



Avaya Solution & Interoperability Test Lab

Application Notes for Nuance OpenSpeech Attendant with Avaya Interactive Response – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate the Nuance OpenSpeech Attendant with Avaya Interactive Response and Avaya Aura™ Communication Manager. Nuance OpenSpeech Attendant allows callers to speak the name of a person, department, service, or location and be automatically transferred to the requested party without waiting to speak to an operator. This solution uses MRCPv1 (Media Resource Control Protocol).

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 to integrate the Nuance OpenSpeech Attendant with Avaya Interactive Response and Avaya Aura™ Communication Manager. Nuance OpenSpeech Attendant (OSA) allows callers to speak the name of a person, department, service, or location and be automatically transferred to the requested party without waiting to speak to an operator. This solution uses MRCPv1.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing. Feature testing focused on verifying that Nuance OSA can successfully recognize spoken names and extensions entered via DTMF and transfer the call to the correct destination. Blind transfers were verified. Other features covered included barge-in / no barge-in, adding new transfer entries, recording caller utterances, and accessing Maintenance Mode and Personal Administration Mode to record name and change PIN. The Nuance Speech Server and Avaya Interactive Response (IR) were configured to use MRCPv1.

Serviceability testing focused on verifying the ability of the Nuance OSA to recover from adverse conditions, such as server restarts, power failures, and disconnecting cables to the IP network.

1.2. Support

To obtain technical support for Nuance OpenSpeech Attendant, contact Nuance via email or through their website.

- **Web:** www.network.nuance.com
- **Email:** SpeechAttendant.Support@nuance.com
- **Phone:** (866) 434-2564 or (514) 390-3922

2. Reference Configuration

Figure 1 illustrates the configuration used to verify the Nuance OpenSpeech Attendant (OSA) solution with Avaya Interactive Response (IR), Avaya Aura™ Communication Manager, and a Nuance Speech Server. Nuance OSA is deployed on a dedicated application server running Windows 2003 Server, and the Nuance Speech Server was also running on a separate Windows 2003 Server. Avaya IR interfaces to Avaya Aura™ Communication Manager using T1 or Voice over IP. This solution may be supported with either interfaces, but these Application Notes will focus on the T1/Robbed-Bit Signaling interface. Avaya IR manages the interactions with speech server resources (i.e., speech recognition and text-to-speech) used by VXML applications. VXML pages generated by Nuance OSA are loaded and interpreted by Avaya IR, which controls the interaction with the user. To access the Nuance OSA application, a voice channel on Avaya IR must be configured to invoke the VXML application when an incoming call is received on that channel. Avaya IR and the Nuance Speech Server were configured to use MRCPv1.

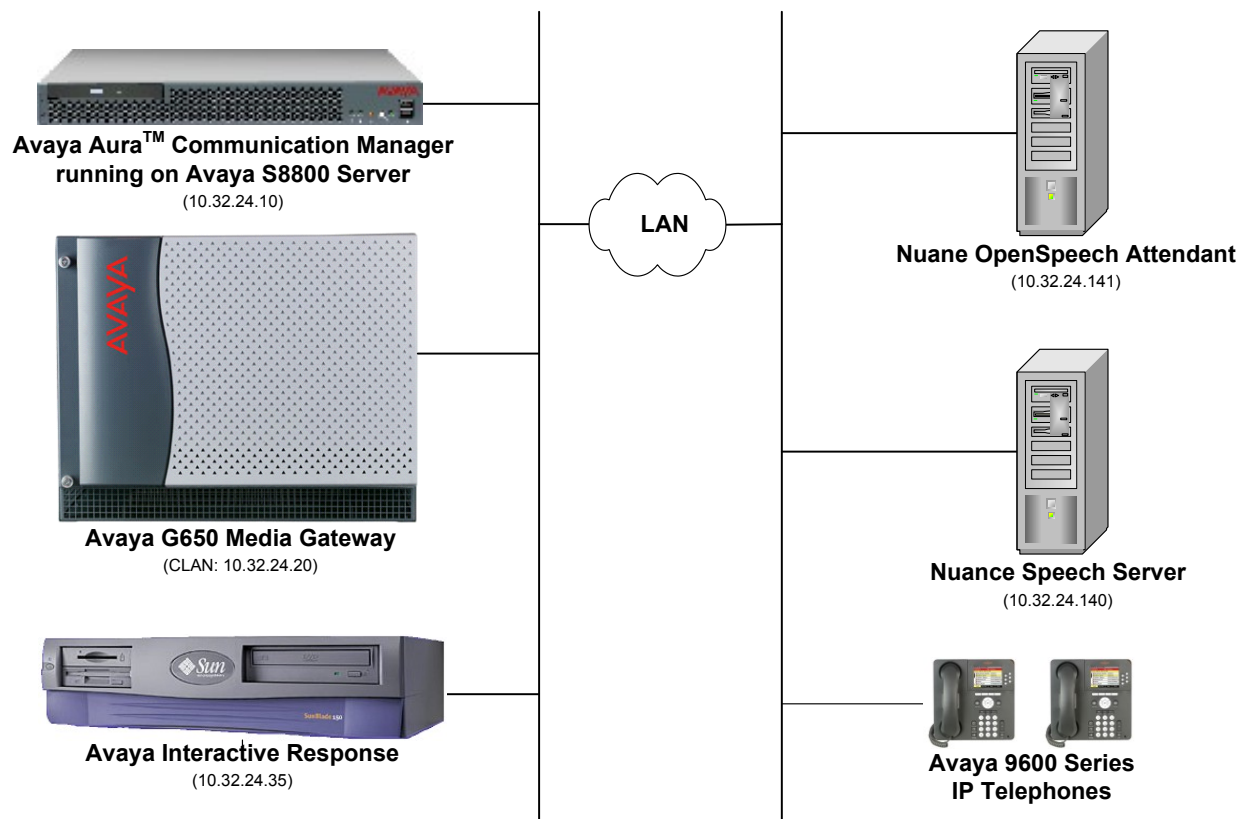


Figure 1: Configuration with Avaya Interactive Response and Nuance OSA

2.1. Equipment and Software Validated

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

Equipment	Software
Avaya Interactive Response	4.0 with Service Pack 4
Avaya S8800 Server with a G650 Media Gateway	Avaya Aura™ Communication Manager 6.0 with Service Pack 1
Avaya 9600 Series IP Telephones	3.110b (H.323)
Nuance OpenSpeech Attendant (OSA)	4.0 with Hotfix 4
Nuance Speech Server <ul style="list-style-type: none">▪ Nuance Recognizer▪ Nuance Vocalizer for Network▪ Nuance Speech Server	9.0.12 5.0.0 5.1.1

3. Configure Avaya Aura™ Communication Manager

This section describes the configuration of the T1/Robbed-Bit Signaling link between Avaya Aura™ Communication Manager and Avaya IR and the stations that correspond to each Avaya IR port. In addition, it covers the configuration of the Hunt Group, Vector Directory Number (VDN), Vector, and Agent Login-IDs required for this solution. Refer to [1] and [2] for additional information on configuring Communication Manager. The configuration described below covers the following capabilities:

- Establish the T1 interface between Communication Manager and Avaya IR.
- Configure stations for the Avaya IR ports. Avaya IR ports are configured as **Stations** with type *DSIFD*.
- Configure the **Hunt Group** that the Avaya IR ports (i.e., Agent Login-IDs) will log into.
- Configure the **Agent Login-IDs** for the Avaya IR ports. Stations associated with Avaya IR ports automatically log into the hunt group via **Agent LoginIDs**.
- Configure the **VDN** that receives incoming calls. Inbound calls are routed to **VDN 75200** which invokes **Vector 200**.
- Configure the **Vector** that is invoked by VDN 75200. **Vector 200** queues the incoming call to **Hunt Group 270** with Avaya IR ports. **Vector 200** passes the DNIS and VDN numbers to Nuance OSA which in turn returns the transfer-to number using the configured **Converse Data Return Code**.

The following configuration is performed via the System Access Terminal (SAT). On the SAT, configure the DS1 board that provides T1 connectivity to the Avaya IR. The **Signaling Mode** of the DS1 board is set to *robbed-bit* signaling with a **Line Coding** and **Framing Mode** of *b8zs* and *esf*, respectively.

```
add ds1 a11                                     Page 1 of 2
                                         DS1 CIRCUIT PACK
                                         Location: 01A11
                                         Bit Rate: 1.544
                                         Name: Avaya IR
                                         Line Coding: b8zs
                                         Line Compensation: 1
                                         Framing Mode: esf
                                         Signaling Mode: robbed-bit
Interface Companding: mulaw
Idle Code: 11111111
Slip Detection? n                               Near-end CSU Type: other
```

Figure 2: DS1 Circuit Pack

Configure each Avaya IR port as a station with the **Type** field set to *DS1FD*. Repeat this configuration for each Avaya IR port. These stations will be members of **Hunt Group 270** configured in **Figure 4**. The stations (IR ports) will automatically log into the split via the **Agent LoginIDs** configured as shown in **Figure 6**. When using the Voice over IP interface on Avaya IR, the ports are configured as 7434ND stations.

add station 23201		Page 1 of 4
STATION		
Extension: 23201	Lock Messages? n	BCC: 0
Type: DS1FD	Security Code:	TN: 1
Port: 01A1101	Coverage Path 1:	COR: 1
Name: IR Port 1	Coverage Path 2:	COS: 1
	Hunt-to Station:	Tests? y
STATION OPTIONS		
Time of Day Lock Table:		
Loss Group: 4		
Off Premises Station? y		
R Balance Network? n		
Survivable COR: internal		
Survivable Trunk Dest? y		

Figure 3: Station for Avaya IR Port

The Avaya IR ports, configured as DS1FD stations, will automatically log into Hunt Group 270. Set the **Group Extension** field to a valid extension and enable the **ACD** and **Vector** options. This hunt group will be specified in the **Agent LoginIDs** configured in **Figure 6** and **7**.

add hunt-group 270		Page 1 of 3
HUNT GROUP		
Group Number: 270	ACD? y	
Group Name: Nuance OSA (T1)	Queue? y	
Group Extension: 77000	Vector? y	
Group Type: ucd-mia		
TN: 1		
COR: 1	MM Early Answer? n	
Security Code:	Local Agent Preference? n	
ISDN/SIP Caller Display:		
Queue Limit: unlimited		
Calls Warning Threshold:	Port:	
Time Warning Threshold:	Port:	

Figure 4: Hunt Group for Avaya IR Ports (Page 1)

