



Avaya Solution & Interoperability Test Lab

Application Notes for Deploying a Speech Attendant Using Avaya Interactive Response and Nuance OpenSpeech Attendant– Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Nuance OpenSpeech Attendant to successfully interoperate with Avaya Interactive Response. Nuance OpenSpeech Attendant allows callers to speak the name of a person, department, service, or location and be automatically transferred to the requested party. OpenSpeech Attendant can route callers through menu-driven options and provide frequently requested information such as operating hours, mailing address, and driving directions. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the configuration for the compliance test between Avaya Interactive Response and Nuance OpenSpeech Attendant (OSA).

Figure 1 provides an overview of the OpenSpeech Attendant solution consisting of Avaya Interactive Response, Avaya Communication Manager, Nuance speech recognizer and Nuance OpenSpeech Attendant. The OSA runs on a dedicated application server, running Windows 2003 Server. The Avaya Interactive Response system interfaced to Avaya Communication Manager using T1-PRI QSIG. Avaya Interactive Response system also manages the interactions with the speech and text recognizer's resources used by the VXML applications. VXML pages generated by the OSA system are loaded and interpreted by Avaya Interactive Response system, which in turn controls the interaction with the user. In order to access the VXML applications which reside in the OSA server, a voice channel in the IR must configure to invoke the VXML application using HTTP request when an incoming call terminates at that channel.

