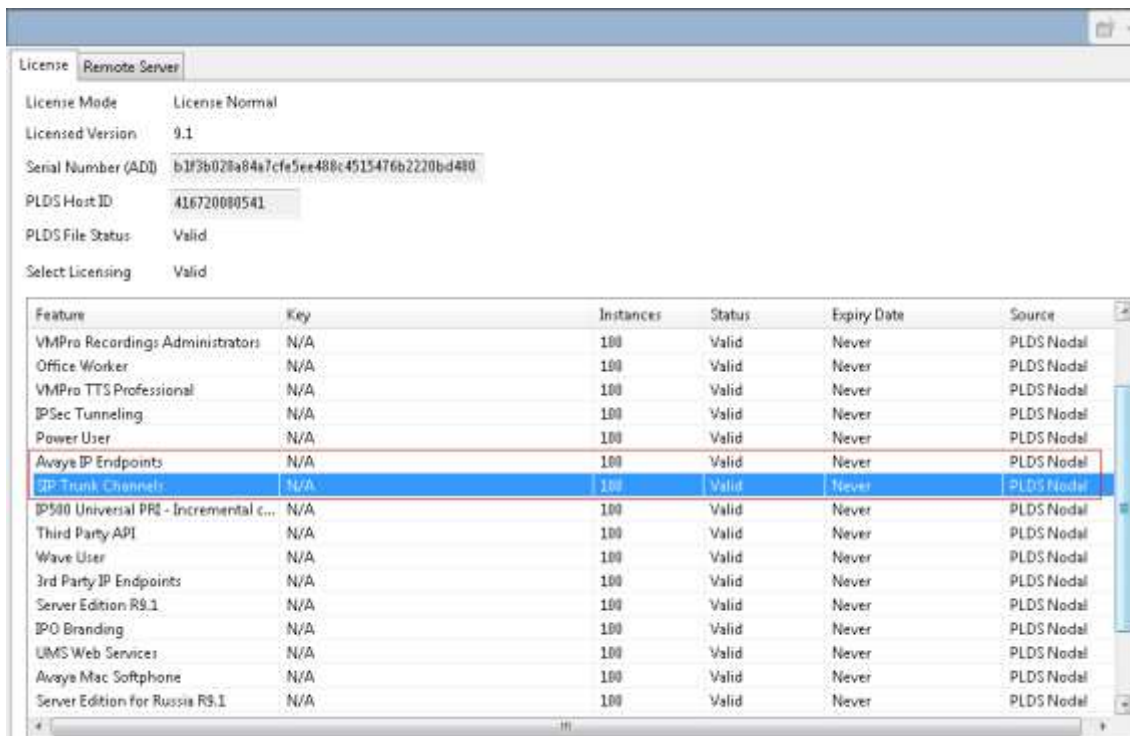
The configuration operations described in this section can be summarized as follows:

- Verify Licensed SIP Trunks.
- Verify SIP Sessions.
- Administer SIP Trunk.
- Add CP dial Shortcode.

5.1. Verify Licensed SIP Trunks

The license file installed on the system controls these attributes. If a required feature is not enabled or there is insufficient capacity, contact an authorized Avaya sales representative.

- Open IP Office Manager.
- Log in with the correct credentials.
- Select Configuration from the Open menu.
- Select Solution → <IP Office Name> → License from the configuration menu.
- Verify that SIP Trunk Channels has sufficient licenses available.



