

Avaya Solution & Interoperability Test Lab

Application Notes for DuVoice Emergency Alert System with Avaya IP Office Server Edition 9.1– Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the DuVoice Emergency Alert System to interoperate with Avaya IP Office Server Edition 9.1. In the compliance testing, DuVoice generated Emergency Alerts when an Emergency Phone number is dialed.

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 required for the DuVoice Emergency Alert System (EAS) to interoperate with Avaya IP Office.

DuVoice EAS utilizes Avaya IP Office CTI Pro (P/N 171988) and DevLink to monitor outbound call traffic on IP Office and identifies all calls made to Emergency Numbers in real time. Any calls to Emergency Numbers trigger a series of immediate alarms. Using IP Office 3rd Party SIP Endpoints the DuVoice EAS places a call to a specified IP Office extension. Upon answer, the system announces the fact that an emergency call has been made and identifies the calling extension.

2. General Test Approach and Test Results

The feature test cases were performed manually. Various call scenarios were tested to ensure that when a call to an Emergency Number is placed, DuVoice EAS generates an Emergency Alert.

The serviceability test cases were performed manually by disconnecting and reconnecting the network connection to DuVoice.

While this solution was demonstrated to successfully interoperate, the specific implementation method may not fully align to best practices and recommendations as outlined by Avaya in Making use of the Emergency Services Access Enhancements in IP Office Release 9.0/9.1, available for download from the Avaya DevConnect Portal. Customers should review and discuss their specific needs and associated risks with the vendor relative to these guidelines.

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 feature that executed DuVoice EAS' ability to generate Emergency Alerts.

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

2.2. Test Results

All test cases were executed.

2.3. Support

Technical support on DuVoice Emergency Alert System can be obtained through the following:

• **Phone:** (425) 250-2393

• Email: support@duvoice.com

3. Reference Configuration

The configuration used for the compliance testing is shown below. It includes an IP Office Server Edition with a Primary Linux Server, and an IP Office 500 V2 Expansion system. There is one DuVoice server supporting all IP Office users.

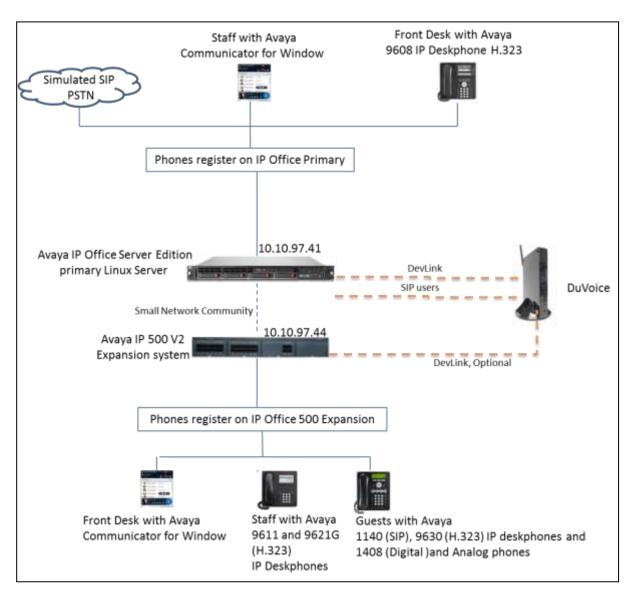


Figure 1: DuVoice Emergency Alert System with Avaya IP Office Server Edition Primary Linux Server and IP Office 500 V2 Expansion Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office Primary Server (Linux based)	9.1 SP 3
Avaya IP Office IP500 V2 Expansion	9.1 SP3
Avaya 9608, 9611 and 9621G (H.323) IP Deskphones	6.6
Avaya Communicator for Window	2.1.2.75
Avaya 9630 IP Deskphone	3.22
Avaya 1140E (SIP) IP Deskphone	4.4.23
Avaya 1408 Digital Deskphone	R45
DuVoice Emergency Alert System	5.20.67

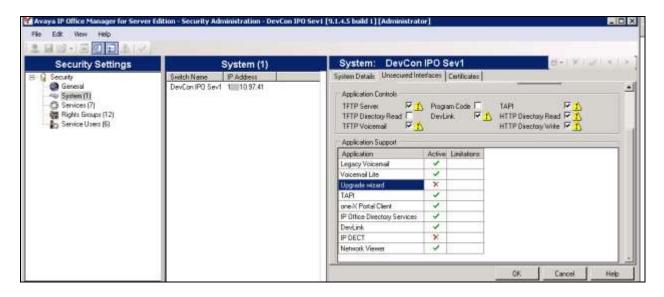
Compliance testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

5. Configure Avaya IP Office

This section provides the procedures for configuring IP Office primary Linux Server.