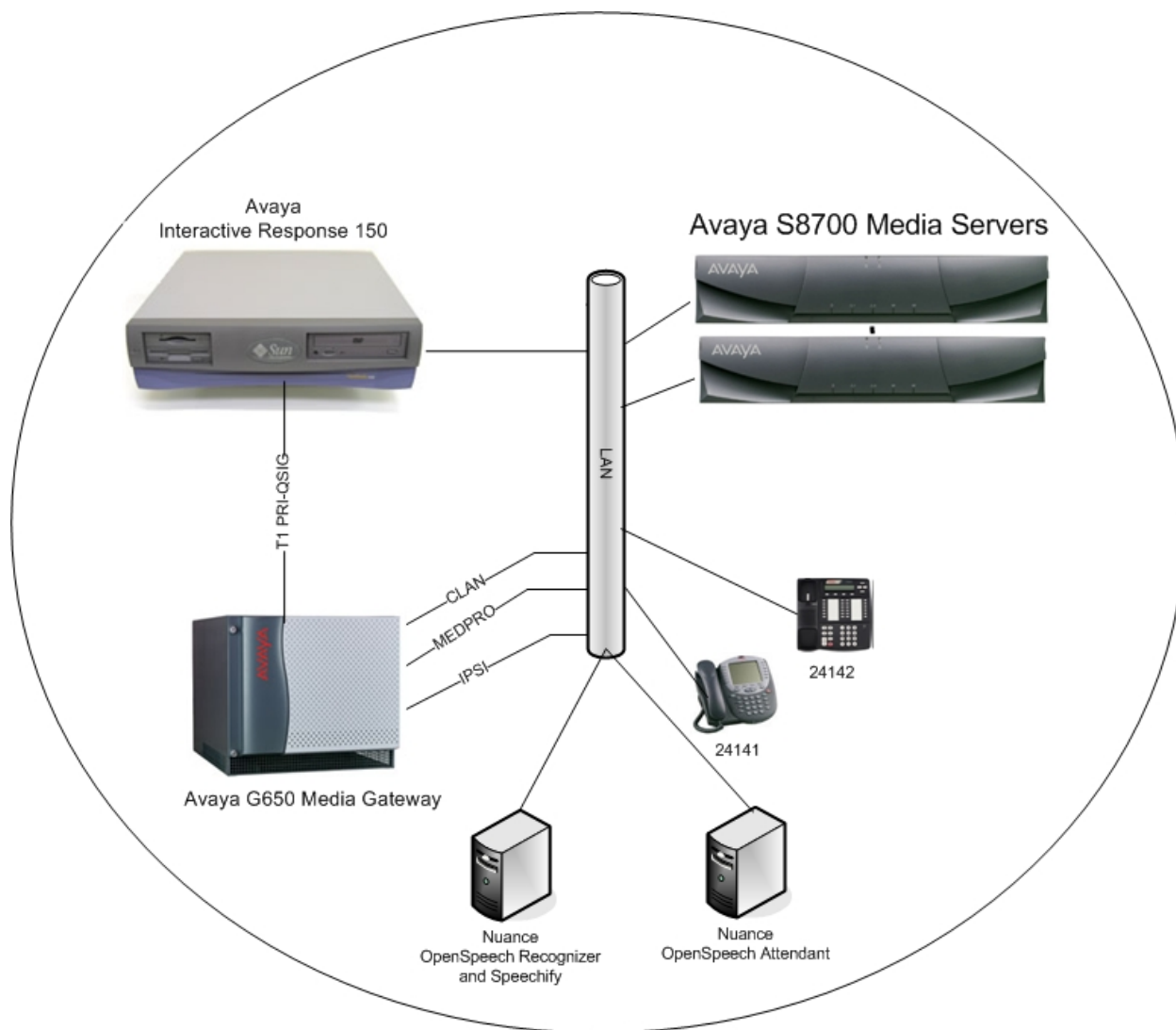


Figure 1: Compliance Test Configuration

2. Equipment and Software Validated

The following equipment and software/firmware were used for the test configuration provided.

Equipment	Software/Firmware
Avaya S8700 Media Server with G650 Media Gateway	Avaya Communication Manager 3.0.1 (R013x.00.1.346.0)
Avaya Interactive Response	1.3
Avaya 4620 IP Phone	Release 2.3
Avaya 4624 IP Phone	Release 2.3
Avaya Interactive Response Packages	AVvoicxml2-0 AVxfer

Equipment	Software/Firmware
	AVosr204 AVsproxy AVsrproxy AVttsprxy
Avaya Interactive Response Patches	tsm13001 nms13005 ir13005 xfer13002 o2041300 vxml2013007 sc13002 wadm13001
Nuance OpenSpeech Attendant	2.1
Nuance OpenSpeech Recognizer	3.0.4
Nuance Speechify	3.0.4

3. Configuring the Avaya Interactive Response

The following steps show how to configure Avaya Interactive Response to invoke the Nuance VoiceXML application. These Application Notes do not explain how to configure the T1 PRI-QSIG integration between Avaya Interactive Response and Avaya Communication Manager. The configuration for the Scansoft OpenSpeech Recognizer is not included in this Application Notes.

Step	Description
1.	Log in to the Avaya Interactive Response web console.
2.	Click on the Channel Services under the Voice Equipment group. <ul style="list-style-type: none"> • Voice Equipment <ul style="list-style-type: none"> ○ Display Equipment ○ Equipment State ○ Channels to Groups ○ Phone Number ○ Display Passwords ○ Voice Services <ul style="list-style-type: none"> ■ Channel Services ■ Number Services
3.	Click on the Assign Selected button.

Channel Services

Select	Chan	Service/URI	Type	Startup Service/URI	Type
<input type="checkbox"/>	0	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	1	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	2	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	3	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	4	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	5	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	6	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	7	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	8	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
<input type="checkbox"/>	9	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned

< Prev

Channel Range: (0-9)

Next >

Display 10 channels.

Select All

Assign Selected

Unassign Selected

Refresh

4.

Select **VXML URI** for **Assign**. Enter the **URI** of the Nuance OpenSpeech Attendant voice application. An example of the Nuance OpenSpeech Attendant is <http://192.45.121.200:8080/OpenSpeech/Attendant/servlet/aa> . Enter the range of channels assigned to use this voice application. Click **Submit**.

