Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Datatal AB Flexi with Avaya IP Office - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Datatal AB Flexi with Avaya IP Office 9.0.

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.

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1. Introduction

Datatal Flexi platform is an application platform for telephony and unified communication on the Swedish market, and is also used in some other Nordic counties. Flexi platform includes three major products within the same server with shared administration.

Flexi Presentity is a presence and advanced voicemail module, including a mobile application where an end-user can activate absent states, like 'meeting' or 'lunch' and calling customers will receive a voice prompt that the user is busy in lunch, for instance.

Flexi CallCenter is a call center module for customer services or support units. Incoming calls are queued in Flexi server and when an agent is free and available the call will be transferred. Flexi CallCenter can also handle callback, so that calling customers can schedule a callback.

Flexi Tid, it's an advanced callback module that can handle time bookings. Customers call and book a timeslot for when they will be called back. This application is very useful in the healthcare industry where many incoming calls are received from customers concurrently.

2. General Test Approach and Test Results

The general test approach was to configure Flexi to communicate using a SIP trunk with the Avaya IP Office (IP Office) as implemented on a customer's premises. Testing focused on verifying that Flexi could communicate with the IP Office and all features behaved as expected. Various call scenarios were performed to simulate real call types as would be observed on a customer premises. See **Figure 1** for a network diagram. The interoperability compliance test focused on functionality tests.

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 testing included:
- Verification of connectivity between:
  IP Office and Flexi
- Inbound calls to the Flexi queue number
- Inbound calls to Voice Mail
- Flexi Tid Agent answers calls from the queue
- Inbound calls requiring call back (ensuring DTMF works)
- Flexi Tid Agents retrieving voicemails
- Flexi Tid Agents making outbound calls to patients

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2.2. Test Results

Tests were performed to insure full interoperability of Datatal AB Flexi and Avaya IP Office solution. The tests were all functional in nature and performance testing was not included. All the test cases passed successfully.

2.3. Support

Technical support from Datatal AB can be obtained through the following:

First Technical support contact:
Email: Erik Kalström at erik@datatal.se
Phone: +46498253017

Second Technical support contact:
Email: Thomas Person at tomas@datatal.se
Phone: + 46498253030

General Technical support contact:
Email: support@datatal.se
                +46498253030

3. Reference Configuration

Figure 1 illustrates the network topology used during compliance testing. The Avaya solution consists of an IP Office 500v2 which has a SIP Trunk connection to Flexi server. Telephony Application Programming Interface (TAPI) is configured on the Flexi server which enables it to control a telephone via IP Office, to act as the Flexi Tid/Contact Center Agent. An Avaya H.323 deskphone was used as the Agents telephone during compliance testing. Calls required to be answered by an agent were routed back to the IP Office and answered on an Avaya H.323 deskphone. Outbound calls from the Flexi Tid Agent were performed by the Flexi Tid server calling the Agents deskphone and then also calling the external number which was then put in conference. External calls were made using a simulated PSTN. Digital, H323 and soft phones were configured on the IP Office to generate outbound/inbound calls to/from the PSTN.
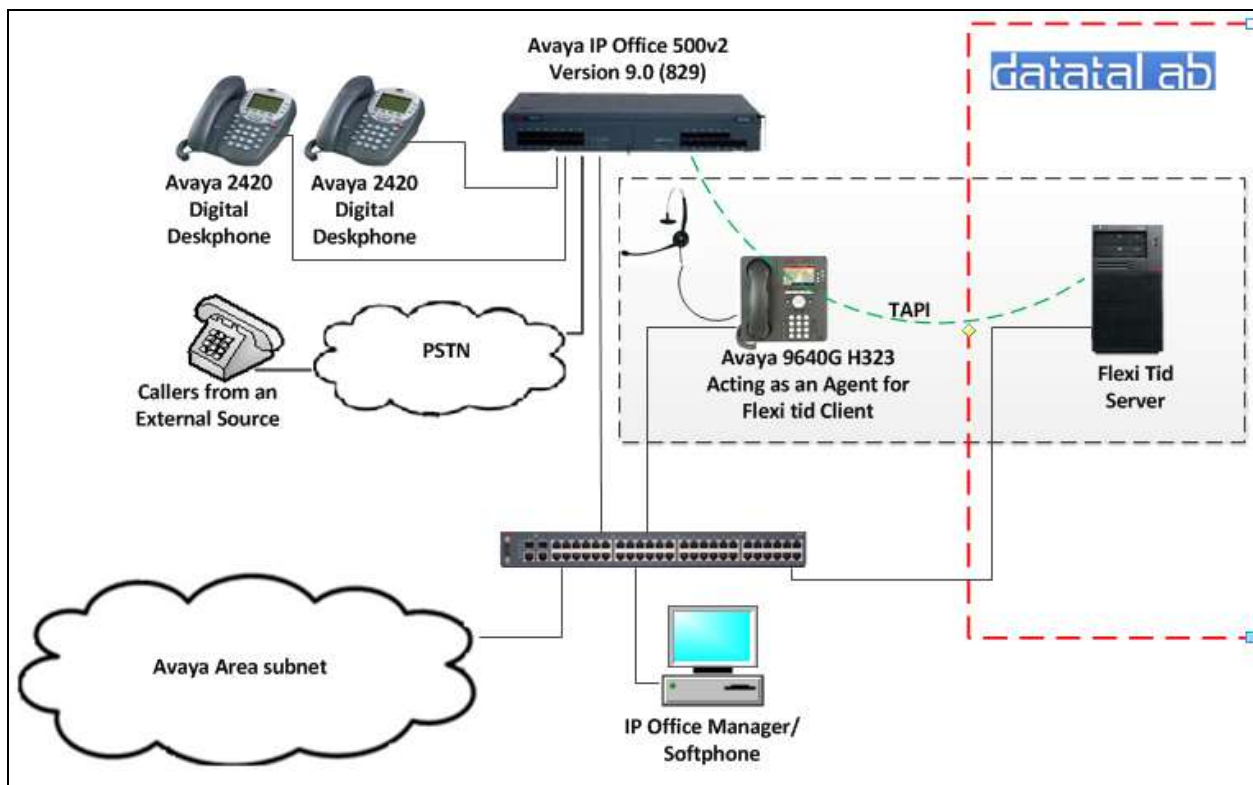
Figure 1: Avaya IP Office and Flexi Reference Configuration

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4. Equipment and Software Validated

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

Avaya Equipment	Software / Firmware Version
Avaya IP Office 500v2	9.0 Build 829
Phone8 Analog Module	9.0.0.829
DIGSTA8 Digital Module	9.0.0.829
Avaya IP Office Manager	9.0 Build 829
Avaya TAPI2 Version TAPI_1_0_0)39(2)	Version TAPI_1_0_0)39(2)
Avaya 9630 IP Telephone	Release 3.2
Avaya 2420 Digital Telephones	--
Avaya IP Office softphone	3.2.3.49 68975
Datatal AB Equipment	**Software / Firmware Version**
Datatal Flexi platform running on Microsoft Windows Server 2012 x64 R2	Version 5.10
Microsoft Internet Information Server (IIS)	Version 8.0
Microsoft SQL Server Express	Version 2008 R2
.Net Framework	2.0 and 3.5.1
PHP	5.2.18
Microsoft Internet Explorer	11

Note: Testing was performed with IP Office 500v2 R9.0, but it also applies to IP Office Server Edition R9.0. Note that IP Office Server Edition requires an Expansion IP Office 500 v2 R9.0 to support analog or digital endpoints or trunks. IP Office Server Edition does not support TAPI Wave or Group Voicemail.