5.1. Security Setting

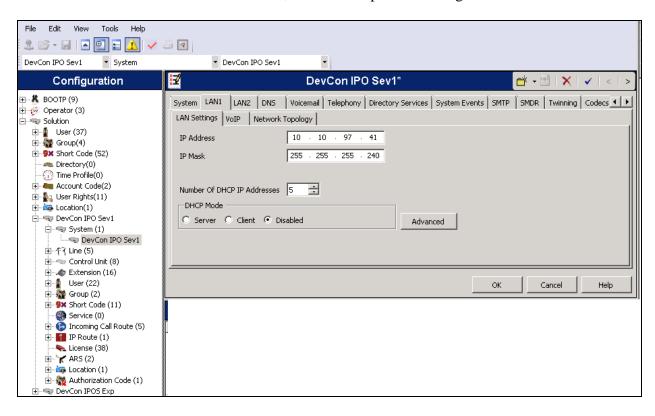
Verify that DevLink is enabled. In **Security Setting**s tree, select **System**; verify that **DevLink** is enabled as shown below. Click **OK** to save changes.



5.2. Obtain LAN IP Address

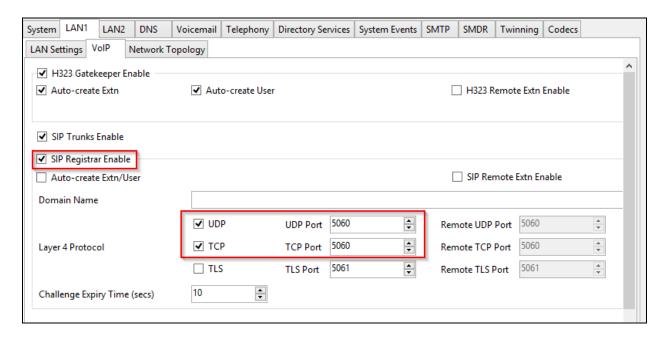
From the configuration tree in the left pane, select **System** to display the screen in the right pane, where **DevConIPOSev1** is the name of the IP Office system.

Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Make a note of the **IP Address**, which will be used later to configure DuVoice. Note that IP Office can support SIP on the LAN1 and/or LAN2 interfaces, and the compliance testing used the LAN1 interface.



5.3. Administer SIP Registrar

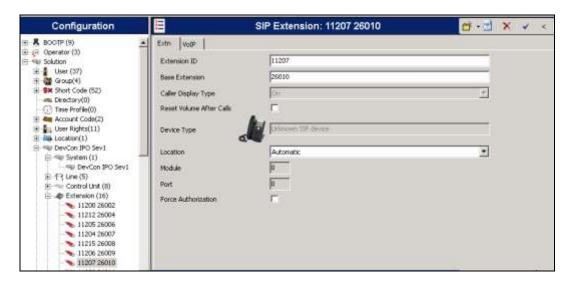
Select the **VoIP** sub-tab. Make certain that **SIP Registrar Enable** is checked, as shown below. Select the **SIP Registrar** sub-tab, and enter a valid **Domain Name** for SIP endpoints to use for registration with IP Office. In the compliance testing, the **Domain Name** was left blank, so the LAN IP address was used for registration. Also, ensure that depending on the setup either **UDP** or **TCP** are enabled.



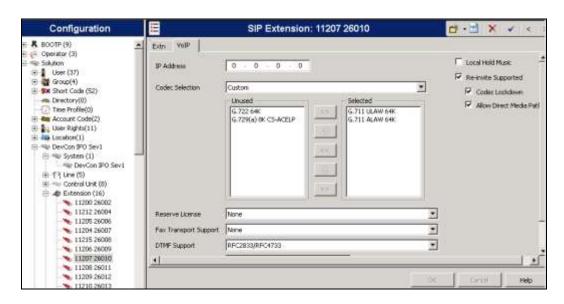
5.4. Administer SIP Extensions for DuVoice

From the configuration tree in the left pane, right-click on **Extension** and select **New** \rightarrow **SIP Extension** from the pop-up list to add a new SIP extension. Under the **Extn** tab, enter the desired digits for **Base Extension**, and uncheck **Force Authorization**, as shown below. Retain the default values in the remaining fields.

Repeat this section to add the desired number of SIP extensions. In the compliance testing, four SIP extensions with base extensions of "26010", "26011", 26012" and "26013" were created.

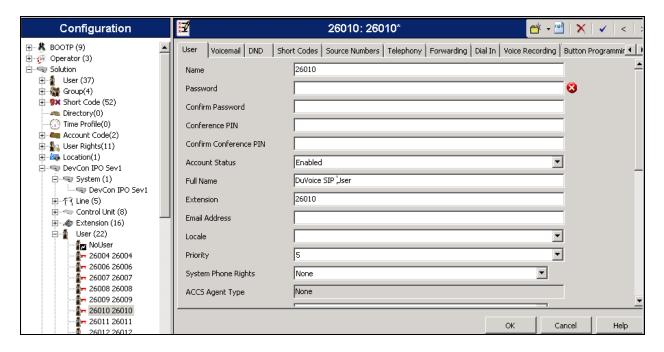


Select the VoIP tab. For Codec Selection, select Custom and move G.711 ULAW 64K and G.711 ALAW 64K to Selected box, as shown in the screen capture. Set the DTMF Support to RFC2833/RFC4733.