Assign Services to Channels

Assign: VXML URI

URI: http://192.45.121.200:8080/OpenSpeech/Attendant/servVerify

To Chan(s): 0-23

Submit

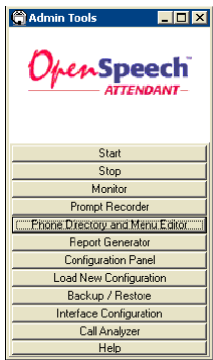
Reset

Cancel

Step	Description																																				
5.	<p>The channel service page should display all the channels associated with the Nuance voice application. The screen capture below displays a partial view of all the channel services.</p> <p style="text-align: center;">Channel Services</p> <table><tr><th>Select</th><th>Chan</th><th>Service/URI</th><th>Type</th><th>Startup Service/URI</th><th>Type</th></tr><tr><td><input type="checkbox"/></td><td>0</td><td>http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?</td><td>VXML</td><td>-</td><td>unassigned</td></tr><tr><td><input type="checkbox"/></td><td>1</td><td>http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?</td><td>VXML</td><td>-</td><td>unassigned</td></tr><tr><td><input type="checkbox"/></td><td>2</td><td>http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?</td><td>VXML</td><td>-</td><td>unassigned</td></tr><tr><td><input type="checkbox"/></td><td>3</td><td>http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?</td><td>VXML</td><td>-</td><td>unassigned</td></tr><tr><td><input type="checkbox"/></td><td>4</td><td>http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?</td><td>VXML</td><td>-</td><td>unassigned</td></tr></table>	Select	Chan	Service/URI	Type	Startup Service/URI	Type	<input type="checkbox"/>	0	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned	<input type="checkbox"/>	1	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned	<input type="checkbox"/>	2	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned	<input type="checkbox"/>	3	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned	<input type="checkbox"/>	4	http://192.45.30.234:8080/OpenSpeech/Attendant/servlet/aa?	VXML	-	unassigned
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4. Configure Nuance OpenSpeech Attendant

The OpenSpeech Attendant is a turnkey solution that comprises the OpenSpeech Attendant application software pre-installed on a server running Windows Server 2003. This section describes how to configure the OpenSpeech Attendant application.

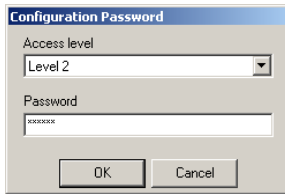
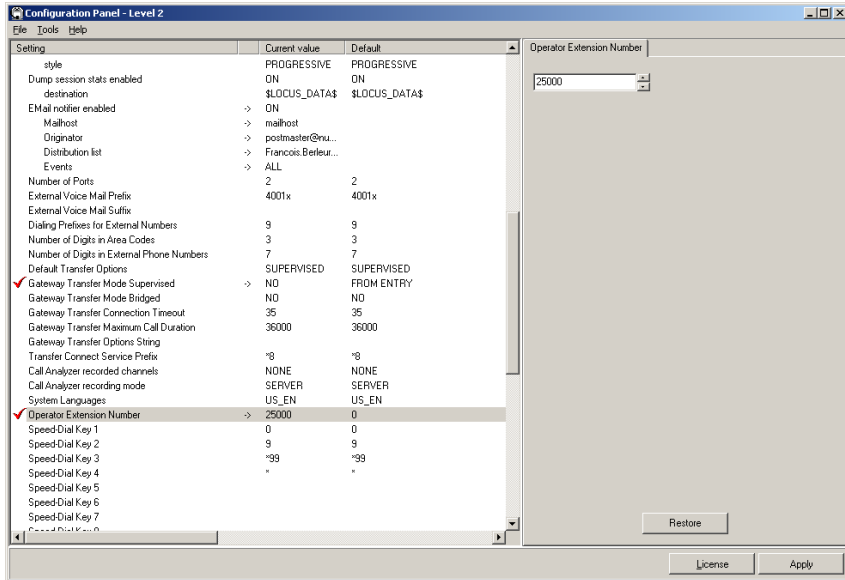
Step	Description
1.	<p>Log in to the auto-attendant computer with the appropriate credentials. If you do not see the Admin Tools window on the desktop, double-click on the OSA shortcut. The Admin Tools window appears on the desktop as shown below.</p> 

4.1. Accessing the configuration panel

There are two access levels to the configuration panel:

- Level 2, which provides access to all settings, including the gateway dependant options,
- Level 1, which provides access only to the customer-related settings.