Feature	Key	Instances	Status	Expiry Date	Source
VMPra Recordings Administrators	N/A	100	Valid	Never	PLDS Nodal
Office Worker	N/A	100	Valid	Never	PLDS Nodal
VMPra TTS Professional	N/A	100	Valid	Never	PLDS Nodal
IPSec Tunneling	N/A	100	Valid	Never	PLDS Nodal
Power User	N/A	100	Valid	Never	PLDS Nodal
Avaya IP Endpoints	N/A	100	Valid	Never	PLDS Nodal
SIP Trunk Channels	N/A	100	Valid	Never	PLDS Nodal
IP500 Universal PRS - Incremental c...	N/A	100	Valid	Never	PLDS Nodal
Third Party API	N/A	100	Valid	Never	PLDS Nodal
Wave User	N/A	100	Valid	Never	PLDS Nodal
3rd Party IP Endpoints	N/A	100	Valid	Never	PLDS Nodal
Server Edition RS.1	N/A	100	Valid	Never	PLDS Nodal
IPO Branding	N/A	100	Valid	Never	PLDS Nodal
LRMS Web Services	N/A	100	Valid	Never	PLDS Nodal
Avaya Mac Softphone	N/A	100	Valid	Never	PLDS Nodal
Server Edition for Russia RS.1	N/A	100	Valid	Never	PLDS Nodal

5.2. Verify SIP Sessions

To allow SIP sessions to be established between IP Office and Communication portal the maximum number of SIP Session must be verified.

- Open IP Office Manager.
- Log in with the correct credentials.
- Select Configuration from the Open menu.
- Select Solution → <IP Office Name> → System from the configuration menu.
- Select the Telephony tab.
- Verify that Maximum SIP Sessions is sufficient.

The screenshot displays the configuration interface for the Telephony tab. The 'Maximum SIP Sessions' field is highlighted with a red box and set to 10. Other settings include Dial Delay Time (1), Dial Delay Count (4), Default No Answer Time (15), Hold Timeout (15), Park Timeout (300), Ring Delay (5), Call Priority Promotion Time (Disabled), Default Currency (GBP), Default Name Priority (Favour Trunk), Media Connection Preservation (Enabled), and Phone Failback (Automatic). The 'Companding Law' section shows 'A-Law' selected for both Switch and Line. The 'Login Code Complexity' section has 'Enforcement' and 'Complexity' checked, with a minimum length of 4.

5.3. Administer SIP Line

A SIP Line is required to make calls to Communication Portal.

- Open IP Office Manager.
- Log in with the correct credentials.
- Select Configuration from the Open menu.
- Select Solution → <IP Office Name> → Line.
- Right click and select New → SIP Line.
- Enter a **Line Number**.
- Make sure **In Service** is checked and uncheck **Check OOS**.

- Select the Transport tab.
- Enter the Communication Portal server IP Address in **ITSP Proxy Address**.
- Set the **Layer 4 Protocol** to what Communication Portal uses. TCP was used in this compliance test.
- Set the **Send** and **Listen Port** to the port set in Communication Portal.

- Select the SIP URI tab.
- Click on **Edit...**
- Enter the **Incoming Group and Outgoing Group** that will be used to dial Communication Portal.

The screenshot shows a configuration window with tabs for SIP Line, Transport, SIP URI, VoIP, SIP Credentials, SIP Advanced, and Engineering. The SIP URI tab is active, displaying a table of channels. The first channel is selected, and the 'Edit...' button is highlighted with a red box. Below the table is an 'Edit Channel' dialog box with various fields. The 'Incoming Group' and 'Outgoing Group' fields are highlighted with a red box.

Channel	Groups	Via	Local URI	Contact	Display Name	PAI	Credential	Max Calls
1	10 10	<...>				N...	0: <Non...	10

Edit Channel

Via: <None>

Local URI: Use Internal Data

Contact: Use Internal Data

Display Name: Use Internal Data

PAI: None

Registration: 0: <None>

Incoming Group: 10

Outgoing Group: 10

Max Calls per Channel: 10

5.4. Administer Short Code to Dial Communication Portal

A number is allocated to the Communication Portal to allow the IVR Application to be answered.

- Open IP Office Manager.
- Log in with the correct credentials.
- Select Configuration from the Open menu.
- Select Solution → <IP Office Name> → Short Code.
- Right click and select **New**.
- Enter the number to dial in **Code** and **Telephone Number**.
- Select **Dial Feature**.
- Select the **Line Group ID** of the SIP Line administered above.