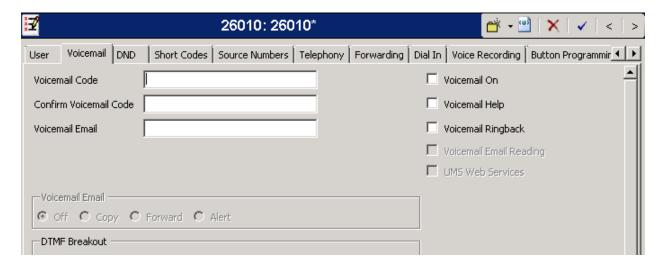


5.5. Administer SIP Users for DuVoice

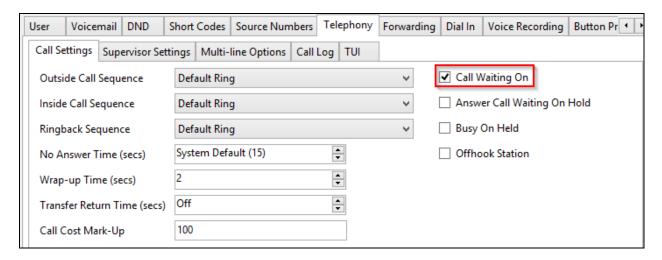
From the configuration tree in the left pane, right-click on **User** and select **New** from the pop-up list to add a new user. Enter desired values for **Name** and **Full Name**. For **Extension**, enter the first SIP base extension from **Section 5.3**. Retain the default values in the remaining fields.



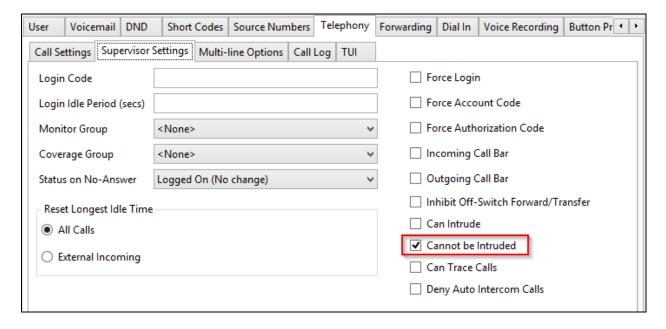
Select the Voicemail tab, and uncheck Voicemail On, as shown below.



Select the **Telephony** tab, followed by the **Call Settings** sub-tab. Check **Call Waiting On**, as shown below. Retain the default values in the remaining fields.

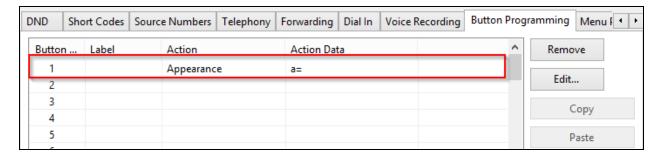


Select the **Supervisor Settings** sub-tab. Check the **Cannot be Intruded** field, as shown below. Retain the default values in the remaining fields.



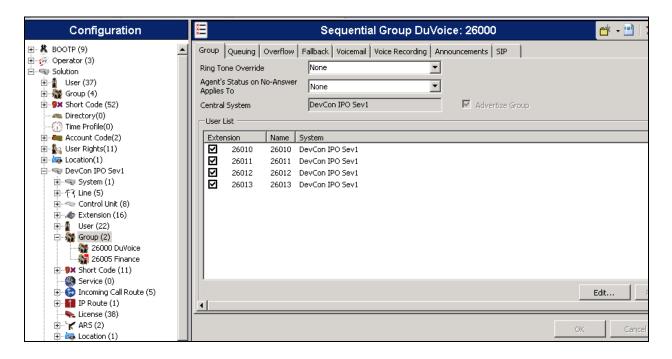
Select the **Button Programming** tab. Retain only the first **Appearance** button and remove all others as shown below.

Repeat this section to add a new user for each SIP extension from **Section 5.4**. In the compliance testing, four users with names of "26010, 26011, 26012 and 26013" were created.