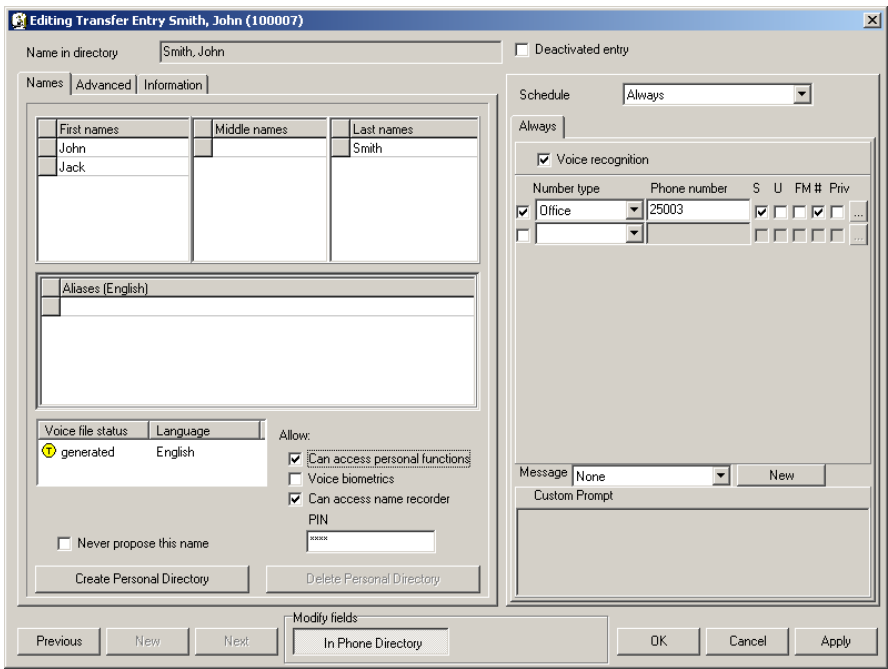
The following steps modify the Nuance OpenSpeech Attendant settings.

Step	Description
1.	In the Admin Tools window, click Configuration Panel .
2.	When prompted, select Level 2 and enter the appropriate password. Note: Nuance's distributor provides the password. 
3.	In the left pane of the configuration window, select the setting to change. In the right pane of the window, specify the new value. For the Avaya Interactive Response, the option Gateway Transfer Mode Supervised needs to be set to NO . If the phone number of the live operator is different than 0 , change the Operator Extension Number to the phone number of the live operator. In the left pane of the window, a red checkmark appears next to the setting name, highlighting the change. Click Apply . The checkmark turns into a green bullet. 

4.	Close the Configuration window when complete.
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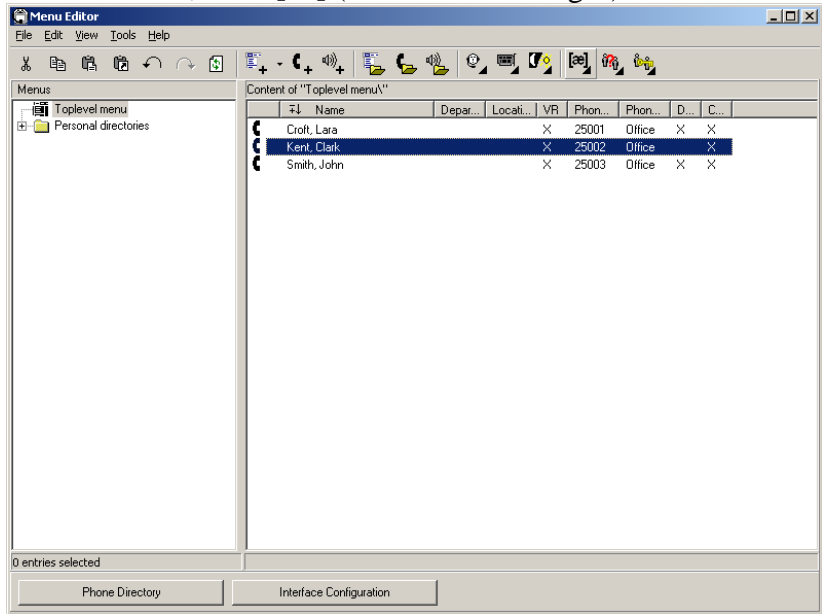
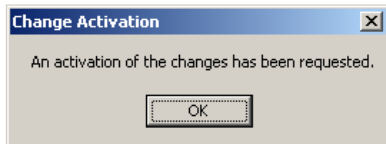
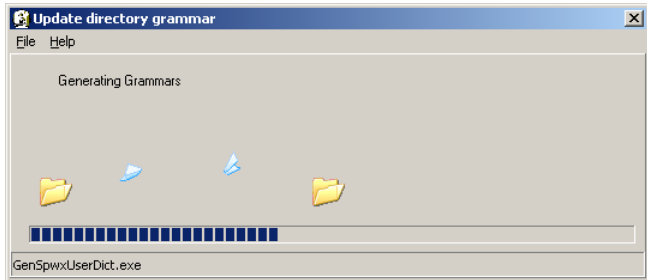
4.2. Editing Transfer Entries

Most of the entries created in the application are transfer entries. Transfer entries must be created for each employee or service to which the auto-attendant application can transfer calls. A single transfer entry can contain several different phone numbers, such as: office, cell phone and pager. The following steps create entries to transfer a caller to a selected destination.

