



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

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# **Application Notes for Syn-Apps SA-Announce with Avaya IP Office and Avaya 9600 and 96x1 Series IP Deskphones - Issue 1.0**

### **Abstract**

These Application Notes describe the steps required to integrate Syn-Apps SA-Announce with Avaya IP Office and Avaya 9600 and 96x1 Series IP Deskphones. Syn-Apps SA-Announce is a paging and mass notification solution that integrates with Avaya IP Office via SIP trunks to provide audio, text, and graphic notification across an organization. Syn-Apps SA-Announce delivers real-time, pre-recorded or scheduled announcements to Avaya 9600 and 96x1 IP Deskphones using the Push API. Audio announcements can also be delivered to the Syn-Apps C2 Ceiling Speaker.

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 steps required to integrate Syn-Apps SA-Announce with Avaya IP Office and Avaya 9600 and 96x1 Series IP Deskphones. Syn-Apps SA-Announce is a paging and mass notification solution that integrates with Avaya IP Office via SIP trunks to provide audio, text, and graphic notifications across an organization. Syn-Apps SA-Announce delivers real-time, pre-recorded or scheduled announcements to Avaya 9600 and 96x1 IP Deskphones using the Push API. Audio announcements can also be delivered to the Syn-Apps C2 Ceiling Speaker.

Avaya 9600 and 96x1 Series IP Deskphones running H.323 software subscribe to Syn-Apps SA-Announce to receive XML-based data pushed by SA-Announce. The data is sent by SA-Announce in the form of alerts via Multicast traffic to the Avaya IP deskphones.

## 2. General Test Approach and Test Results

This section details the general approach to the testing, what was covered, and results of the testing. If the testing was successfully concluded but it was necessary to implement workarounds or certain non-critical features did not work, it should be noted in **Section 2.2**.

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.

The interoperability compliance test included feature and serviceability testing. The feature testing focused on sending audio, text, and graphic notification alerts from Syn-Apps SA-Announce to Avaya 9600 and 96x1 IP Deskphones using the Push API. When a call was placed to SA-Announce, the appropriate notification alert was sent to all the Avaya IP deskphones, including the V2 Ceiling Speaker, when appropriate. The extension dialed determined which notification alert was triggered.

The serviceability testing focused on verifying that SA-Announce comes back into service after re-connecting the Ethernet connect or rebooting the server.

### 2.1. Interoperability Compliance Testing

Interoperability compliance testing covered the following features and functionality:

- Established a SIP trunk between SA-Announce and IP Office.
- Subscribed Avaya 9600 and 96x1 IP Deskphones to SA-Announce for notification alerts using the Push Interface API.
- Verified Avaya 9600 and 96x1 IP Deskphones running H.323 software, including the following phone types: 9611, 9620, 9621, 9630, 9641, and 9650.

- Verified audio alerts to the Syn-Apps V2 Ceiling Speaker.
- Verified various types of alerts and notification sent by SA-Announce to Avaya IP Deskphones, including:
  - Weather Alerts
  - Amber Alerts
  - Emergency Alerts
  - Audio Alerts
  - RecordNPlay Notifications
- Proper system recovery after a restart of the SA-Announce server and loss of IP connectivity.

## 2.2. Test Results

All test cases passed with the following observation:

- Due to an issue between the Syn-Apps Paging Relay and Avaya 9600 Series IP Deskphones, the Paging Relay is not supported as part of this solution.

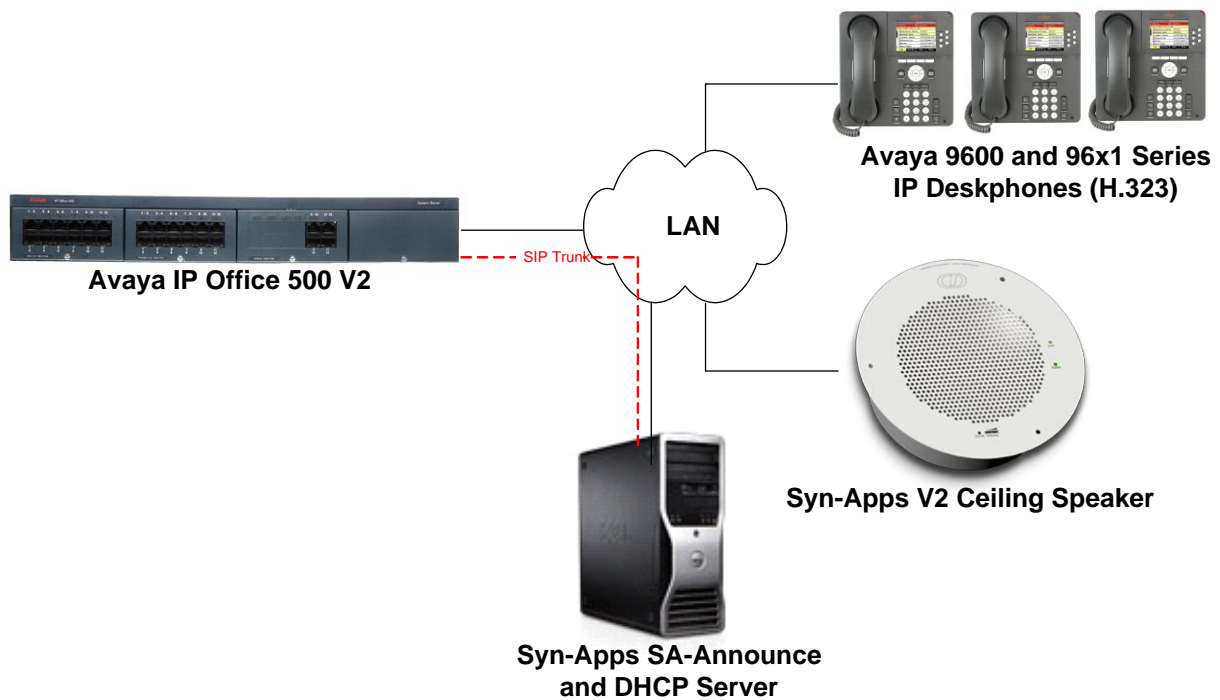
## 2.3. Support

For technical support on SA-Announce or V2 Ceiling Speaker, contact Syn-Apps support via phone, email, or website.

- **Phone:** (866) 664-6071
- **Email:** [support@syn-apps.com](mailto:support@syn-apps.com)
- **Web:** <http://www.syn-apps.com/support>

### 3. Reference Configuration

**Figure 1** illustrates a sample configuration consisting of Syn-Apps SA-Announce and Syn-Apps V2 Ceiling Speaker with Avaya IP Office and 9600/96x1 IP Series IP Telephones. SA-Announce was the trusted push server to which the Avaya IP deskphones subscribed. SA-Announce integrated with IP Office via a SIP trunk interface. Calls were routed to SA-Announce, and based on the dialed digits, the appropriate audio, text, and graphic notification alert would be sent to the Avaya IP deskphones using the Avaya Push Interface API.



**Figure 1: Syn-Apps SA-Announce and Syn-Apps V2 Ceiling Speaker with Avaya IP Office and Avaya 9600/96x1 Series IP Deskphones**

## 4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office 500 V2	9.0.2.0 (Build 860)
Avaya 9600 Series IP Deskphones	3.212A (H.323)
Avaya 96x1 Series IP Deskphones	6.3116 (H.323)
Syn-Apps SA-Announce	9.0.11
Syn-Apps V2 Ceiling Speaker	6.2.2

**Note:** Testing was performed with IP Office 500 v2 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.

## 5. Configure Avaya IP Office

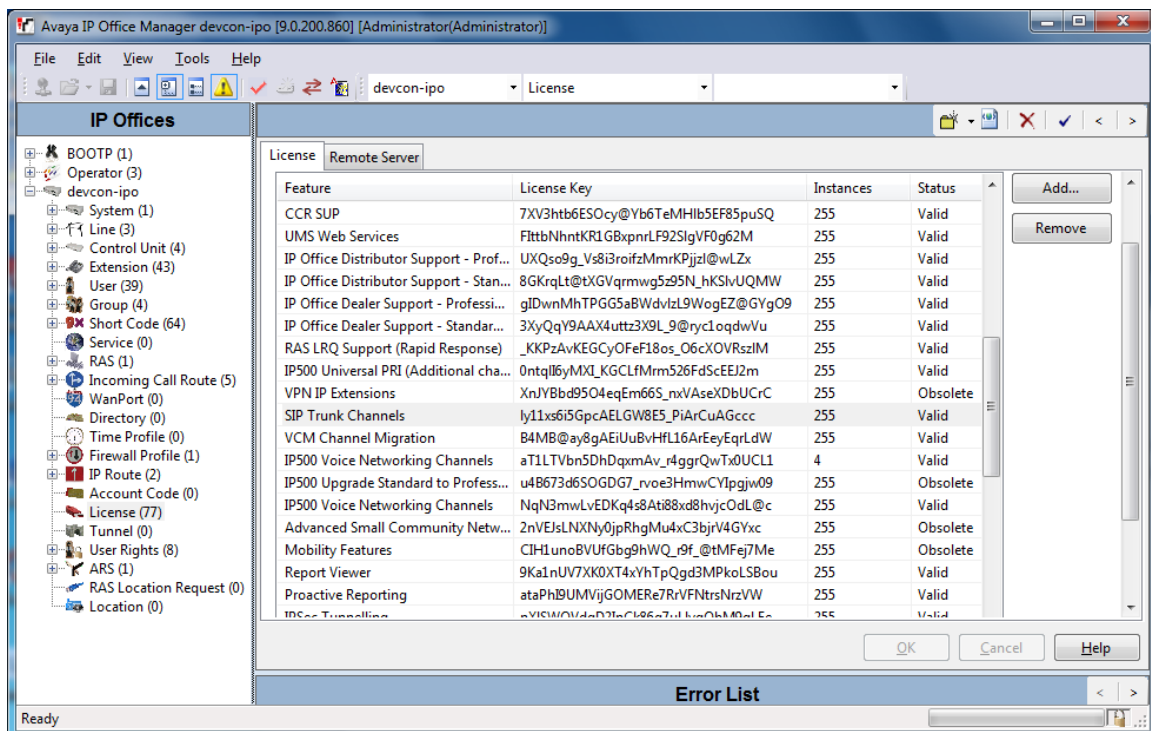
This section provides the procedures for configuring Avaya IP Office. The procedures include the following areas:

- Verify IP Office license
- Obtain LAN IP address
- Enable SIP trunks
- Administer SIP line
- Administer incoming call route
- Administer short code
- Administer H.323 stations subscribing to SA-Announce (i.e., Trusted Push Server)