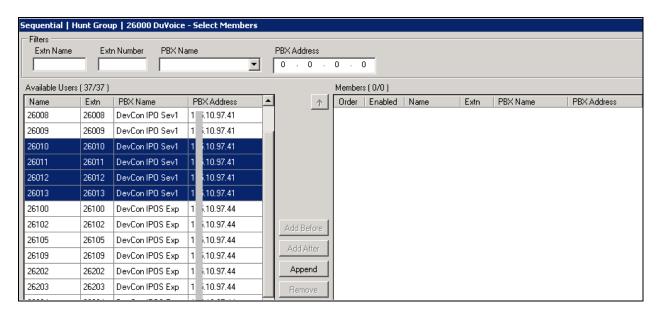


5.6. Administer Hunt Group

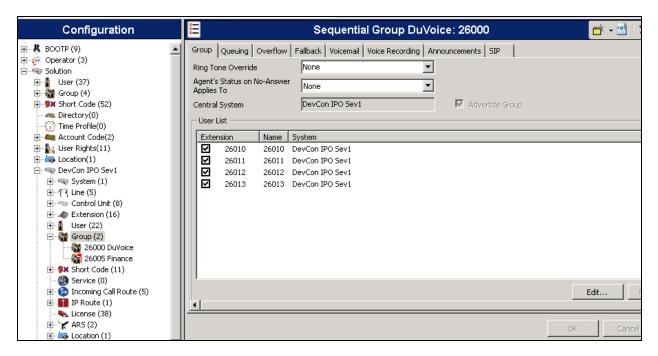
From the configuration tree in the left pane, right-click on **Group** and select **New** from the popup list to add a new hunt group. This hunt group will be used to deliver calls to DuVoice for hospitality features. Under the **Group** tab, enter desired values for the **Name** and **Extension** fields, and retain the default values in the remaining fields. Click on **Edit** in the **User List** section to add members.



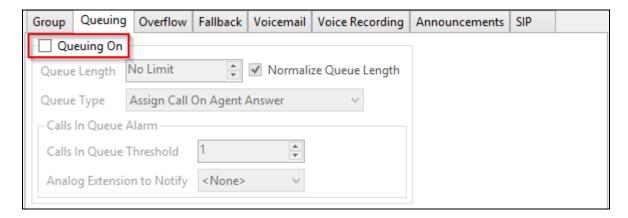
The **Sequential** | **Hunt Group** screen is displayed. Select all SIP users created earlier in this document, and click the **Append** button to move the selected entries to the right.



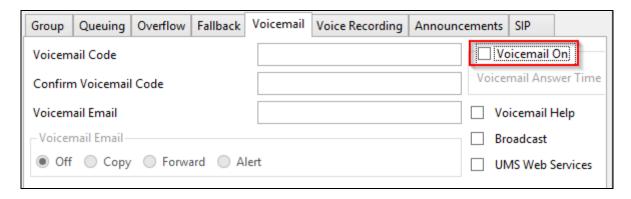
The **Sequential Group** screen is displayed again and updated with the selected members.



Under the **Queuing** tab, uncheck box for **Queuing On**.



Under the Voicemail tab, uncheck box for Voicemail On.



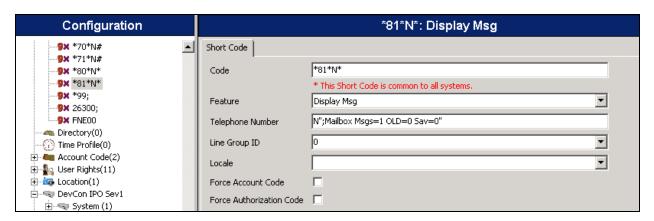
5.7. Administer Short Codes

From the configuration tree in the left pane, navigate to **Solutions** → **Short Codes**. Right-click **Short Codes** and select **New** from the pop-up menu. Two short codes will need to be added, one for MWI On and another for MWI Off. Configure the short codes as follows.

- Type in *81*N* in Code field.
- Select Display Msg for Feature.
- Type in N'';MWL Msgs=1 OLD=0 Sav=0'' for Telephone Number field.

Click **OK** to save changes.

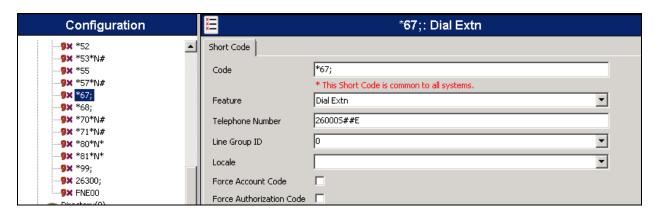
Note: Create another short code, *80*N* for MWI Off, where **Telephone Number** field will be set to N";MWL Msgs=0 OLD=0 Sav=0".



Create short code to dial DuVoice hunt group number.