Step	Description
1.	<p>Choose File > New > Transfer Entry. The Creating transfer entry window appears. Add the first and last names of the employee, for example John Smith. For a service such as Customer Support, enter an alias. Spell names correctly to allow the system to recognize caller requests. Do not enter titles such as Mr., Mrs. or Doctor in the First names field. Multiple names can be entered in the First Name field for nicknames, or shortened forms of names The First, Middle and Last names, along with the Alias field, are used to generate the text-to-speech (TTS) voice file played to confirm caller requests and to announce transfers, until it is replaced by a recording. Check Can access personal functions to allow an employee or a service to access personal administration mode (PAM). Access to PAM allows employees and services to record their own names and change their personal identification numbers (PINs), passwords, and access codes. Enter the numbers where the employee or service can be reached. Additional destination can be specified for each employee or service.</p> 
2.	To create another transfer entry, click Apply , then New and repeat step 1.
3.	Click OK when complete.

4.3. Activating Changes

The following steps apply the changes to the directory. Activate the changes at the end of every Phone Directory and Menu Editor session. Otherwise, new or updated directory entries are not available to the callers.

Step	Description
1.	<p>In the Menu Editor toolbar, click [ac] (for Activate changes).</p> 
2.	<p>Click OK to acknowledge the progress message.</p> 
3.	<p>The system now generates updated grammars with the new name(s).</p> 

4.4. Testing Speech Recognitions and Transfers

The following steps test the speech recognitions and transfer.

Step	Description
1.	Dial the pilot number that accesses the OpenSpeech Attendant VXML application.
2.	Ask for the new entry just created, e.g.: John Smith.
3.	Validate that system now recognizes the entry.
4.	Validate that system plays the TTS-generated voice name file
5.	Validate that the system transfers the call to the phone number of the new entry.