On **Page 2** of the Hunt Group form, enable the **Skill** and **AAS** options. The **AAS** option will allow the IR ports to automatically log into the hunt group via the **Agent LoginIDs**.

```

add hunt-group 270                                     Page 2 of 3
                                     HUNT GROUP

      Skill? y      Expected Call Handling Time (sec): 180
      AAS? y      Service Level Target (% in sec): 80 in 20
      Measured: internal      Service Objective (sec): 20
      Supervisor Extension:      Service Level Supervisor? n

      Controlling Adjunct: none

      VuStats Objective:
      Timed ACW Interval (sec):      Dynamic Queue Position? n
      Multiple Call Handling: none

      Interruptible Aux Threshold: none
      Redirect on No Answer (rings):
      Redirect to VDN:
      Forced Entry of Stroke Counts or Call Work Codes? n
  
```

Figure 5: Hunt Group for Avaya IR Ports (Page 2)

Add an **Agent LoginID** for each IVR port. The **AAS** option is enabled and the **Port Extension** is set to the extension of the stations corresponding to each Avaya IR port. Repeat this configuration for each DS1FD station. In this configuration, agent login ID 26201 was created.

```

add agent-loginID 26201                               Page 1 of 2
                                     AGENT LOGINID

      Login ID: 26201      AAS? y
      Name: IR Port 1      AUDIX? n
      TN: 1      LWC Reception: spe
      COR: 1      LWC Log External Calls? n
      Coverage Path:      AUDIX Name for Messaging:
      Security Code:
      Port Extension: 23201      LoginID for ISDN Display? n

      Auto Answer: station
      MIA Across Skills: system
      ACW Agent Considered Idle: system
      Aux Work Reason Code Type: system
      Logout Reason Code Type: system
      Maximum time agent in ACW before logout (sec): system
      Forced Agent Logout Time: :

      WARNING: Agent must log in again before changes take effect
  
```

Figure 6: Agent LoginID for IVR Ports (Page 1)

On **Page 2** of the **Agent LoginID** form, set the skill number (SN) to hunt group 270, which is the hunt group (skill) that the Avaya IR ports will log into.

add agent-loginID 26201												Page 2 of 2	
AGENT LOGINID													
Direct Agent Skill:										Service Objective? n			
Call Handling Preference: skill-level										Local Call Preference? n			
SN	RL	SL	SN	RL	SL	SN	RL	SL	SN	RL	SL		
1:	270	1	16:			31:			46:				
2:			17:			32:			47:				
3:			18:			33:			48:				
4:			19:			34:			49:				
5:			20:			35:			50:				
6:			21:			36:			51:				
7:			22:			37:			52:				
8:			23:			38:			53:				
9:			24:			39:			54:				
10:			25:			40:			55:				
11:			26:			41:			56:				
12:			27:			42:			57:				
13:			28:			43:			58:				
14:			29:			44:			59:				
15:			30:			45:			60:				

Figure 7: Agent LoginID for Avaya IR Ports (Page 2)

Incoming calls will be routed to VDN 75200 based on the DNIS. VDN 75200 will invoke vector 200 which will queue the call to the hunt group containing Avaya IR ports. Avaya IR will invoke the Nuance OSA application and wait for the transfer-to number. Use the **add vdn 75200** command to create the VDN that will handle all incoming calls.

add vdn 75200		Page 1 of 3	
VECTOR DIRECTORY NUMBER			
Extension: 75200			
Name*: Nuance OSA			
Destination: Vector Number			200
Attendant Vectoring? n			
Meet-me Conferencing? n			
Allow VDN Override? n			
COR: 1			
TN*: 1			
Measured: none			
Service Objective (sec): 20			
VDN of Origin Annc. Extension*:			
1st Skill*:			
2nd Skill*:			
3rd Skill*:			
* Follows VDN Override Rules			

Figure 8: Vector Directory Number (VDN)

VDN 75200, configured above, will invoke vector 200 which will queue the call to hunt group 270. The **converse-on** step is used to pass the ANI and VDN numbers. Communication Manager will then **collect** the transfer-to number sent by Nuance OSA. Configure vector 200 as shown below. These steps are required when using a T1/Robbed-Bit Signaling interface. When using a Voice over IP interface on Avaya IR, the call is routed to the hunt group using a **queue-to skill** step. The **converse-on** and **collect** steps should not be used.

change vector 200		Page 1 of 6
CALL VECTOR		
Number: 200	Name: Nuance OSA	
Multimedia? n	Attendant Vectoring? n	Meet-me Conf? n Lock? n
Basic? y	EAS? y G3V4 Enhanced? y	ANI/II-Digits? y ASAI Routing? y
Prompting? y	LAI? y G3V4 Adv Route? y	CINFO? y BSR? y Holidays? n
Variables? y	3.0 Enhanced? y	
01 wait-time	2 secs hearing ringback	
02 converse-on	skill 270 pri h passing ani and vdn	
03 collect	16 digits after announcement none for none	
04 route-to	digits with coverage y	
05 stop		
06		
07		
08		
09		
10		
11		
12		
Press 'Esc f 6' for Vector Editing		

Figure 9: Call Vector

Configure the **Converse Data Return Code** field on **Page 7** of the Feature-Access Codes form as shown in **Figure 10**.

change feature-access-codes		Page 7 of 10
FEATURE ACCESS CODE (FAC)		
Call Vectoring/Prompting Features		
Converse Data Return Code: #12		
Vector Variable 1 (VV1) Code:		
Vector Variable 2 (VV2) Code:		
Vector Variable 3 (VV3) Code:		
Vector Variable 4 (VV4) Code:		
Vector Variable 5 (VV5) Code:		
Vector Variable 6 (VV6) Code:		
Vector Variable 7 (VV7) Code:		
Vector Variable 8 (VV8) Code:		
Vector Variable 9 (VV9) Code:		

Figure 10: Feature Access Codes

Configuration of Communication Manager is complete. Use the **save translation** command to save these changes.

4. Configure Avaya Interactive Response (IR)

This section covers the configuration of Avaya IR. Communication Manager routes incoming calls to Avaya IR over a T1 interface. Each channel of the T1 interface is assigned a phone number that should match the corresponding station extensions configured on Communication Manager and an Avaya IR VoiceXML application. Refer to [3] for additional information on Avaya IR.

The configuration steps required on Avaya IR are summarized below.

- Access the Avaya IR via a web browser and log in.
- Stop the Voice System (i.e., Avaya IR) prior to configuring the T1 interface.
- Configure the T1 interface to the Avaya G650 Media Gateway.
- Administer and assign an ASR and TTS engine.
- Start the Voice System.
- Assign channels to equipment groups.
- Assign phone numbers to channels.
- Assign services (VoiceXML applications) to channels.

Note: The Nuance OSA solution is also supported with a Voice over IP interface between Avaya IR and Communication Manager. However, the focus of these Application Notes is the T1 interface.

The packages installed on Avaya IR are displayed below. To verify which packages are installed on Avaya IR, use the “`pkginfo | grep AV`” command from the command line.

```
avir(root)# pkginfo | grep AV
IVR      AVasai      Adjunct/Switch Application Interface
IVR      AVasr      Avaya Recognizer - Utilities
IVR      AVbackrst   Backup/Restore Utilities
IVR      AVctidip    CTI Data Interface Process
IVR      AVftst      Feature Test Script Package
IVR      AVir        Interactive Response Base System
IVR      AVjdbcint   JDBC Integration
IVR      AVlm        License Manager
IVR      AVmrcpasr  MRCP ASR Proxy
IVR      AVmrcptts  MRCP TTS Proxy
IVR      AVmrcpv2asr MRCPv2 ASR Proxy
IVR      AVmrcpv2tts MRCPv2 TTS Proxy
IVR      AVnms     NMS Package
IVR      AVsc        Service Creation Integration Package
Release 6.1
IVR      AVsproxy  Speech Proxy Base Software
IVR      AVsrproxy Speech Proxy SR - Speech Recognition
IVR      AVtsm       Transaction State Machine
IVR      AVttsprxy Proxy Text-to-Speech Package
IVR      AVucid      Universal Call ID
IVR      AVval       Avaya IR System Validation Package
IVR      AVvoicxml2-0 Voice XML Interpreter
IVR      AVvoip    Voice Over IP
IVR      AVwebadm    Web Administration
IVR      AVweblm   WebLM Server
```

IVR	AVwebservice	Avaya IR Web Services
IVR	AVxfer	Call Transfer and Bridge Package
system	SUNWav1394	IEEE1394 AV Driver
JAVAAPPS	SUNWjavaapps	A set of Java Demo Applications - j
dictionary,	jdiskreport. jedit, jgraphpad and jspider	
JAVAAPPS	SUNWjmf	Java Media Framework
JAVAAPPS	SUNWjmfmp3	JMF MP3 Plugin

Figure 11: Installed Avaya IR Packages

The Avaya IR configuration was performed via a web browser. Enter the IP address of Avaya IR in the URL field of the web browser. The initial Avaya IR webpage is displayed as shown in **Figure 12**. Select the **Web Administration** link to display the log in screen (not shown), and log into Avaya IR with the appropriate credentials.

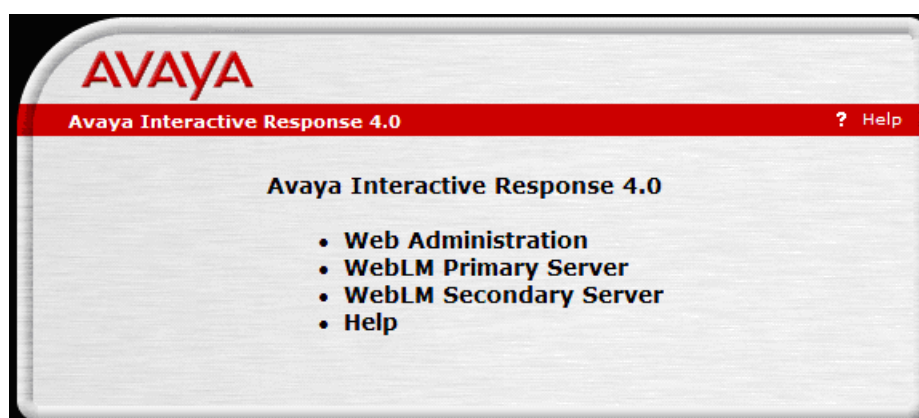


Figure 12: Initial Avaya IR Screen

After successfully logging into Avaya IR, the main Avaya IR configuration webpage is displayed as shown in **Figure 13**.

