



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for DuVoice with Avaya IP Office – Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for the DuVoice hospitality messaging system to interoperate with Avaya IP Office. In the compliance testing, DuVoice used the Analog User, TAPI, DevLink, and Configuration Web Service interfaces from Avaya IP Office, and the PUSH interface from Avaya 46xx IP Telephones to provide automated attendant, voicemail, wake-up call, name and user profile template change, and 911 alerting features.

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 hospitality messaging system to interoperate with Avaya IP Office. In the compliance testing, DuVoice used the Analog User, TAPI, DevLink, and Configuration Web Service interfaces from Avaya IP Office, and the PUSH interface from Avaya 46xx IP Telephones to provide automated attendant, voicemail, wake-up call, name and user profile template change, and 911 alerting features.

The Analog User and TAPI interfaces were used by DuVoice to provide the basic hospitality features such as automated attendant, voicemail, and wake-up call. In the compliance testing, the DuVoice server used a Dialogic D/4PCI-U PBX Integration Card, with physical connections to Avaya IP Office, and configured as analog users and members of a hospitality hunt group. DuVoice used the TAPI interface to monitor the analog ports. Incoming calls to the hospitality hunt group were delivered over an available analog port to DuVoice. DuVoice used the TAPI events to determine the type of call and hence the service to provide, such as automated attendant for incoming trunk calls, voicemail and wake-up call scheduling for internal calls, and voicemail coverage for redirected calls.

For the voicemail coverage scenarios, voicemail messages were recorded and saved on DuVoice. The TAPI lineDevSpecific capability was used to activate/deactivate the MWI, and to set the divert setting for Do Not Disturb.

DuVoice also has a Property Management System (PMS) interface, and a PMS simulator was used in the compliance testing to initiate the room check-in, check-out, and move requests to DuVoice. In the compliance testing, two user rights templates were set up on Avaya IP Office for use with checked-in and checked-out guests. DuVoice used the Configuration Web Service to send updates to Avaya IP Office on the guest name and user rights template as part of the check-in, check-out, and move process.

The DevLink and IP Telephone PUSH interfaces were used by DuVoice to send 911 alerting messages. Upon notified of any user dialing “911” on Avaya IP Office, DuVoice pushed a 911 alerting text message to the display of a predetermined list of Avaya 46xx IP Telephone users.

## 1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on DuVoice:

- Automated attendant navigation for incoming trunk calls, such as transfer to guests and staff.
- Handling of voicemail messages and message waiting lamps for check-out and move requests initiated via the PMS simulator.
- Voicemail recording, logging, and retrieval, with proper message waiting lamp activation/deactivation for users with analog, digital, and IP telephone types.
- Scheduling and delivering of wake-up call requests, including retried attempts and escalation to staff.
- Handling of TAPI events and messages for calls, and setting of MWI and Do Not Disturb divert parameters.
- Use of Configuration Web Services to update guest name and user rights template associated with check-in, check-out, and move requests from the PMS simulator.
- Use of real-time DevLink events to monitor “911” dialing, and push of 911 alerting text message to an Avaya 4621SW IP Telephone user. The 911 alerting text message included the name and extension of the user making the “911” call.

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

## 1.2. Support

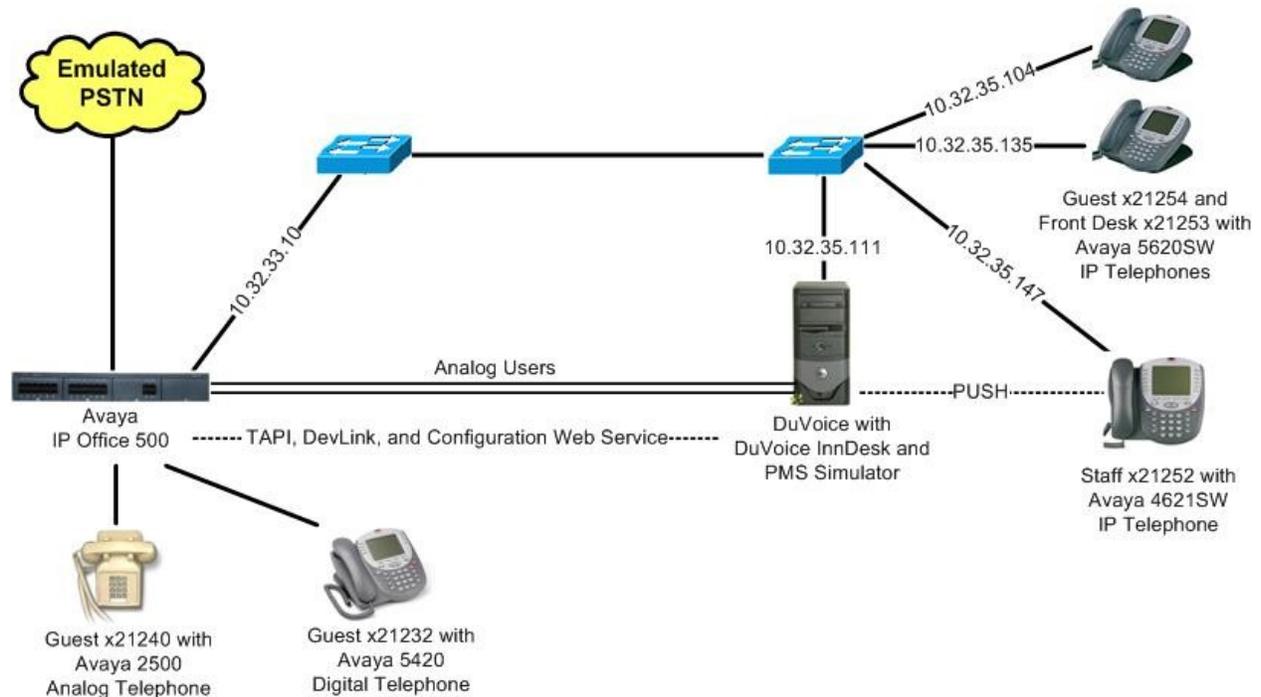
Technical support on DuVoice can be obtained through the following:

- **Phone:** (425) 250-2393
- **Email:** [support@duvoice.com](mailto:support@duvoice.com)

## 2. Reference Configuration

**Figure 1** below shows the configuration used for the compliance testing. DuVoice consists of 4-48 port models. In the compliance testing, the 4-port DV4 model was used.

A PMS simulator was used to initiate room check-in, check-out, and move requests to DuVoice. In addition, the DuVoice InnDesk web interface was used to monitor the guest check-in, check-out, and wake-up call status.



**Figure 1: DuVoice with Avaya IP Office**

## 3. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office 500	5.0 (15)
Avaya 4621SW IP Telephone (H.323)	2.9
Avaya 5620 IP Telephones	2.9
Avaya 5420 Digital Telephone	NA
DuVoice DV4 on Microsoft Windows XP <ul style="list-style-type: none"> <li>Dialogic D/4PCI-U PBX Integration Board</li> <li>InnDesk</li> <li>PMS Simulator</li> </ul>	4.01.018 SR 6.0 1.13 1.0.0.1

## 4. Configure Avaya IP Office

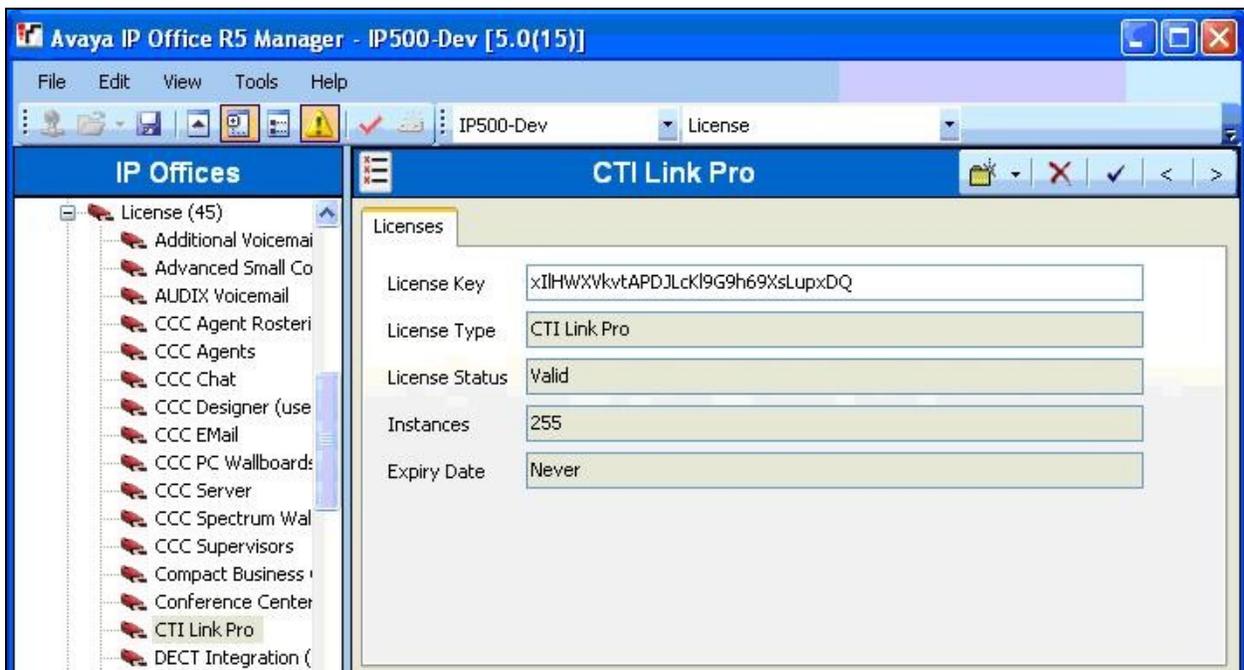
This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

- Verify IP Office license
- Administer physical analog ports
- Administer hospitality hunt group
- Administer incoming call route
- Administer system voicemail
- Administer voicemail users
- Administer analog user MWI
- Administer user rights
- Administer security service

### 4.1. Verify IP Office License

From a PC running the Avaya IP Office Manager application, select **Start > Programs > IP Office > Manager** to launch the Manager application. Select the proper IP Office system, and log in with the appropriate credentials.