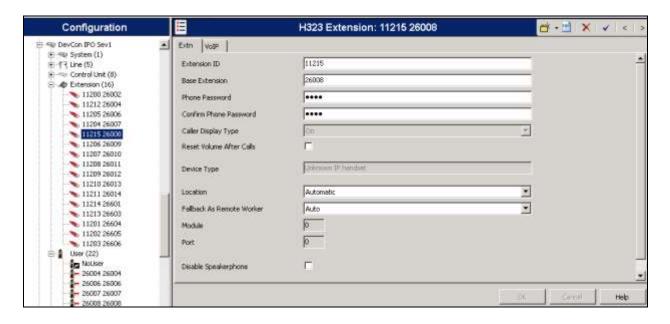
- Type in *67; in Code field.
- Select **Dial Extn** for **Feature**.
- Type in **26000S##E** for **Telephone Number** field.

Click **OK** to save changes.

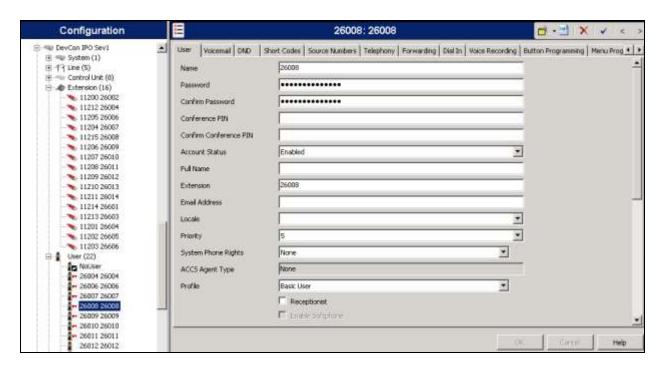


5.8. Administer Guest Phones

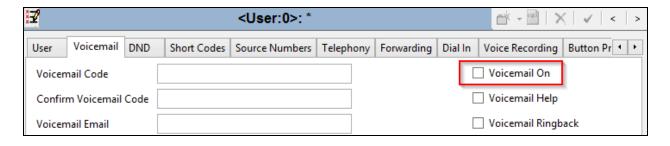
From the configuration tree in the left pane, right-click on **Extension**, and select **New** → **SIP Extension** from the pop-up list to add a new SIP or H.323 extension; H.323 in this case. Under the **Extn** tab type in an available extension number for **Base Extension**. Enter **Phone Password** such as 1234 and retype password again in **Confirm Phone Password**. Click **Ok** to save changes.



From the configuration tree in the left pane, right-click on **User**, and select **New** from the pop-up list to add a new user. Enter desired values for **Name** and **Full Name**. For **Extension**, enter the extension number that was added earlier in this section. Enter **User Password** such as 123456 and retype password again in **Confirm Password**. Retain the default values in the remaining fields.

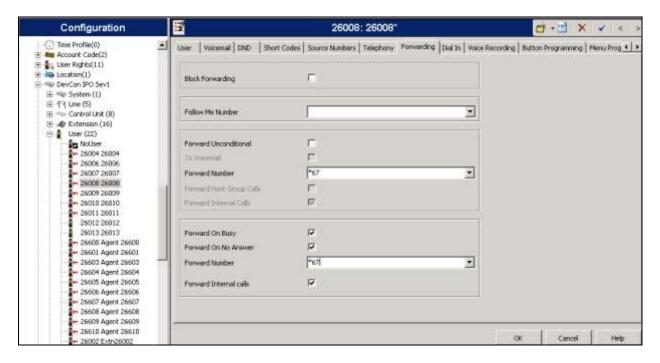


Select the **Voicemail** tab, and uncheck **Voicemail On**, as shown below.



Select the **Forwarding** tab:

- Check boxes for **Forward On Busy**, **Forward On No Answer** and **Forward Internal** Calls.
- Type in the short cut to DuVoice hunt group number that was configured in **Section 5.7** in **Forward Number.**



Click on **Save** icon to save all the changes to server.

6. Configure DuVoice Emergency Alert System

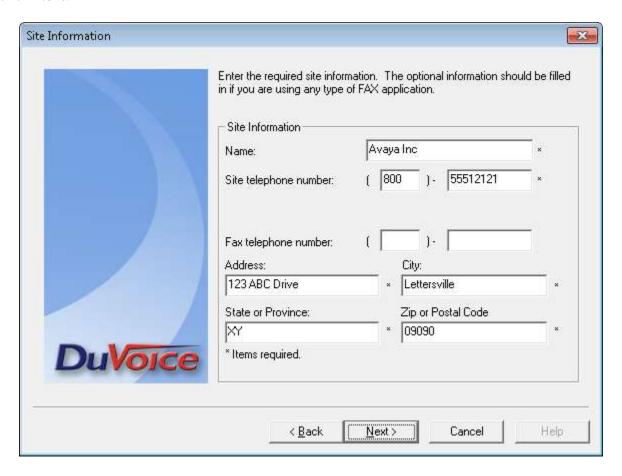
This section provides the procedures for configuring DuVoice Emergency Alert System.