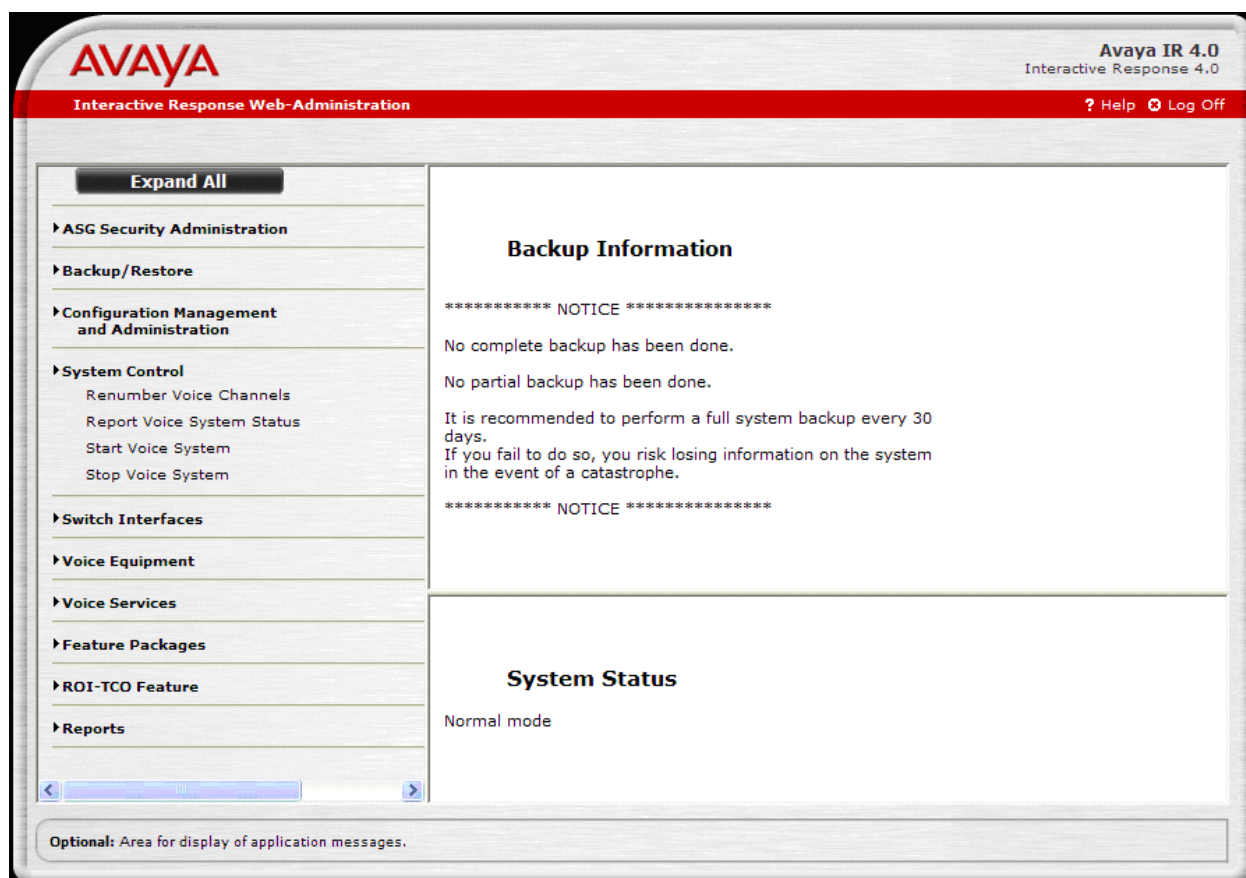


Figure 13: Main Avaya IR Webpage

Prior to configuring the T1 interface to the Avaya G650 Media Gateway, stop the Avaya IR by selecting the **System Control → Stop Voice System** link from the left pane in **Figure 13**. The **Stop Voice System** page (not shown) is displayed. Click the **Submit** button and wait until the system displays a message at the bottom of the page indicating that the voice system has completely stopped.

To configure the T1 interface to the Avaya G650 Media Gateway follow these steps:

1. Under **Switch Interfaces** in the left pane, select the **Digital Interfaces** option to display the **Digital Interfaces Protocols** page (not shown).
2. Select the **Assign Card** link to display the **Assign Card** page shown in **Figure 14**. On this page, set the **Card** field to the appropriate number, set the **Card Type** field to *T1*, and set the **Trunk 1** field to *Loop Start T1*. When complete, click the **Submit** button to display the **Assign Card 1: Type T1** page shown in **Figure 15**.

The screenshot displays the Avaya IR 4.0 Interactive Response Web-Administration interface. The left-hand navigation pane is expanded, showing the following menu structure: **Expand All**, **ASG Security Administration**, **Backup/Restore**, **Configuration Management and Administration**, **System Control**, **Switch Interfaces** (expanded), **Digital Interfaces** (expanded), **System Parameters**, **Display Assignments**, **Assign Card** (highlighted), **Change Parameters**, **Display Parameters**, **Unassign Card**, **Help**, **Voice over IP**, **Voice Equipment**, **Voice Services**, **Feature Packages**, **ROI-TCO Feature**, and **Reports**. The main content area is titled **Assign Card** and contains the following fields: **Card:** 1, **Card Type:** T1, **Trunk 1:** Loop Start T1, and **Trunk 2:** None. Below these fields are three buttons: **Submit**, **Reset**, and **Help**. At the bottom of the interface, there is a footer area labeled **Optional: Area for display of application messages.**

Figure 14: Assign Card

On the page shown in **Figure 15**, set the **Frame Type** field to *ESF* and the **Line Code** field to *B8ZS*. Accept the default for the other fields as shown in the figure. Click the **Submit** button.

AVAYA Avaya IR 4.0
Interactive Response Web-Administration Interactive Response 4.0 ? Help Log Off

Expand All

- ASG Security Administration
- Backup/Restore
- Configuration Management and Administration
- System Control
 - Switch Interfaces
 - Digital Interfaces
 - System Parameters
 - Display Assignments
 - Assign Card
 - Change Parameters
 - Display Parameters
 - Unassign Card
 - Help
 - Voice over IP
 - Voice Equipment
 - Voice Services
 - Feature Packages
 - ROI-TCO Feature
 - Reports

Assign Card>Assign Card 1

Assign Card 1: Type T1

Common Parameters:

Idle Code:	11111111	Length:	0
Clock Trunk:	1	Clock Source:	NETWORK
Clock Mode:	STANDALONE	Clock Fallback Trunk:	none
Fax Enabled?:	no	Enabled Channels:	48 (0 to 48)

Loop Start T1:

Country: United States

Trunk1

Frame Type: ESF Line Code: B8ZS

Submit **Reset** **Cancel** **Help**

Optional: Area for display of application messages.

Figure 15: Assign Card Parameters

Next, configure the Automatic Speech Recognition (ASR) server in Avaya IR by selecting the **Administration** option under **Speech and DPR Administration** in the left pane and then selecting **Speech Recognition and DPR Configuration**. For this solution, a Nuance Speech Server was used as the ASR server. The ASR server should be configured as shown in **Figure 16**. The following Speech Recognition and DPR Configuration webpage is shown after it was already configured. The **Engine** field should be set to *mrCP-scansoft* (for MRCPv1), the **Server Name** and **IP Address** fields should be set to the IP address corresponding to the Nuance Speech Server. Furthermore, the **Ports** field should be set to the number of ports available on the speech server according to its installed license and the **Base Port** field should be set to *4900* and defaults can be used for remaining fields.

Note: If Avaya IR uses the hostname of the Nuance Speech Server to communicate, ensure that Avaya IR can resolve the hostname to an IP address. In this configuration, an entry was added to the */etc/hosts* file of Avaya IR corresponding to the hostname and IP address of the Nuance Speech Server, otherwise the recordings of caller utterances could not be retrieved successfully.

AVAYA Avaya IR 4.0
Interactive Response 4.0
Interactive Response Web-Administration ? Help Log Off

Expand All

- ASG Security Administration
- Backup/Restore
- Configuration Management and Administration
- System Control
 - Switch Interfaces
 - Digital Interfaces
 - Voice over IP
- Voice Equipment
- Voice Services
 - Feature Packages
 - ASAI Administration
 - CTI DIP Administration
 - Speech and DPR Administration
 - Display Status
 - Administration
 - Change Speech State
 - Speech Recognition and DPR C
 - Text-to-Speech Configuration
 - Help
 - Universal Call ID Administration
- ROI-TCO Feature
- Reports

Speech Recognition and DPR Configuration

Recognition Type: Engine: mrCP-scansoft

Assign New Server

Server Name:	10.32.24.140/media/speechrecognizer
Server Type:	Primary
IP Address:	10.32.24.140
Binding IP Address:	10.32.24.35
Ports:	4
Base Port:	4900
Backup Server:	Not Specified

Optional: Area for display of application messages.

Figure 16: Speech Recognition and DPR Configuration

To Configure the Text-to-Speech (TTS) engine in Avaya IR, select the **Administration** option under **Speech and DPR Administration** in the left pane and then select **Text-to-Speech Configuration**. For this solution, a Nuance Speech Server was used as the TTS server. The TTS server should be configured as shown in **Figure 17**. The following TTS configuration webpage is shown after it was already configured. In this configuration, the default voice of *samantha* was used. The **Engine** field should be set to *mrCP-scansoft* (for MRCPv1), the **Server Name** and **IP Address** fields should be set to the IP address corresponding to the Nuance Speech Server. Furthermore, the **Ports** field should be set to the number of ports available on the speech server according to its installed license and the **Base Port** field should be set to *4900*.

AVAYA Avaya IR 4.0
Interactive Response Web-Administration Interactive Response 4.0 ? Help Log Off

Expand All

- ASG Security Administration
- Backup/Restore
- Configuration Management and Administration
- System Control
 - Switch Interfaces
 - Digital Interfaces
 - Voice over IP
- Voice Equipment
- Voice Services
 - Feature Packages
 - ASAI Administration
 - CTI DIP Administration
 - Speech and DPR Administration
 - Display Status
 - Administration
 - Change Speech State
 - Speech Recognition and DPR C
 - Text-to-Speech Configuration**
 - Help
 - Universal Call ID Administration
- ROI-TCO Feature
- Reports

Text-to-Speech Configuration

Default Voice: samantha **Change**

Text-to-Speech Type: TTS0 **Change**

Engine: mrCP-scansoft **Change** **Unassign**

Assign New Server

Server Name:	10.32.24.140/media/speechsynthesizer
Server Type:	Primary
IP Address:	10.32.24.140
Binding IP Address:	10.32.24.35
Ports:	4
Base Port:	4900
Backup Server:	Not Specified

Change **Unassign**

Refresh **Help**

Optional: Area for display of application messages.