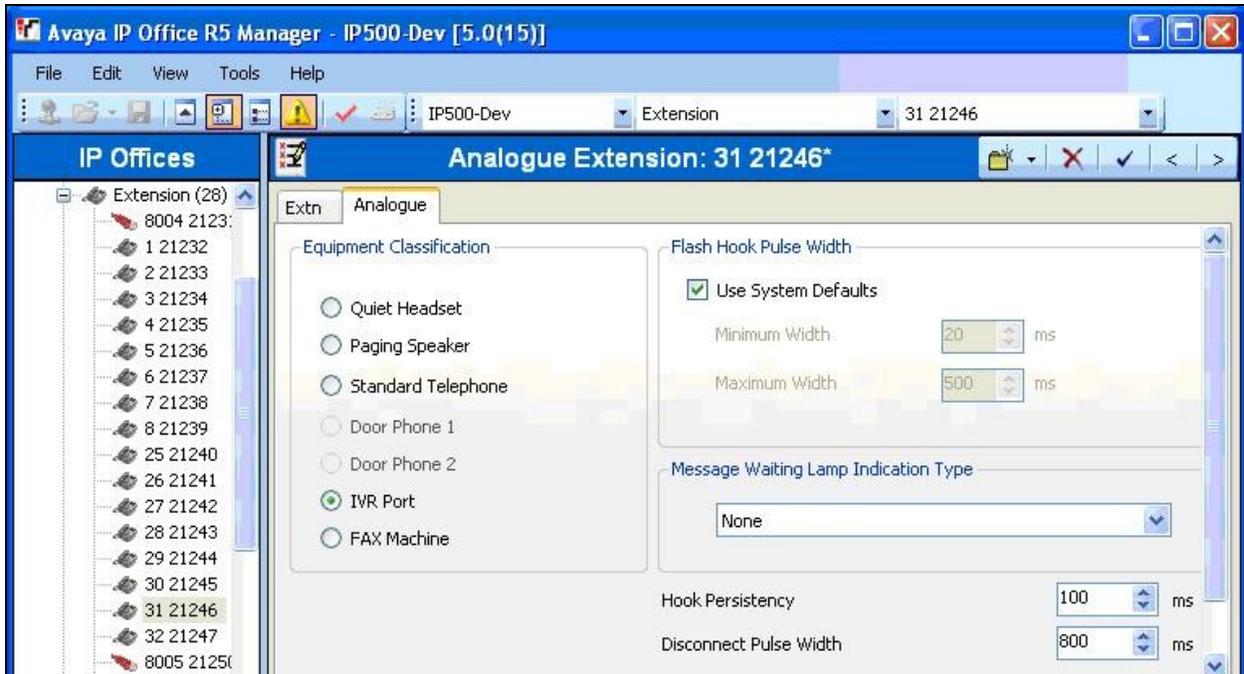
The **Avaya IP Office R5 Manager** screen is displayed. From the configuration tree in the left pane, select **License > CTI Link Pro** to display the **CTI Link Pro** screen in the right pane. Verify that the **License Status** is “Valid”.



## 4.2. Administer Physical Analog Ports

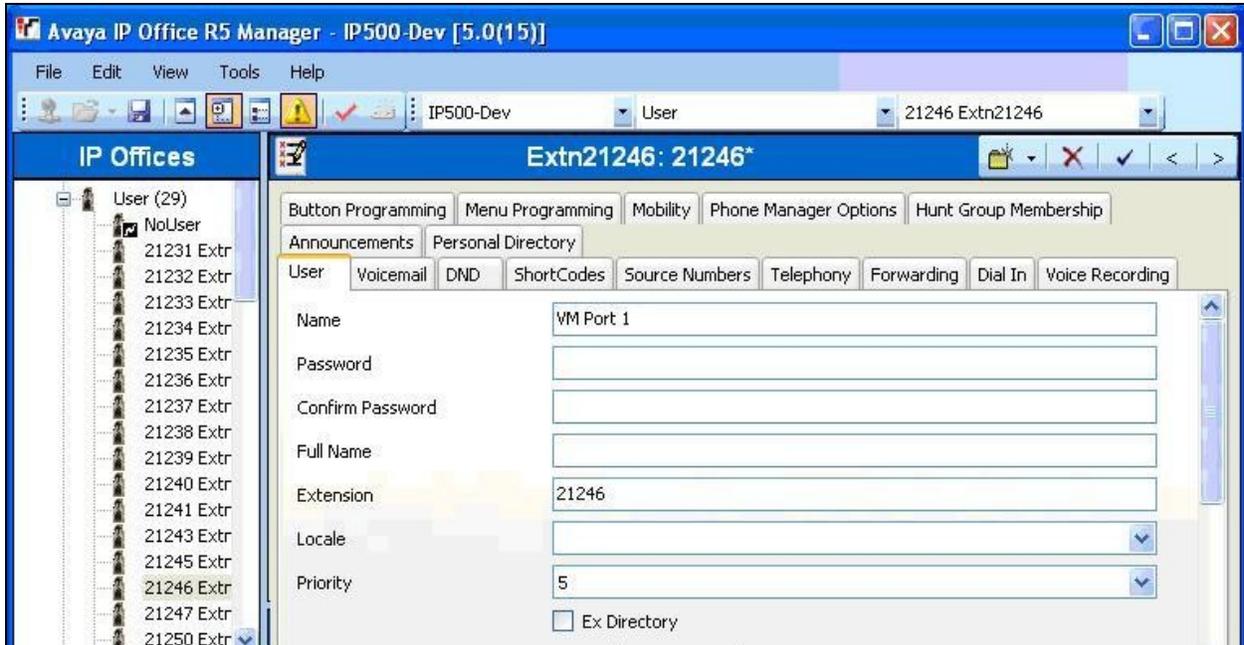
From the configuration tree in the left pane, select **Extension**, followed by the specific extension corresponding to the first analog port that is physically connected to DuVoice, in this case “21246”.

The **Analogue Extension** screen is displayed. Select the **Analogue** tab. In the **Equipment Classification** section, select **IVR Port**, and retain the default values in the remaining fields.



From the configuration tree in the left pane, select **User**, followed by the user corresponding to the first analog extension from above. In this case, the user is “21246”.

Select the **User** tab, and enter a descriptive **Name**.



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

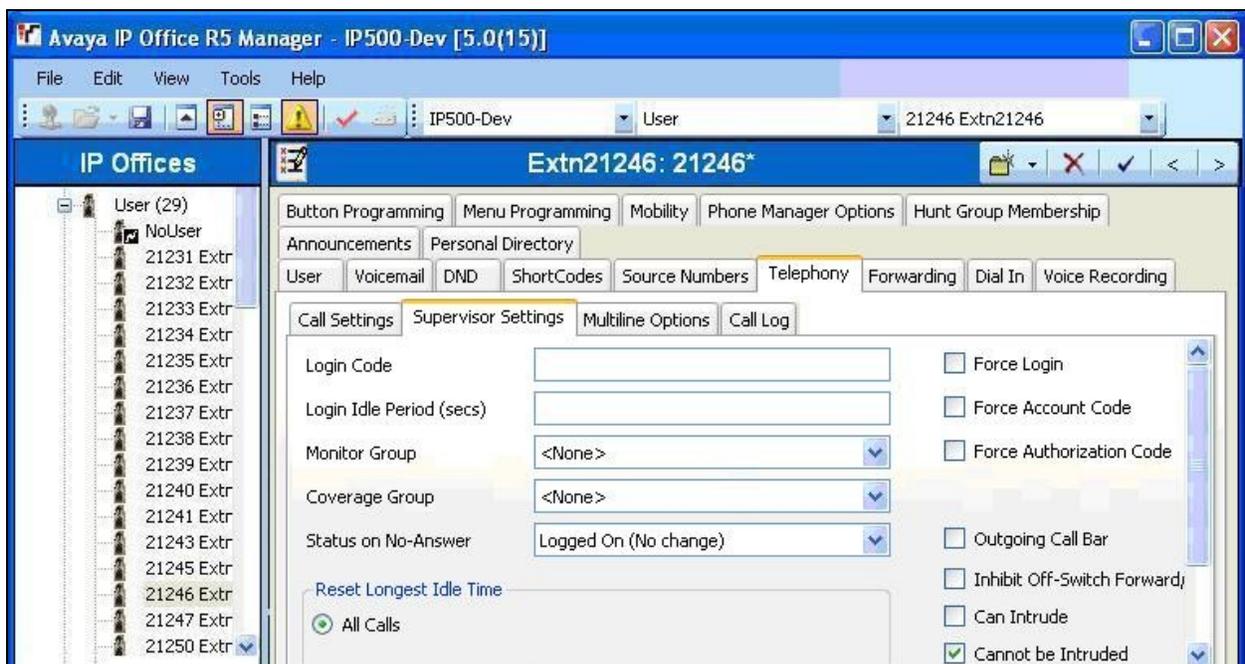


Select the **Telephony** tab, followed by the **Call Settings** sub-tab. Uncheck the **Call Waiting On** field, as shown below.



Select the **Supervisor Settings** sub-tab. Check the **Cannot be Intruded** field, as shown below.

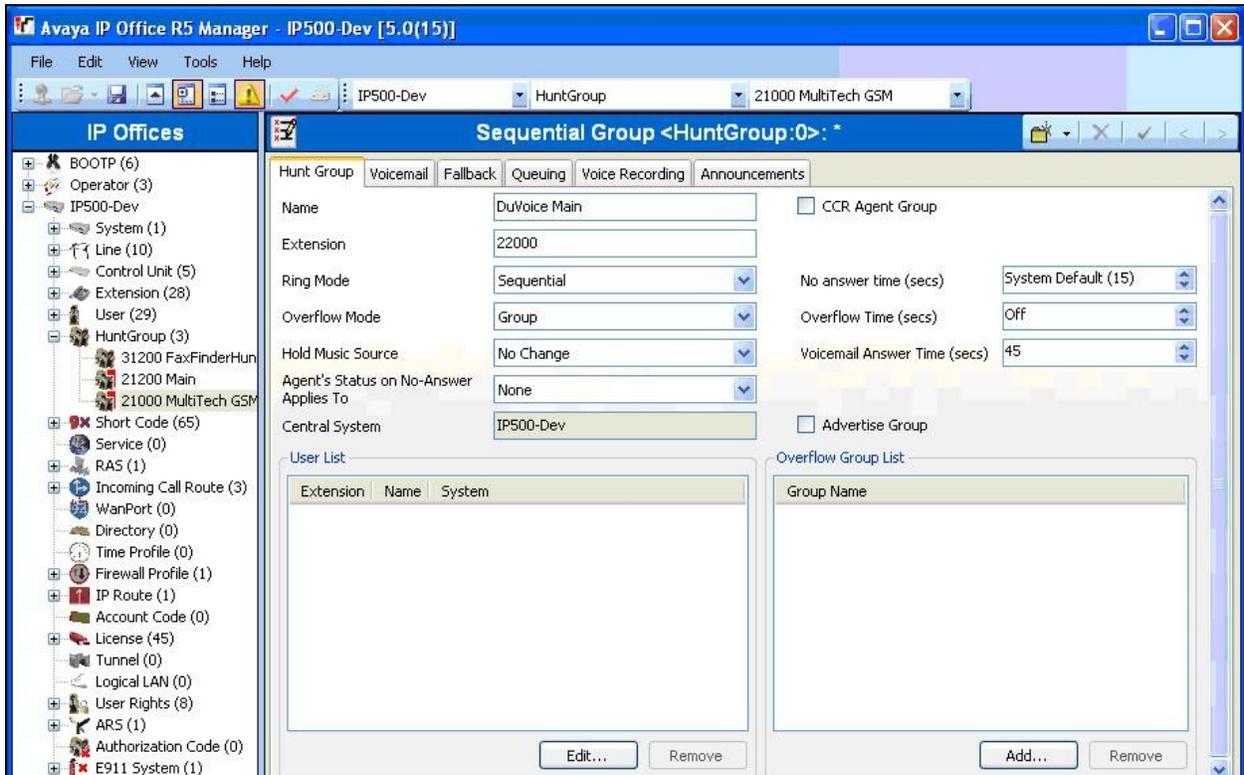
Repeat this section for all analog ports that are physically connected to DuVoice. In the compliance testing, two analog ports with extensions “21246” and “21247” were physically connected and modified.