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5. Avaya IP Office Configuration

Configuration and verification operations on the Avaya IP Office illustrated in this section were all performed using Avaya IP Office Manager. The information provided in this section describes the configuration of Avaya IP Office for this solution. It is implied a working system is already in place with the necessary licensing. For all other provisioning information such as initial installation and configuration, please refer to the product documentation in **Section 10**. The configuration operations described in this section can be summarized as follows:

- Launch Avaya IP Office Manager (Administration)
- Configure System Locale
- Create SIP Trunk
- Configure codec
- Configure Incoming Call Route
- Create Short Code (Call Route)
- Forwarding
- Save Configuration

Note: Only the unique prompts are shown in the screen captures below, all other inputs can be left at default.
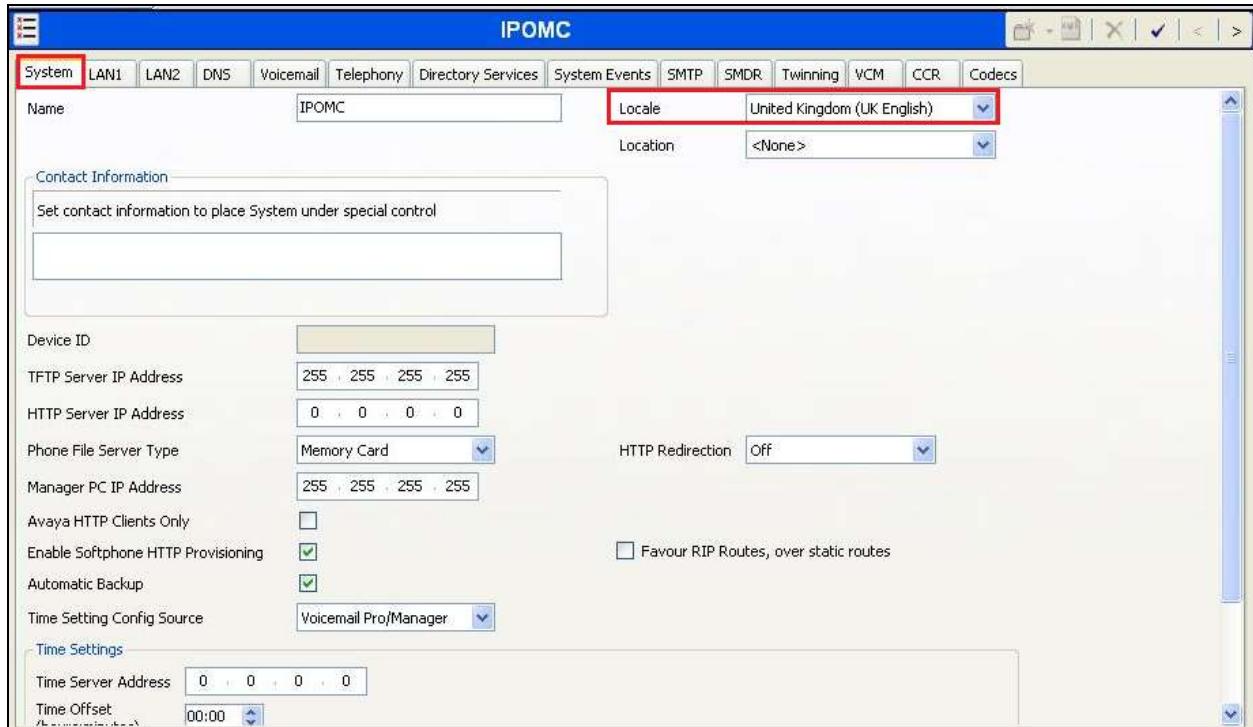
5.1. Launch Avaya IP Office Manager (Administration)

From the IP Office Manager PC, click **Start→Programs→IP Office→Manager** to launch the Manager application. Enter the appropriate credentials and click on the OK button to receive the IP Office configuration.

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5.2. Configure System Locale

The Locale is usually the country were the IP Office is installed. By selecting the correct country a number of system defaults for that country will be used by the IP Office. To configure the Locale, select **System** from the IP Office Configuration Tree (not shown). During compliance testing the System was called IPOMC. In the right hand pane select the **System** tab, and from the **Locale** dropdown menu select the appropriate country (i.e. **United Kingdom (UK English)**). Click the **OK** button to save (not shown).

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5.3. Create SIP Trunk

To create the SIP trunk from the IP Office to the Datatal Flexi serveri, navigate to **System** and right click on **Line** followed by **New →SIP Line**.