Figure 17: Text-to-Speech Configuration Summary

After the T1 card and speech server are successfully configured, start the Avaya IR by selecting **Start Voice System** under **System Control** in the left pane. Before proceeding, wait for the system to display a message indicating that the startup of the voice system is complete.

Next, assign the channels of the T1 card to equipment group '2'. Select the **Channels to Groups** option under Voice Equipment in the left pane, and then select the **Assign** link to display the **Assign Channels to Equipment Groups** page shown in **Figure 18**. Assign group '2' to channels 0-23, which corresponds to the 24 T1 channels, and then click **Submit**.

The screenshot displays the Avaya IR 4.0 Interactive Response Web-Administration interface. The top header includes the Avaya logo, the version 'Avaya IR 4.0 Interactive Response 4.0', and links for 'Help' and 'Log Off'. The left sidebar contains a navigation menu with categories like 'ASG Security Administration', 'Backup/Restore', 'Configuration Management and Administration', 'System Control', 'Switch Interfaces', 'Voice Equipment', 'Voice Services', 'Feature Packages', 'ROI-TCO Feature', and 'Reports'. Under 'Voice Equipment', the 'Channels to Groups' sub-menu is expanded, showing 'Assign', 'Unassign', and 'Help' options. The main content area is titled 'Assign Channels to Equipment Groups' and features two input fields: 'Channels' with the value '0-23' and 'Groups' with the value '2'. Below these fields are three buttons: 'Submit', 'Reset', and 'Help'. At the bottom of the interface, there is a placeholder text: 'Optional: Area for display of application messages.'

Figure 18: Assign Channels to Equipment Groups

After assigning channels to groups, assign phone numbers to channels. Select the **Phone Number** link under **Voice Equipment** in the left pane to display the **Phone Number – Channel Assignment** page and select the **Assign** link. Assign phone numbers 23201 to 23204 to channels 0 to 3, respectively, as shown in **Figure 19** and then click **Submit**. If more ports were defined, more phone numbers could be used.

The screenshot displays the Avaya IR 4.0 web administration interface. The top header includes the Avaya logo, the text 'Interactive Response Web-Administration', and links for 'Help' and 'Log Off'. The left sidebar contains a navigation menu with categories like 'ASG Security Administration', 'Backup/Restore', 'Configuration Management and Administration', 'System Control', 'Switch Interfaces', 'Voice Equipment', 'Voice Services', 'Feature Packages', 'ROI-TCO Feature', and 'Reports'. The 'Voice Equipment' section is expanded, showing 'Display Equipment', 'Equipment State', 'Channels to Groups', and 'Phone Number'. The 'Phone Number' section is further expanded, showing 'Assign', 'Unassign', 'Help', and 'Display Passwords'. The main content area is titled 'Assign Phone Number to a Channel' and contains three input fields: 'Phone Number' (with values 23201 to 23204), 'Channel Number' (with values 0 to 3), and 'VoIP H.323 MultiVantage Station Password' (with empty fields). Below these fields are three buttons: 'Submit', 'Reset', and 'Help'. At the bottom of the page, there is a footer area labeled 'Optional: Area for display of application messages.'

Figure 19: Assign Phone Number

Now, assign a Nuance OSA application to a channel (e.g., channel 0 was arbitrarily chosen for this example). This specifies which application a particular Avaya IR channel would run when it receives an incoming call. Select **Voice Services** → **Channel Services** from the left pane to display the **Channel Services** page in **Figure 20**. Enable the checkbox for channel 0 and then click the **Assign Selected** button.

AVAYA Interactive Response Web-Administration Avaya IR 4.0 Interactive Response 4.0 ? Help Log Off

Expand All

- ASG Security Administration
- Backup/Restore
- Configuration Management and Administration
- System Control
 - Switch Interfaces
 - Digital Interfaces
 - Voice over IP
- Voice Equipment
 - Voice Services
 - Channel Services
 - Number Services
- Feature Packages
 - ASAI Administration
 - CTI DIP Administration
 - Speech and DPR Administration
 - Display Status
 - Administration
 - Universal Call ID Administration
- ROI-TCO Feature
- Reports

Channel Services

Select	Chan	Service/URI	Type	Startup Service/URI	Type	
<input checked="" type="checkbox"/>	0	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	1	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	2	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	3	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	4	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	5	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	6	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	7	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	8	-	unassigned	-	unassigned	Details
<input type="checkbox"/>	9	-	unassigned	-	unassigned	Details

< Prev Channel Range: (0-9) Next > Display 10 channels.

Unselect All Assign Selected Unassign Selected Refresh

Optional: Area for display of application messages.

Figure 20: Channel Services

Configure the **Assign Services to Channels** page as shown in **Figure 21**. This configuration assigns the Nuance OSA application named to channel 0. Set the **Assign** field to *VXML URI*, set the **URI** field to *http://10.32.24.141/OpenSpeech/Attendant/servlet/aa?avaya_inband_anidnis=anything&avaya_acm_fac=%2312*, and set the **To Chan(s)** field to '0'. The required parameters in the VXML URI allow the ANI and DNIS to be passed to the Nuance OSA and also specify the Converse Data Return Code of '#12' configured in **Figure 10**. Repeat this procedure for all channels that should run this application. Click **Submit**.

The screenshot displays the Avaya IR 4.0 Interactive Response Web-Administration interface. The left sidebar contains a navigation menu with categories like ASG Security Administration, Backup/Restore, Configuration Management and Administration, System Control, Voice Equipment, Voice Services, Feature Packages, ROI-TCO Feature, and Reports. The main content area is titled 'Assign Services to Channels'. It includes fields for 'Assign' (set to 'VXML URI'), 'Primary URI' (set to 'http://10.32.24.141/OpenSpeech/Attendant/servlet/aa?'), 'Backup URI', 'DTMF Recognition Mode' (set to 'Local'), 'Application Name', and 'To Chan(s)' (set to '0'). There are 'Verify' buttons next to the URI fields and a row of 'Submit', 'Reset', 'Cancel', and 'Help' buttons at the bottom. A footer note states 'Optional: Area for display of application messages.'

Figure 21: Assign Services to Channels – VXML Application

To view the status of the channels and the channel configuration details, select **Display Equipment** from the left pane. The page in **Figure 22** is displayed. Verify the state of the configured channels. In this configuration, channels 0-3 are in-service and channel 0 was assigned to the Nuance OSA application. Channel 0 is assigned phone number 23201.

Avaya IR 4.0
Interactive Response 4.0

Interactive Response Web-Administration

Expand All

- ASG Security Administration
- Backup/Restore
- Configuration Management and Administration
- System Control
 - Switch Interfaces
 - Digital Interfaces
 - Voice over IP
 - Voice Equipment
 - Display Equipment**
 - Equipment State
 - Channels to Groups
 - Phone Number
 - Display Passwords
- Voice Services
 - Feature Packages
 - ASAI Administration
 - CTI DIP Administration
 - Speech and DPR Administration
 - Display Status
 - Administration
 - Universal Call ID Administration
 - ROI-TCO Feature
 - Reports

CARD 1 STATE: Inserv CLASS: Digital NMS(T1) O.S.INDEX: 1
NAME: AG22 OPTIONS: standalone clocking, no tdm
FUNCTION: NMS

CARD	TRUNK	PORT	CHAN	STATE	SERVICE-NAME	PHONE	GROUP	OPTS	PROTOCOL
1	1	0	0	Inserv	AVAYAVXIO	23201	2	talk LOOP	
1	1	1	1	Inserv	-	23202	2	talk LOOP	
1	1	2	2	Inserv	-	23203	2	talk LOOP	
1	1	3	3	Inserv	-	23204	2	talk LOOP	
1	1	4	4	Foos	-	-	2	talk LOOP	
1	1	5	5	Foos	-	-	2	talk LOOP	
1	1	6	6	Foos	-	-	2	talk LOOP	
1	1	7	7	Foos	-	-	2	talk LOOP	
1	1	8	8	Foos	-	-	2	talk LOOP	
1	1	9	9	Foos	-	-	2	talk LOOP	
1	1	10	10	Foos	-	-	2	talk LOOP	
1	1	11	11	Foos	-	-	2	talk LOOP	
1	1	12	12	Foos	-	-	2	talk LOOP	
1	1	13	13	Foos	-	-	2	talk LOOP	
1	1	14	14	Foos	-	-	2	talk LOOP	
1	1	15	15	Foos	-	-	2	talk LOOP	
1	1	16	16	Foos	-	-	2	talk LOOP	
1	1	17	17	Foos	-	-	2	talk LOOP	
1	1	18	18	Foos	-	-	2	talk LOOP	
1	1	19	19	Foos	-	-	2	talk LOOP	
1	1	20	20	Foos	-	-	2	talk LOOP	
1	1	21	21	Foos	-	-	2	talk LOOP	
1	1	22	22	Foos	-	-	2	talk LOOP	
1	1	23	23	Foos	-	-	2	talk LOOP	

Optional: Area for display of application messages.

Figure 22: Display Equipment

In Avaya IR, change the **client.inet.connection.persistent** parameter to '0' in the *default0.cfg*, *default1.cfg*, and *default2.cfg* files located in the */vs/data/vxml* directory. Stop the voice system with the **stop_vs** command and then restart the voice system with the **start_vs** command.

5. Configure Nuance OpenSpeech Attendant

This section covers the procedure for configuring Nuance OpenSpeech Attendant (OSA). The procedure includes the following areas:

- Administer settings in the Configuration Panel
- Administer transfer entries in the Phone Directory and Menu Editor
- Administer top-level menu in the Phone Directory and Menu Editor
- Administer Caller Utterance Recordings

Note: The Vocalizer config file, `ttshrshclient.xml`, located in `C:\Program Files\Nuance\Nuance Vocalizer for Network 5.0\config` directory of the speech server must be tuned to interoperate successfully with Nuance OSA. The tag `<ssml_validation>` must be set to *none*. The default value is *strict*.

Nuance OSA is configured through Admin Tools which can be started by navigating to **Start→Nuance→Admin Tools**. The initial screen is displayed as shown in **Figure 23**.