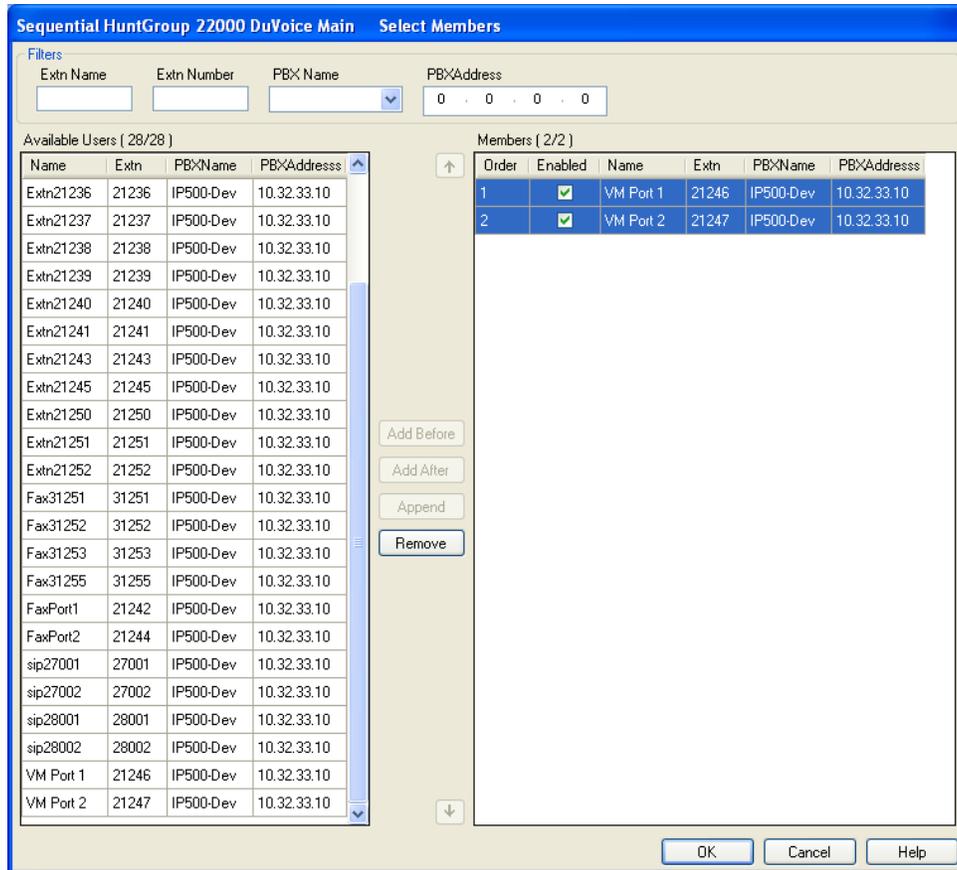
### 4.3. Administer Hospitality Hunt Group

From the configuration tree in the left pane, right-click on **HuntGroup** and select **New** from the pop-up list to add a new hunt group. This hunt group will be used to deliver calls to DuVoice for the hospitality features. Enter desired values for the **Name** and **Extension** fields, and retain the default values in the remaining fields.

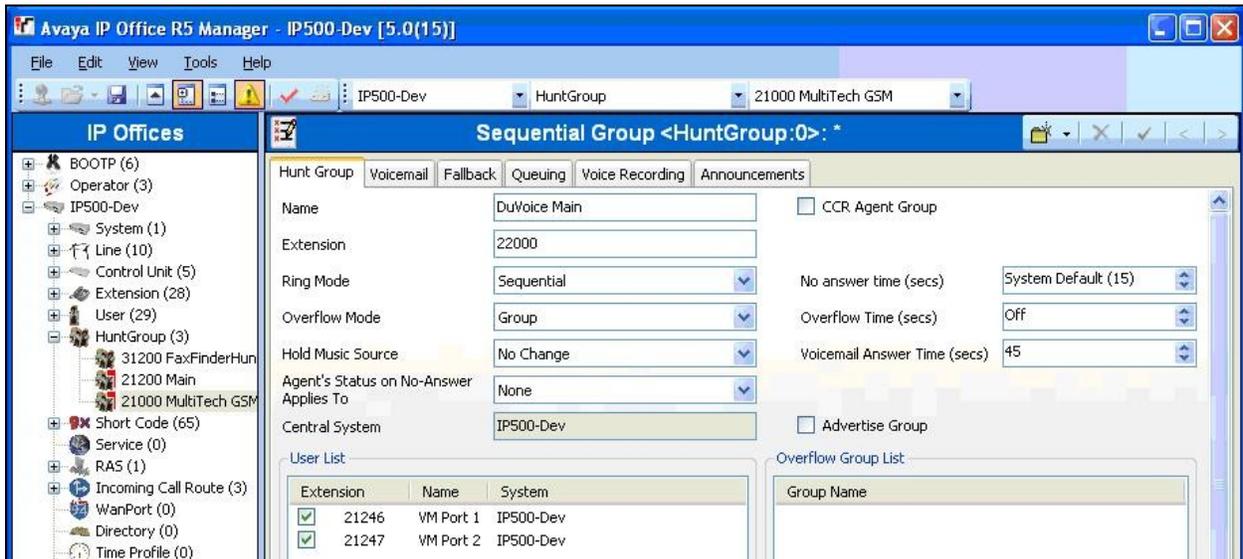
Click on **Edit** in the **User List** section to add members.



The **Select Members** screen is displayed. Select the entries with **Extn** values matching to the physical analog ports from **Section 4.2**, and click the **Append** button to move the selected entries to the right.



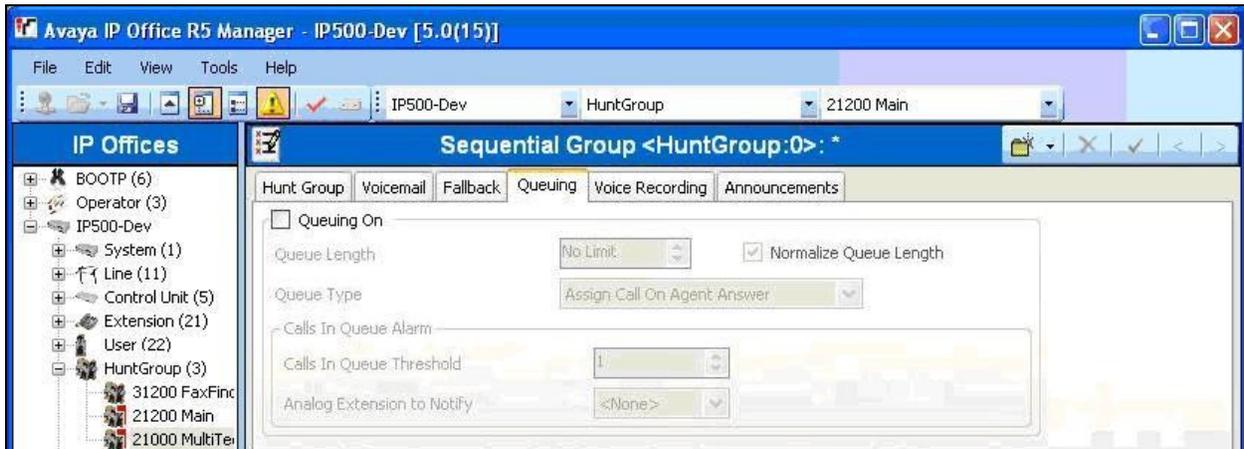
The **Sequential Group** screen is displayed and updated with the selected members.



Select the **Voicemail** tab, and make sure **Voicemail On** is unchecked, as shown below.



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



#### 4.4. Administer Incoming Call Route

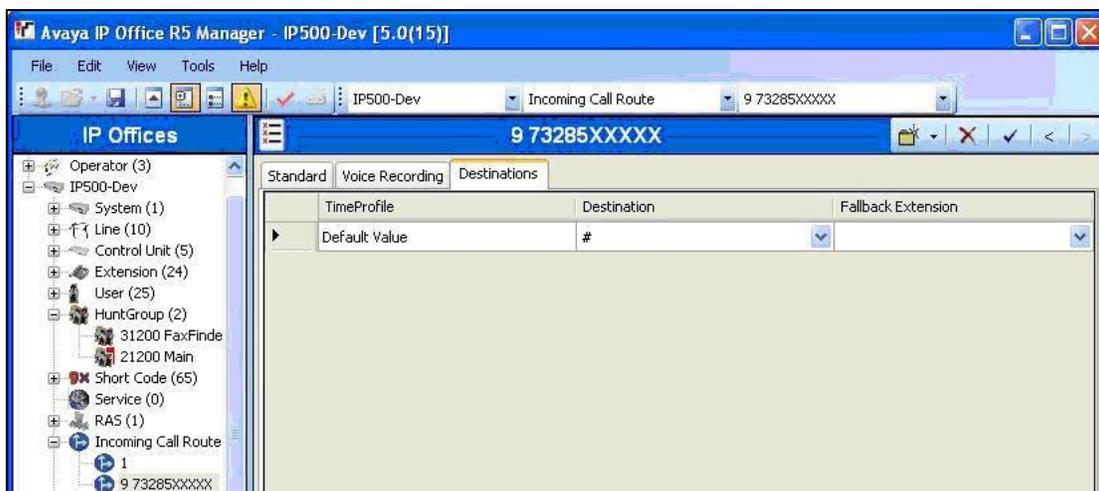
If necessary, create an incoming call route to route incoming calls to the hospitality hunt group. In the compliance testing, the existing incoming call route for the ISDN PRI line can route to any five digit extensions on IP Office.

As shown in the screen below, the **Incoming Number** for the ISDN PRI line “9” is “73285XXXXX”, which uses five single digit wildcards “X” allowing the last five digits to be any number.



In the **Destinations** tab, the use of “#” in the **Destination** field enables the routing to be based on the “XXXXX” from the **Incoming Number** field from above. Therefore, incoming calls to “7328522000” will be routed to the hospitality hunt group configured in **Section 4.3**.

If desired, the hospitality hunt group can be selected from the **Destination** drop-down to route all incoming trunk calls to DuVoice.



## 4.5. Administer System Voicemail

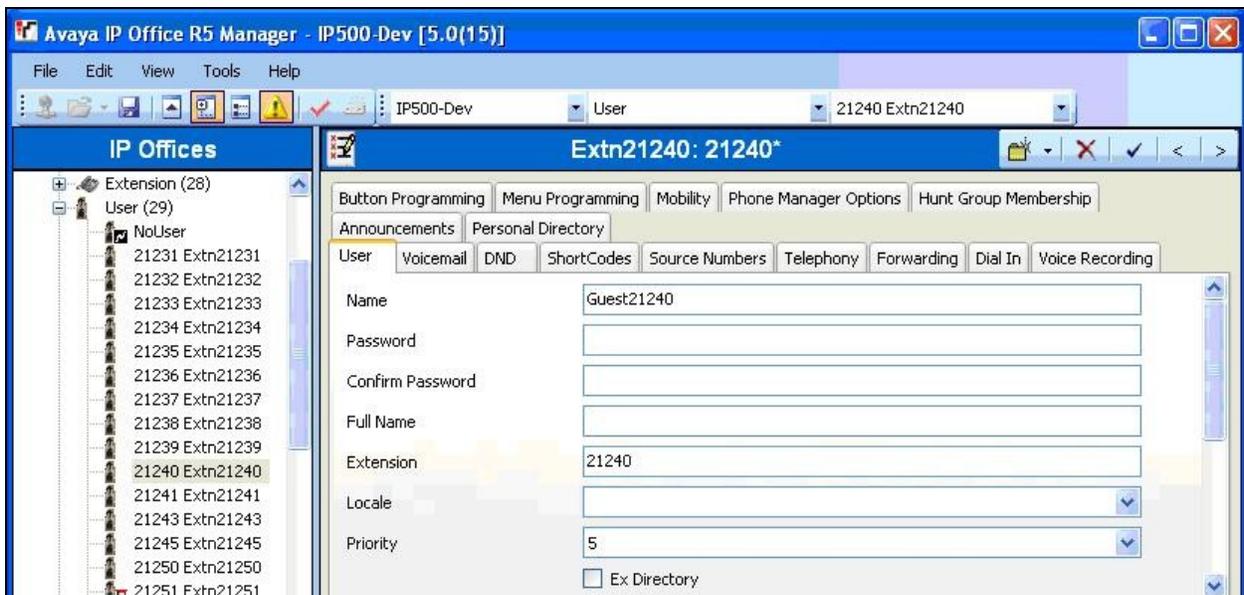
From the configuration tree in the left pane, select **System > IP500-Dev** to display the **IP500-Dev** screen in the right pane. Select the **Voicemail** tab in the right pane.