6.1. Administer Setup Wizard

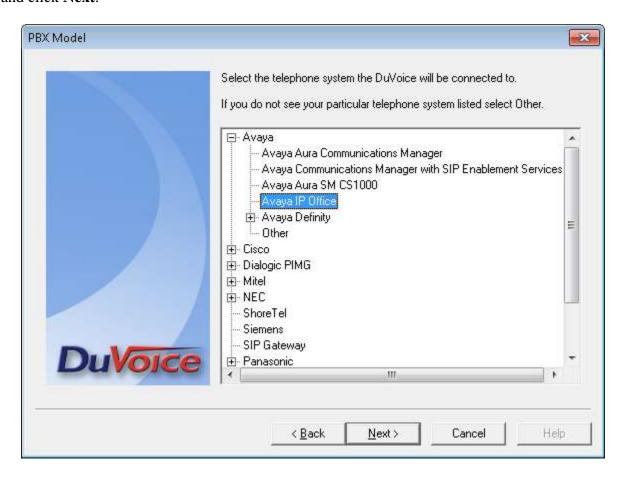
From the DuVoice server, select Start \rightarrow All Programs \rightarrow DuVoice \rightarrow System Configuration. The Wizard Start screen is displayed upon initial access. Click Next.



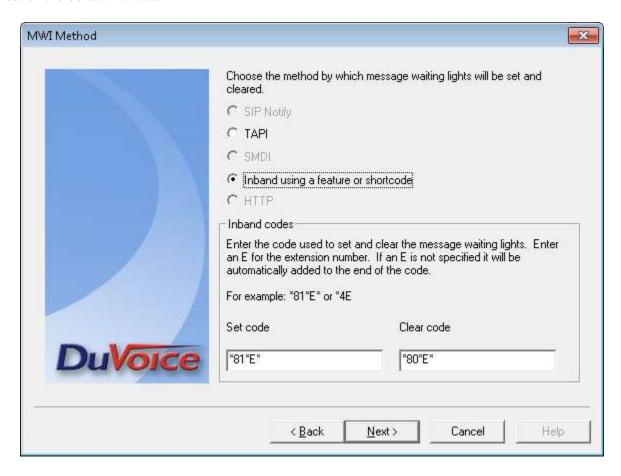
The **Site Information** screen is displayed next. Enter desired values for the required fields, and click **Next**.



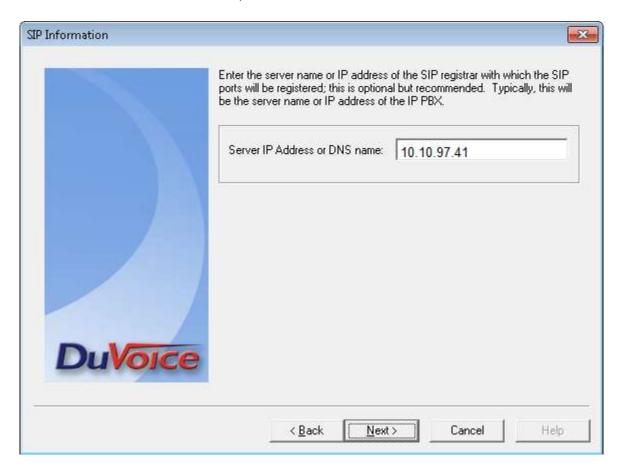
The **PBX Model** screen is displayed next. Select **Avaya** → **Avaya IP Office** from the listing, and click **Next**.



The **MWI Method** screen is displayed. Select **Inband using a feature or shortcode** and retain rest of the default values.



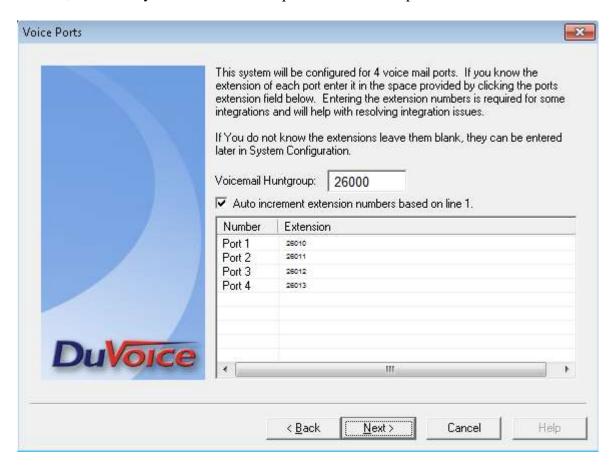
The **SIP Information** screen is displayed next. For **Server IP Address or DNS name**, enter the IP address or DNS name of IP Office, and click **Next**.



The **Voice Ports** screen is displayed. For **Voicemail Huntgroup**, enter the hospitality hunt group extension from **Section 5.5**. Assign each SIP base extension from **Section 3** to an available **Port**, as shown below.