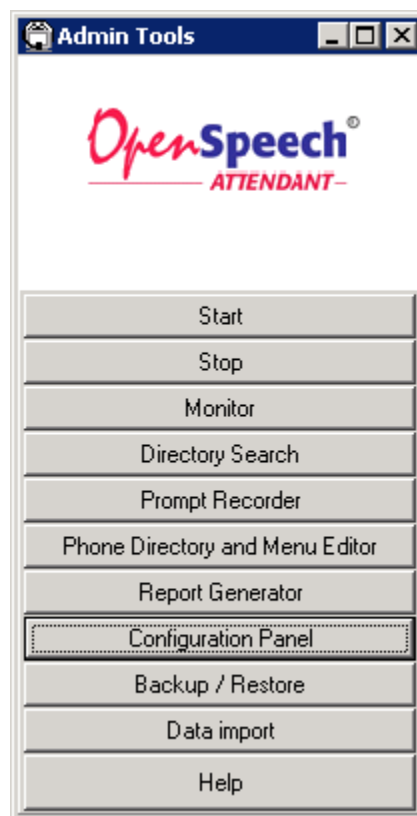
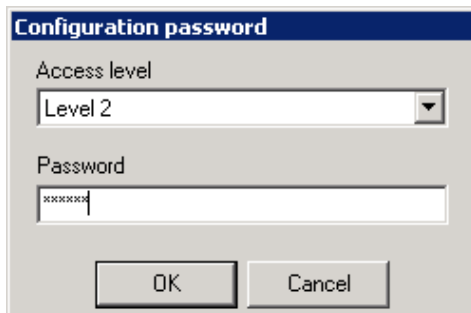


Figure 23: Admin Tools

5.1. Administer Settings in the Configuration Panel

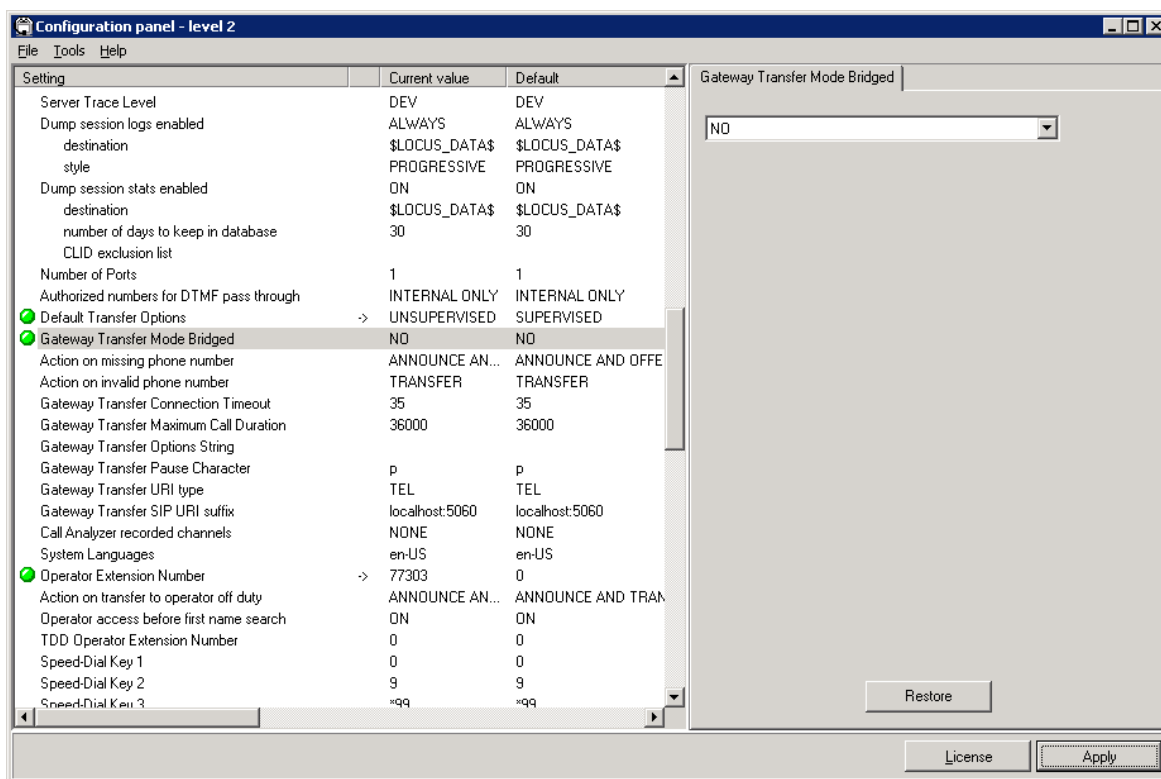
To open the **Configuration Panel**, click on this option in the **Admin Tools** window in **Figure 23**. The login prompt will be displayed to the user as shown in **Figure 24**. Log in with the appropriate credentials using *Level 2* access level.



The image shows a small dialog box titled "Configuration password". It has two input fields: "Access level" with a dropdown menu showing "Level 2", and "Password" with a text box containing "xxxxxx". At the bottom are "OK" and "Cancel" buttons.

Figure 24: Configuration Panel Login Window

The **Configuration Panel** shown in **Figure 25** is displayed. The **Configuration Panel** allows the transfer mode and operator extension number to be configured. Nuance OSA supports blind transfers with Avaya IR. To enable OSA for blind transfers, set the **Default Transfer Options** to **UNSUPERVISED** and **Gateway Transfer Mode Bridged** field to **NO** as shown in the figure below. The **Operator Extension Number** field should be set to a valid extension on Communication Manager. Click **Apply**.



The image shows the "Configuration panel - level 2" window. It has a menu bar (File, Tools, Help) and a table of settings. The table has columns for Setting, Current value, and Default. The "Gateway Transfer Mode Bridged" setting is highlighted, showing a value of "NO". The "Default Transfer Options" setting is also highlighted, showing a value of "UNSUPERVISED". The "Operator Extension Number" setting is highlighted, showing a value of "77303". The "Gateway Transfer Mode Bridged" setting is set to "NO" in the dropdown menu on the right. The "Restore" button is visible at the bottom right.

Setting	Current value	Default
Server Trace Level	DEV	DEV
Dump session logs enabled	ALWAYS	ALWAYS
destination	\$LOCUS_DATA\$	\$LOCUS_DATA\$
style	PROGRESSIVE	PROGRESSIVE
Dump session stats enabled	ON	ON
destination	\$LOCUS_DATA\$	\$LOCUS_DATA\$
number of days to keep in database	30	30
CLID exclusion list		
Number of Ports	1	1
Authorized numbers for DTMF pass through	INTERNAL ONLY	INTERNAL ONLY
Default Transfer Options	UNSUPERVISED	SUPERVISED
Gateway Transfer Mode Bridged	NO	NO
Action on missing phone number	ANNOUNCE AN...	ANNOUNCE AND OFFE
Action on invalid phone number	TRANSFER	TRANSFER
Gateway Transfer Connection Timeout	35	35
Gateway Transfer Maximum Call Duration	36000	36000
Gateway Transfer Options String		
Gateway Transfer Pause Character	p	p
Gateway Transfer URI type	TEL	TEL
Gateway Transfer SIP URI suffix	localhost:5060	localhost:5060
Call Analyzer recorded channels	NONE	NONE
System Languages	en-US	en-US
Operator Extension Number	77303	0
Action on transfer to operator off duty	ANNOUNCE AN...	ANNOUNCE AND TRAN
Operator access before first name search	ON	ON
TDD Operator Extension Number	0	0
Speed-Dial Key 1	0	0
Speed-Dial Key 2	9	9
Speed-Dial Key 3	*99	*99

Figure 25: Configuration Panel

Next, close the **Configuration Panel**. Activate the changes when prompted by the system as shown **Figure 26**.

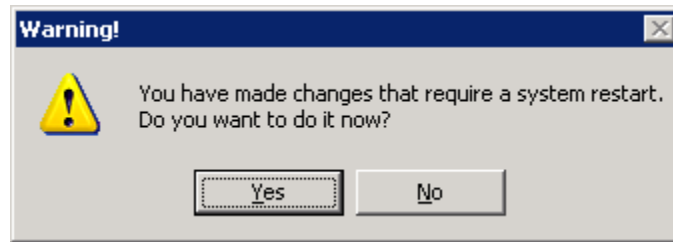


Figure 26: Activate Changes in Configuration Panel

The following window is displayed. Click **OK**.

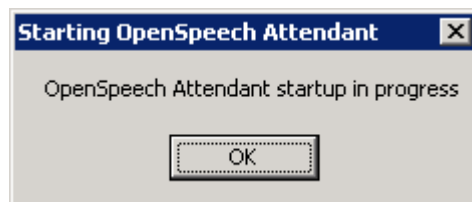


Figure 27: Startup in Progress Window

5.2. Administer Transfer Entries in Phone Directory and Menu Editor

From **Admin Tools**, click on the **Phone Directory and Menu Editor** option. **Figure 28** is displayed.

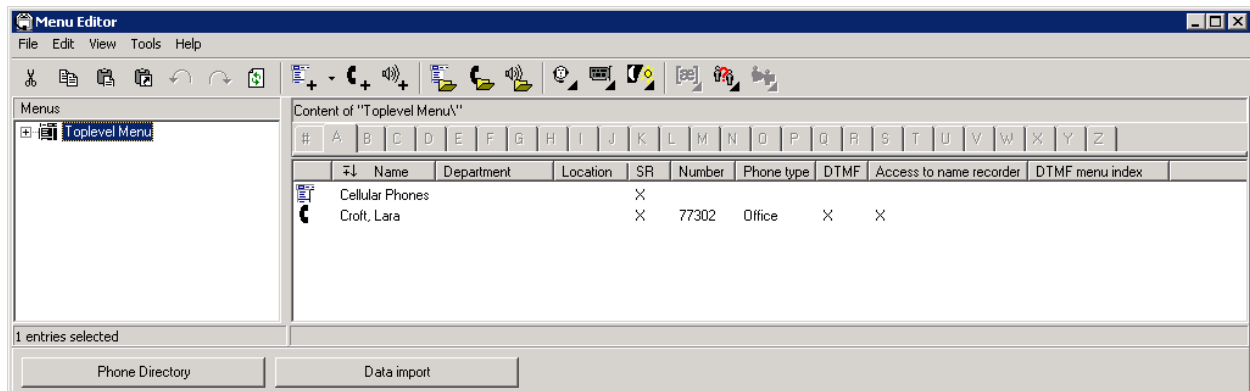


Figure 28: Phone Directory and Menu Editor

Next, select **File→New→Transfer Entry** from the menu options. The Creating transfer entry window is displayed as shown in **Figure 29**. Configure the **First names** and **Last names** for this entry and set the **Number** to a valid extension. Enable the **Access to personal functions** and **Access to name recorder** options and set the **PIN** fields so that this user can access the Personal Administration Mode (PAM) to change their name recording. Click **OK**.