For **Voicemail Type**, select “Group Voicemail” from the field drop-down list. For **Voicemail Destination**, select the name of the hospitality hunt group from **Section 4.3**.

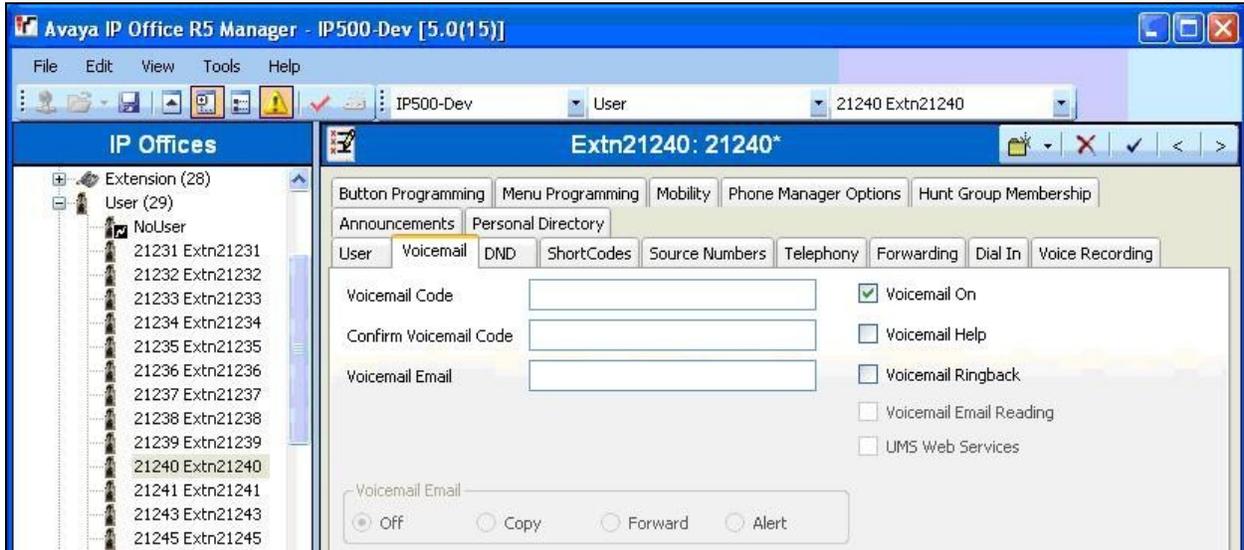


## 4.6. Administer Voicemail Users

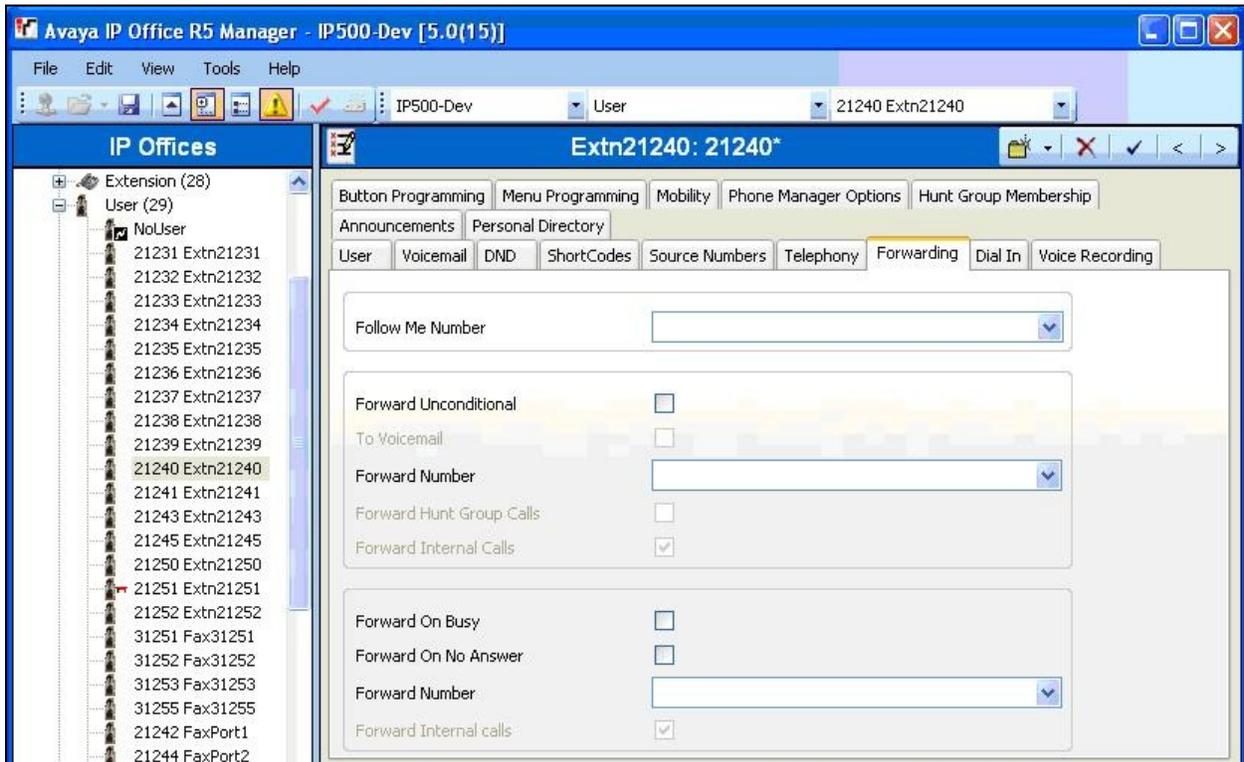
From the configuration tree in the left pane, select the first user that will be using DuVoice for voicemail. In this case, the user is “21240”. Enter a descriptive **Name**.



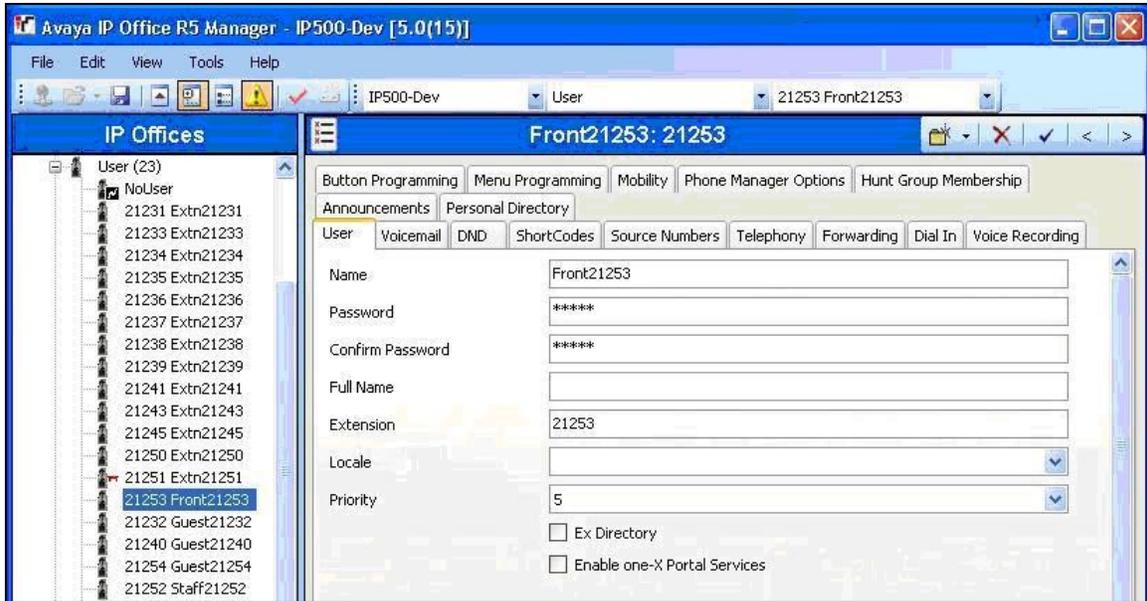
Select the **Voicemail** tab. Check **Voicemail On**, and uncheck **Voicemail Help** and **Voicemail Ringback**, as shown below.



Select the **Forwarding** tab. Uncheck and unselect all fields, as shown below.



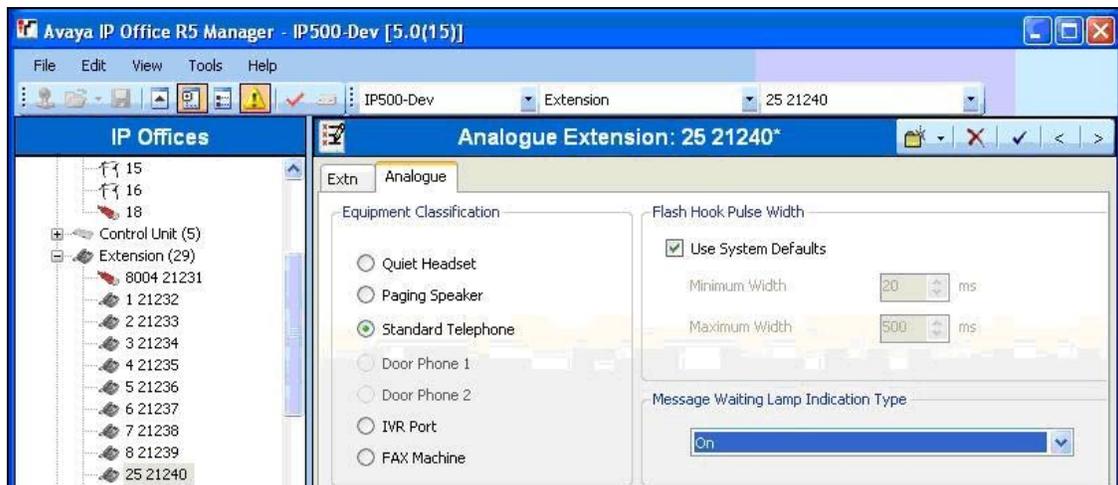
Repeat this section for all users using DuVoice for voicemail, including all guests, front desk, and staff. In the compliance testing, the voicemail users consisted of one front desk with extension “21253”, three guests with extensions “21232, 21240, and 21254”, and one staff with extension “21252”, as shown below in the left pane.