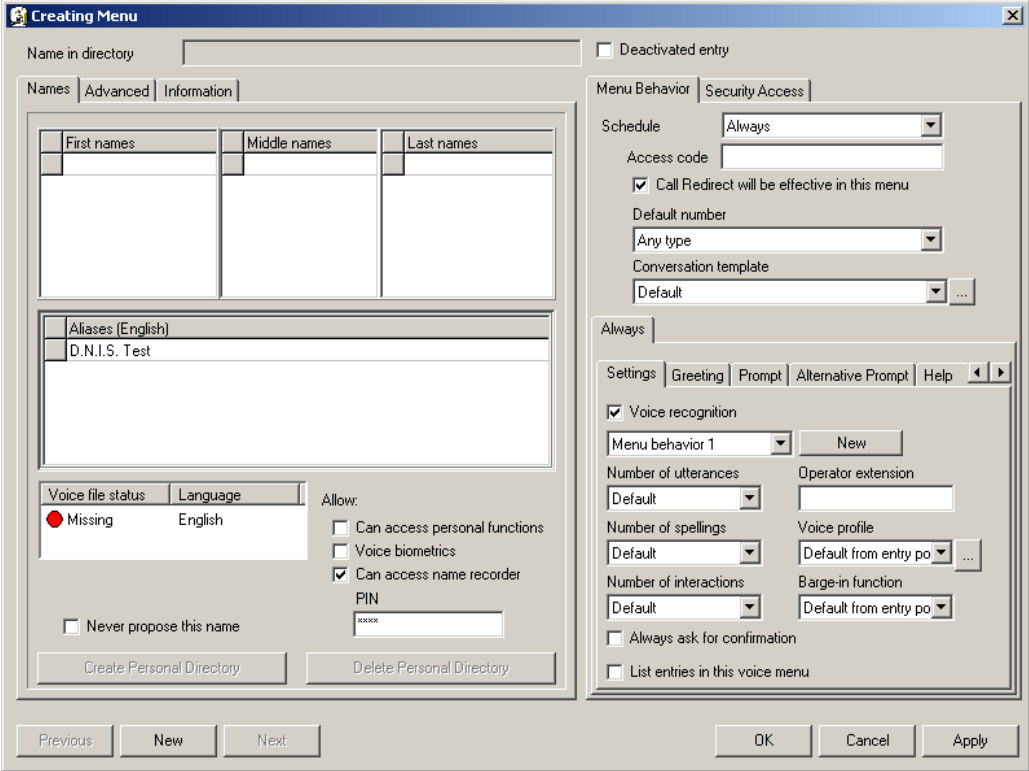
4.5. Recording Names by Telephone

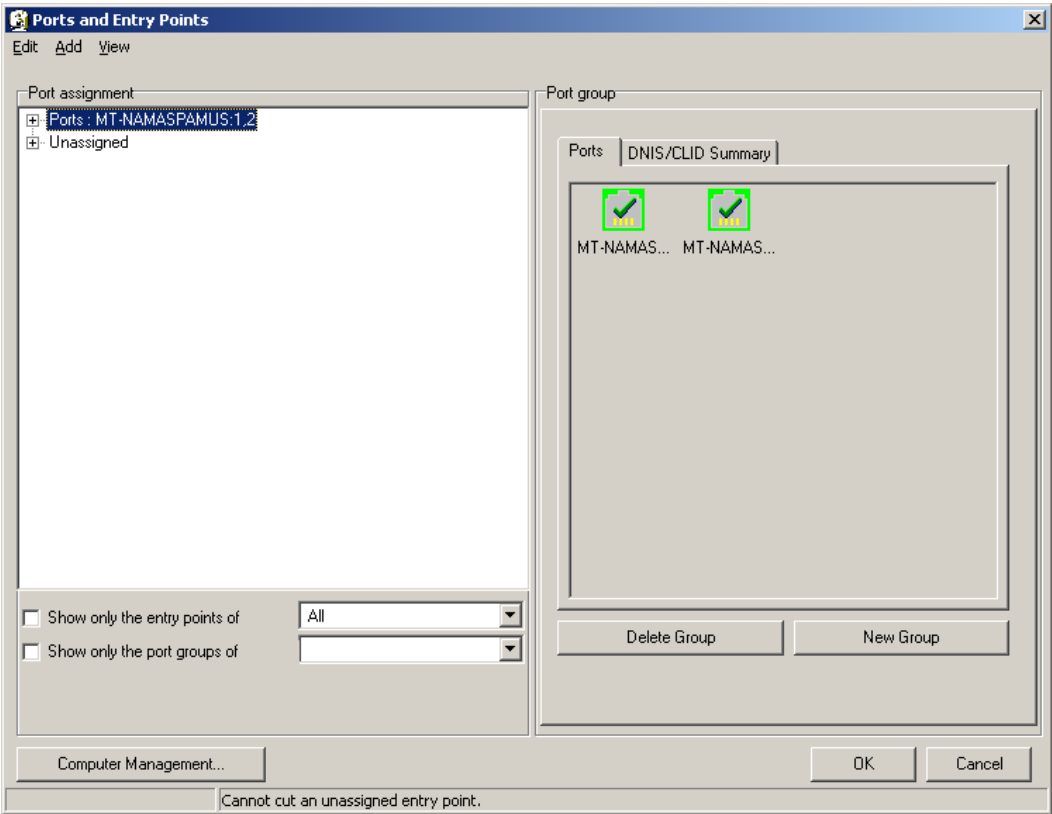
With the name recorder, people can individually record their names for their own extension. These recordings are used to confirm caller requests or to announce transfers. The following steps explain how employees can record their own names.

Step	Description
1.	Dial the pilot number that accesses the OpenSpeech Attendant VXML application.
2.	Press *99 to access the personal administration mode (PAM).
3.	Identify employee by saying the employee name.
4.	Enter employee PIN (provided by the system administrator, default is 0000) and press #.
5.	Once in the PAM, follow the instructions and say "name recording" .
6.	Record employee name.
7.	Hang up when recording is completed.
8.	Call the OpenSpeech Attendant and ask for the just recorded name.
9.	Validate that as system transfers the call, confirmation of name is done with the new name recording.

4.6. Dynamic Call Routing

Dynamic call routing enable the OpenSpeech Attendant to route the caller to a specified directory menu based on the DNIS and CLID information provided by the PBX. The following steps explain how to create a directory menu with the DNIS number.