Creating transfer entry

Name in directory:

☐ Deactivated entry ☐ DTMF Menu Index

Names | Advanced | Call Accounting | Information

First names	Middle names	Last names
David		Wells

Aliases (English (US))

Allow:

☒ Access to personal functions ☐ Voice biometrics ☒ Access to name recorder ☐ Never propose this name

PIN:

Password:

Schedule: Always

☒ Speech recognition

Number type	Number	S	U	FM #	Priv
<input checked="" type="checkbox"/> Office	77301	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Message: None

Custom Prompt

Figure 29: Creating Transfer Entry

The new transfer entry is now displayed in the Menu Editor window, but the entry has not been activated yet. Click on the **Activate Changes** icon for the new entry to take effect.

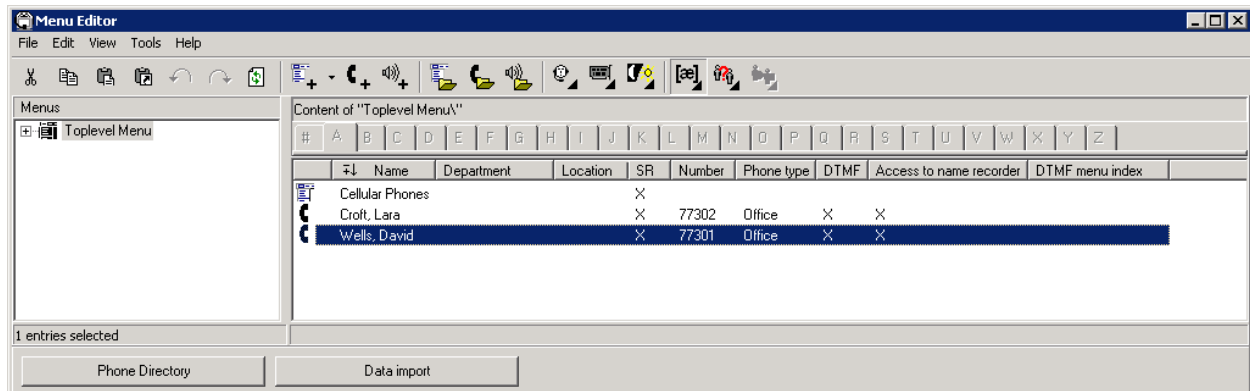


Figure 30: Menu Editor with New Transfer Entry

The following prompt is displayed to activate the new transfer entry so that it would be recognized by Nuance OSA.

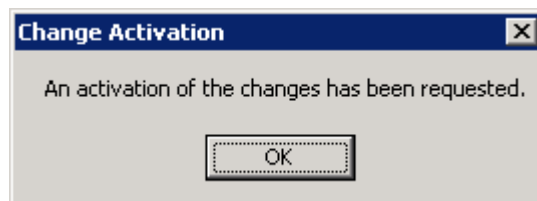


Figure 31: Change Activation

5.3. Administer Top-Level Menu in Phone Directory and Menu Editor

Nuance OSA allows the configuration of multiple entry points. The use of multiple entry points enable individual services or departments to be assigned a different entry point, which can be invoked based on DNIS or CLID number. When a call is received, Nuance OSA can route the call to the appropriate entry point based on the dialed number (DNIS) or the caller's phone number (CLID). In this example, an entry point was configured using the DNIS option.

Create a new entry point by selecting **File→New→Top-Level Menu** from the menu options. The window in **Figure 32** is displayed. Enter a descriptive name in the **Aliases** field, enable the **Access to name recorder** option, and set the **PIN** field for use with PAM. Click **OK** and activate the changes.

The screenshot shows the 'Creating Menu' dialog box. The 'Names' tab is selected, displaying fields for 'First names', 'Middle names', and 'Last names'. Below these is a list of aliases, with 'DNIS Test' selected. There are checkboxes for 'Access to personal functions', 'Voice biometrics', 'Access to name recorder' (checked), and 'Never propose this name'. There are also fields for 'PIN' and 'Password'. The 'Advanced' tab is also visible, showing 'Menu Behavior' and 'Security Access' sections. The 'Menu Behavior' section includes 'Schedule' (Always), 'Access code', 'Call redirect permitted' (checked), 'Default number' (Any type), 'Conversation template' (Default), 'Next step' (Operator), and 'Action trigger' (None). The 'Security Access' section includes 'Speech recognition' (checked), 'Menu behavior 1' (Default), 'Number of utterances' (Default), 'Number of spellings' (Default), 'Number of interactions' (Default), 'Operator extension', 'Voice profile' (Default from entry po), 'Barge-in function' (Default from entry po), 'Always ask for confirmation' (unchecked), and 'Listing of entries' (unchecked). At the bottom are buttons for 'Previous', 'New', 'Next', 'OK', 'Cancel', and 'Apply'.

Figure 32: Creating Menu

From the **Menu Editor**, navigate to **Edit→Ports** and Entry Points to display the window in **Figure 33**. Select the first item under **Port assignment** in the left pane and then select **Add→Entry Point** from the menu options. **Figure 34** is displayed.

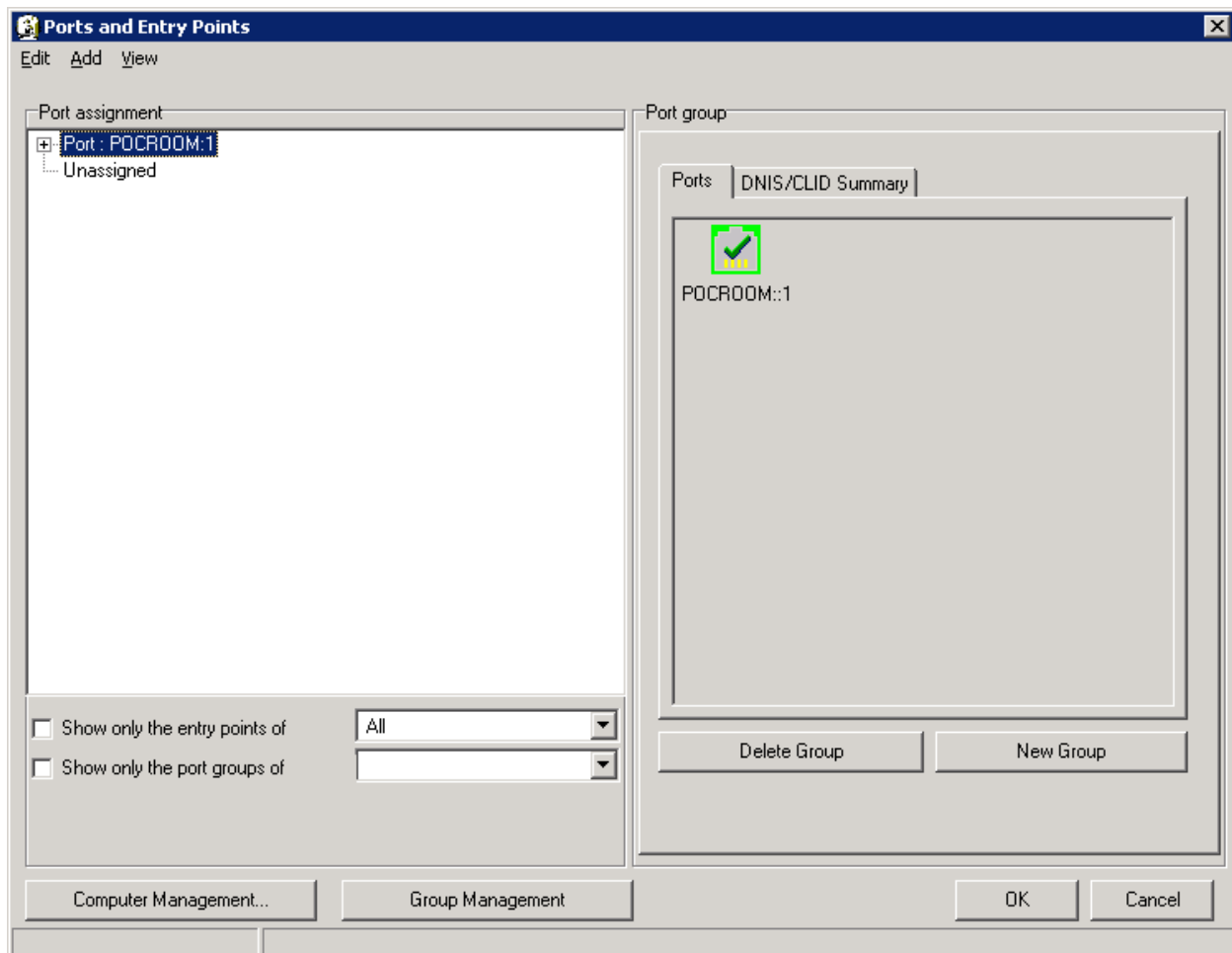


Figure 33: Ports and Entry Points

In the Ports and Entry Points window in **Figure 34**, set the **Home menu** and **Main menu** to the new entry point configured in **Figure 32**. Select the **DNIS/CLID** tab and enter the pilot number associated with the appropriate VDN configured on Communication Manager. Click **OK**. In this example, this entry point will be used when Nuance OSA receives a DNIS of 75201. Note that the configuration of VDN 75201 and its associated vector are not shown in these Application Notes, but should be configured as shown in **Figure 8** and **Figure 9**.

The screenshot shows the 'Ports and Entry Points' window with the following configuration:

- Port assignment:** A tree view showing 'Port : POCROOM:1' expanded, with 'Default Menu Entry Point 1' and 'New entry point' listed. 'Unassigned' is also visible.
- Entry point:**
 - Description: DNIS Test
 - Home menu: DNIS Test
 - Main menu: DNIS Test
 - ☐ Transfer Connect
- VUI Settings:** The 'DNIS/CLID' tab is selected. It contains a table with the following data:

DNIS	CLID
75201	
- Buttons:** 'Remove from Port Group', 'Delete', 'New', 'OK', 'Cancel', 'Computer Management...', 'Group Management'.
- Footer:** 'Modified' label.

Figure 34: New Entry Point (DNIS/CLID Tab)

In the **VUI Settings** tab, set the **Voice Profile** as shown below. Click **OK**.