#### 4.7. Administer Analog User MWI

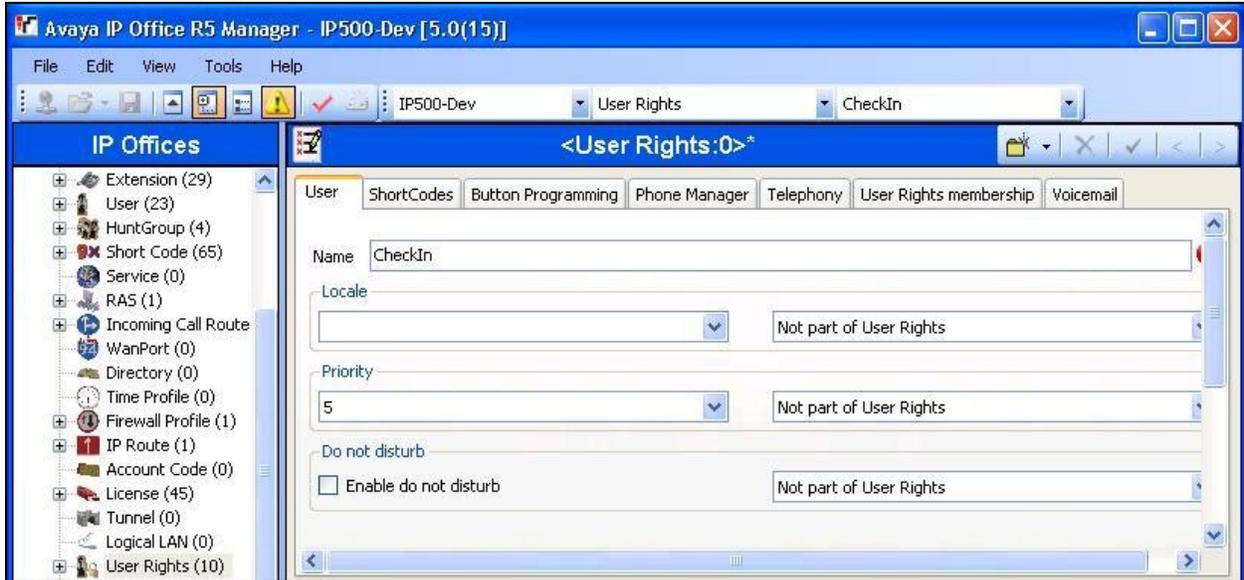
For voicemail users with analog telephones, the MWI setting on the analog extension may need modification, depending on the type of analog telephone. Refer to [2] for details on the specific analog telephone types requiring the MWI setting. In the compliance testing, one guest had an analog telephone type 2500, which required an update to the MWI setting.

From the configuration tree in the left pane, select **Extension**, followed by the extension corresponding to the analog user. In this case, the extension is “21240”. In the **Message Waiting Lamp Indication Type** section, select “On” from the drop-down list, as shown below.

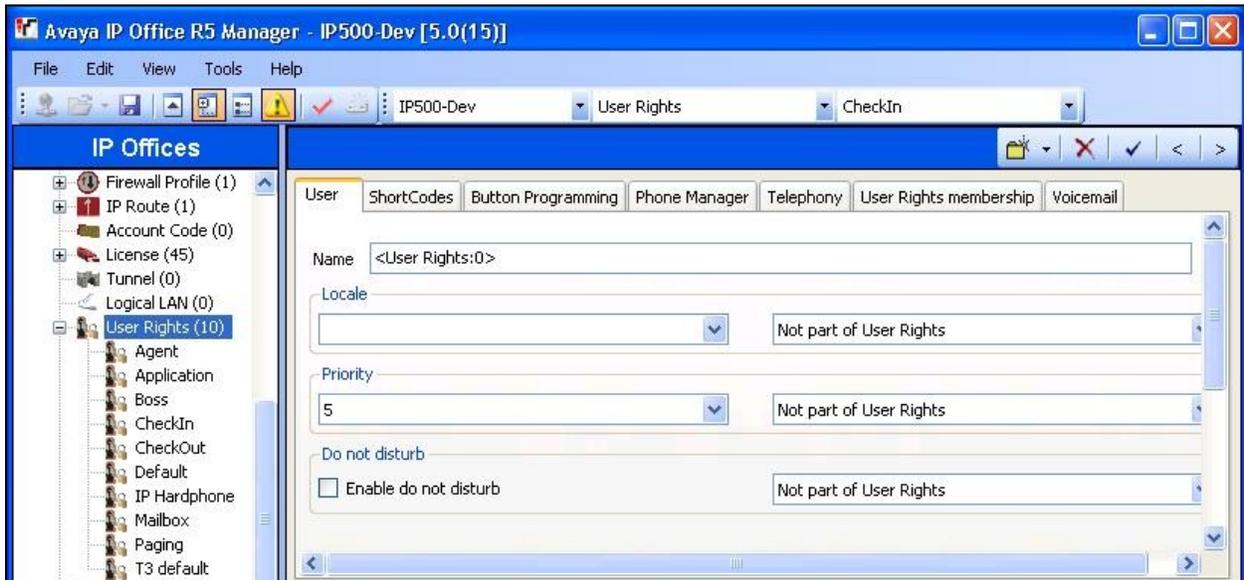


## 4.8. Administer User Rights

From the configuration tree in the left pane, right-click on **User Rights**, and select **New** to create a new user rights template. Enter a desired **Name** to designate user rights for guests in the checked-in state.



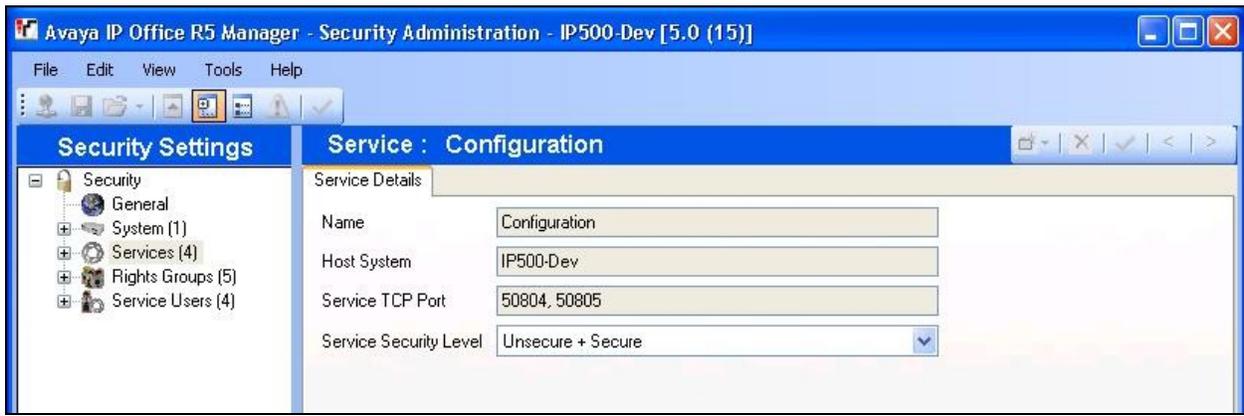
Repeat this section to create another user rights template for guests in the checked-out state. In the compliance testing, two user rights templates with names of “CheckIn” and “CheckOut” were created, as shown below in the left pane.



## 4.9. Administer Security Service

From the **Avaya IP Office R5 Manager** screen, select **File > Advanced > Security Settings** from the top menu. Select the proper IP Office system, and log in with the appropriate security user credentials.

The **Avaya IP Office R5 Manager – Security Administration** screen is displayed. From the configuration tree in the left pane, select **Security > Services** to display the **Service : Configuration** screen in the right pane. For **Service Security Level**, select “Unsecure + Secure” as shown below. The additional “Secure” level is needed for the Configuration Web Service interface.



## 5. Configure Avaya 46xx IP Telephones

This section provides the procedures for configuring the Avaya 46xx IP Telephones to support the PUSH interface. The procedures include the following areas:

- Administer common parameters
- Administer specific phone parameters
- Reboot telephones

### 5.1. Administer Common Parameters

From the appropriate HTTP and TFTP servers serving the 46xx IP Telephones, locate the **46xxsettings.txt** file. Navigate to the **COMMON SETTINGS** section, under the **WML BROWSER SETTINGS** sub-section, set **WMLPORT** to “8090”. Navigate to the **PUSH INTERFACE SETTINGS** sub-section, and set the **TPSLIST** and **SUBSCRIBELIST** parameters as shown below, where “10.32.35.111” is the IP address of the DuVoice server.

```
#####
##                                     ##
##           COMMON SETTINGS           ##
##           Applies to all telephones  ##
.
.
##### WML BROWSER SETTINGS #####
##
## This section contains the common settings used to
## enable and administer the 'Web' application. These
## parameters are not supported on 16cc SIP phones.
.
.
## The TCP port number of your HTTP proxy server
## SET WMLPORT 8080

SET WMLPORT 8090
.
.
##### PUSH INTERFACE SETTINGS #####
##
## These settings are used to administer the Push interface.
## These parameters are not supported on 16cc SIP phones.
##
## The list of all the Trusted Push Servers.
## If set to "/", all servers are allowed.
## If set to null or blank, Push is disabled.
## SET TPSLIST 135.20.21.20
##
## The list of all the Subscription Servers.
## SET SUBSCRIBELIST http://135.20.21.21/subscribe

SET TPSLIST 10.32.35.111:8090
SET SUBSCRIBELIST http://10.32.35.111:8090/
```

## 5.2. Administer Specific Phone Parameters

Navigate to the relevant specific phone parameters section, in this case **SETTINGS4621**. Under the **WML BROWSER SETTINGS** subsection, set the **WMLHOME** parameter as shown below, where “10.32.35.111” is the IP address of the DuVoice server, and “8090” is the **WMLPORT** value from **Section 5.1**.

Repeat this section for all relevant 46xx IP Telephone types. In the compliance testing, the 4621SW IP Telephone was used for testing the push of 911 alerting text message.

```
#####
#
# SETTINGS4621
#
#
#
#
##### WML BROWSER SETTINGS #####
##
## The WMLHOME setting is used to enable and
## administer the 'Web' Application.
##
## The WMLIDLEURI setting acts as an idle screen when the
## phone has been idle (see WMLIDLETIME value). By default
## this URL is NULL ("") and this screen is not activated.
##
## NOTE:
##   Avaya hosts a web site for IP Phones.
##   The WMLHOME and WMLIDLEURI parameters are set up
##   to point your IP telephones to this hosted site.
##   To enable access to this site, remove the "## "
##   from the SET WMLHOME ... and SET WMLIDLEURI ... lines.
##   To change the web site that your phones point to,
##   replace the provided URL in the SET WMLHOME .. and
##   SET WMLIDLEURI ...lines with the URL of your site.
##
## SET WMLHOME http://support.avaya.com/elmodocs2/avayaip/4620/home.wml
## SET WMLIDLEURI http://support.avaya.com/elmodocs2/avayaip/4620/idle.wml
##
SET WMLHOME http://10.32.35.111:8090/

GOTO END
```

## 5.3. Reboot Telephones

Manually reboot the 46xx IP Telephones to pick up the new settings.