### 5.1. Verify IP Office License

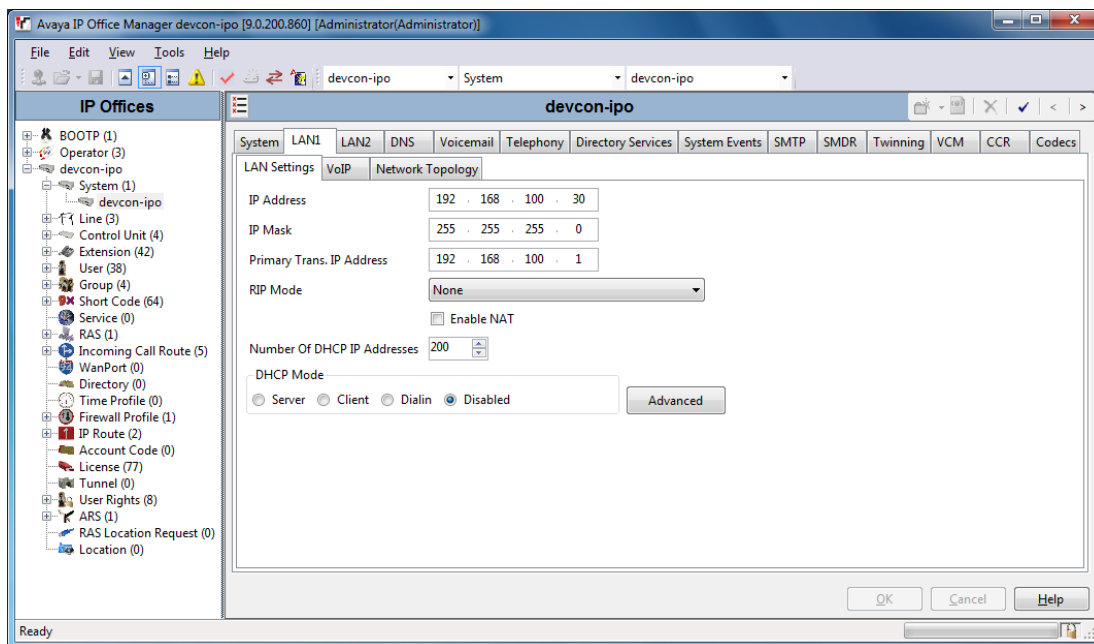
From a PC running the Avaya IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the Manager application. Select the appropriate IP Office system and log in with the appropriate credentials.

The **Avaya IP Office R9 Manager** screen is displayed. From the configuration tree in the left pane, select **License**. Verify that the **SIP Trunk Channels** license is “Valid”, and that the **Instances** value is sufficient for the desired maximum number of simultaneous faxes.



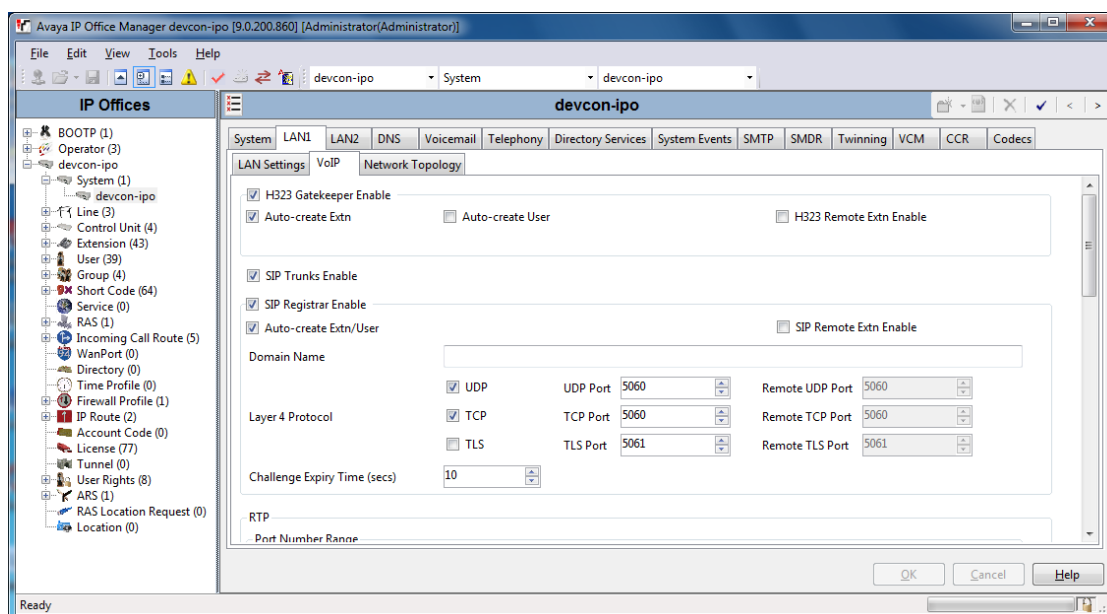
## 5.2. Obtain LAN IP Address

From the configuration tree in the left pane, select **System** to display the **System** screen for the IP Office 500 V2 in the right pane. Select the **LAN1** tab, followed by the **LAN Settings** sub-tab in the right pane. Note that IP Office can support SIP trunks on the LAN1 and/or LAN2 interfaces. The compliance testing used the LAN1 interface.



## 5.3. Enable SIP Trunks

Select the **VoIP** sub-tab. Ensure that **SIP Trunks Enable** is checked as shown below.



## 5.4. Administer SIP Line

From the configuration tree in the left pane, right-click on **Line** and select **New → SIP Line** from the pop-up list to add a new SIP line. Select the **SIP Line** tab and verify that the **Check OOS** checkbox is not selected. SA-Announce does not respond to SIP Options messages so by deselecting this field, IP office would not take down the SIP trunk if a response to the SIP Options message is not received. Although, this field is deselected, IP Office still sends a periodic SIP Options message.

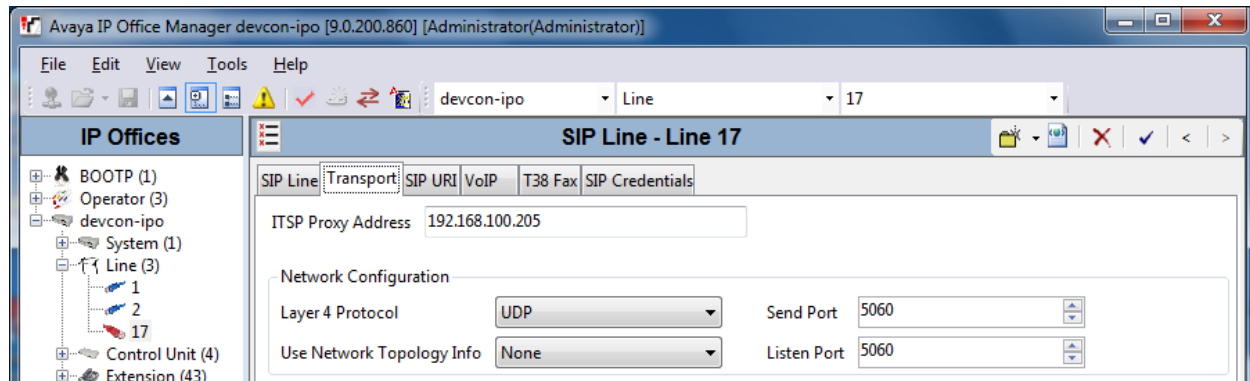
The screenshot displays the 'SIP Line - Line 17' configuration window in the Avaya IP Office Manager. The left pane shows the configuration tree with 'Line 3' expanded, and 'Line 17' selected. The main pane shows the configuration for 'Line 17' with the following settings:

Field	Value
Line Number	17
ITSP Domain Name	
Prefix	
National Prefix	0
Country Code	
International Prefix	00
Send Caller ID	None
Association Method	By Source IP address
In Service	<input checked="" type="checkbox"/>
URI Type	SIP
Check OOS	<input type="checkbox"/>
Call Routing Method	Request URI
Originator number for forwarded and twinning calls	
Name Priority	System Default
Caller ID from From header	<input type="checkbox"/>
Send From In Clear	<input type="checkbox"/>
User-Agent and Server Headers	
Service Busy Response	486 - Busy Here
Action on CAC Location Limit	Allow Voicemail
REFER Support	<input checked="" type="checkbox"/>
Incoming	Auto
Outgoing	Auto
Method for Session Refresh	Auto
Session Timer (seconds)	On Demand
Media Connection Preservation	Disabled

At the bottom of the window are buttons for OK, Cancel, and Help.

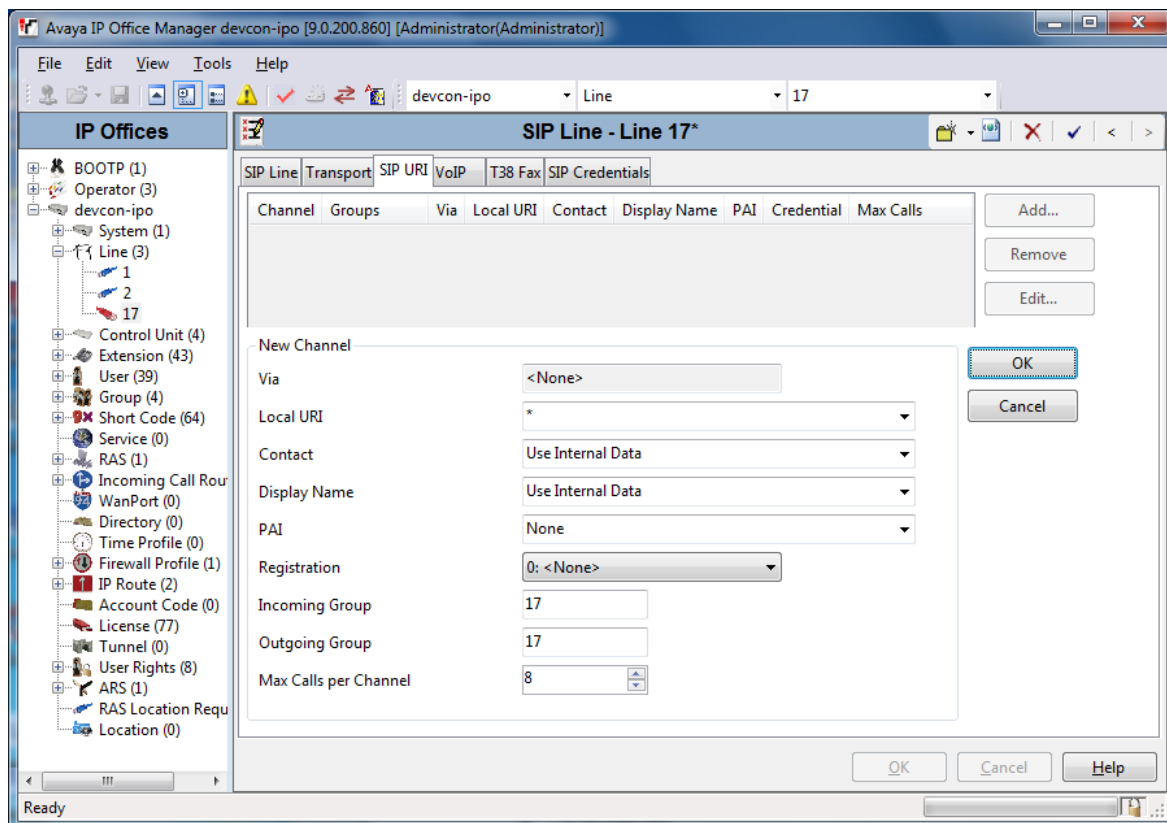


Select the **Transport** tab in the right pane. For **ITSP Proxy Address**, enter the IP address of SA-Announce. Retain the default values for the remaining fields. Note that the SIP transport protocol and port are specified in this screen. For the compliance test, the SIP trunk support UDP transport on port 5060.