Short Code	
Code	8888888
Feature	Dial
Telephone Number	8888888
Line Group ID	10
Locale	Ireland (UK English)
Force Account Code	<input type="checkbox"/>
Force Authorization Code	<input type="checkbox"/>

6. Configuration of Enghouse Interactive Communications Portal 9.0

This section describes the steps required to configure Enghouse Interactive Communications Portal 9.0 to interoperate with Avaya Aura® Communication Manager 7.0. These steps include:

- Media Gateway Driver Configuration
- Configuration file creation
- Change Outbound Dial plan
- Set the SIP transfer type parameter

6.1. Media Gateway driver configuration

When using Media Gateway perform following steps to modify the configuration parameters in Media Gateway configuration files.

- Create the *avaya.xml* gateway configuration file
- Change the outbound dial plan
- Set the SIP transfer type parameter

6.2. Create the *avaya.xml* gateway configuration file

To configure CP for this integration, prepare a gateway configuration file by performing the following steps.

- In the <Media Gateway install folder>\conf\sip_profiles\external folder, create a new text (.txt) file named *avaya.xml* with the following content. By default, Media Gateway is installed to C:\Program Files\Enghouse Interactive\Media Gateway.
- <include>
- <gateway name="AVAYA">
- Enter the IP address of you're the IP Office in the **realm** parameter value.
- <param name="realm" value="xxx.xxx.xxx.xxx"/>
- <param name="username" value="not-used"/>
- <param name="password" value="not-used"/>
- <param name="register" value="false"/>
- <param name="caller-id-in-from" value="false"/>
- <param name="register-transport" value="tcp"/>
- </gateway>
- </include>

6.3. Change the outbound dial plan

To configure CP for this integration, you must change the outbound dial plan configuration file by performing the following steps.

- In the <Media Gateway install folder>\conf\autoload_configs folder, edit the *csdialplan.conf.xml* file.
- Comment the following line:
<!-- <param pattern="^(.+@.+)\$" value="sofia/external/\$1"/> -->
- Add the following line immediately below the line you commented:
<param pattern="^(.+@.+)\$" value="sofia/gateway/AVAYA/\$1"/>

- Save the changes.