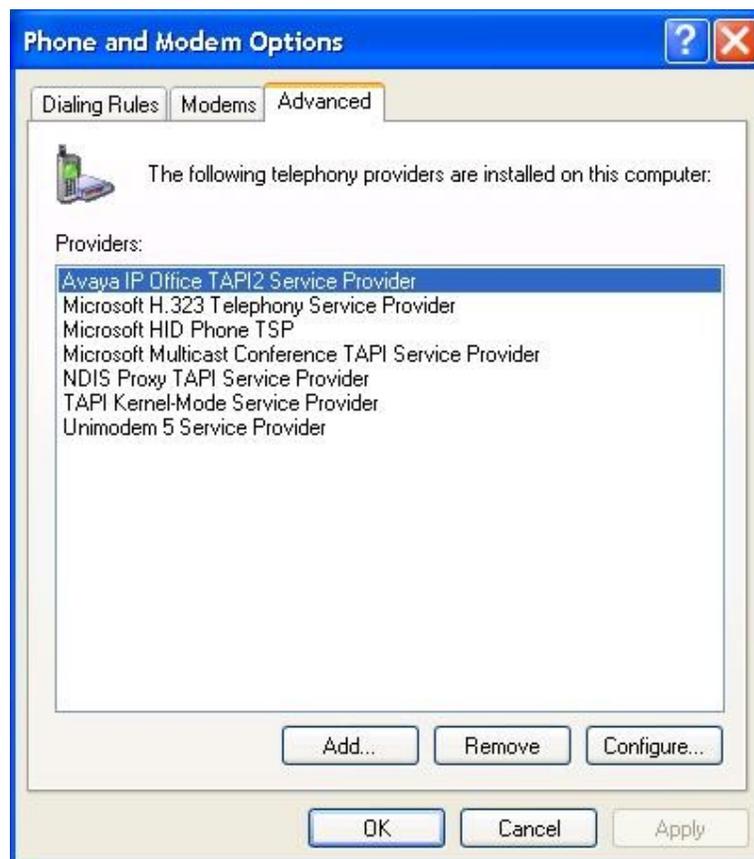
## 6. Configure DuVoice

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

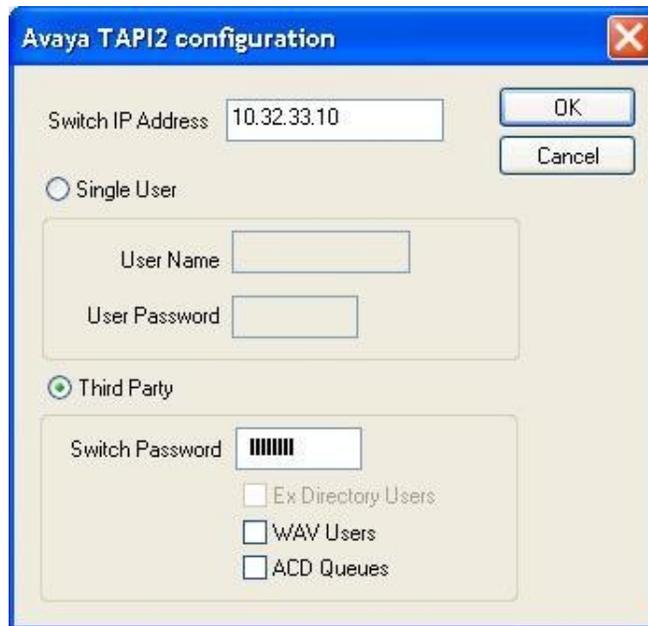
- Administer TAPI driver
- Shutdown server
- Administer setup wizard
- Administer TAPI integration
- Administer connectors
- Administer hospitality
- Administer push server
- Administer mailboxes
- Startup server

### 6.1. Administer TAPI Driver

From the DuVoice server, select **Start > Control Panel**, and double-click on the **Phone and Modem Options** icon (not shown below). In the **Phone and Modem Options** screen, select the **Advanced** tab. Select the **Avaya IP Office TAPI2 Service Provider** entry, and click **Configure**.



The **Avaya TAPI2 configuration** screen is displayed. For **Switch IP Address**, enter the IP address of Avaya IP Office. Select the radio button for **Third Party**, and enter the IP Office password into the **Switch Password** field. Reboot the DuVoice server.



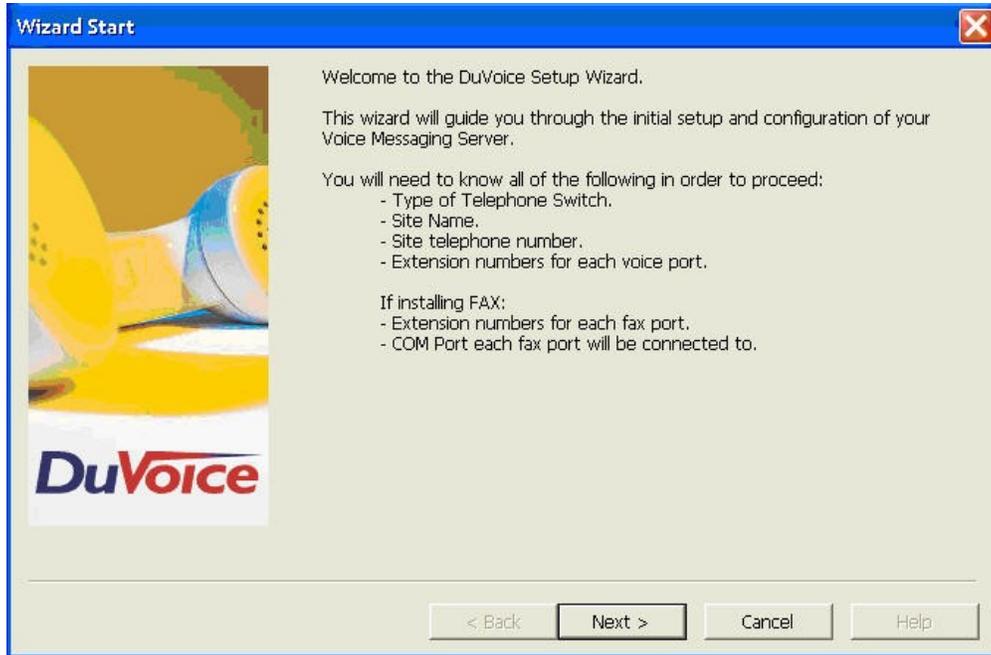
## 6.2. Shutdown Server

From the DuVoice server, select **Start > All Programs > DuVoice > Server Control**. The **Server Control** screen is displayed. Select **Shutdown** to stop the server, in order to make subsequent configuration changes.

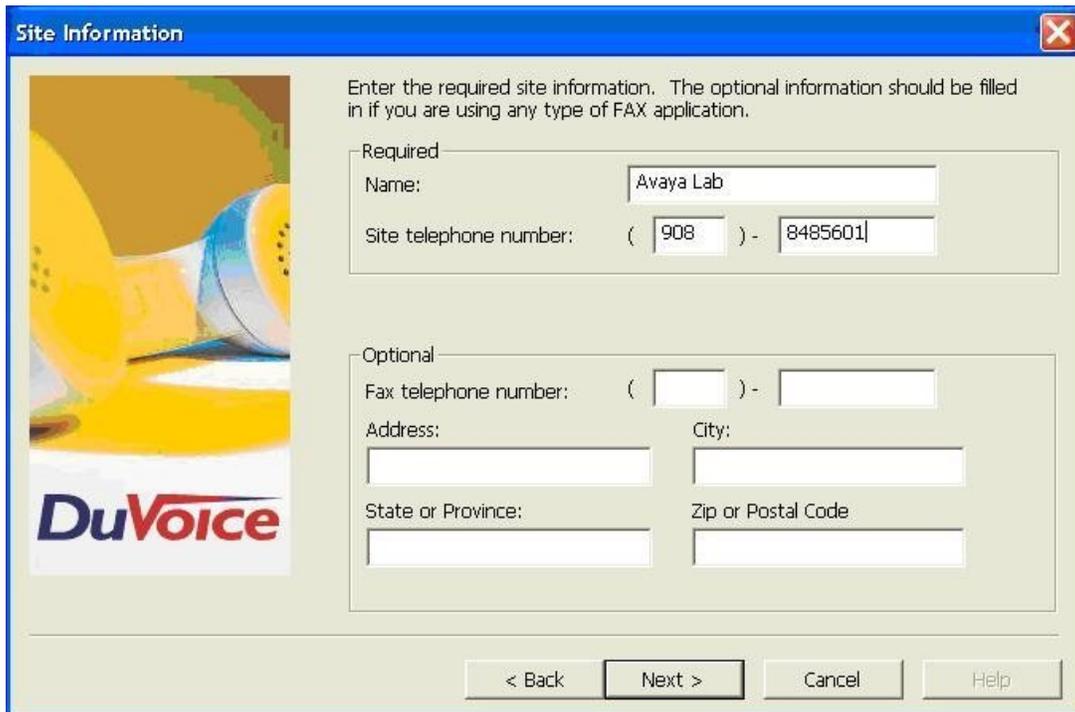


### 6.3. Administer Setup Wizard

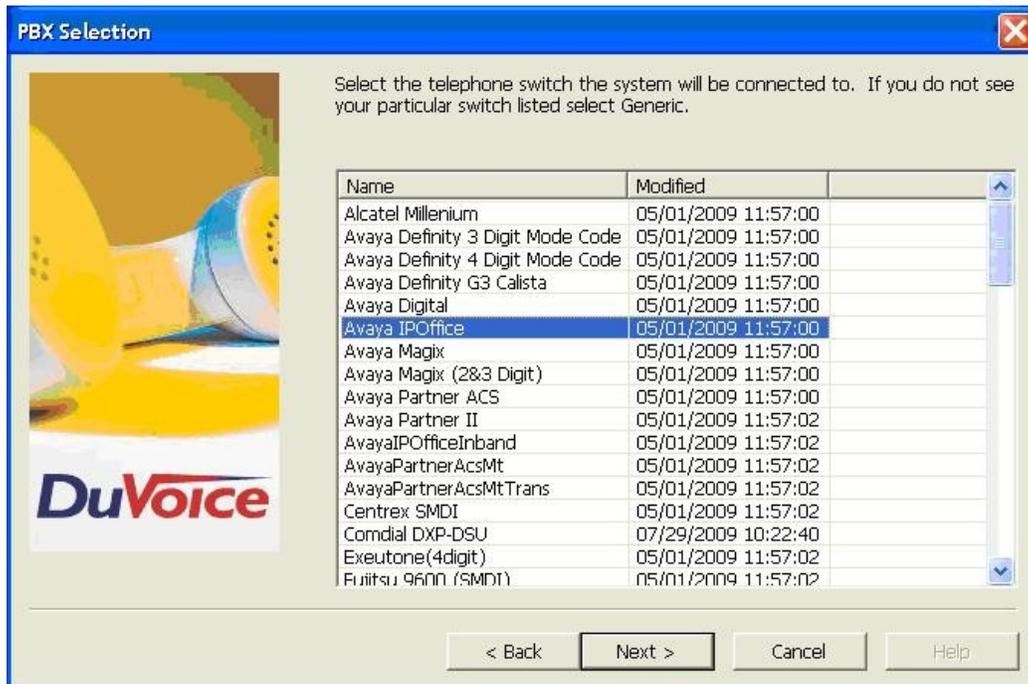
From the DuVoice server, select **Start > All Programs > DuVoice > System Configuration**. The **Wizard Start** screen is displayed upon initial access. Click **Next**.