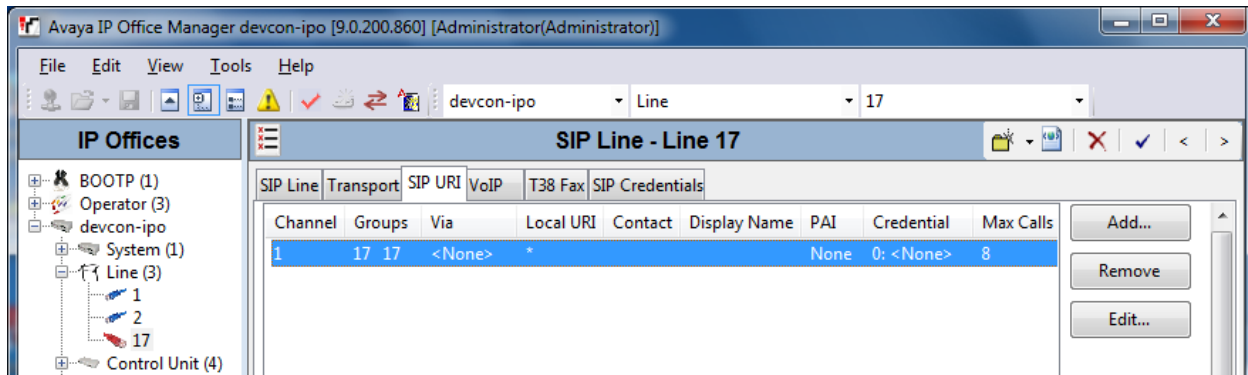


Select the **SIP URI** tab, and click **Add** to display the **New Channel** section.

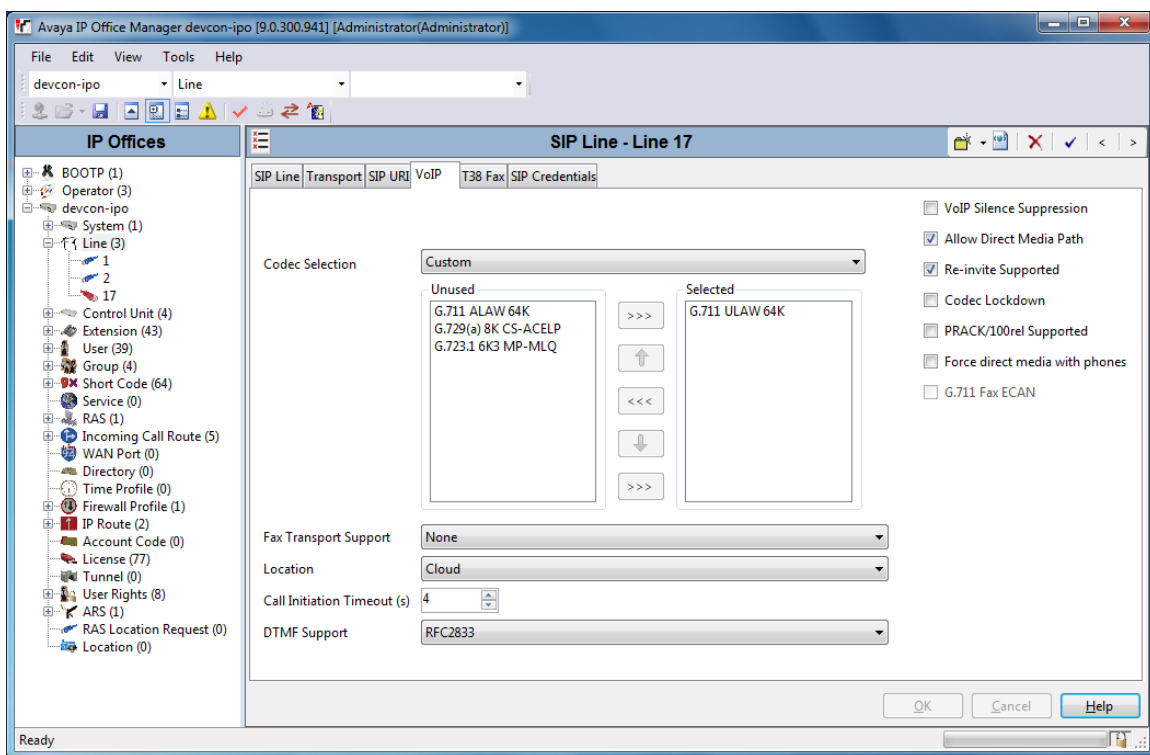
Enter the wildcard character “\*” for **Local URI**. Enter the SIP line number for **Incoming Group** and **Outgoing Group**. Set **Max Calls per Channel** to the desired maximum number of calls to support. Retain the default values in the remaining fields.



The screen is updated as shown below.

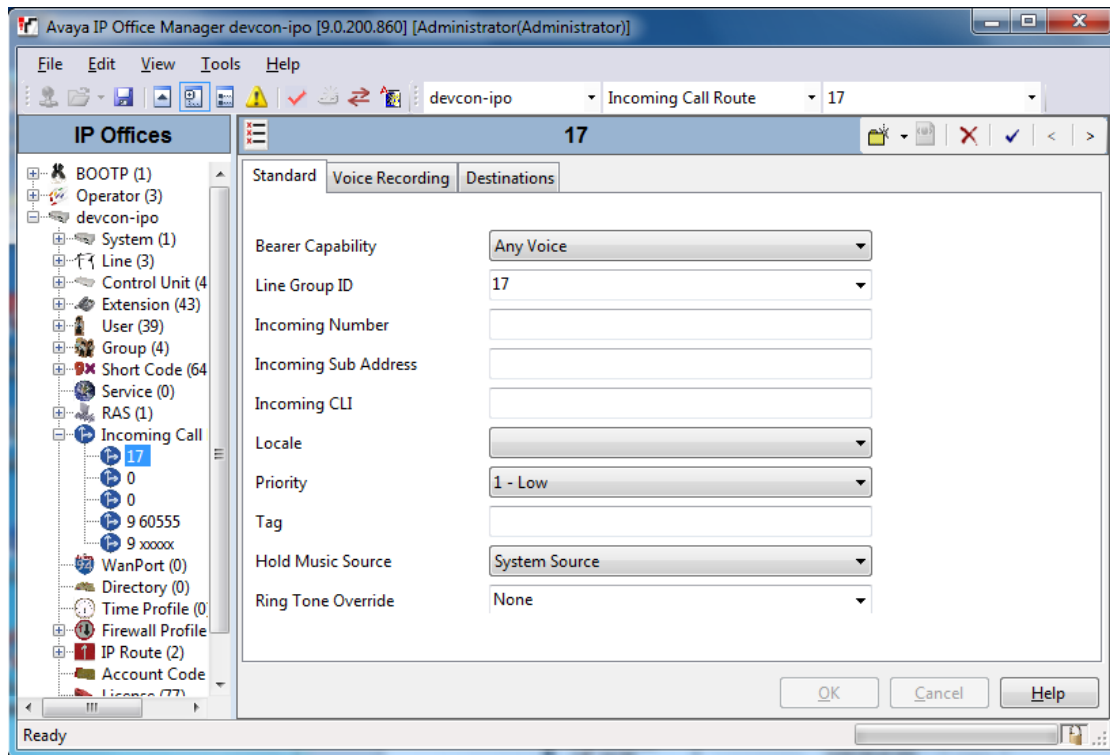


Select the **VoIP** tab. For **Codec Selection**, select “Custom” and select the applicable G.711 codec variant in the expanded list.

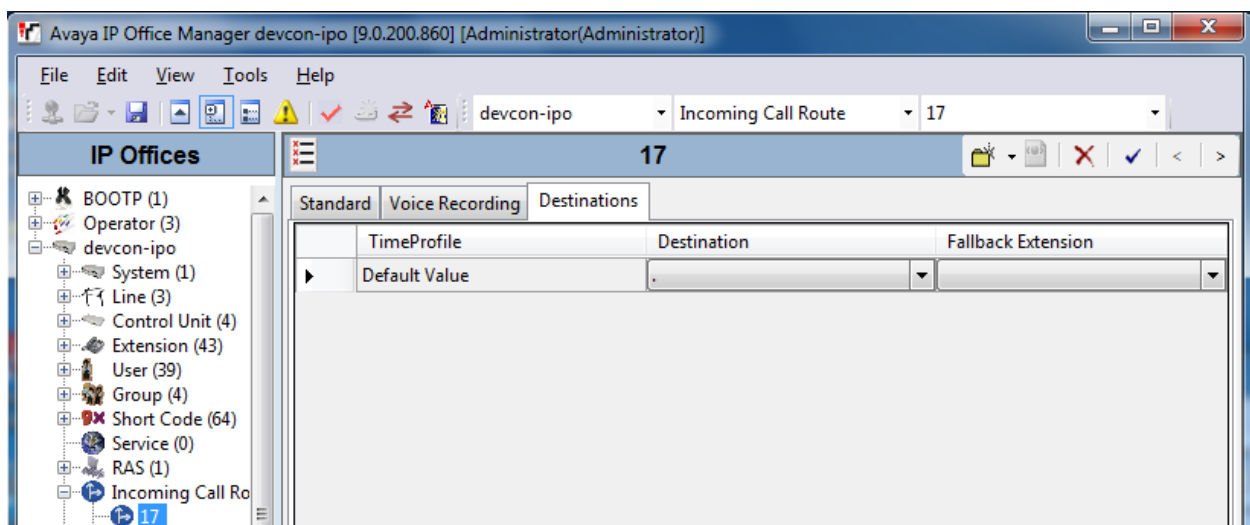


## 5.5. Administer Incoming Call Route

From the configuration tree in the left pane, right-click on **Incoming Call Route**, and select **New** from the pop-up list to add a new route. For **Line Group Id**, select the incoming group number from **Section 5.4**, which corresponds to the SIP line, in this case “17”.