Step	Description
1.	<p>Choose File > New > Top Level Menu. The Creating Menu entry window appears.</p> 
2.	Enter the name of the menu, e.g. D.N.I.S Test in the Aliases field.
3.	Click OK when complete.
4.	In the Menu Editor toolbar, click [ac] (for Activate changes).
5.	Click OK to acknowledge the progress message.
6.	The system now generates updated grammars with the new name(s).
7.	When the system has completed updating the grammars, exit the Menu Editor.
8.	In the Admin Tools window, click Phone Directory and Menu Editor . The Menu Editor window appears.

Step	Description
9.	<p>Choose Edit -> Ports and Entry Points. The Ports and Entry Points entry window appears.</p> 
10.	In the Port assignment pane (right), select the first port group.
11.	Choose Add -> Entry Point .

Step	Description
12.	<p>In the Ports and Entry Points screen, enter a description and choose the newly created menu, for example, D.N.I.S test from the Home menu and Main menu drop down fields. In the DNIS field, enter the number of a second DNIS used to reach the OpenSpeech Attendant.</p>
13.	Click OK .
14.	Call the OpenSpeech Attendant application. The application should answer directly in the menu identified to the DNIS.

5. Interoperability Compliance Testing

The interoperability compliance test included feature functionality and serviceability testing. Feature functionality testing focused on verifying that the Nuance OpenSpeech Attendant solution successfully supports Avaya Interactive Response. Serviceability testing verified that the Nuance PC recovered from adverse conditions, such as rebooting the PC and removing the PC network connection.

5.1. General Test Approach

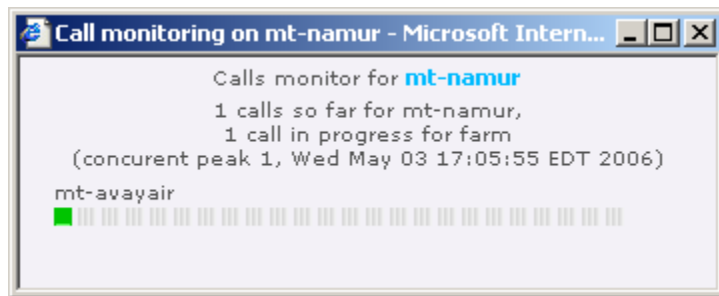
The general test approach was to verify that the Nuance OpenSpeech Attendant operates successfully with the Avaya Interactive Response to provide directory name recognition, to handle calls transfers and the to return the system to normal operation when the network connection is interrupted.

5.2. Test Results

All feature functionality and serviceability test cases passed. Nuance OpenSpeech Attendant solution successfully supports the Avaya Interactive Response platform. For serviceability testing, calls did not get answered when the OSA system was disconnected from the network, however, operations returned to normal when network was brought back in service.

6. Verification Steps

The following steps may be used to verify the configuration:

Step	Description
1.	Restart the OSA application server.
2.	Log into Windows and start the Admin tools.
3.	Choose Monitor . Select yes if prompted to close the window.
4.	Call the IR pilot number. The IR pilot number is the number in the PBX assigned to each channel service.
5.	Verify that one channel is blinking in the OSA call monitor. <div data-bbox="534 1375 1248 1669"></div>
6.	Ask the name of a person which is in the directory. Verify that the name is recognized and the call transferred to the correct extension.
7.	Call the OpenSpeech Attendant number.
8.	Dial the DTMF “0” and verify that the call is transferred to the number of the operator

	that has been configured in the system.
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7. Support

Technical support for Nuance OpenSpeech Attendant can be obtained by calling the Customer Service Center. By phone:

- From Montreal: (514) 390-3922
- Elsewhere in Canada or the United States: 1 866 434-2564
- Outside Canada or the United States: 1 (514) 390-3922
- By fax: 1 (514) 954-1588
- By email: SpeechAttendant.Support@nuance.com

8. Conclusion

These Application Notes describe the required configuration steps for Nuance OpenSpeech Attendant and Avaya Interactive Response solution. The compliance test verified the features and service functionalities of Nuance solution have all passed.

9. Additional References

Nuance product documentation is installed with all versions of the product. Visit <http://www.nuance.com/autoattendant/openspeech/> for more information.

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