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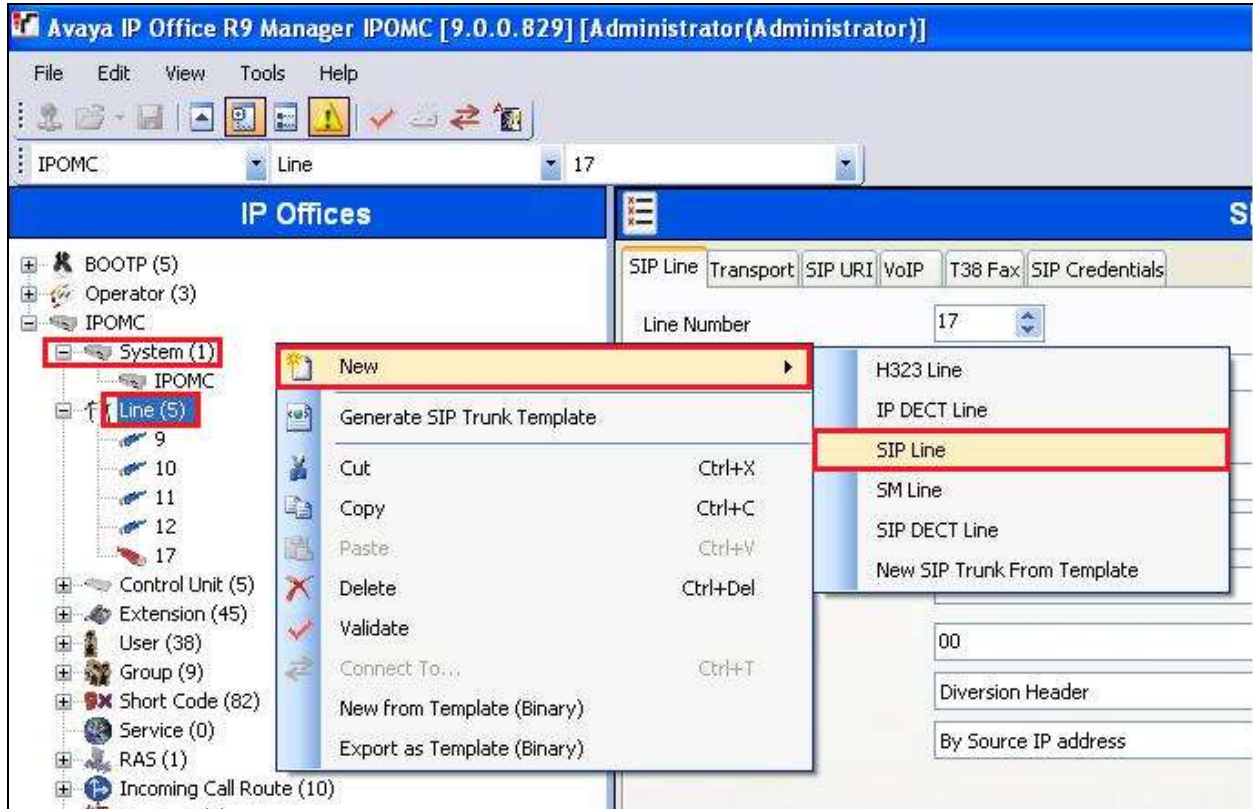
In the subsequent **SIP Line** window, enter the following in the **SIP Line** tab.
Note: The **Line number** is filled in automatically.
- **ITSP Domain Name:**   Enter the IP address of the IP Office
- **Sent Caller ID:**   Select **Diversion Header** from the dropdown menu
- **Method for Session Refresh:**   Select **By Source IP address** from the dropdown
                                menu
- **REFER Support**   click on the check box and select **Always** both the
                                Incoming and **Outgoing** dropdown boxes

Defaults were used for the remaining fields.
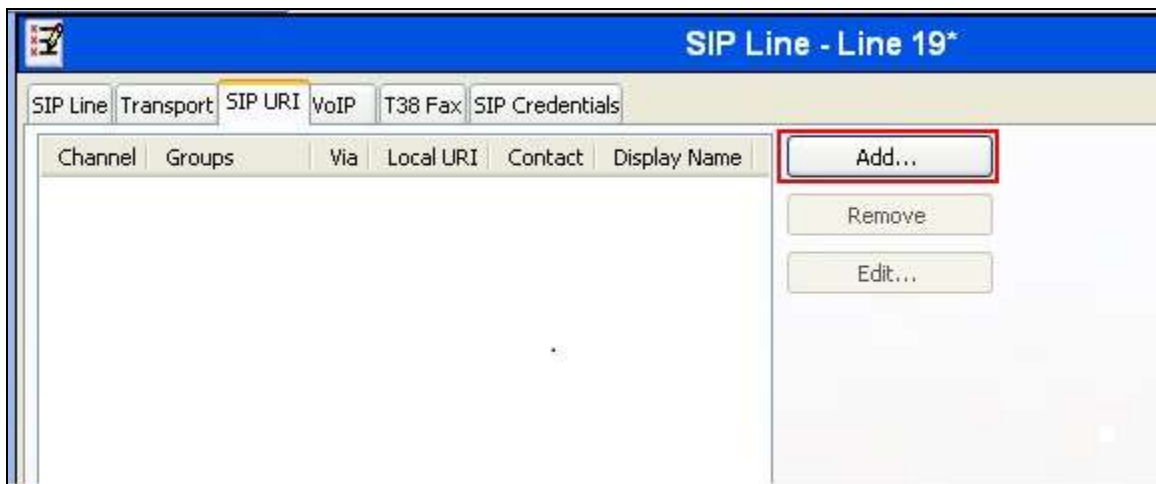
In the **Transport** tab enter the IP address of the Flexi Server in the **ITSP Proxy Address** field.

Defaults were used for the remaining fields.

In the **SIP URI** tab click on the **Add** button.

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In the subsequent window, enter the following:

- **Local URI:**   Enter *****
- **Contact:**   Enter *
- **Display Name**   Enter *
- **PAI**   Select **None** from the dropdown menu
- **Incoming Group**   Enter the Incoming Group number (see **Section** 5.4**)**
- **Outgoing Group**   Enter the **Line Group ID** that will be used in the short code in **Section 5.5**

Defaults were used for the remaining fields. Click the **OK** button.

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Defaults were used for the remaining fields and tabs. Click the **OK** button.
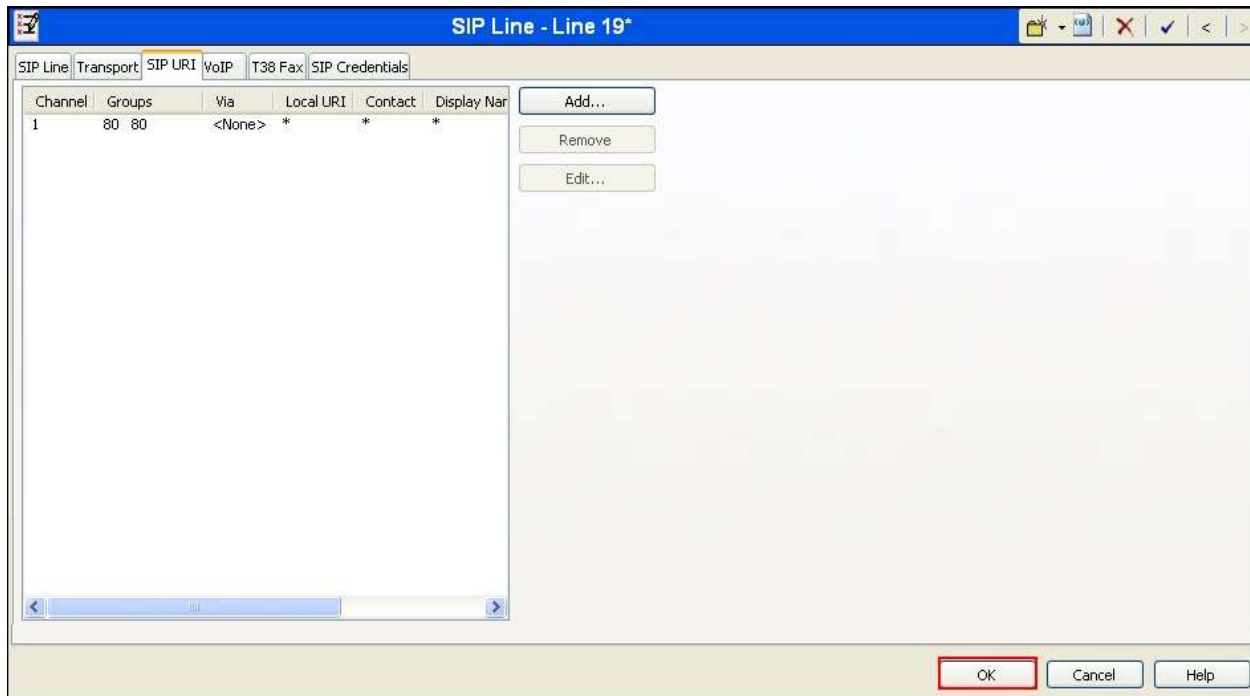
5.4. Configure codec