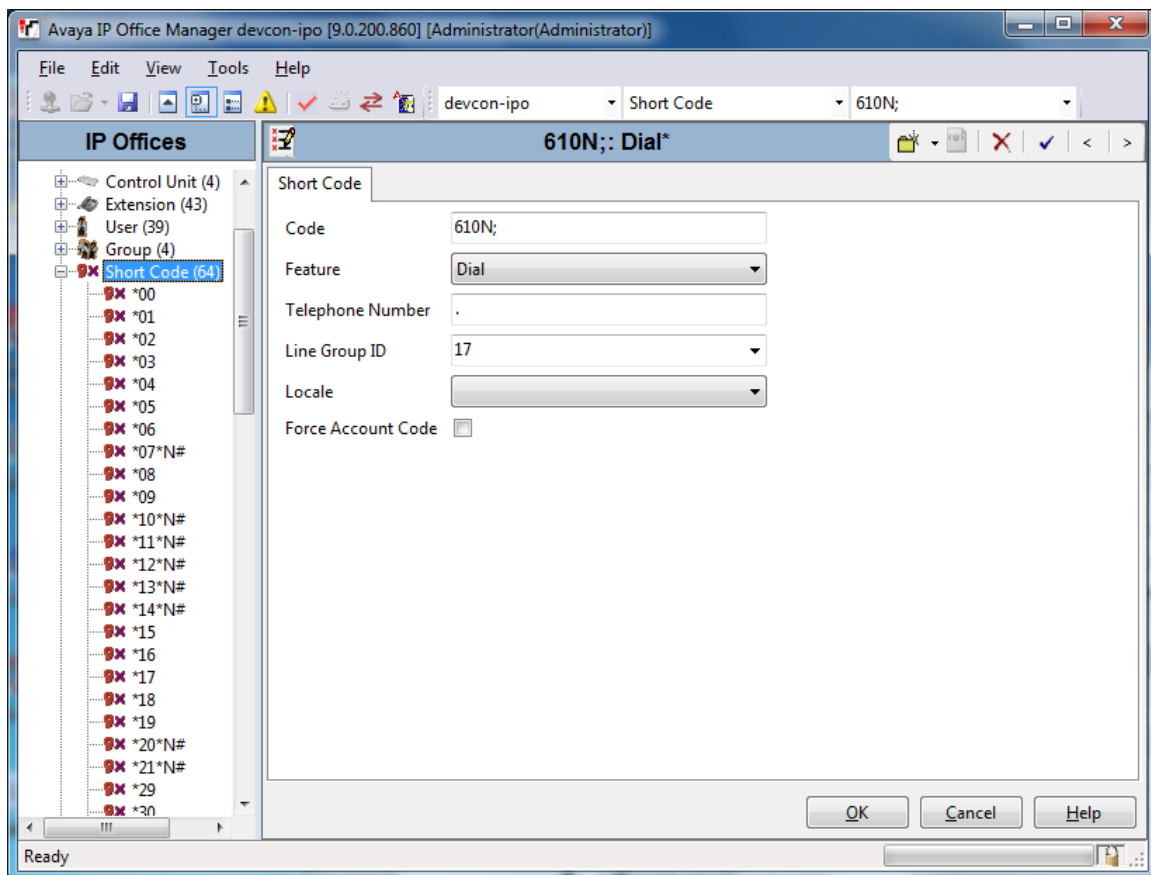
Select the **Destinations** tab. For **Destination**, enter “.” to match any dialed number.



## 5.6. Administer Short Code

From the configuration tree in the left pane, right-click on **Short Code** and select **New** from the pop-up list to add a new short code for calls to SA-Announce. In the compliance testing, extensions were assigned to each notification alert on SA-Announce. For example, 61000 was assigned to the Emergency Alert, 61001 was assigned to an Audio Alert, and 61002 was assigned to a RecordNPlay Alert.

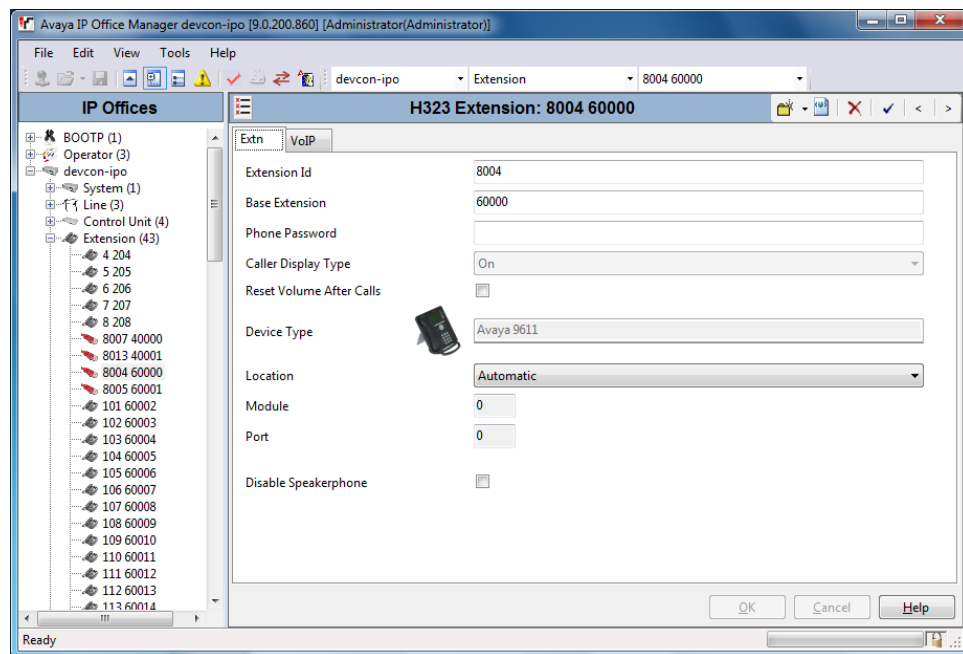
For **Code**, enter “610N;”. For **Feature**, select “Dial” from the drop-down list. For **Telephone Number**, enter “.” to match any number. For **Line Group Id**, enter the outgoing group number from **Section 5.4**, which corresponds to the SIP line.



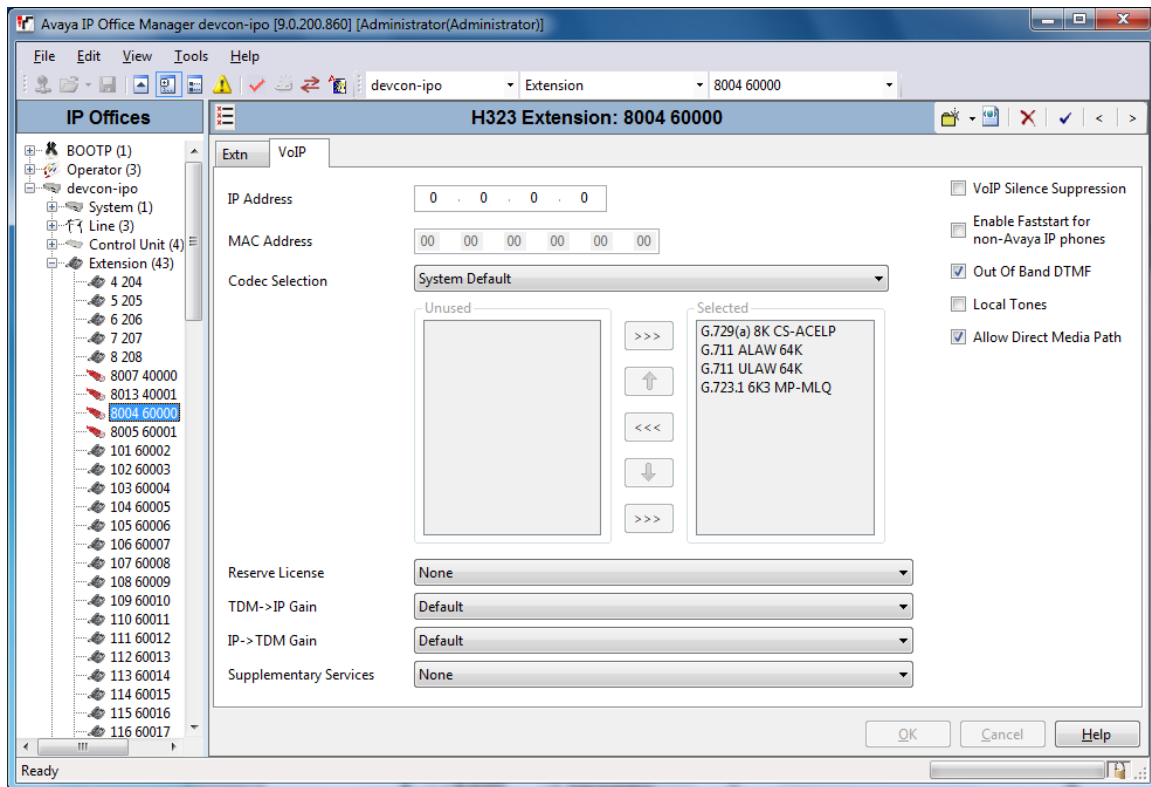
## 5.7. Administer H.323 Stations Subscribing to Syn-Apps SA-Announce

This section covers the configuration of an H.323 station on IP Office. To create a H.323 station, an **Extension** and **User** needs to be added in IP Office.

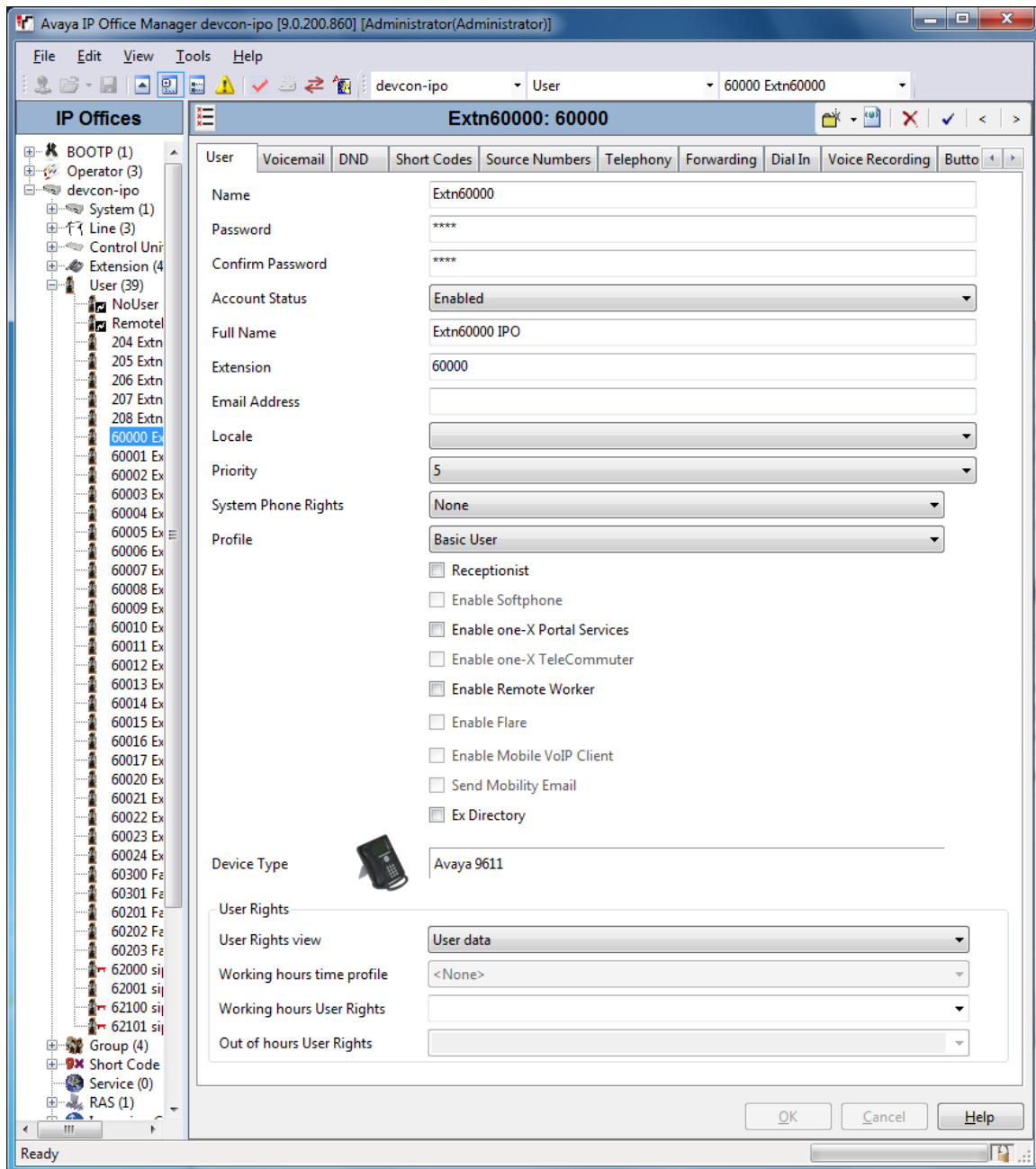
From the configuration tree in the left pane, right-click on **Extension** and select **New → H323 Extension** from the pop-up list to add a new H.323 extension. Enter the desired extension for the **Base Extension** field as shown below. In this example, the H.323 station was assigned extension 60000.