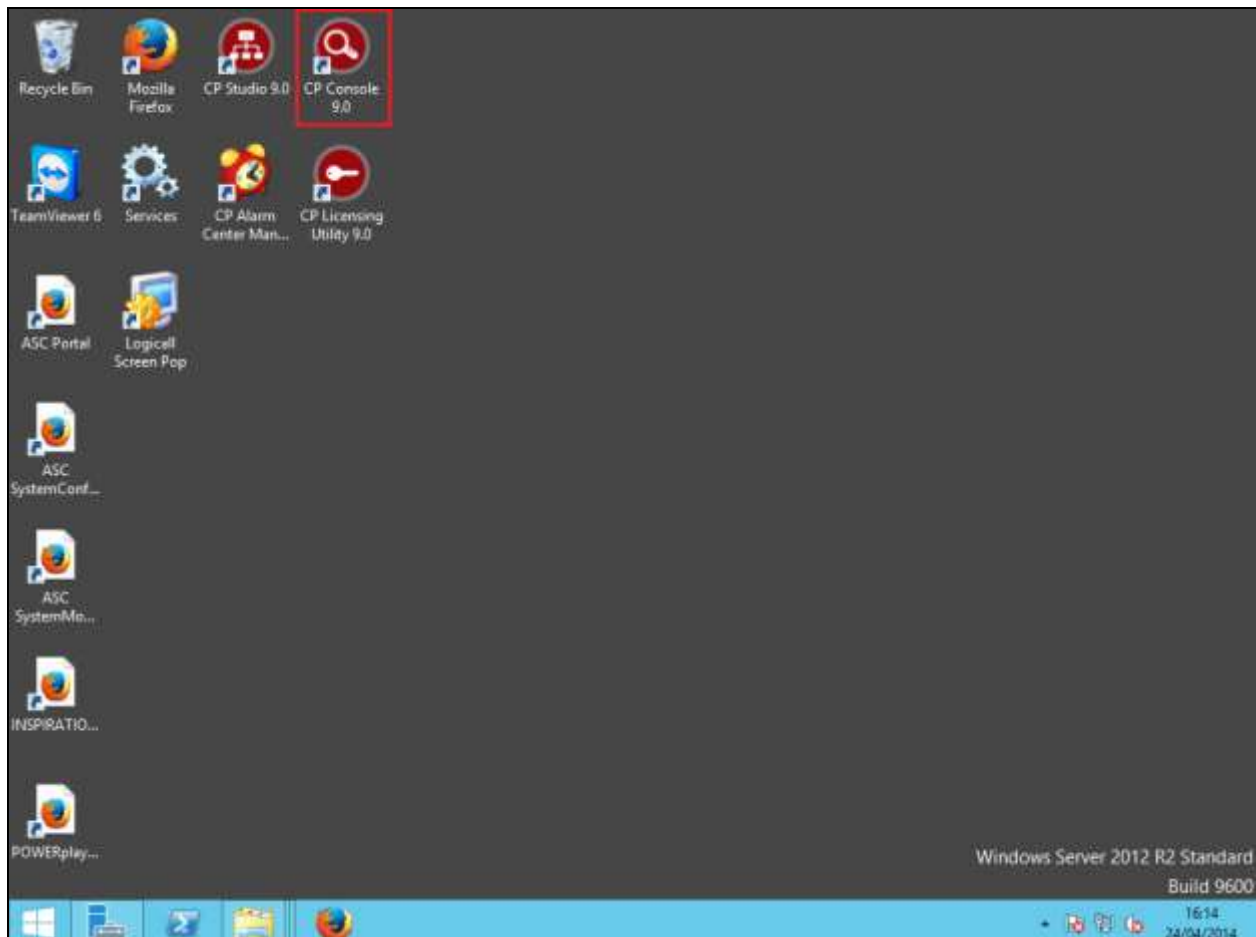
6.4. Set the SIP transfer type parameter

By default, the SIP transfer type is set to Refer. You must change transfer type to re-Invite with following steps.

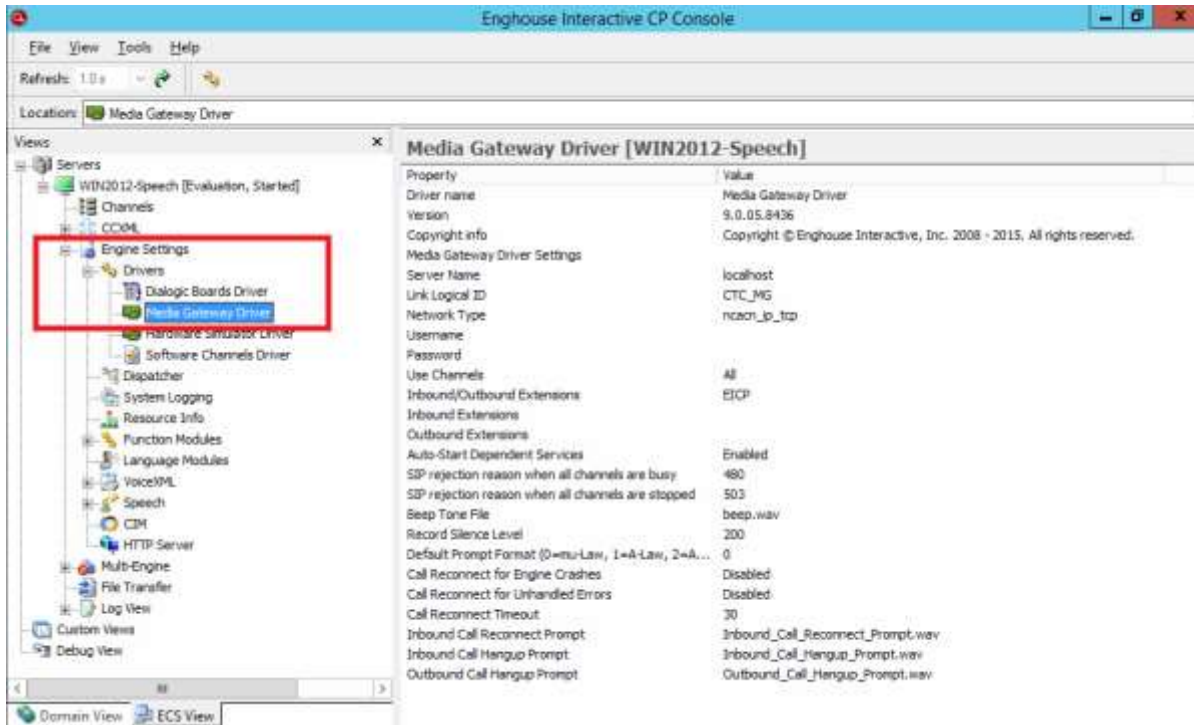
- In the <Media Gateway install folder>\conf\autoload_configs folder, edit the csinterface.conf.xml file.
- Change the parameter `<param name="sip_transfer_type" value="refer"/>` to `<param name="sip_transfer_type" value="reinvite"/>`.
- Save the changes.