In the **VoIP** tab select **Custom** from the dropdown box, and ensure that **G.711 ALAW 64K** is selected. Defaults were used for the remaining fields. Click on the **OK** button

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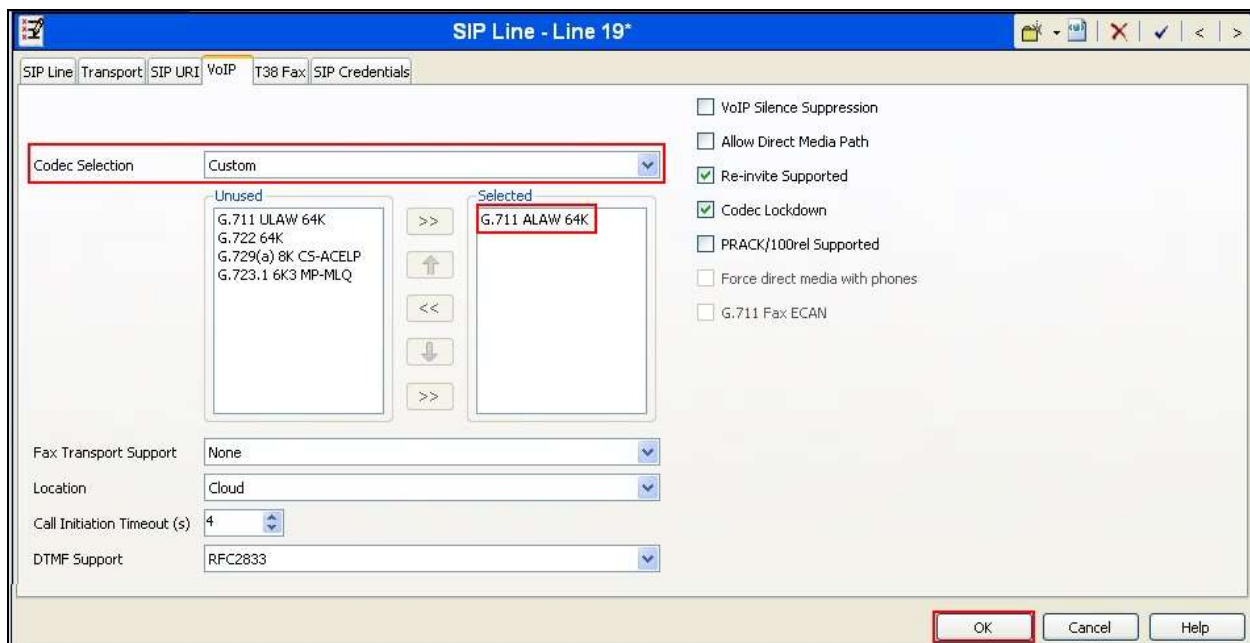
5.5. Configure Incoming Call Route

To configure the Incoming Call Route, navigate to **System** and right click on **Incoming Call Route** followed by **New**.

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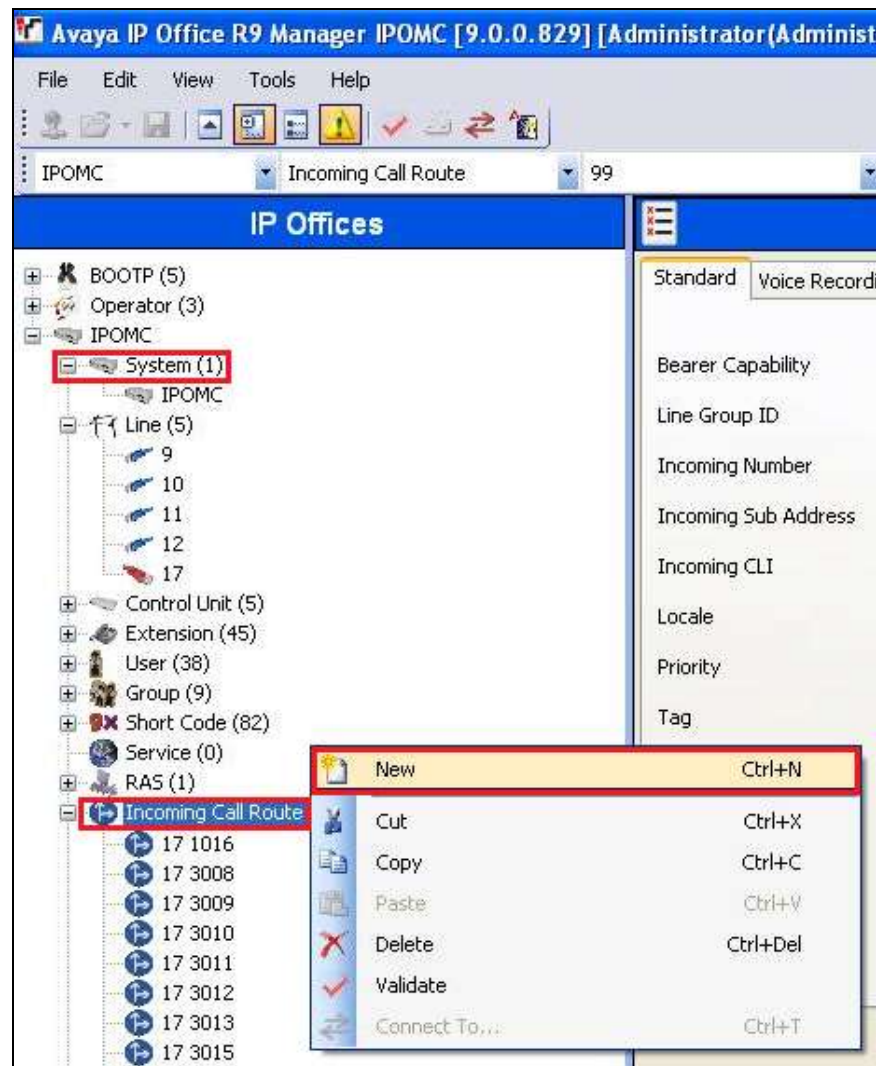
In the subsequent window, enter the following in the **Standard** tab.
- **Line Group ID**   Enter the Incoming Group number as used in **Section 5.3**
- **Locale**   Select the Locale as configured in **Section 5.2** from the dropdown menu

Defaults were used for the remaining fields.

In the **Destinations** tab, enter a **.** (Full stop/Period) in the **Destination** field. Defaults were used for the remaining fields and tabs. Click on the **OK** button.