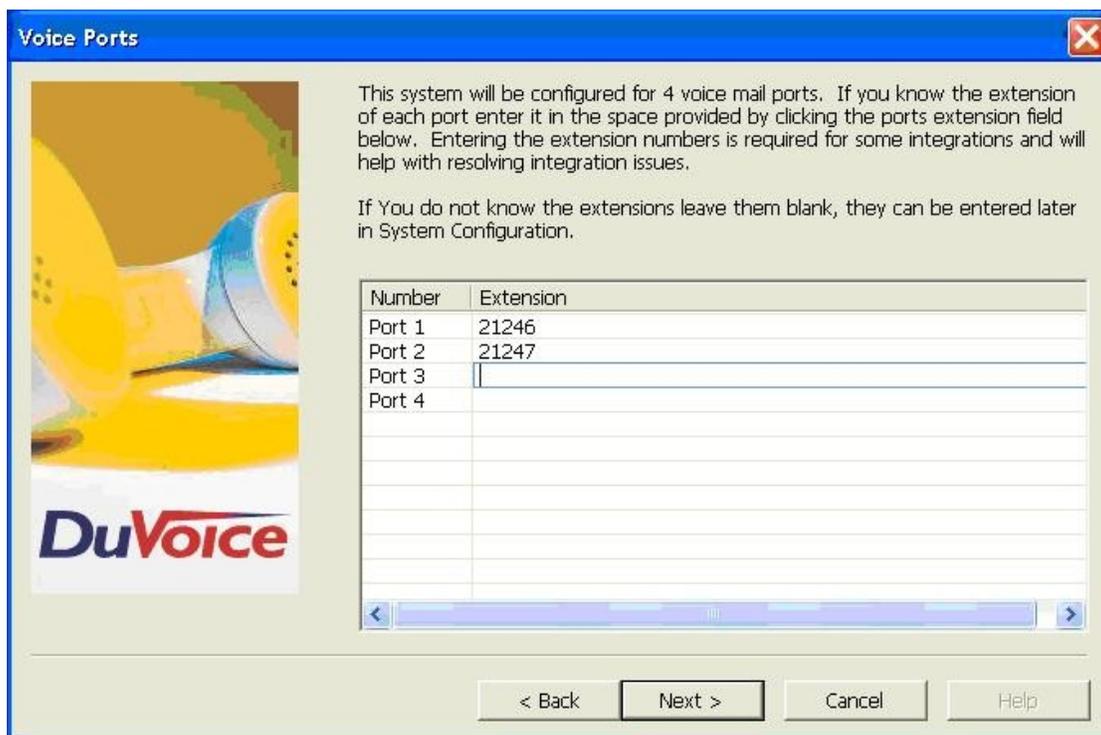
The **Site Information** screen is displayed next. Enter desired values for **Name** and **Site telephone number**, and click **Next**.



The **PBX Selection** screen is displayed. Select the **Avaya IPOffice** entry, and click **Next**.



The **Voice Ports** screen is displayed next. For each physically connected port to Avaya IP Office, enter the corresponding analog port extension from **Section 4.2**. Click **Next**, followed by **Finish** in the subsequent screen to complete the wizard.

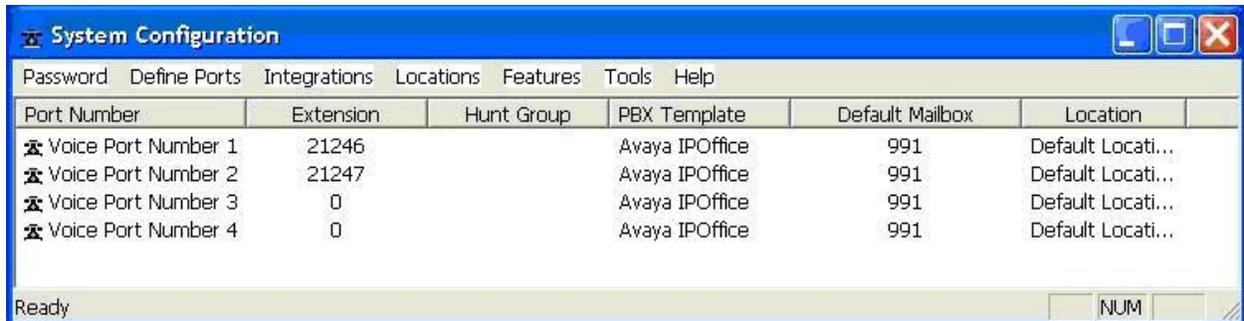


## 6.4. Administer TAPI Integration

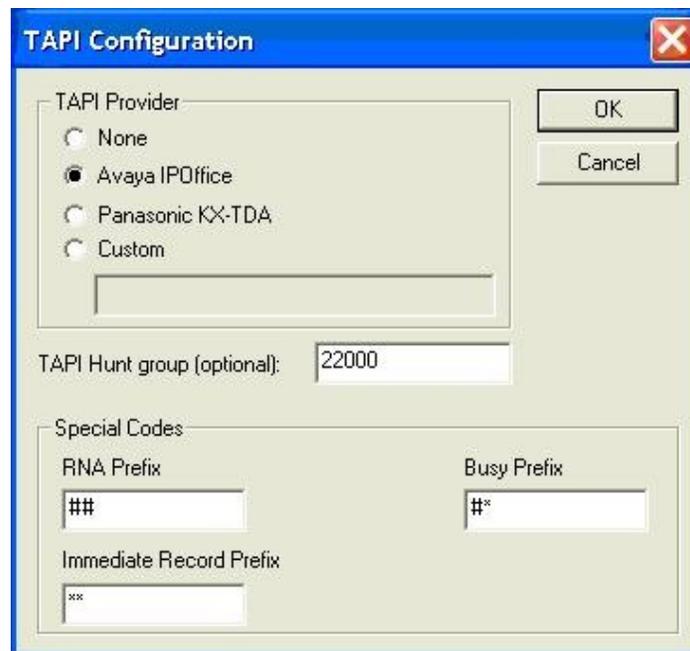
From the DuVoice server, select **Start > All Programs > DuVoice > System Configuration**. The **Enter Password** screen is displayed. Enter the appropriate password.



The **System Configuration** screen is displayed next. Select **Integrations > TAPI Integration** from the top menu.

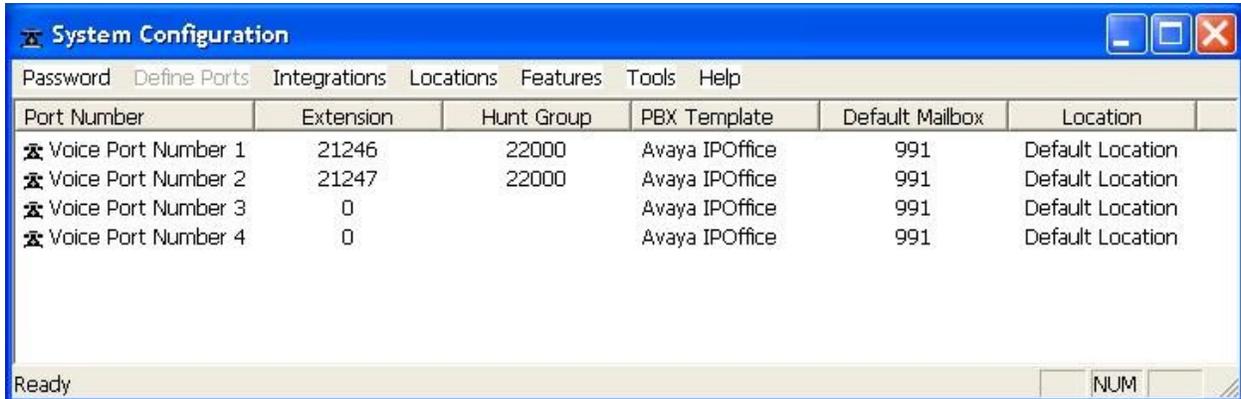


The **TAPI Configuration** screen is displayed. For **TAPI Provider**, select **Avaya IPOffice**. For **TAPI Hunt group**, enter the extension of the hospitality hunt group from **Section 4.3**. Retain the default values in the remaining fields.



## 6.5. Administer Connectors

The **System Configuration** screen is displayed again, and updated with **Hunt Group** information. Select **Features > Connectors** from the top menu.

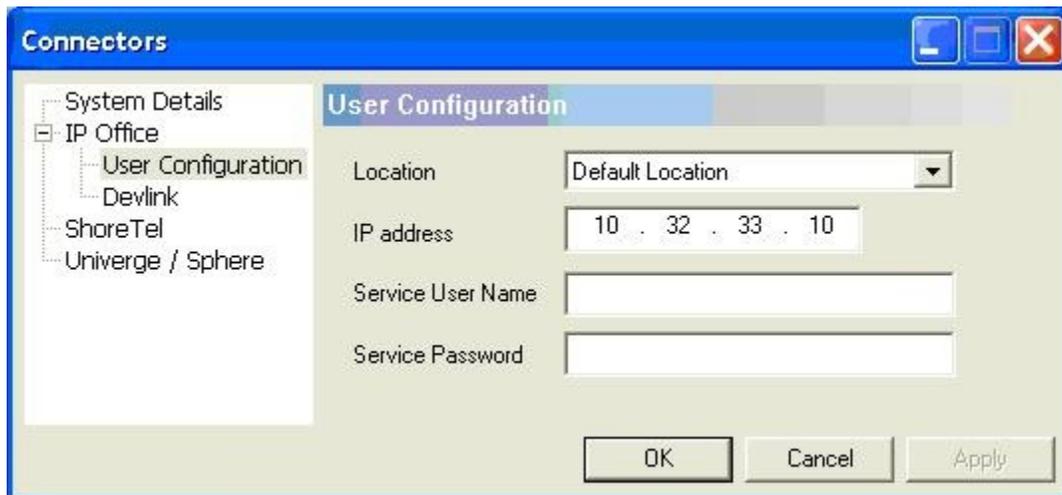


The screenshot shows the 'System Configuration' window with a menu bar containing 'Password', 'Define Ports', 'Integrations', 'Locations', 'Features', 'Tools', and 'Help'. Below the menu is a table with the following data:

Port Number	Extension	Hunt Group	PBX Template	Default Mailbox	Location
Voice Port Number 1	21246	22000	Avaya IPOffice	991	Default Location
Voice Port Number 2	21247	22000	Avaya IPOffice	991	Default Location
Voice Port Number 3	0		Avaya IPOffice	991	Default Location
Voice Port Number 4	0		Avaya IPOffice	991	Default Location

The status bar at the bottom shows 'Ready' and a 'NUM' field.

The **Connectors** screen is displayed. For **IP address**, enter the IP address of Avaya IP Office. Enter the appropriate Avaya IP Office security user credentials for **Service User Name** and **Service Password**. The connector is used to establish a Configuration Web Service connection to Avaya IP Office, for update of guest user names and user rights template.



The screenshot shows the 'Connectors' window with a tree view on the left containing 'System Details', 'IP Office', 'User Configuration', 'Devlink', 'ShoreTel', and 'Univerge / Sphere'. The 'User Configuration' tab is active, showing the following fields:

- Location: Default Location (dropdown menu)
- IP address: 10 . 32 . 33 . 10 (text field)
- Service User Name: (empty text field)
- Service Password: (empty text field)

Buttons for 'OK', 'Cancel', and 'Apply' are located at the bottom right.