Select the **VoIP** tab and retain the default values in the all fields. During the compliance test, SA-Announce supported the G.711mu-law codec.



From the configuration tree in the left pane, right-click on **User** and select **New** from the pop-up list. Enter desired values for the **Name** and **Full Name** fields. For the **Extension** field, enter the H.323 extension created above. Specify the **Password** used for the station to register with IP Office. Re-enter the password in the **Confirm Password** field. The additional tabs may be customized with additional features for the user.



Repeat the above procedure for each H.323 station that will subscribe to SA-Announce.

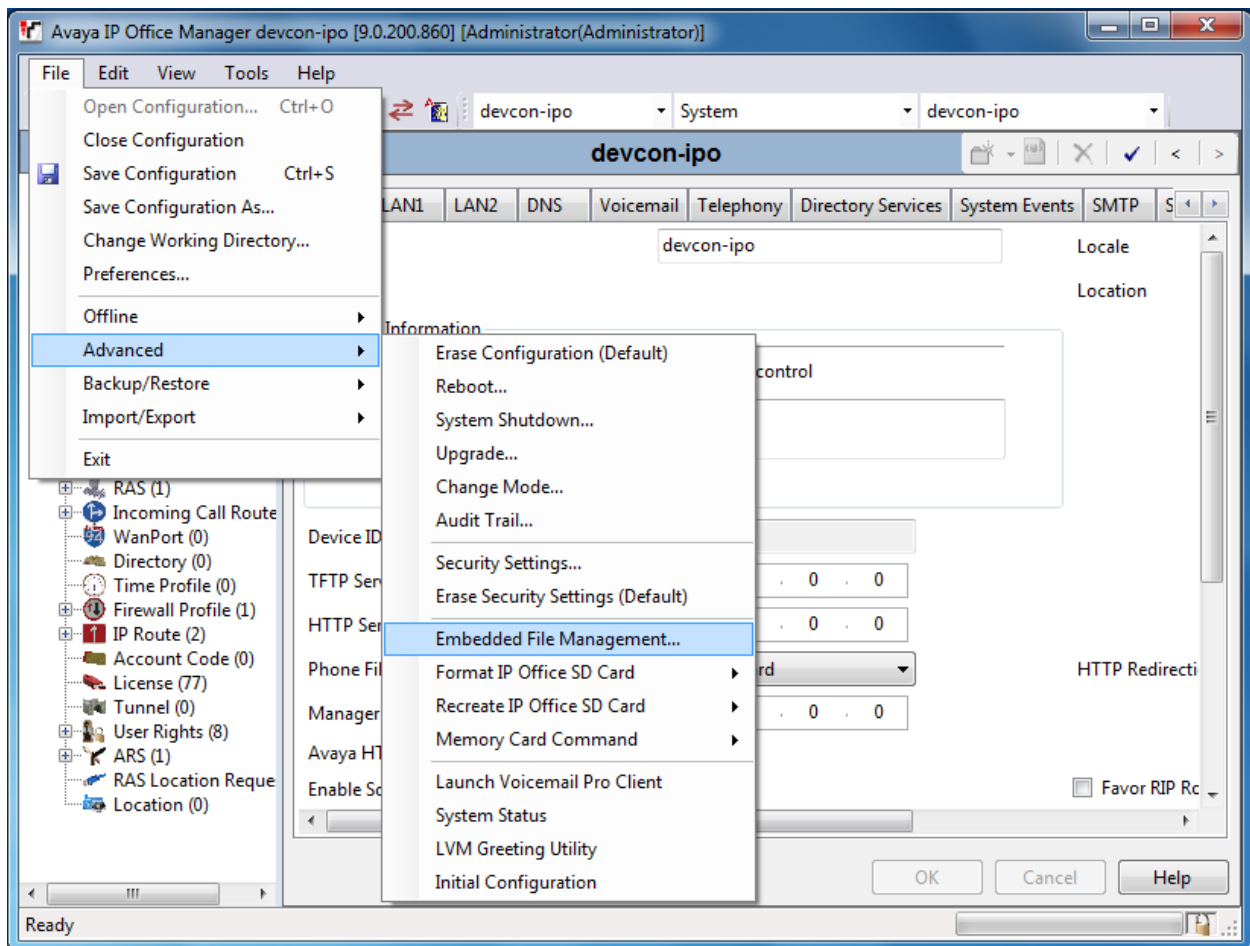
## 6. Configure Avaya 9600 and 96x1 Series IP Deskphones

SA-Announce uses the Avaya Push Interface API to send audio, text, and graphic notifications to Avaya IP deskphones. To authorize SA-Announce as a Trusted Push Server, the Push Interface settings in the **46xxsettings.txt** file must be configured properly. In turn, the Avaya IP deskphones must retrieve those settings during start-up. The procedures include:

- Download and modify the 46xxsettings.txt file.
- Copying the 46xxsettings.txt file to the SD card on Avaya IP Office.
- Setting the HTTP server on the Avaya IP deskphone to the Avaya IP Office IP address.

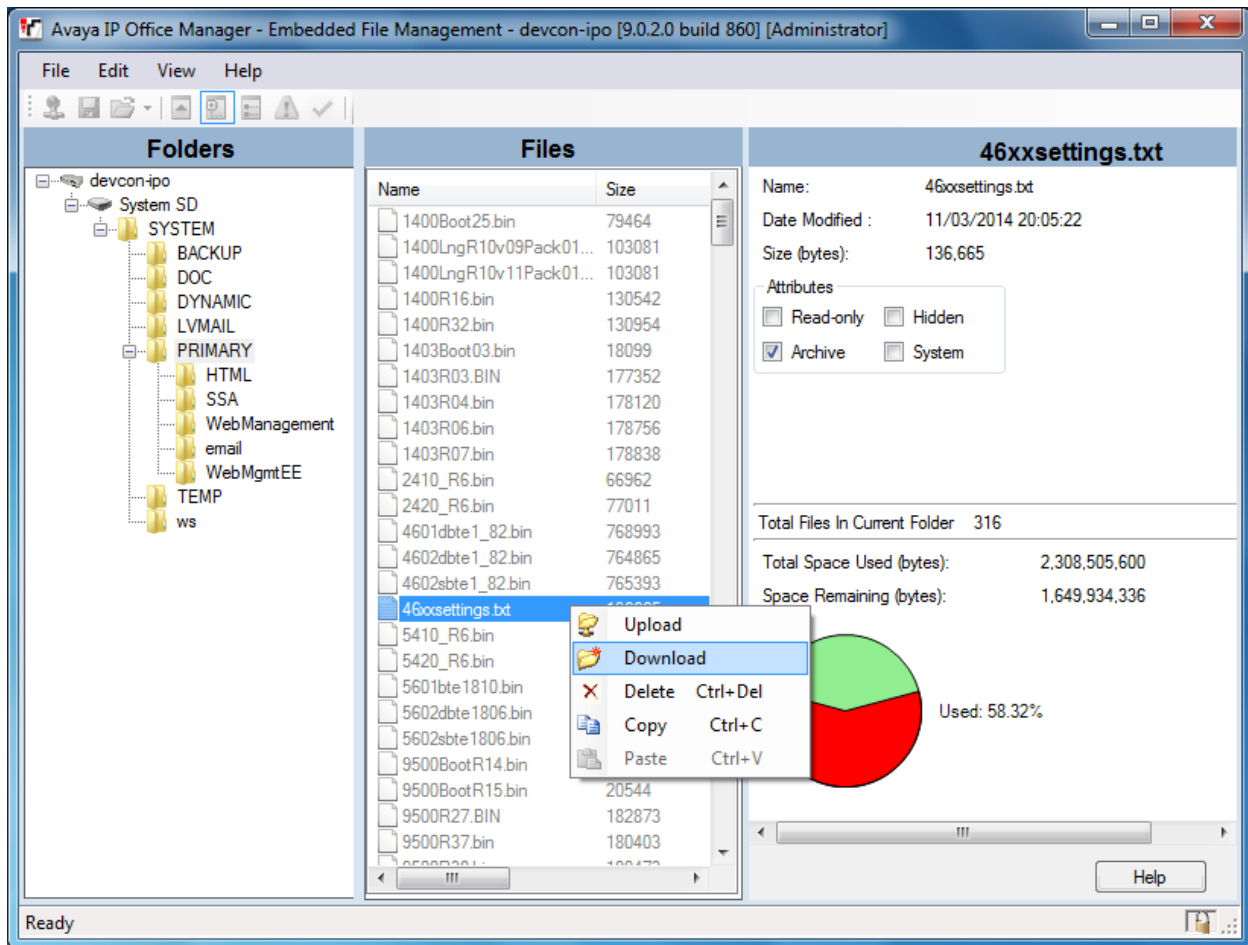
### 6.1. Download and Modify 46xxsettings.txt File

From **Avaya IP Office Manager**, navigate to **File → Advanced → Embedded File Management** as shown below.





In **Embedded File Management**, navigate to **System** → **Primary**. Right-mouse click on the 46xxsettings.txt file as shown in the image below. Download the file to the PC.



On the PC running the Avaya IP Office Manager application, open the 46xxsettings.txt file and locate the PUSH INTERFACE SETTINGS. Edit the following parameters as follows:

- SET TPSLIST 192.168.100.205
- SET SUBSCRIBELIST <http://192.168.100.205/SA-Announce/PhoneServices/AvayaPhoneRegistration.aspx>

**Note:** Use the appropriate SA-Announce IP address and URL that corresponds to the customer's network.

Below are the Push Interface settings in the 46xxsettings.txt file.

```
##### 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 192.168.100.205
##
## The list of all the Subscription Servers.
SET SUBSCRIBELIST http://192.168.100.205/SA-
Announce/PhoneServices/AvayaPhoneRegistration.aspx
##
##
```

Under the 46xx PUSH INTERFACE SETTINGS section, configure the following additional parameters:

- SET PUSHCAP 222
- SET WMLHOME <http://support.avaya.com/elmodocs2/avayaip/9600/home.wml>

**Note:** The WMLHOME parameter may be configured on a per phone type basis in the 46xxsettings.txt file. Make sure that the WMLHOME parameter is set under each phone type in the 46xxsettings.txt file or set the parameter in a section of the file where it would apply to all phone types as shown below. In other words, if the WMLHOME parameter is only set for 9650 phone type, the parameter would not be set for all other phone types, and text and graphic notifications would not be pushed to those phones.

```
##### 46xx PUSH INTERFACE SETTINGS #####
##
## These settings are used to administer the Push interface
##
## The TCP port number for the telephone's HTTP server.
## (80-65535). The default is 80.
## SET PUSHPORT 80
##
## Push capabilities settings. PUSHCAP consists of 3 bits
## (each 0, 1, or 2). The rightmost bit controls the Top
## Line push mode. The middle bit controls the Web
## Browser push mode. The leftmost bit controls the Audio
## push mode.
##
## When PUSHCAP is set to 000, all push modes are disabled
##
## When PUSHCAP is set to 111, barge in only is allowed in
## all push modes.
##
## When PUSHCAP is set to 222, both barge in and normal
## pushes are allowed in all push modes.
SET PUSHCAP 222
SET WMLHOME http://support.avaya.com/elmodocs2/avayaip/9600/home.wml
##
```

After all the updates are made, save the 46xxsettings.txt file.