5.6. Create Short Code (Route Calls)

A Short Code needs to be configured on the IP Office to route calls to Flexi server. Navigate to System and right click on **Short Codes,** and select **New**.
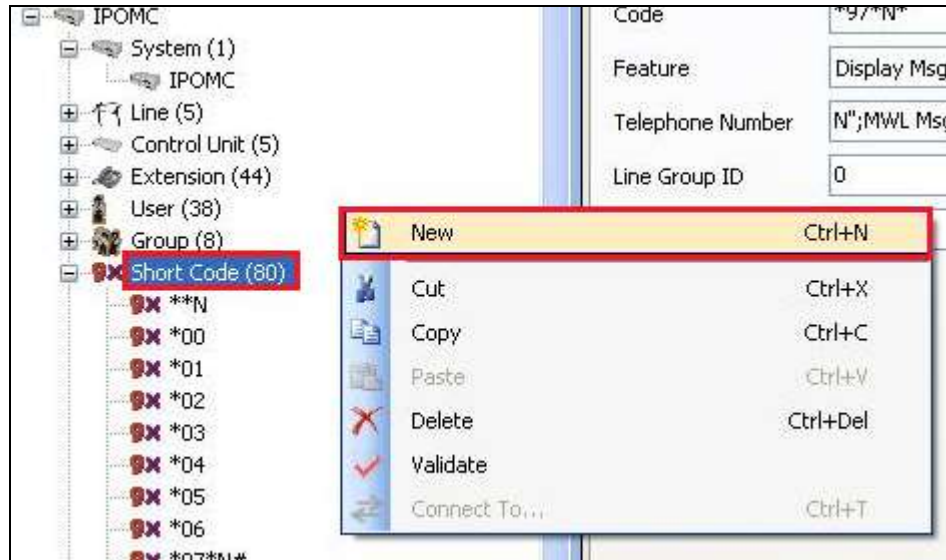
In the subsequent window, enter the following:
- **Code**   Enter the number range that will be routed to Flexi server (during compliance testing, all numbers beginning with 95 were sent to Flexi server, therefore 95XXX was entered)
- **Feature**   Select **Dial** from the dropdown menu
- **Telephone Number**   Enter a **Nss**
- **Group Line ID**   Enter the Incoming Group number as used in **Section 5.4**

Defaults were used for the remaining fields. Click the **OK** button.

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5.7. Forwarding

Forwarding Unconditional for the User that acts as the Agent deskphone must be configured. During compliance testing a H.323 User (3002) was used. To configure forwarding click on the **User** and click on the **Forwarding** tab, and in the **Forwarding Number** field enter the Short Code (as configured in **Section 5.6**) followed by the extension used as the agent deskphone (i.e. 3002).
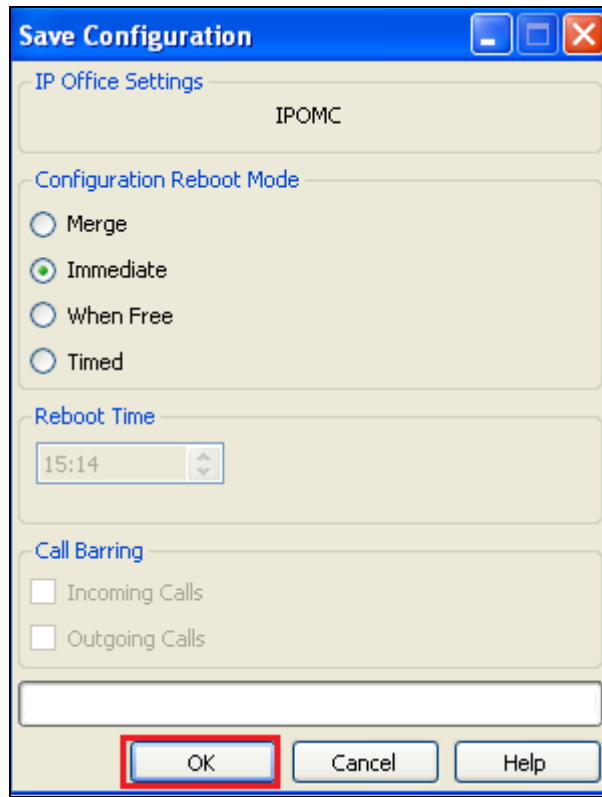Defaults were used for the remaining fields. Click the **OK** button.

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5.8. Save Configuration

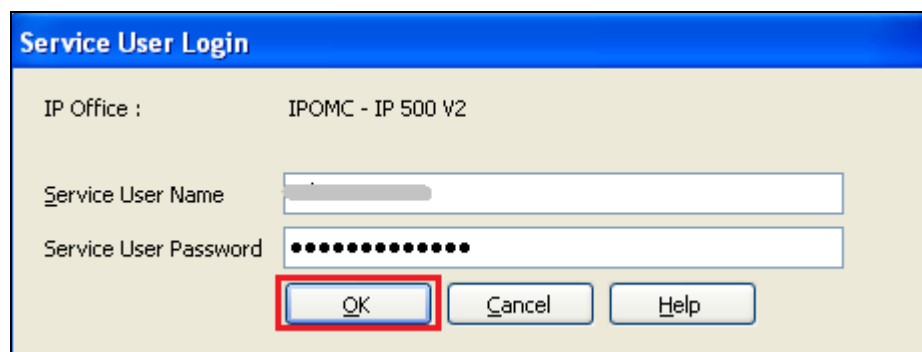Once all the configurations have been made it must be saved to IP Office. Click on the Save Icon as shown below.
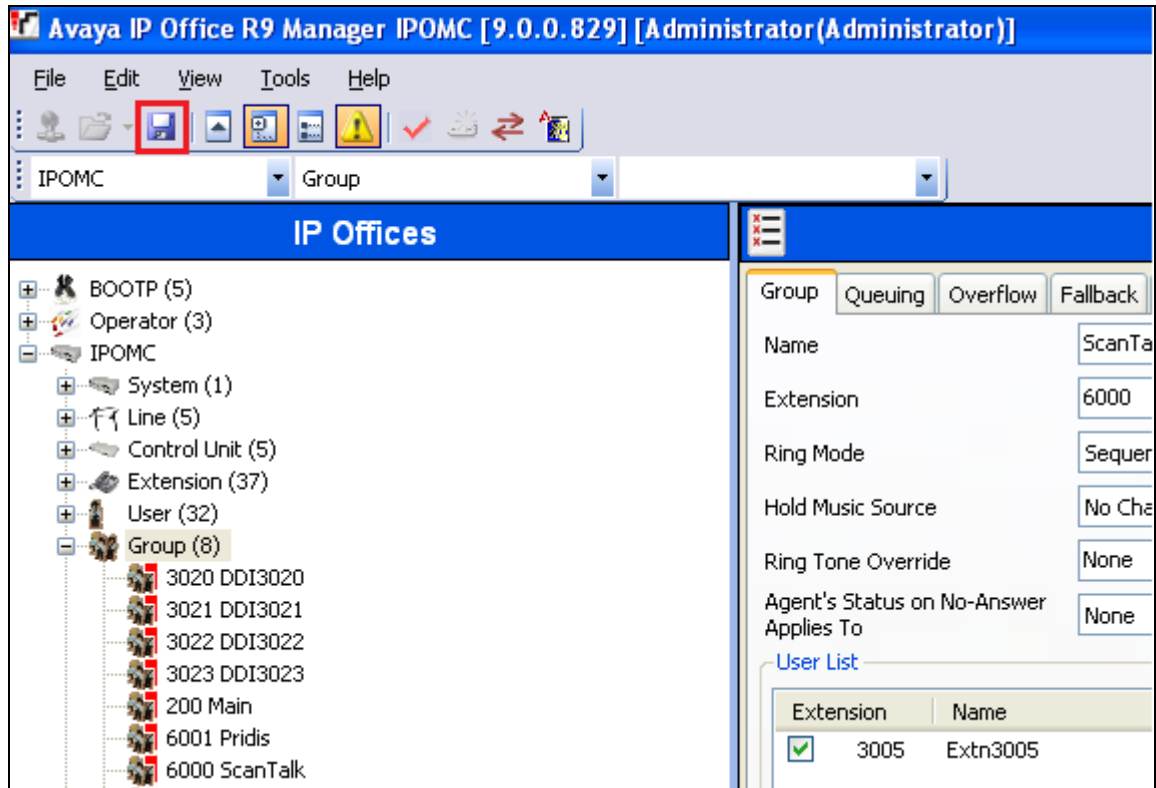
Once the **Save Configuration** Window opens, click the **OK** button.