To complete the CP configuration, you must stop the CP engine, stop the Media Gateway service (if it is already started) and restart the CP Engine.

To configure the Media Gateway Driver open the **CP Console 9.0** by double clicking on the shortcut as shown below.



In the left window, navigate to **Servers** → [Server Name] → **Engine Settings** → **Drivers** → **Media Gateway Driver**.



Please note that configuration of Communications Portal with regards to the setup of the IVR is outside the scope of these Application Notes, for more information on this setup please refer to **Section 9** of these Application Notes.

7. Verification Steps

To verify a successful configuration of Communications Portal and IP Office a call is placed from an IP Office telephone to the Communications Portal with the caller getting answered successfully hearing clear and audible speech.

7.1. Communications Portal SIP Line is up

Log in to the IP Office System Status application. From the left hand menu select Trunks → <SIP Line configured>.

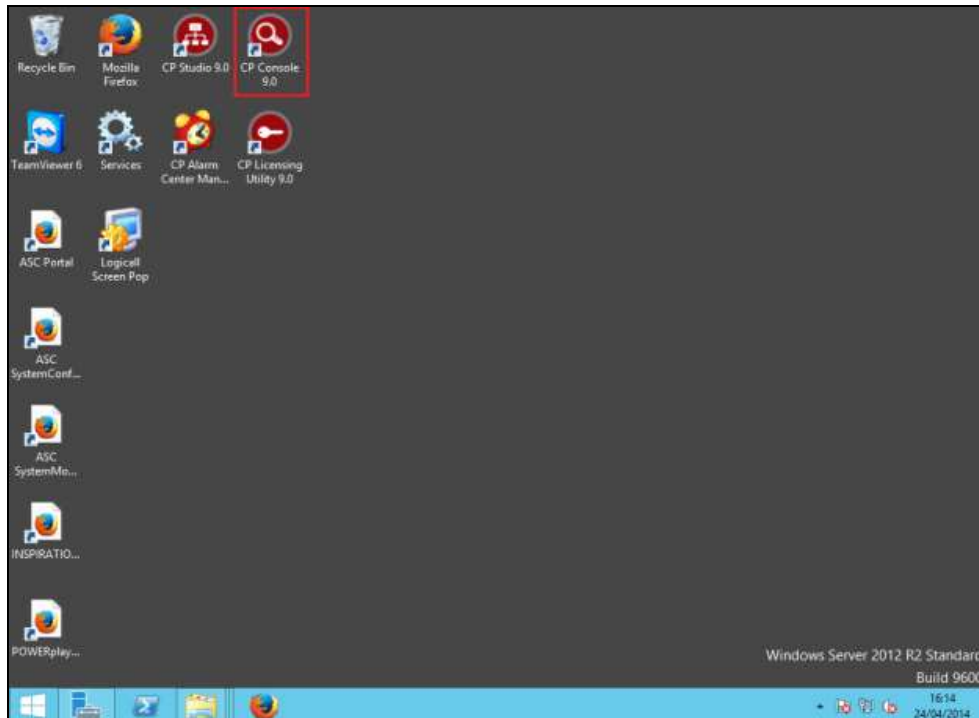
- Verify **Line Service State:** is **In Service**.
- Verify **Channel Current State** is **Idle** (**Active** if a call is in progress).