Return to Embedded File Management and upload the edited 46xxsettings.txt file to the memory card on IP Office.

Set the HTTP server on the Avaya IP deskphones to the IP address of IP Office.

After making the changes, click **File → Save Configuration** from the Manager application for the changes to take effect on IP Office.

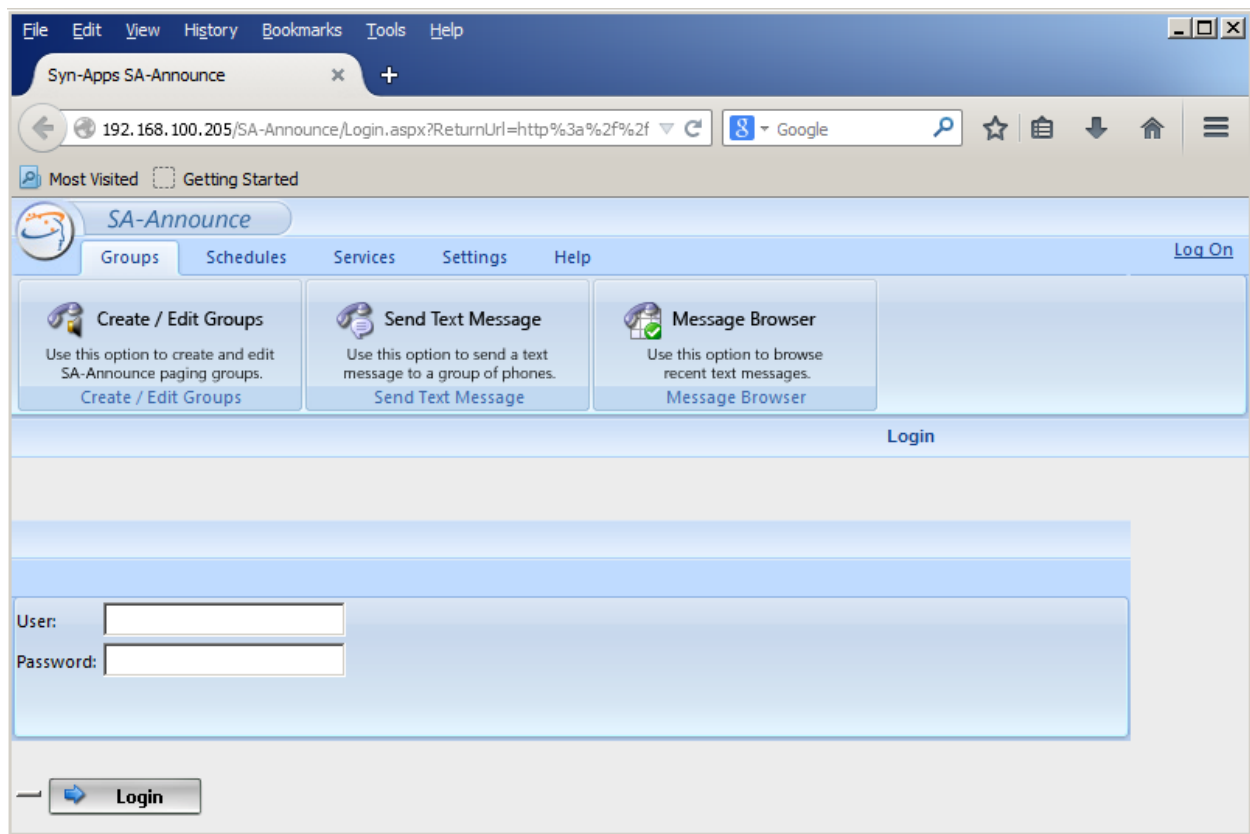
## 7. Configure Syn-Apps SA-Announce

This section provides the procedures for configuring SA-Announce. The procedures include the following areas:

- Configuring SIP trunk parameters
- Specify supported Avaya IP phone types
- Configure Groups

Access the Syn-Apps SA-Announce web interface using the URL “<http://ip-address>” in an Internet browser window, where “ip-address” is the IP address of the SA-Announce server. Log in using the appropriate credentials.

Refer to [2] for additional information on configuring SA-Announce.



## 7.1. Configure SIP Trunk Parameters

Navigate to **Services → Broadcast Services → Advanced Settings** to configure SIP trunk parameters. Select *sipTransportType* in the **Select a Setting** field as shown below. Set the **Setting Value** field to *udp*. Click **Save**.

The screenshot shows the SA-Announce web interface. At the top, there is a navigation bar with tabs for Groups, Schedules, Services, Settings, and Help. A 'Log Off administrator' link is on the right. Below the navigation bar, there are two main sections: 'Broadcast Services' and 'Server Redundancy'. The 'Broadcast Services' section is active, showing a description and a link to 'Broadcast Services'. Below this, there is a breadcrumb trail: 'Services >> Broadcast Services'. A secondary navigation bar contains tabs for Services, Settings, Email Settings, Amber Alert, Weather Alert, Advanced Settings (which is selected), and Log Level. The main content area is titled 'Manage the Services and Settings...' and contains a section for 'Advanced Settings'. A warning icon and text are displayed: 'WARNING: Changing advanced settings can cause system instability. Generally these settings should not be altered except when directed by support or the manual. Some setting changes require further action be taken in order for the setting change to take affect (IE Broadcaster Service Restart), these will be noted in the description.' Below the warning, there is a form for configuring settings. The 'Select a Setting:' dropdown menu is set to 'sipTransportType'. The 'Setting Description:' text reads: 'The SIP transport type (Allowed values: udp, tcp). (default: udp) Broadcaster Restart Required'. The 'Setting Value:' text input field contains 'udp'. A 'Save' button with a blue arrow icon is located to the right of the input field.

SA-Announce

Groups Schedules Services Settings Help Log Off administrator

Broadcast Services  
Use this option to manage the broadcaster and scheduler services.  
Broadcast Services


Server Redundancy  
Use this option to manage servers in the cluster.  
Server Redundancy

Services >> Broadcast Services

Services Settings Email Settings Amber Alert Weather Alert Advanced Settings Log Level

Manage the Services and Settings...

Advanced Settings

 WARNING: Changing advanced settings can cause system instability. Generally these settings should not be altered except when directed by support or the manual. Some setting changes require further action be taken in order for the setting change to take affect (IE Broadcaster Service Restart), these will be noted in the description.

Select a Setting: sipTransportType

Setting Description: The SIP transport type (Allowed values: udp, tcp).  
(default: udp)  
**Broadcaster Restart Required**

Setting Value: udp Save

Next, select *sipStartMediaOnAnswer* in the **Select a Setting** field and set the **Setting Value** field to *False* as shown below. Click **Save**.

The screenshot shows the SA-Announce web interface. At the top, there is a navigation bar with tabs for Groups, Schedules, Services, Settings, and Help. The 'Services' tab is selected. Below the navigation bar, there are two main sections: 'Broadcast Services' and 'Server Redundancy'. The 'Broadcast Services' section is active, showing a warning icon and a message: 'WARNING: Changing advanced settings can cause system instability. Generally these settings should not be altered except when directed by support or the manual. Some setting changes require further action be taken in order for the setting change to take affect (IE Broadcaster Service Restart), these will be noted in the description.'

Below the warning, there is a form for configuring settings. The 'Select a Setting:' dropdown menu is set to 'sipStartMediaOnAnswer'. The 'Setting Description:' field contains the text: 'If on the SIP engine will startMedia when onAnswer is hit, otherwise when onConnected is hit. Set to true on Avaya systems that have shuffling turned on (Allowed values: true, false). (default: false)'. The 'Setting Value:' field is set to 'False'. A 'Save' button is located at the bottom right of the form.

Finally, select *sipStartMediaOnSecondAnswer* in the **Select a Setting** field and set the **Setting Value** field to *False* as shown below. Click **Save**.

The screenshot shows the SA-Announce web interface. At the top, there is a navigation bar with links for Groups, Schedules, Services, Settings, and Help. A 'Log Off administrator' link is also present. Below the navigation bar, there are two main sections: 'Broadcast Services' and 'Server Redundancy'. The 'Broadcast Services' section is active, showing a description and a link to 'Broadcast Services'. The 'Server Redundancy' section is also visible. Below these sections, there is a breadcrumb trail: 'Services >> Broadcast Services'. A secondary navigation bar contains links for Services, Settings, Email Settings, Amber Alert, Weather Alert, Advanced Settings, and Log Level. The 'Advanced Settings' link is selected. The main content area is titled 'Manage the Services and Settings...' and 'Advanced Settings'. A warning icon is displayed, followed by a warning message: 'WARNING: Changing advanced settings can cause system instability. Generally these settings should not be altered except when directed by support or the manual. Some setting changes require further action be taken in order for the setting change to take affect (IE Broadcaster Service Restart), these will be noted in the description.' Below the warning, there is a form for configuring a setting. The 'Select a Setting:' dropdown menu is set to 'sipStartMediaOnSecondAnswer'. The 'Setting Description:' text reads: 'If on the SIP engine will startMedia when onAnswer is hit the second time, otherwise on the first onAnswer. Set to on for Avaya systems that have shuffling turned on (Allowed values: true, false). (default: false)'. The 'Setting Value:' text input field contains the value 'False'. A 'Save' button with a blue arrow icon is located at the bottom right of the form.

SA-Announce

Groups Schedules Services Settings Help [Log Off administrator](#)

**Broadcast Services**  
Use this option to manage the broadcaster and scheduler services.  
[Broadcast Services](#)


**Server Redundancy**  
Use this option to manage servers in the cluster.  
[Server Redundancy](#)

Services >> Broadcast Services

Services Settings Email Settings Amber Alert Weather Alert **Advanced Settings** Log Level

Manage the Services and Settings...

Advanced Settings



WARNING: Changing advanced settings can cause system instability. Generally these settings should not be altered except when directed by support or the manual. Some setting changes require further action be taken in order for the setting change to take affect (IE Broadcaster Service Restart), these will be noted in the description.