When the **Service User Login** Window opens enter the appropriate credentials and click the **OK** button.

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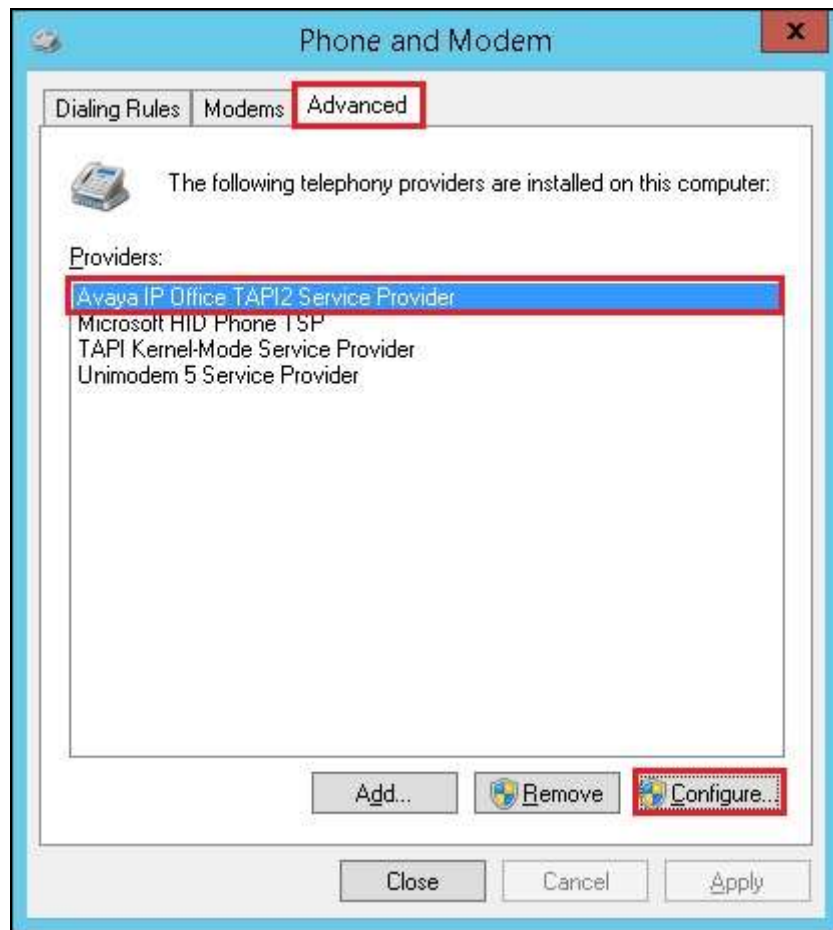Solution & Interoperability Test Lab Application Notes
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6. Configure Avaya IP Office TAPI

The Avaya IP Office TAPI is required so as to allow certain features of Flexi to interoperate with IP Office. It is implied that the TAPI software is already installed. (It is important that the TAPI software installation was run as administrator to ensure that the application receives the correct rights to run).
Click on **Start** →**Control Panel** → **Phone and Modem** (Not shown). Select the **Advanced** tab. Once the **Advanced** tap opens, select **Avaya IP Office TAPI2 Service Provider** and click on the **configure** button.
Note: Enter any appropriate dialing rules in the **Dialing Rules** tab as required (not shown).

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Once the **Avaya TAPI2 Configuration** window opens, enter the following:
- **Switch IP address**   Enter the IP address of the IP Office
- **Third Party**   Click on the Radio button
- **Switch Password**   Enter the password of the IP Office
- **ACD Queues**   Click on the check box

Click the **OK** button.

Once TAPI is configured, reboot the Flexi Server.

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7. Configure Flexi Tid Server

Configuration of the Flexi Tid server is achieved using a Web interface. After logging on to the Flexi Tid server, browse to **localhost:1339** using Internet Explorer 10, Mozilla Firefox or Google Chrome web browsers.
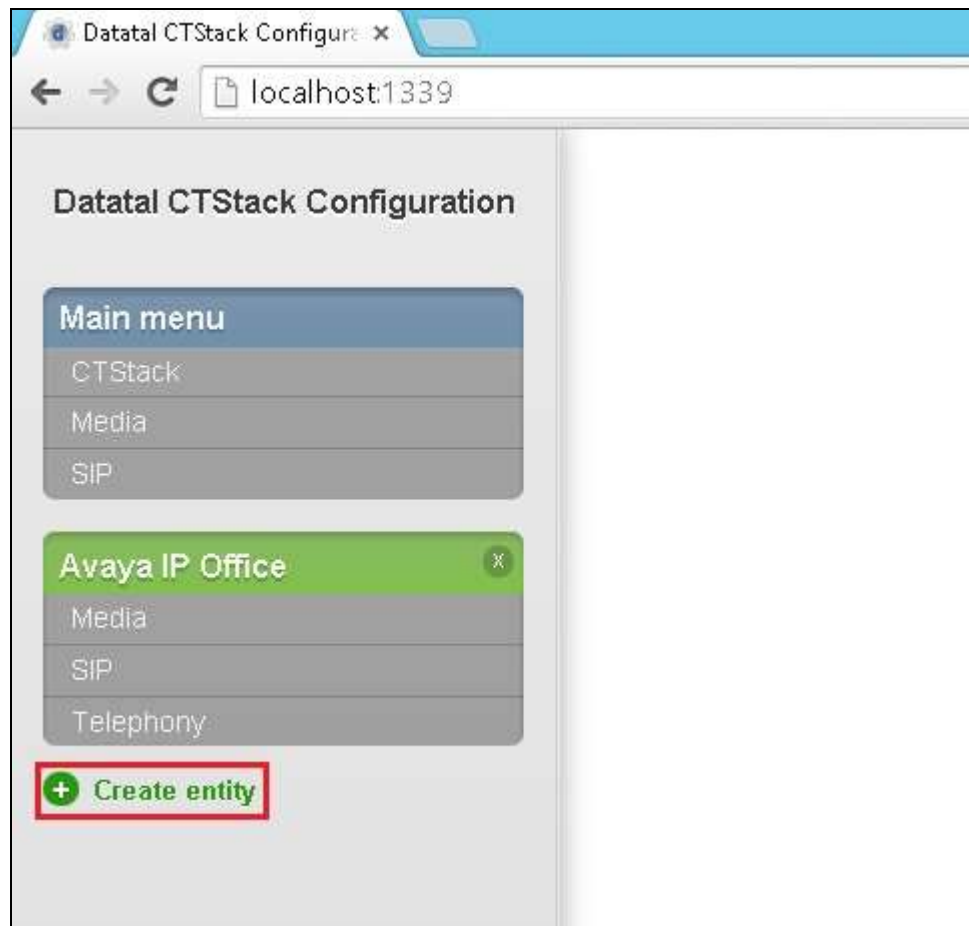
The following configuration steps were carried out during compliance testing:

- Configure entity for Avaya IP Office
- Configure SIP
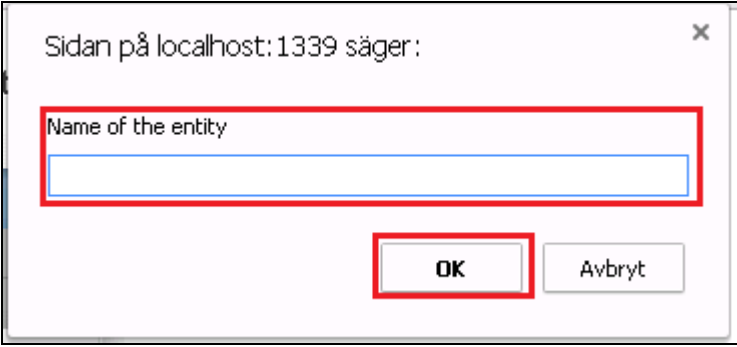- Configure Telephony
- Configure Media

Note: It is implied that the Flexi server is pre-configured including any Licence requirements. Configuration of Flexi Presentity, Flexi CallCenter agents and Flexi Tid agents is outside the scope of these Application Notes.

7.1. Configure entity for Avaya IP Office

Once the web page opens, select **Create entity**.

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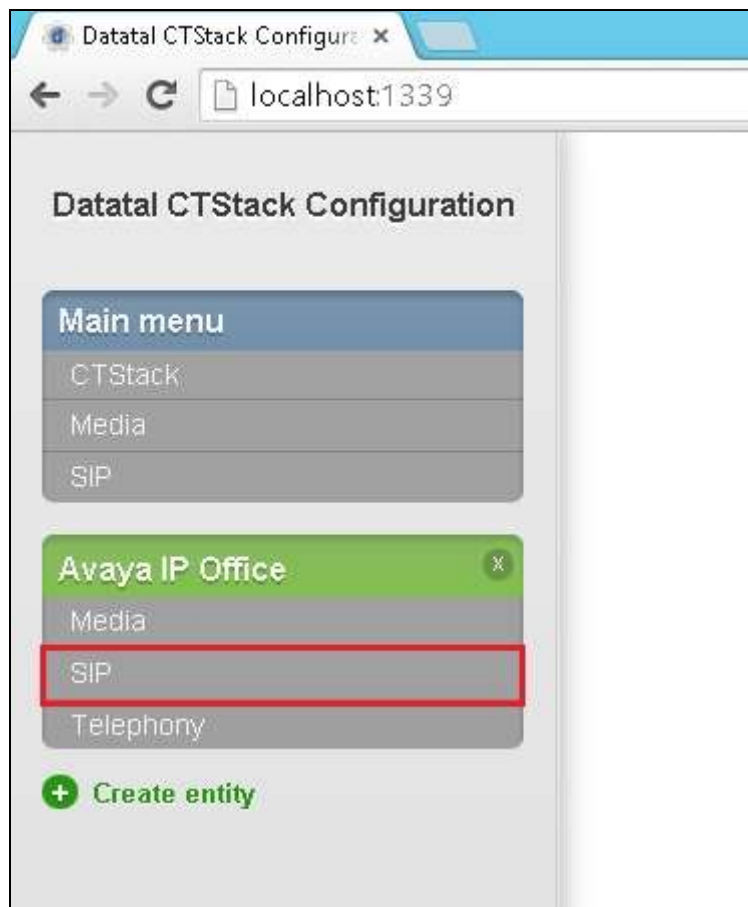
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Once the new frame opens enter an informative name in the **Name of the entity** box (**Avaya IP OFFICE** was used during compliance testing. Click the **OK** button to save.