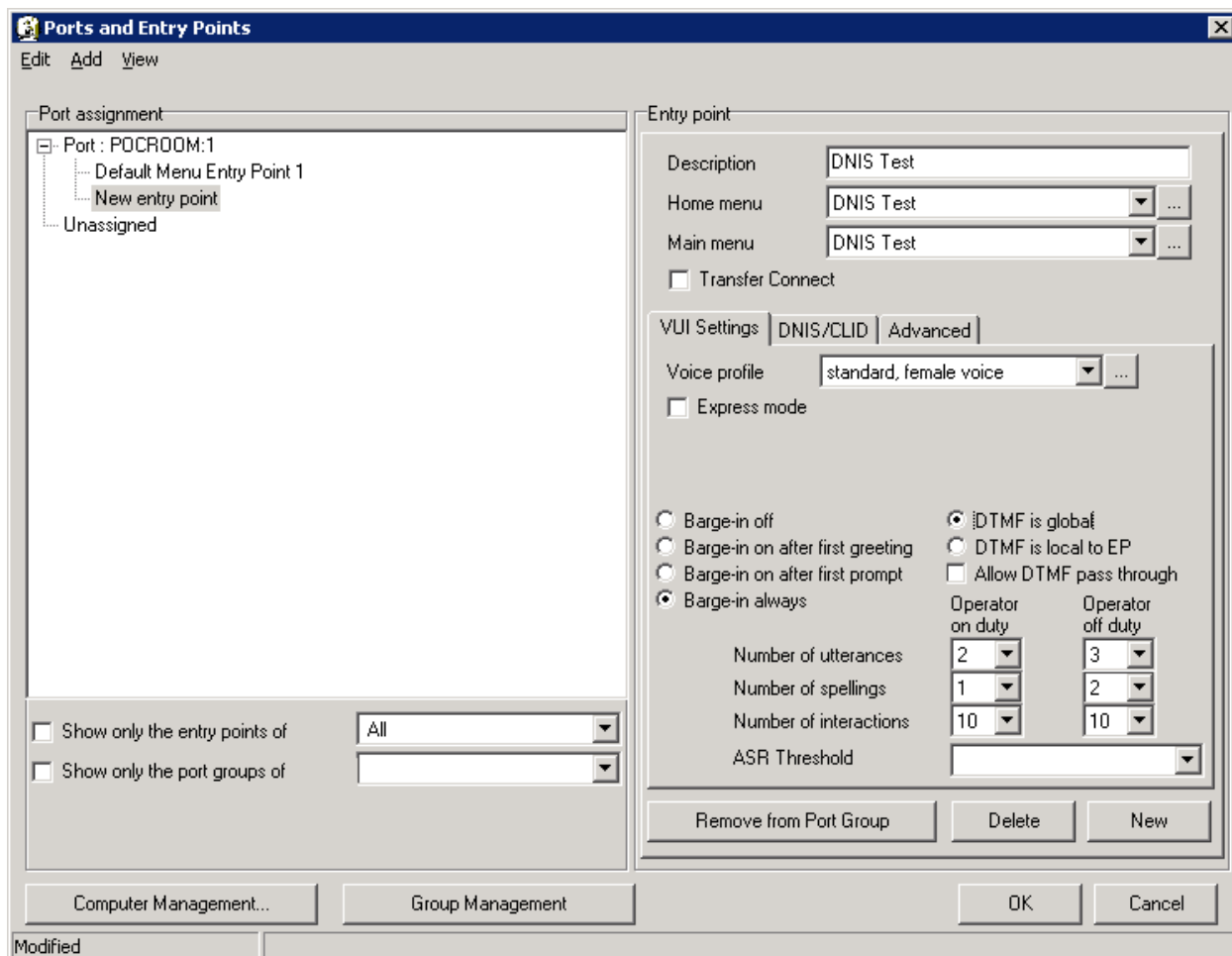


Figure 35: Ports and Entry Points (VUI Settings Tab)

A transfer entry was also added under the DNIS Test top-level menu using the procedure described in Section 5.2.

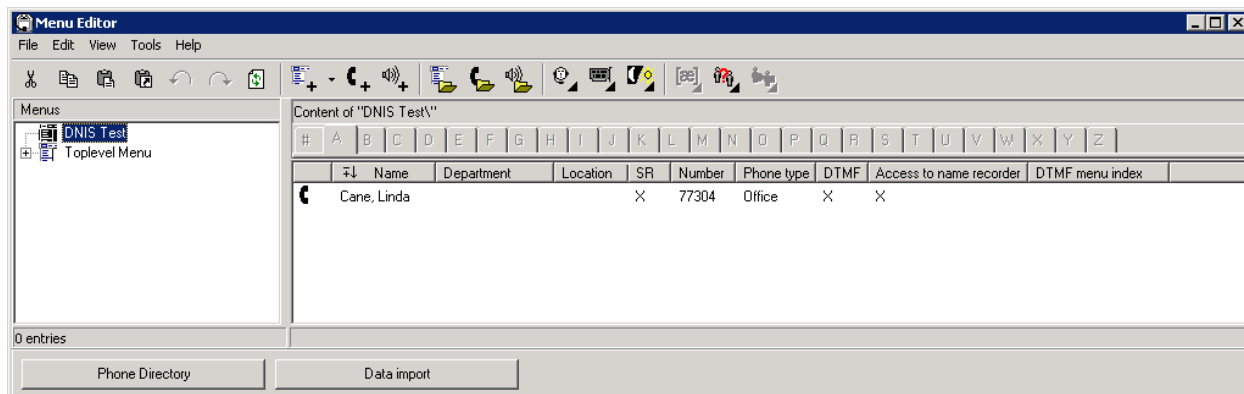


Figure 36: Transfer Entry for DNIS Test Top-Level Menu

5.4. Administer Caller Utterance Recordings

The **Monitor** tool available from the **Admin Tools** window allows a system administrator to listen to caller utterances. To enable the recording of caller utterances, click on **Configuration Panel** in **Admin Tools** shown in **Figure 23** and log in using Level 3 access. Set the **Call Analyzer recorded channels** parameter to *ALL* and set the **Dump output documents enabled** parameter to *ON* (not shown). Apply the changes as described above. Caller utterances can then be retrieved from the **Monitor** tool.

In the `gateway.xml` file located in `C:\SpeechAttendant\OSA\www\WEB-INF\conf` directory of the Nuance OSA server, set the tag

`<recordings_recognized_utterance_media_format>` under the Avaya VP 5.1 section to *audio/basic*. The default value is *audio/x-wav*. Restart Nuance OSA from **Admin Tools** to enable the change.

From **Admin Tools**, click on **Monitor** and log in with the appropriate credentials. Click on **Call Logs** in the left pane (not shown) to display a list of calls. Select the call for which you would like to listen to the caller utterance. The caller utterance will be displayed as shown below and may be listened to by clicking on the **play / stop** button.

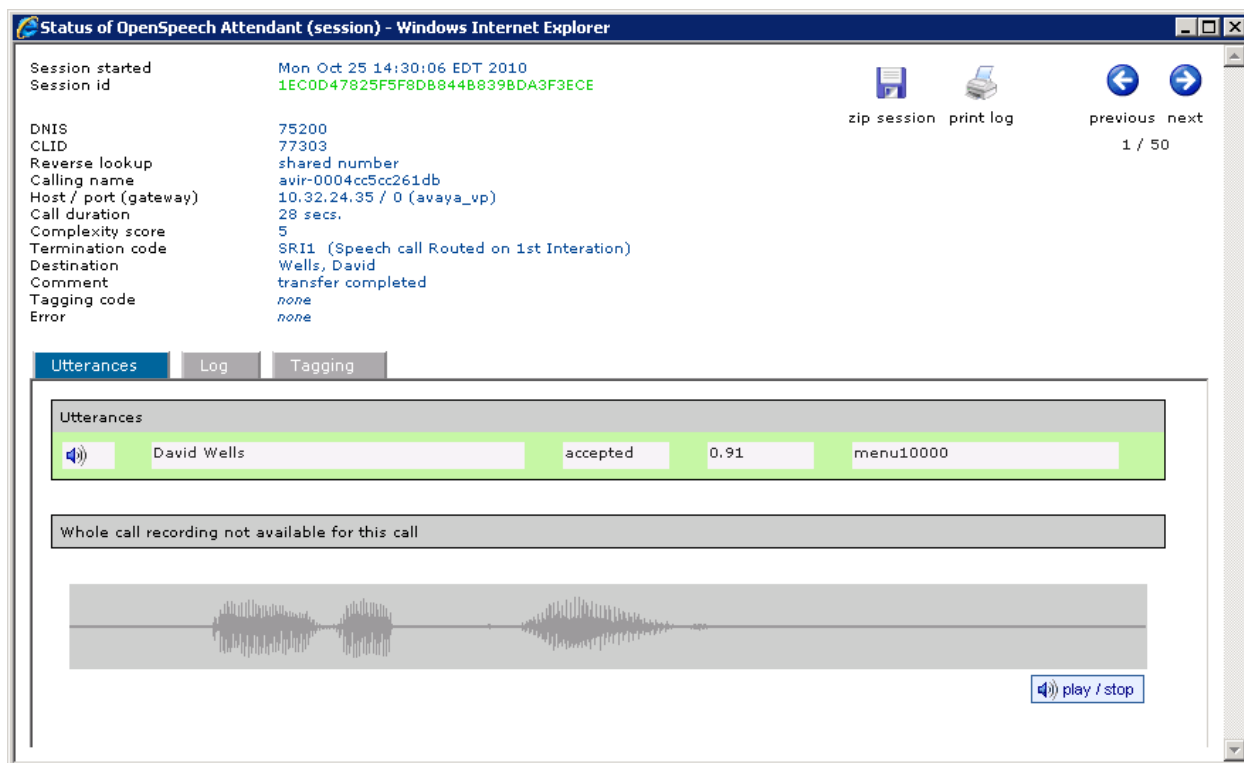


Figure 37: Caller Utterance

6. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability testing. Feature testing focused on Nuance OSA successfully recognizing spoken names and extensions entered via DTMF, and then transferring the call to the correct destination. Blind transfer was verified. Other features covered included barge-in / no barge-in, adding new transfer entries, recording caller utterances, and accessing Maintenance Mode and Personal Administration Mode to record name and change PIN. Avaya IR and the Nuance Speech Server were configured to use MRCPv1.

Serviceability testing focused on verifying the ability of the Nuance OSA to recover from adverse conditions, such as server restarts, power failures, and disconnecting cables to the IP network.

All test cases passed.

7. Verification Steps

This section provides the verification steps that may be performed to verify Nuance OSA with Avaya IR.