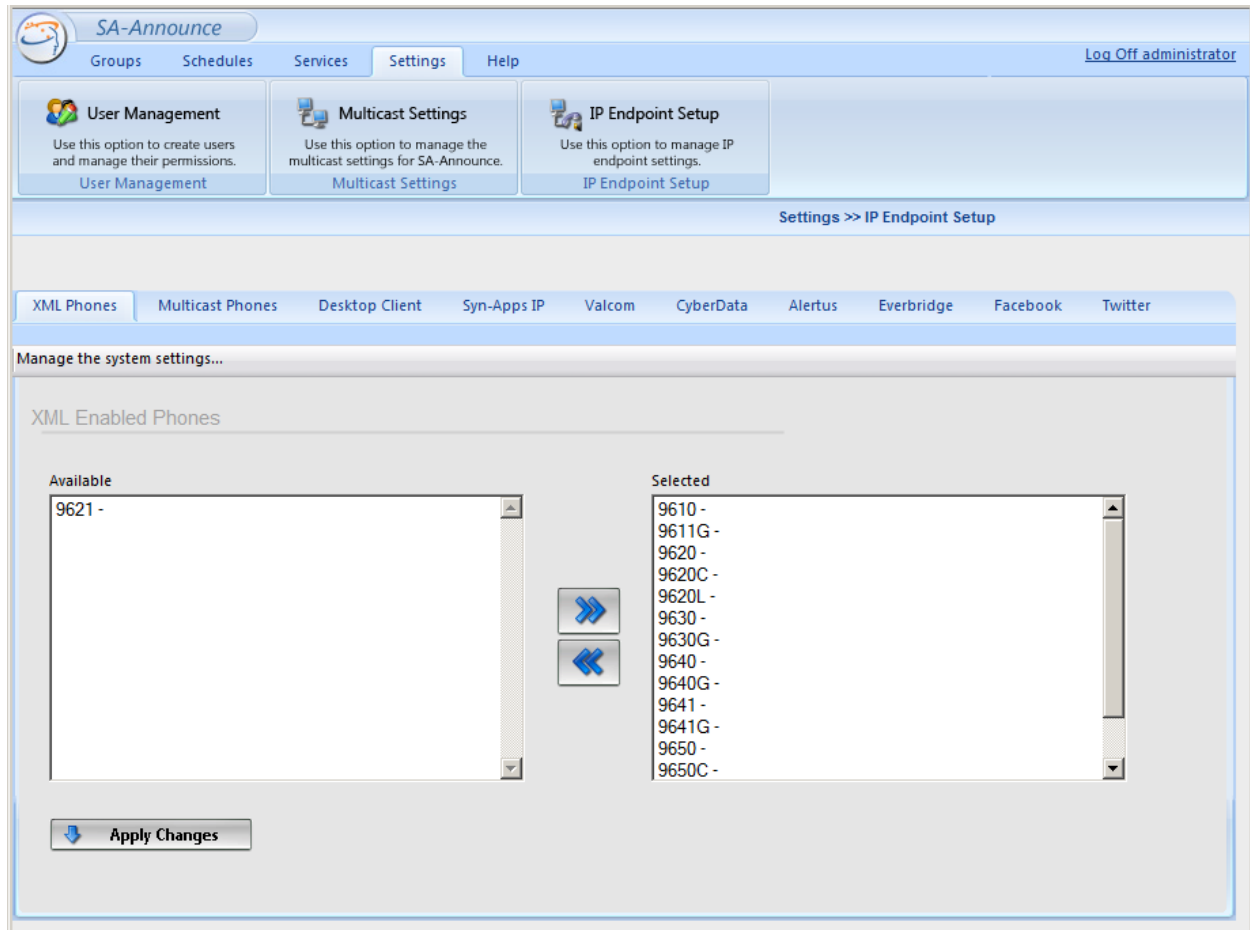
Select a Setting:

Setting Description: If on the SIP engine will startMedia when onAnswer is hit the second time, otherwise on the first onAnswer. Set to on for Avaya systems that have shuffling turned on (Allowed values: true, false).  
(default: false)

Setting Value:  [Save](#)

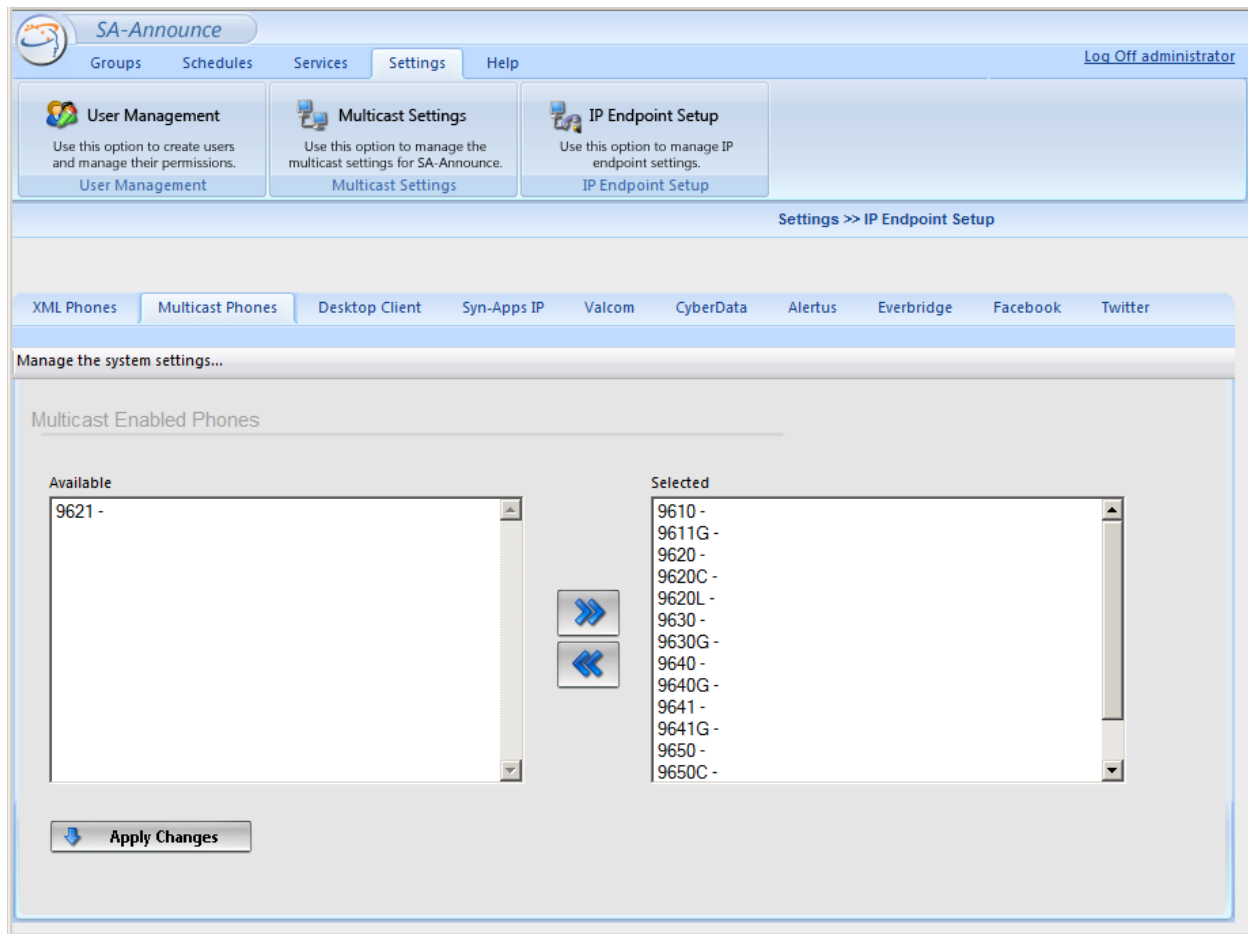
## 7.2. Specify Supported Avaya IP Phone Types

Specify the Avaya IP phone types that will receive SA-Announce notifications using the Push API. Navigate to **Settings** → **IP Endpoint Setup** → **XML Phones** and select the phone types in the **Available** section and move them to the **Selected** section. Click **Apply Changes**.





Specify the Avaya IP phone types that will receive SA-Announce notifications via multicast traffic. Navigate to **Settings** → **IP Endpoint Setup** → **Multicast Phones** and select the phone types in the **Available** section and move them to the **Selected** section. Click **Apply Changes**.



## 7.3. Configure Groups

This section covers the configuration of notification groups, including: Emergency, Audio, and RecordNPlay Alerts. Navigate to **Groups → Create / Edit Groups**. Click on **New Group** to add a group of IP endpoints that will receive this alert when triggered. Note that the configuration below is displayed after the group had already been added. To add an Emergency Alert, provide a **Group Name** (e.g., *Emergency Alert – 61000*). Set the **Group Type** to *Emergency Alert* and specify the **Line Number** (e.g., *61000*). When 61000 is dialed, the call is routed over the SIP trunk to SA-Announce. Based on the dialed number, SA-Announce will trigger this Emergency Alert. Under **Misc Settings**, the **Emergency** checkbox is selected so that this emergency alert would interrupt any active calls on phones that receive this alert. This Emergency Alert was also configured for **Amber Alerts** and **Weather Alerts**. Under **Emergency Alert Settings**, **Timed Mode** was selected and set to '1' so that the recording specified in the **Wav File to Play** field would play one time only. In addition, SA-Announce would push the text in the **Text to Send** field to the phone displays.

The screenshot displays the SA-Announce web application interface. At the top, there is a navigation bar with tabs for Groups, Schedules, Services, Settings, and Help. Below this is a toolbar with three main actions: 'Create / Edit Groups', 'Send Text Message', and 'Message Browser'. The main content area is titled 'Groups >> Create / Edit Groups'. It features a sub-navigation bar with tabs for General, Email, IP Phones, Desktop Clients, IP Speakers, Paging Relays, and Legacy IP. The 'General' tab is active, showing the configuration for a group named 'Emergency Alert - 61000'. The configuration is divided into several sections: 'Group General Settings' with fields for 'Group Type' (set to 'Emergency Alert'), 'Server Group' (set to '<None>'), and 'Group Phone' (with 'Line Number' set to '61000'); 'Misc Settings' with checkboxes for 'Use Security Code', 'Send Caller-Id', and 'Emergency' (checked); 'Emergency Alert Settings' with checkboxes for 'Alert Mode', 'Voice Mode', 'Play Once', and 'Timed Mode' (checked and set to '1'), a 'Wav File to Play' dropdown (set to 'SevereWeatherAlert.wav'), and a 'Text to Send' text area containing the message 'This is an Emergency Alert. This is only a test...'. On the right side of the 'Emergency Alert Settings' section, there are checkboxes for 'Amber Alerts' (checked, with number '07738') and 'Weather Alerts' (checked, with number '034025' and a 'FIPS' link). At the bottom of the interface is a toolbar with buttons for 'New Group', 'Copy Group', 'Save Group', 'Delete Group', 'Test Group', and 'Restart'.

Next, navigate to the **IP Phones** tab, select the IP office extensions that should receive the Emergency Alerts as shown below.

SA-Announce

Groups Schedules Services Settings Help Log Off administrator

Create / Edit Groups  
Use this option to create and edit SA-Announce paging groups.  
Create / Edit Groups

Send Text Message  
Use this option to send a text message to a group of phones.  
Send Text Message

Message Browser  
Use this option to browse recent text messages.  
Message Browser

Groups >> Create / Edit Groups

General Email **IP Phones** Desktop Clients IP Speakers Paging Relays Legacy IP

Select Group To Edit: Emergency Alert - 61000

Group IP Phones

Dynamic Group: ☐  
(filter controls group target devices)

Arrange List By: Extension

Filter:  Filter

Extension / Name / Description / Site Ex: 28 to view extensions containing 28

Available

- 77301 / 00:1B:4F:55:70:09 / 9620D03C / Default
- Extension Not Set / 00:1B:4F:74:CF:ED / 9611GD01A / D

Selected

- 60000 / 2C:F4:C5:F8:DE:68 / 9611GD01A / Default
- 60001 / 00:04:0D:EB:FC:BE / 9620D01A / Default
- 60020 / 3C:B1:5B:5F:97:EF / 9641GD01A / Default
- 60021 / 2C:F4:C5:4B:C1:A7 / 9650D01A / Default
- 60023 / 00:04:0D:ED:E6:54 / 9630D01A / Default
- 60024 / 2C:F4:C5:F6:69:A5 / 9621GD01A / Default

New Group Copy Group Save Group Delete Group Test Group Restart

Lastly, in the **IP Speakers** tab, select the V2 Ceiling Speaker so that the emergency audio announcement would be heard over the speaker. Click **Save Group**.