## 6.6. Administer Hospitality

From the **System Configuration** screen shown in **Section 6.5**, select **Features > Hospitality** from the top menu. The **Hospitality Configuration** screen is displayed. Select **Phone Control** from the left pane, to display the **Phone Control** screen in the right pane.

For **PBX Type**, select “Avaya IP Office”. In the **Auto-set phone state on** section, check **Check-in** and **Check-out**, and select the corresponding drop-down values as shown below. In the **User group restrictions / call restriction values** section, enter two entries as shown below. For **Display Text**, enter descriptive values. For **PBX Value**, enter the corresponding user rights template name from **Section 4.8**. Retain the default values in the remaining fields.

The screenshot shows the 'Hospitality Configuration' window with the 'Phone Control' tab selected. The left pane shows a tree view with 'Phone Control' selected. The main area contains several sections:

- PBX**: Type: Avaya IP Office
- Auto-set phone state on**:
  - Check-in: Check In
  - Check-out: Check Out
- Call accounting**:
  - Type: --none--
  - Enabled: --no change--
  - Disabled: --no change--
- Vodavi-specific settings**:
  - Outdial prefix: 470
- User group restrictions / call restriction values**:
  - To edit an entry, left-click on it. For all other actions, right-click any row to display a menu.

Display Text	PBX Value	PMS Value	
Check In	CheckIn		
Check Out	CheckOut		

Active PMS: Hilton OnQ (ONQUE)

Buttons: OK, Cancel, Apply

## 6.7. Administer Push Server

From the **System Configuration** screen shown in **Section 6.5**, select **Features > Push Server** from the top menu. The **Push Server Configuration** screen is displayed.

In the **Push On** section, uncheck **Answer**. In the **Hunt Groups and 911** section, select “911” from the drop-down list. For each Avaya 46xx IP Telephone that will be used for receiving 911 alerting text messages, enter the telephone extension in the **Extension** field, and click **Add phone** to move the extension to the box in the right. In the compliance testing, the 911 alerting test messages were pushed to an Avaya 4621SW IP Telephone with extension “21252”.

**Push Server Configuration**

Server Configuration

Push server enabled

Port number: 8090      Switch IP: 10 . 32 . 33 . 10

Password: password      Server IP: 10 . 32 . 35 . 111

OK

Cancel

Push On

Ring

Answer

911 Options

Push 911 clear messages

Persistent 911 alerts

Initial Delay: 30

Repeat Delay: 20

IP Phones

Extension	IP Address
-----------	------------

Add

Delete

Enabled	Extension	Address	Type
---------	-----------	---------	------

Hunt Groups and 911

Group number: [ ] Add

[ 911 ] Delete

Extension: [ 21252 ]

Add phone

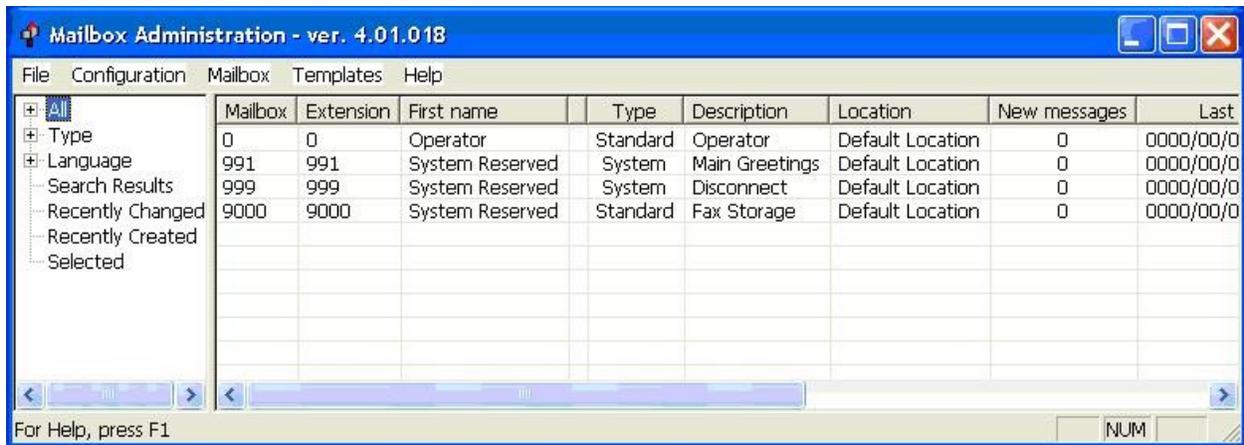
Delete phone

## 6.8. Administer Mailboxes

From the DuVoice server, select **Start > All Programs > DuVoice > Mailbox Administration**. The **Enter Password** screen is displayed. Enter the appropriate password.



The **Mailbox Administration** screen is displayed. Select **Mailbox > Create** from the top menu.



The **Create Mailbox** screen is displayed next. For **Mailbox Number**, enter the first voicemail user extension from **Section 4.6**, in this case "21240". For **Mailbox Type**, select "Guest" for guest users, and "Standard" for front desk and staff users.



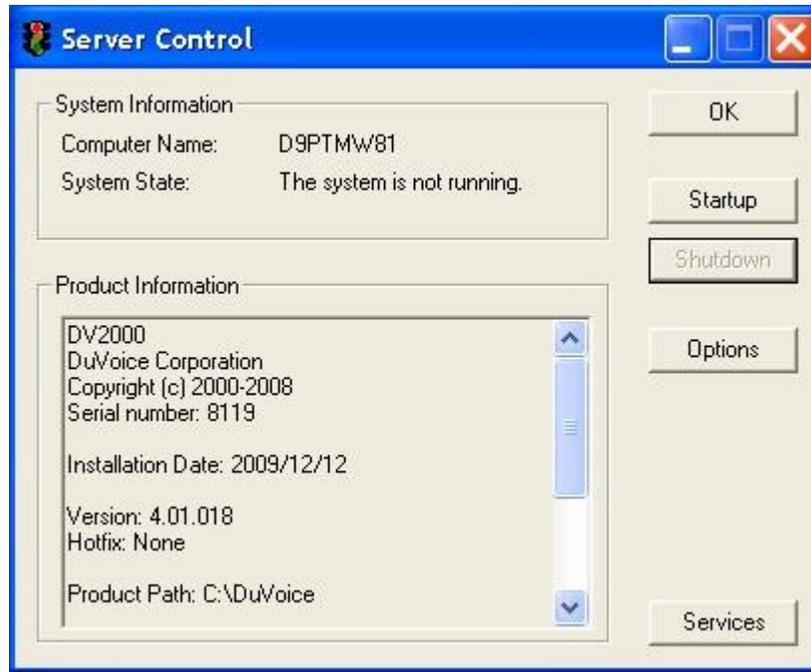
The **Create Mailbox 21240** screen is displayed next. Enter desired values for **Password**, **First Name**, and **Last Name**, and retain the default values in the remaining fields.

Repeat this section for all voicemail users from **Section 4.6**, as shown below.

Mailbox	Extension	First name	Type	Description	Location	New messages	Last
0	0	Operator	Standard	Operator	Default Location	0	0000/00/0
991	991	System Reserved	System	Main Greetings	Default Location	0	0000/00/0
999	999	System Reserved	System	Disconnect	Default Location	0	0000/00/0
9000	9000	System Reserved	Standard	Fax Storage	Default Location	0	0000/00/0
21232	21232	Guest21232	D Guest		Default Location	0	0000/00/0
21240	21240	Guest21240	D Guest		Default Location	0	0000/00/0
21252	21252	Staff21252	D Standard		Default Location	0	0000/00/0
21253	21253	Front21253	D Standard		Default Location	0	0000/00/0
21254	21254	Guest21254	D Guest		Default Location	0	0000/00/0

## 6.9. Startup Server

From the DuVoice server, select **Start > All Programs > DuVoice > Server Control**. The **Server Control** screen is displayed. Select **Startup** to start the server.



## 7. General Test Approach and Test Results

The feature test cases were performed manually. Calls were made from the PSTN and from local users to the hospitality hunt group, with different options selected for extension transfer, voice message retrieval, and wake-up call schedule. The PMS simulator was used to manually send check-in and check-out requests to DuVoice, and the DuVoice InnDesk was used to monitor the guest check-in, check-out, and wake-up call status.

The serviceability test cases were performed manually by disconnecting and reconnecting the analog cables to DuVoice.

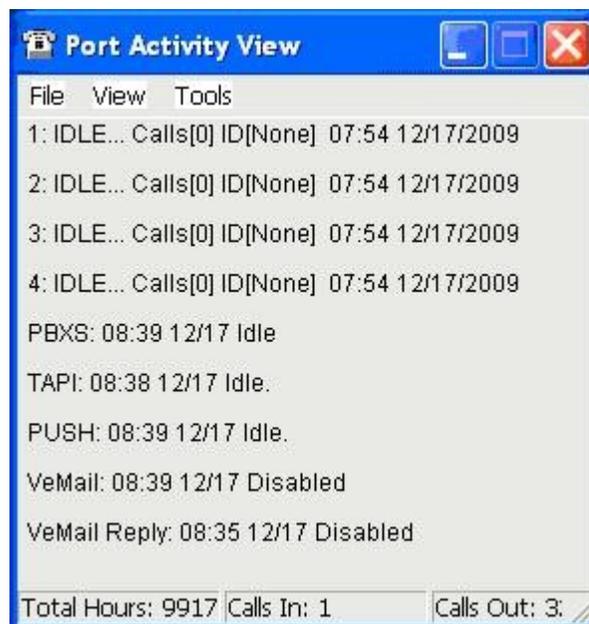
All test cases were executed and passed.

## 8. Verification Steps

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

### 8.1. Verify Port Activity

From the DuVoice server, select **Start > All Programs > DuVoice > Port Activity**. The **Port Activity View** screen is displayed. Verify that the physically connected analog ports **1** and **2**, **PBXS**, **TAPI**, and **PUSH** are all in the idle state, as shown below.



## 8.2. Verify Analog Integration

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

## 8.3. Verify TAPI Integration

Place an incoming call from the PSTN to the hospitality hunt group, and leave a voice message for a guest user. Verify that the MWI is turned on for the guest user.

Place a call from the guest user to the hospitality hunt group. Verify that DuVoice recognizes the calling party as a voicemail user. Verify that the voice message can be retrieved, and that the MWI is turned off.

## 8.4. Verify Configuration Web Service Integration

Use the PMS simulator to perform a guest check-in request. Verify that the guest name and user right template is updated automatically on Avaya IP Office as part of the check-in process.

## 8.5. Verify PUSH Integration

Dial “911” from any guest user on Avaya IP Office. Verify that a 911 alerting text message is pushed to the Avaya 4621SW IP Telephone user configured in **Section 6.7**.

## 9. Conclusion

These Application Notes describe the configuration steps required for DuVoice to successfully interoperate with Avaya IP Office. All feature and serviceability test cases were completed.

## 10. Additional References

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

1. *IP Office 5.0 Documentation CD*, August 2009, available at <http://support.avaya.com>.
2. *System Reference Guide*, 3<sup>rd</sup> Edition, Version 4.01.016, November 2009, available on the DuVoice server as part of the installation.

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