In the compliance testing, four DuVoice ports were configured to correspond to the four SIP extensions created on IP Office.

Click **Next**, followed by **Finish** in the subsequent screen to complete the wizard.

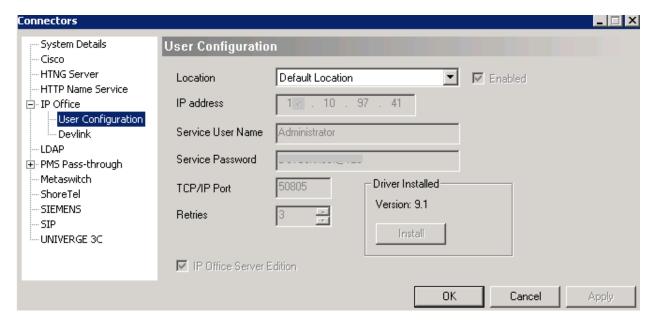


6.2. Administer Connectors

From the DuVoice server, select Start \rightarrow All Programs \rightarrow DuVoice \rightarrow System Configuration. The System Configuration screen is displayed. Select Features \rightarrow Connectors... from the top menu. Select IP Office \rightarrow User Configuration, enter the following information:

- Location: select Default Location.
- Check **Enabled** checkbox.
- **IP address**: enter IP Office Primary Linux Server, in this case it is 10.10.97.41.
- **Service User Name**: enter user name to login primary server, it is Administrator.
- **Service Password**: enter password for above user name.
- **IP Office Server Edition** checkbox is checked.
- **Driver Installed:** verify Version installed is **9.1**.

Click **OK** to save changes.



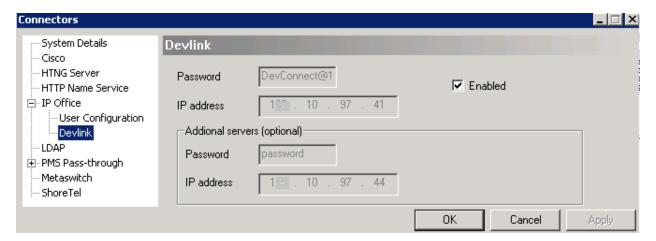
Select **Devlink** to update its configuration with following information:

- **Password**: enter IO Office administration credential password of devlink.
- **IP address**: enter IP address of IP Office Primary Linux Server, in this case it is 10.10.9.41

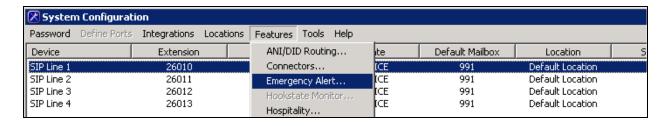
Additional servers (optional)

- **Password**: enter password of DevLink.
- **IP address**: enter IP address of IP Office 500 V2 Expansion, in this case it is 10.10.97.44.

Click **OK** to save changes.



From the **System Configuration** windows, select **Connectors** → **Emergency Alerts.**

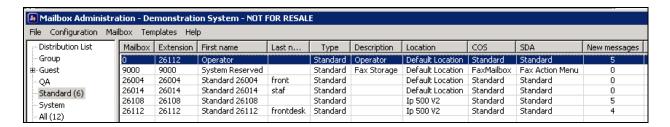


Type in a number that is considered as an Emergency Number in **Emergency Numbers** box,e.g., **54000** used during compliance test, and click **Add**.

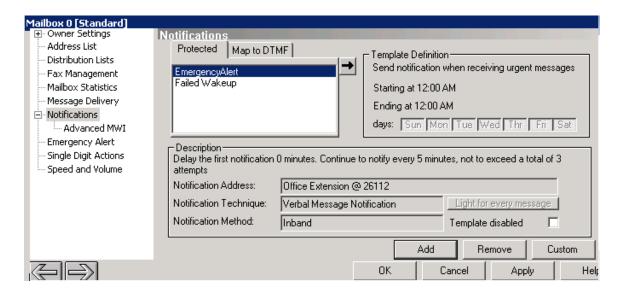


6.3. Administer Emergency Alerts

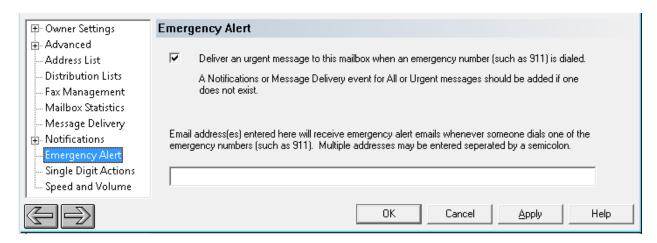
This section will show the setup on how to configure the operator phone will ring when guest makes an emergency call. From the DuVoice server, select **Start** → **All Programs** → **DuVoice** → **Mailbox Administration**.