**Note:** The configuration of the V2 Ceiling Speaker is outside the scope of these Application Notes. Please refer to [2] for instructions.

The screenshot displays the SA-Announce web application interface. At the top, there is a navigation bar with tabs for Groups, Schedules, Services, Settings, and Help. Below this, there are three main action buttons: 'Create / Edit Groups', 'Send Text Message', and 'Message Browser'. The 'Groups' tab is selected, and the 'Create / Edit Groups' sub-tab is active. The 'Select Group To Edit:' dropdown menu shows 'Emergency Alert - 61000'. The 'Group IP Speakers' section is visible, with a 'Dynamic Group' checkbox and a 'Filter' button. The 'Arrange List By:' dropdown is set to 'Name'. Below this, there are two lists: 'Available' and 'Selected'. The 'Selected' list contains one entry: '00:20:f7:00:ab:f9 // Ceiling Speaker v2 / 192.168.100.191'. At the bottom, there are several action buttons: 'New Group', 'Copy Group', 'Save Group', 'Delete Group', 'Test Group', and 'Restart'.

The procedure for adding a Normal and RecordNPlay notification is similar to the Emergency Alert, except for the **General** tab, which is shown below. The **IP Phones** and **IP Speakers** tabs should also be configured as shown above.

Below is an example of a Normal group, which allows a real-time audio message to be delivered directly to the Avaya IP deskphones and V2 Ceiling Speaker.

The screenshot displays the SA-Announce web application interface. At the top, there is a navigation bar with tabs for Groups, Schedules, Services, Settings, and Help. A 'Log Off administrator' link is located on the right. Below the navigation bar, there are three main action buttons: 'Create / Edit Groups', 'Send Text Message', and 'Message Browser'. The 'Create / Edit Groups' button is selected, and the page title is 'Groups >> Create / Edit Groups'.

The main content area is divided into several tabs: General, Email, IP Phones, Desktop Clients, IP Speakers, Paging Relays, and Legacy IP. The 'General' tab is active. A dropdown menu labeled 'Select Group To Edit:' shows 'Normal Group - 61001'.

The 'Group General Settings' section includes the following fields:

- Group Type: Normal (id = 2)
- Server Group: <None>
- Group Phone: Line Number: 61001
- Group Opening Tone: Select Tone: <None>

The 'Misc Settings' section includes the following checkboxes:

- Use Security Code: ☐
- Send Caller-Id: ☐
- Emergency: ☐

At the bottom of the page, there are five buttons: New Group, Copy Group, Save Group, Delete Group, and Restart.

Below is an example of a RecordNPlay group, which allows an audio message to be recorded and then delivered directly to the Avaya IP deskphones and V2 Ceiling Speaker.

The screenshot displays the SA-Announce web application interface. At the top, there is a navigation bar with tabs for Groups, Schedules, Services, Settings, and Help. A 'Log Off administrator' link is located in the top right corner. Below the navigation bar, there are three main action buttons: 'Create / Edit Groups', 'Send Text Message', and 'Message Browser'. The 'Create / Edit Groups' button is selected, and a breadcrumb trail shows 'Groups >> Create / Edit Groups'.

The main content area is titled 'Create / Edit Groups' and features a sub-navigation bar with tabs for General, Email, IP Phones, Desktop Clients, IP Speakers, Paging Relays, and Legacy IP. The 'General' tab is active. A dropdown menu labeled 'Select Group To Edit:' shows 'Record-N-Play - 61002'.

The configuration form for the selected group includes the following sections:

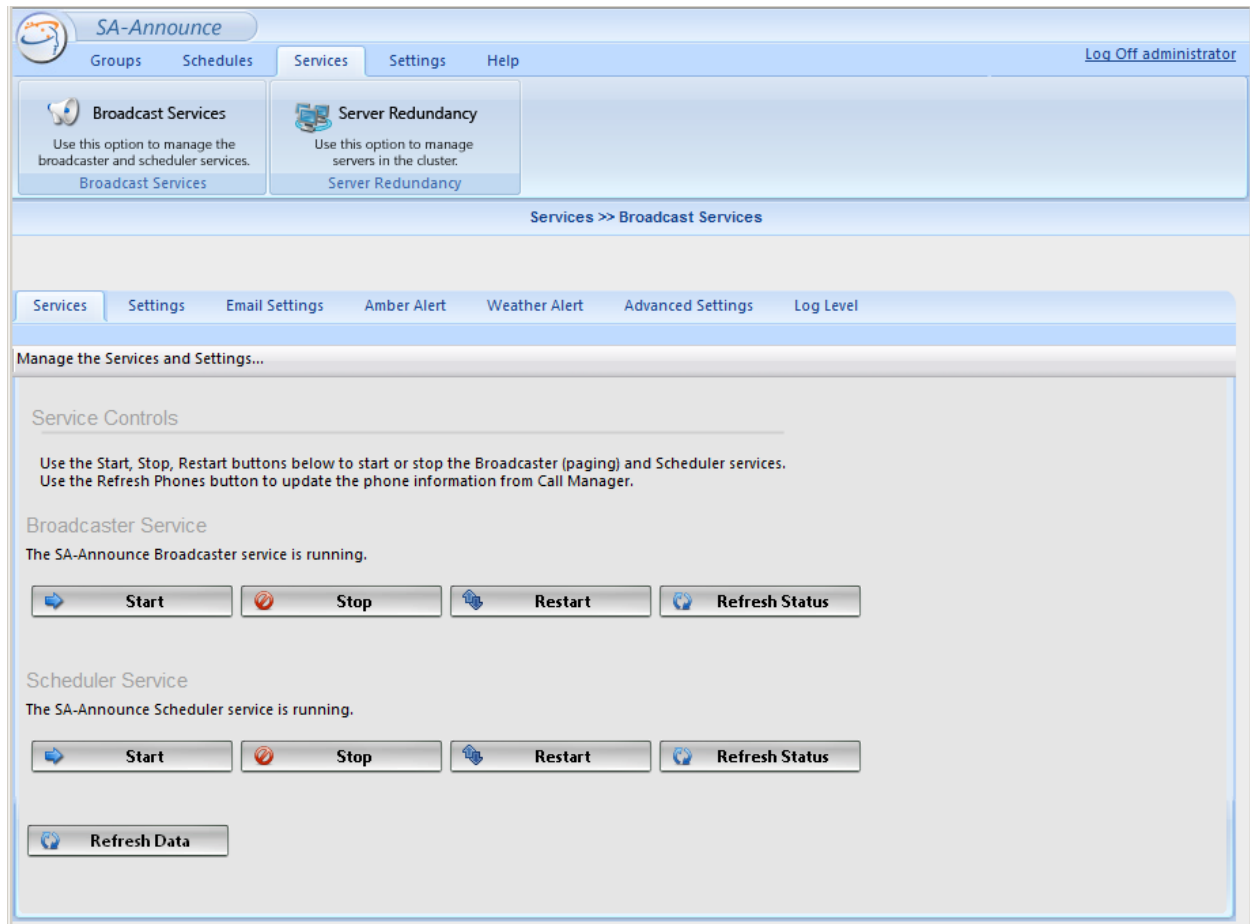
- Group General Settings:**
  - Group Type:** A dropdown menu set to 'RecordNPlay' with '(id = 3)' next to it.
  - Server Group:** A dropdown menu set to '<None>'.
- Group Phone:**
  - Line Number:** A text input field containing '61002'.
- Group Opening Tone:**
  - Select Tone:** A dropdown menu set to '<None>'.
- Misc Settings:**
  - Use Security Code:** ☐
  - Send Caller-Id:** ☐
  - Emergency:** ☐

At the bottom of the form, there are five buttons: 'New Group', 'Copy Group', 'Save Group', 'Delete Group', and 'Restart'.

## 8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and Syn-Apps SA-Announce.

1. In the SA-Announce web interface, navigate to **Services** → **Broadcast Services** → **Services** and verify that the **Broadcaster** and **Scheduler Services** are *running* as shown below.



2. Launch **Avaya IP Office System Status** and log in using the appropriate credentials. The **IP Office System Status** screen is displayed. Expand **Trunks** in the left pane and select the SIP line from **Section 5.4**, in this case “17”. Verify that the SIP trunks are in the *Idle* state as shown below.

**AVAYA IP Office System Status**

Help Snapshot LogOff Exit About

**System**  
**Alarms (9)**  
**Extensions (14)**  
**Trunks (3)**  
 Line: 1  
 Line: 2  
**Line: 17**  
 Active Calls  
 Resources  
 Voicemail  
 IP Networking  
 Locations

**Status** Utilization Summary Alarms

**SIP Trunk Summary**

Peer Domain Name: sip://192.168.100.205  
 Resolved Address: 192.168.100.205  
 Line Number: 17  
 Number of Administered Channels: 8  
 Number of Channels in Use: 0  
 Administered Compression: G711 Mu  
 Silence Suppression: Off  
 Layer 4 Protocol: UDP  
 SIP Trunk Channel Licenses: Unlimited  
 SIP Trunk Channel Licenses in Use: 0  
 SIP Device Features:

0%

Channel Number	U...	Call Ref	Current State	Time in State	Re...	Co...	Conn...	Caller ID or ...	Other Party on Call	Direct...	Round Trip ...	Receive Jitter	Receive Pack...	Trans...	Trans...
1			Idle	02:29:11											
2			Idle	04:14:39											
3			Idle	04:14:39											
4			Idle	04:14:39											
5			Idle	04:14:39											
6			Idle	04:14:39											
7			Idle	04:14:39											
8			Idle	04:14:39											

Trace Trace All Pause Ping Call Details Print... Save As...

Refresh after config change done. 2:19:52 PM Online

3. Place a call to an SA-Announce group and verify that the appropriate alert is sent to the Avaya IP deskphones that are configured to receive them via the Push interface.



## 9. Conclusion

These Application Notes describe the steps required to integrate Syn-Apps SA-Announce with Avaya IP Office and Avaya 9600 and 96x1 Series IP Deskphones. Syn-Apps SA-Announce delivered audio, text, and graphic notification to Avaya 9600 and 96x1 IP Deskphones using the Push Interface API. All test cases passed with observations noted in **Section 2.2**.

## 10. References

This section references the Avaya documentation relevant to these Application Notes. The Avaya product documentation is available at <http://support.avaya.com>.

- [1] *Avaya IP Office Manager*, Release 9.0, Issue 9.01, September 2013, Document Number 15-601011.
- [2] *Syn-Apps SA-Announce Notification System User Manual for Avaya® Version 9.0.13*, available at <http://www.syn-aps.com/support>.

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