The screenshot shows the Avaya IP Office System Status application interface. The left-hand menu is expanded to show 'Line:10' under 'Trunks (2)'. The main content area displays the 'SIP Trunk Summary' for Line 10, which is currently 'In Service'. A green progress indicator shows 0% for SIP Trunk Channel Licenses in Use. Below the summary is a table of channel states.

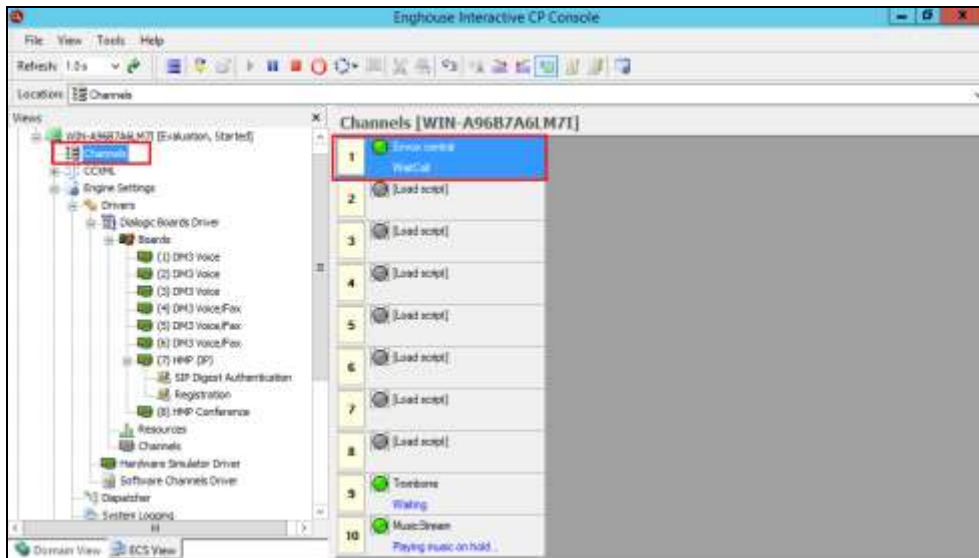
Chan...	U...	Call	Curr...	Time in	Remote	Co...	Conn...	Caller	Other Party	Direc...	Round	Recei...	Recei...	Trans...	Tran...
	Ref		State	State	Media ...			ID or...	on Call		Trip ...				
1			Idle	8 da...											
2			Idle	8 da...											
3			Idle	12 d...											
4			Idle	12 d...											
5			Idle	12 d...											
6			Idle	12 d...											
7			Idle	12 d...											
8			Idle	12 d...											
9			Idle	12 d...											
10			Idle	12 d...											

7.2. Verify Enghouse Interactive Communications Portal IVR script

Open the CP Console 9.0 by double clicking on the shortcut as shown below.



Channel 1 below has the script **Envox Central** associated with it, this should also show as green.



8. Conclusion

These Application Notes describe the configuration steps required for Enghouse Interactive Communications Portal 9.0 to successfully interoperate with Avaya IP Office Server Edition R9.1. All feature functionality and serviceability test cases were completed successfully as outlined in **Section 2.2**.

9. Additional References

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

Product documentation for Avaya products may be found at <http://support.avaya.com>.

[1] *Administering Avaya IP Office Platform with Manager, Id: 101005673*

[2] *Using IP Office Platform System Status Id: 101005061*

Product documentation for Enghouse Interactive Communications Portal can be obtained by visiting the following website, www.enghouseinteractive.com

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