7.2. Configure SIP

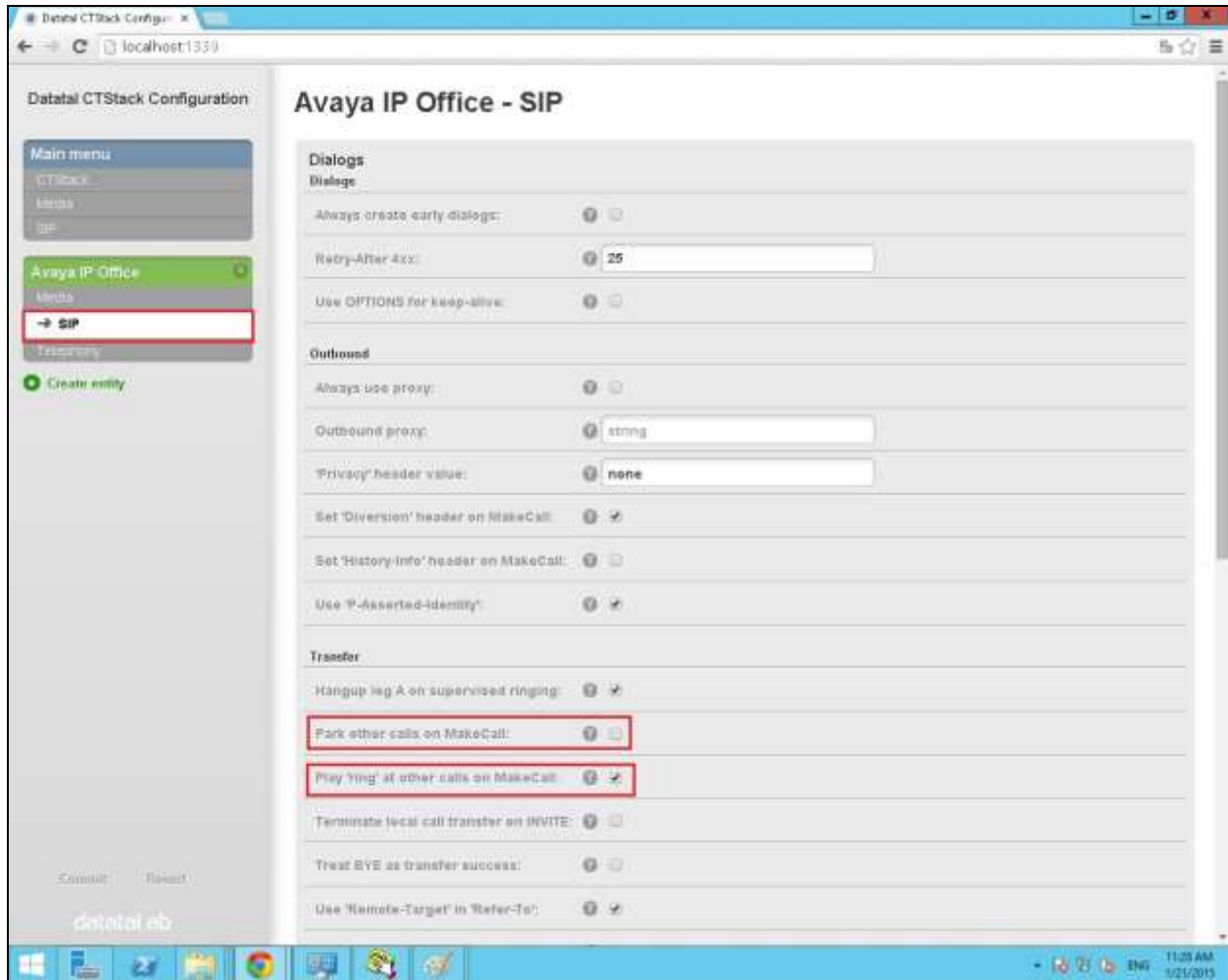After the entity is created the SIP configuration is required. Select **SIP** for the IP Office configured in **Section 5.1**.

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In the **SIP** page (**Transfer** section**)** configure the following:
- **Park other calls on MakeCall**   Uncheck the check box
- **Play "ring" at other calls on MakeCall**   Check the check box

Defaults were used for the remaining fields.

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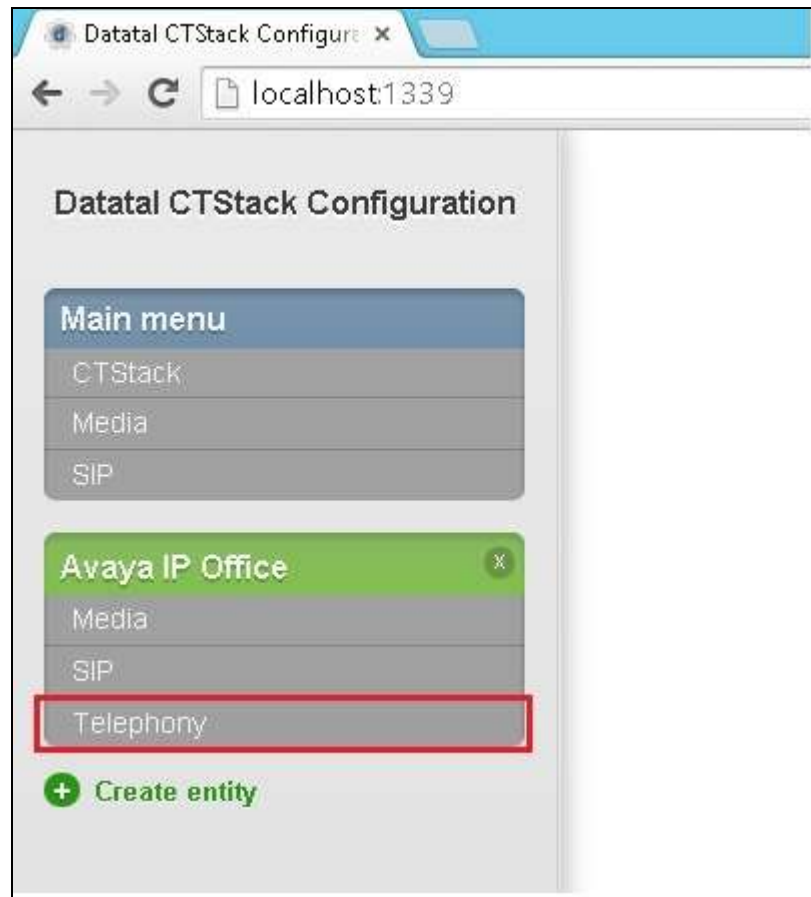©2015 Avaya Inc. All Rights Reserved.

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Scroll down to **Dialogs** using the vertical scroll bar on the right side of the page to the **SIP** section and check the **Use "from"header** check box, and select **UDP** from the **Transport** dropdown box. Defaults were used for the remaining fields. Click on the **Commit** button. When the **Commit** dialog window opens click on **Commit changes now** button (not shown).

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7.3. Configure Telephony

To configure Telephony click on **Telephony** for the IP Office configured in **Section 5.1**.

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When the **Telephony** window opens, enter the following:
Line configuration:

- **Lines**   Enter the number of lines that Flexi is licensed for

SIP:

- **Address**   Enter the Flexi Queue number (3002 was used during
                                          compliance testing)
- **Default SIP URI host**   Enter the IP address of the IP Office
- **Name**   Enter an informative name for the Flexi Server (e.g. **Flexi**)

Profile:

- **Apply**   Select **Avaya IPO (Trunk)** from the dropdown box

Trunk:

- **Trunk Mode**   Check the check box

Defaults were used for the remaining fields. Click on the **Commit** button.
When the **Commit** dialog window opens click on **Commit changes now** button (not shown).

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8. Verification Steps

This section provides the tests that can be performed to verify correct configuration of the Avaya and Datatal AB solution.

1. Make a call to the Flexi Tid queue number. Ensure the call is connected.
2. Make a call to the Flexi Tid queue number and request a call back.
3. Make a call from the Flexi Tid client. Ensure the Agent Deskphone and called number is connected.

9. Conclusion

A full and comprehensive set of feature functional test cases were performed during Compliance Testing. Flexi from Datatal AB is considered compliant with Avaya IP Office 9.0. All test cases have passed and met the objectives outlined in **Section 2.2**.

10. Additional References

These documents form part of the Avaya official technical reference documentation suite. Further information may be obtained from *http://support.avaya.com* or from your Avaya representative.

   [1] Avaya IP Office Manager 9.0, Document 15-601011, Issue 9.01, September 2013

Product Documentation for Flexi can be obtained from Datatal AB at: www.datatal.se

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