1. From the Avaya IR web interface, verify that the Avaya IR channels are in-service as shown in **Figure 22**.
2. From the Avaya Communication Manager SAT, verify that the T1 channels are in-service using the **status station <extension>** as shown in **Figure 38**.

```
status station 23201                                     Page 1 of 4
                                     GENERAL STATUS
Administered Type: DS1FD                               Service State: in-service/on-hook
Connected Type: N/A
Extension: 23201
Port: 01A1101      Parameter Download: not-applicable
Call Parked? no    SAC Activated? no
Ring Cut Off Act? no
Active Coverage Option: 1      one-X Server Status: N/A
EC500 Status: N/A      Off-PBX Service State: N/A
Message Waiting:
Connected Ports:
Limit Incoming Calls? no
User Cntrl Restr: none
Group Cntrl Restr: none
                                     HOSPITALITY STATUS
Awaken at:
User DND: not activated
Group DND: not activated
Room Status: non-guest room
```

Figure 38: Status Station

- From the Avaya IR web interface, click on **Display Status** under **Speech and DRP Administration** in the left pane to check the status of the Nuance Speech Server. In the resulting page (not shown), select the **Speech Resource Status** link and then select the **Resource Status** associated with the ASR server associated with the Nuance Speech Server (e.g., OPSR4). Click **Submit**. The following page will be displayed. Check that the ASR ports are *INSERV*.

AVAYA Avaya IR 4.0
Interactive Response Web-Administration Interactive Response 4.0 ? Help Log Off

Expand All

- ASG Security Administration
- Backup/Restore
- Configuration Management and Administration
- System Control
- Switch Interfaces
 - Digital Interfaces
 - Voice over IP
- Voice Equipment
- Voice Services
 - Feature Packages
 - ASAI Administration
 - CTI DIP Administration
 - Speech and DPR Administration
 - Display Status
 - Speech Resource Status
 - Speech Server Status
 - Help
 - Administration
 - Universal Call ID Administration
- ROI-TCO Feature
- Reports

RESOURCE: OPSR4 SUMMARY MRCPv1 PORTS AVAILABLE: 4

SERVER: 10.32.24.140/media/speechrecognizer IP: 10.32.24.140
Binding IP: 10.32.24.35 Base Port: 4900
PORT CAPACITY: 4 PORTS AVAILABLE: 4

PORT	STATE	CHAN
0	INSERV	N/A
1	INSERV	N/A
2	INSERV	N/A
3	INSERV	N/A

Optional: Area for display of application messages.

Figure 39: OPSR Status Summary

- From the Avaya IR web interface, click on **Display Status** under **Speech and DRP Administration** in the left pane to check the status of the TTS ports on the Nuance Speech Server. In the resulting page, select the **Speech Resource Status** link and then select the **Resource Status** associated with the TTS engine associated with the Nuance Speech Server (e.g., TTS0). Click **Submit**. The following page will be displayed. Check that the TTS ports are *INSERV*.

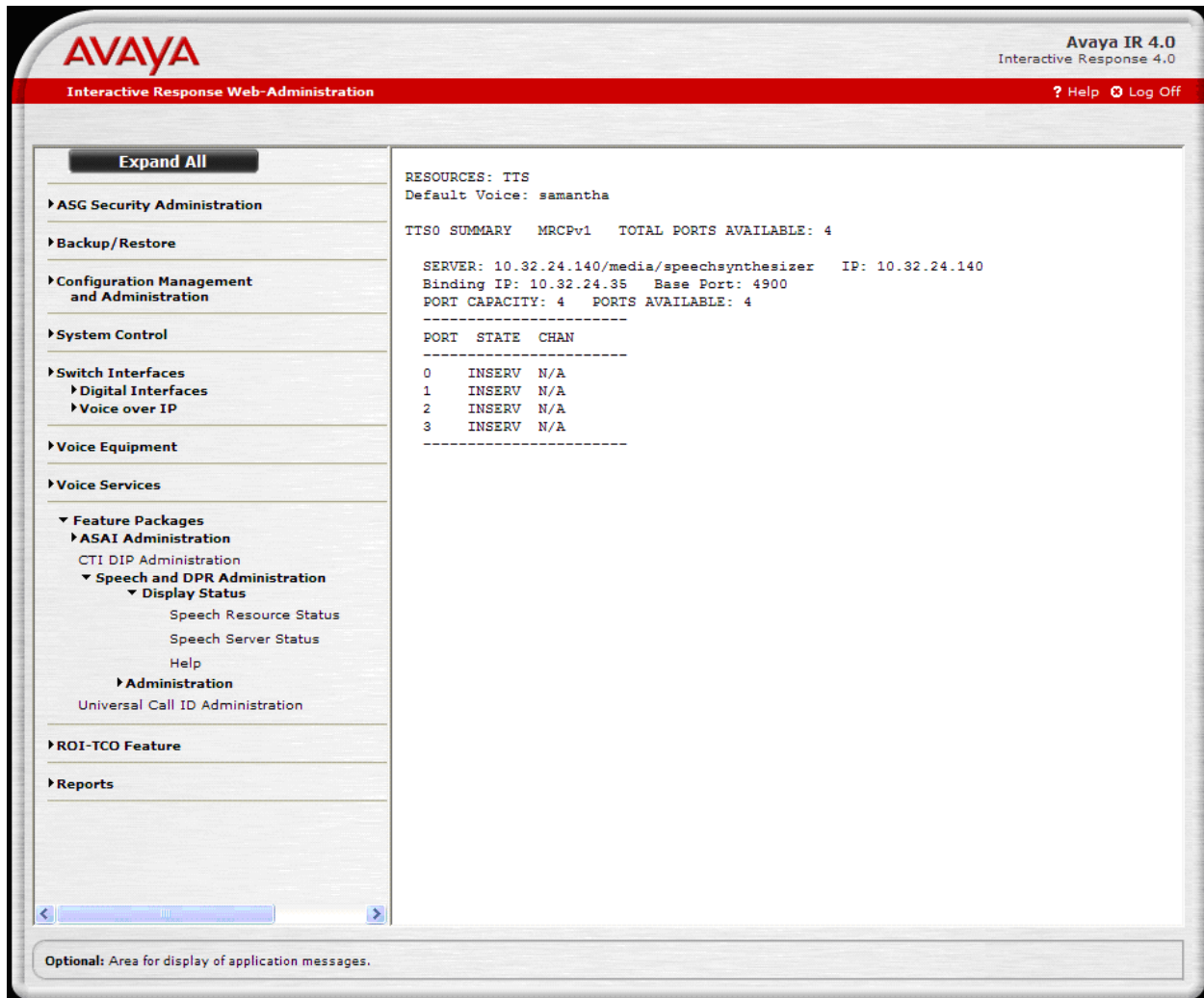


Figure 40: TTS Status Summary

- Place a call to Avaya IR and verify that the Nuance OSA application answers the call, that the greeting is heard, and that the application is able to recognize the speech and DTMF tones provided by the caller and transfer the call to the correct destination.

6. From **Admin Tools** on Nuance OSA, start the **Monitor** to verify that an active call is detected as shown in **Figure 41**.

OpenSpeech Attendant®
Hosted on pocroom

Description: Auto Attendant **Version:** OSA 4.0.0 (with E01) (latest hot fix installed 400HF01, 400HF03, 400HF04)

Sections

- Summary status
- Reports
- Alarms
 - OSA Servlet
 - Environment
 - Configuration
 - Installation log
 - Monitoring
 - Replication Monitor
 - Replication Status
 - Replication Errors
 - Call Logs

System summary

Uptime: 0 days 0 hours 16 minutes 28 seconds.
Served sessions: 39 total (21 currently in memory)
Served requests: 65

Telephony : 2 calls so far for pocroom,
1 calls in progress (concurrent peak 1, Mon Oct 25 14:30:10 EDT 2010)

10.32.24.35

CHN	Status	Calls	DNIS	CLID	EP	Function	Menu	Action
III	idle	1
■	busy	1	75200	77304	Default Menu Entry Point 1	UKN	...	in progress

Sent Email notifications: (none)
Sent Alarm notifications: 2, (Mon Oct 25 14:30:30 EDT 2010)
Possible (none)

Figure 41: OSA Monitor

- From the OSA Monitor, click on **Call logs** in the left pane. Verify that the call log shown in **Figure 42** is displayed with the correct call information and status.

OpenSpeech Attendant®
Hosted on pocroom

Description: Auto Attendant **Version:** OSA 4.0.0 (with E01) (latest hot fix installed 400HF01, 400HF03, 400HF04)

Sections

- Summary status
- Reports
- Alarms
- OSA Servlet
 - Environment
 - Configuration
 - Installation log
 - Monitoring
- Replication Monitor
 - Replication Status
 - Replication Errors
- Call Logs**

CALL LOGS

Select period:
Date from: 10/25/2010
Date to: 10/25/2010

Filter by:
DNIS: Starts With
CLID: Starts With

Filter by call termination codes:
None
ADNT - Announce number but Do Not Transfer (CS)
B - Busy (INF)
BO - Busy on Operator (INF)
CC - Cancelled by Caller (INF)

Filter by call complexity: <= seconds
Filter by call duration: <= seconds

all types last 50 calls Submit

Logs (from database), showing first 50 out of 81 sessions ... too many sessions.

Call start	DNIS	CLID	Call complexity	Call duration	Error	Termination code	Destination	System comment	Tagging
25/10/2010 17:07:08	75200	77301	5	27		SRI1	Croft, Lara	transfer completed	
25/10/2010 17:05:08	75200	77303	5	47		SRI1	Cane, Linda	transfer completed	
25/10/2010 17:01:52	75200	77303	0	14		HG	Toplevel Menu	caller hangup	
25/10/2010 15:31:35	75200	77304	5	30		SRI1	Wells, David	transfer completed	
25/10/2010 14:48:17	75200	77304	5	22		SRI1	Wells, David	transfer completed	
25/10/2010 14:46:53	75200	77302	35	75		HPAM	Toplevel Menu	caller hangup	
25/10/2010 14:40:07	75200	77302	35	101		HPAM	Toplevel Menu	caller hangup	
25/10/2010 14:38:52	75200	77302	35	35		HPAM	Toplevel Menu	caller hangup	

Figure 42: Call Log

8. Support

To obtain technical support for Nuance OpenSpeech Attendant, contact Nuance via email or through their website.

- **Web:** www.network.nuance.com
- **Email:** SpeechAttendant.Support@nuance.com
- **Phone:** (866) 434-2564 or (514) 390-3922

9. Conclusion

These Application Notes describe the configuration steps required to integrate Nuance OpenSpeech Attendant with Avaya Interactive Response (IR) using MRCPv1. All feature and serviceability test cases were completed successfully.

10. Additional References

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

- [1] *Administering Avaya AuraTM Communication Manager*, Release 6.0, Document 03-300509, Issue 6.0, June 2010, available at <http://support.avaya.com>.
- [2] *Avaya AuraTM Communication Manager Feature Description and Implementation*, Release 6.0, Document 555-245-205, Issue 8.0, June 2010, available at <http://support.avaya.com>.
- [3] *Avaya Interactive Response 4.0 Administration Guide*, December 2008, available at <http://support.avaya.com>.

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