Double click on **Operator**, click **Add** to add **EmergencyAlert** Notification Template as shown in below.



Select **Emergency Alert** in the left pane, and enabled Emergency alerts by checking the box as shown in the screen capture below, click **OK** to save changes:

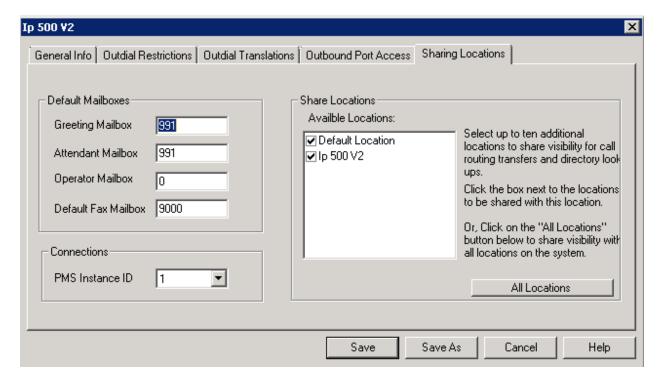


6.4. Administer Location

From the DuVoice server, select Start \rightarrow All Programs \rightarrow DuVoice \rightarrow System Configuration. The System Configuration screen is displayed. Select Locations \rightarrow New Location... from the top menu.

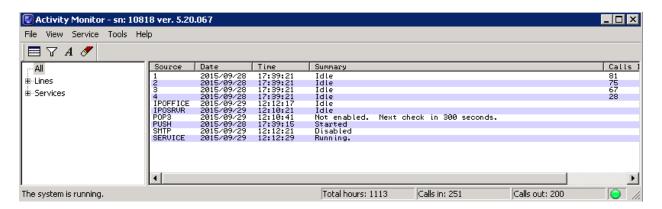


Follow the screen to create a new location for IP Office 500 V2. Below screenshot is an example of locations created for primary Linux Server (**Default Location**) and one for IP Office 500 V2 (**Ip 500 V2**) during compliance test.



6.5. Startup Server

From the DuVoice server, select **Start** \rightarrow **All Programs** \rightarrow **DuVoice** \rightarrow **Activity Monitor**. The **Activity Monitor** screen is displayed. Select **Service** \rightarrow **Start** from the top menu to start all services.

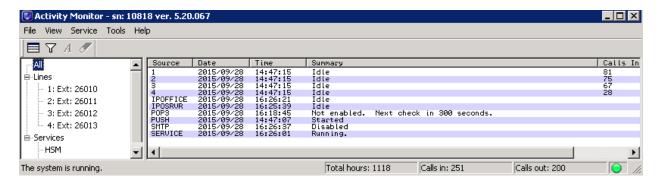


7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and DuVoice Emergency Alert System.

7.1. Verify DuVoice Activity Monitor

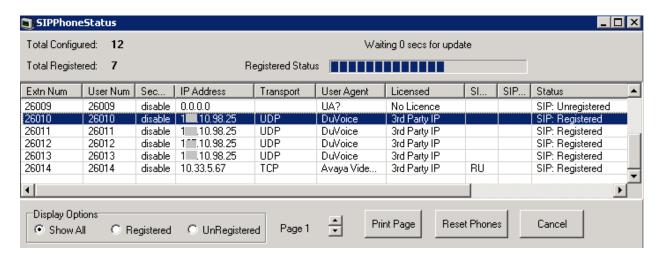
Follow the procedures in **Section 6.5** to display the **Activity Monitor** screen. Verify that ports **1-2**, **IPOffice**, and **IPOSRVR** are all in the "Idle" state, as shown below. Verify that **PUSH** is in the "Started" state.



7.2. Verify SIP User Integration

From a PC running the Avaya IP Office Monitor application, select Start → Programs → IP Office → Monitor to launch the application. The Avaya IP Office R9 SysMonitor screen is displayed. Select Status > SIP Phone Status from the top menu.

The **SIPPhoneStatus** screen is displayed. Verify that there is an entry for each SIP extension from **Section 5.4**, that the **User Agent** is "DuVoice", and that the **Status** is "SIP: Registered", as shown below.



Place an incoming call from the PSTN to the hospitality hunt group. Verify that the calling party hears the greeting announcement from DuVoice EAS. Enter the extension of a guest user, and verify that the call is transferred to the guest user.

7.3. Verify DevLink Integration

Dial "911" from any guest user on IP Office. Verify that operator phone is ringing and alerting voice message is sent to the configured staff user mailbox.

8. Conclusion

These Application Notes describe the configuration steps required for DuVoice to successfully interoperate with Avaya IP Office 9.1. All feature and serviceability test cases were completed with an observation noted in **Section 2.2**.

9. Additional References

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

1. Avaya IP Office Manager 9, Document 15-601011 Issue 9.14 0, September 2015, available at http://support.avaya.com.

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