

Avaya Solution & Interoperability Test Lab

Configuring Avaya Voice Portal with Avaya Communication Manager and Designing a Sample Speech Application using Avaya Dialog Designer – Issue 1.0

Abstract

These Application Notes describe how to configure the Avaya Voice Portal (VP) with Avaya Communication Manager. Avaya VP is a Web based and speech enabled interactive voice response system that can accept both traditional DTMF touch tone inputs and prerecorded audio files for output, and VoiceXML2.0 compliant speech applications to guide callers through call flows. In the configuration described in these Application Notes, the Avaya VP system is comprised of a Voice Portal Management System (VPMS) server, a Media Processing Platform (MPP) server and Avaya Dialog Designer. The reference network of the Voice Portal System described in these Application Notes consists of an Application server, IBM WebSphere Voice server, and Microsoft SQL server. These Application Notes also provides a guide for building a sample speech application using the Avaya Dialog Designer. This sample speech applications which includes an Application server, IBM Automated Speech Recognition and Text to Speech applications, and Microsoft SQL server.

1. Introduction

These Application Notes describe how to configure the Avaya Voice Portal with Avaya Communication Manager. Avaya VP is a Web based and speech enabled interactive voice response system that can accept both traditional user DTMF touch tone inputs and prerecorded audio files for output, and VoiceXML2.0 compliant speech applications to guide callers through call flows. The Avaya Voice Portal system is comprised of a Voice Portal Management System (VPMS) server, a Media Processing Platform (MPP) server and Avaya Dialog Designer (DD). The IBM Automated Speech Recognition (ASR) application and the IBM Text-to-Speech (TTS) application were installed on the IBM WebSphere Voice Server and used as the VoiceXML2.0 compliant speech applications for speech recognition and to convert ASCII text into synthesized speech. The Application server is a web based and J2EE compliant server. The Application server consists of an Apache Tomcat application and user created speech applications. The speech applications are deployed to the Application server and invoked by the MPP. In these Application Notes, the Application server is installed on a Windows based platform.

Media Processing Platform (MPP) – The MPP communicates with Avaya Communication Manager to provide voice response media service. The function of the MPP is described as follows:

- Uses H.323, SIP, and RTP protocols to communicate with Avaya Communication Manager. In these Application Notes, the MPP uses the H.323 protocol to register IP Softphones to the C-LAN located in the G650 Media Gateway. The IP Softphones are mapped to the sample speech application.
- Runs the Avaya VoiceXML browser to interpret VoiceXML2.0 compliant speech applications.
- Provides proxy interfaces to communicate with the TTS servers and ASR servers. The MPP uses Media Resource Control Protocol (MRCP) to control ASR and TTS servers. The MPP sends utterances to the IBM ASR application for speech recognition processing. To prompt text to a caller, the MPP sends the ASCII text to the IBM TTS application for converting text into synthesized speech.

Voice Portal Management System (VPMS) manages the MPPs and provides a web interface for administering Avaya Voice Portal (VP). The VPMS is the centralized management system for the Avaya VP.

The Dialog Designer (DD) is used to develop a speech application. The speech application is a set of servlets, grammars and artifacts needed to generate VoiceXML at run-time. The sample speech application consists of a set of nodes which includes prompt and grammar files, and data nodes. The sample speech application call flow prompts the caller to enter a four digit account number. Built-in DTMF grammar accepts touch tone inputs while voice grammar is used to accept voice inputs. The data node, configured to run database query operations, then sends the

account number to the Microsoft SQL database server to query the account balance. When the query is returned, the announce node plays to the caller the account number and account balance.

1.1. Avaya Voice Portal Call Flow

After the sample speech application is deployed to the Apache Tomcat server, use the VPMS web configuration to administer the sample application with a hunt group number. When the number is called, Avaya Communication Manager directs the call to the MPP to start the call. The call flow is described as follows:

- 1. A customer originates a call to find the account balance.
- 2. The call is received at the Avaya Communication Manager.
- 3. Avaya Communication Manager directs the call to the MPP via the H.323 VoIP connection.
- 4. The MPP maps the DNIS number to a speech application.
- 5. The MPP Voice Browser connects to the Application server where speech applications reside.
- 6. The MPP receives the VoiceXML page from the Application server and interacts with the caller.
- 7. The MPP sends the text prompt "Please enter your account number" to the TTS application which converts the text into synthesized speech and sends the synthesized speech to the MPP.
- 8. The MPP prompts the caller with the synthesized speech.
- 9. The caller responds verbally with a 4-digit account number.
- 10. The MPP sends the caller's verbal response to the ASR application.
- 11. The ASR application returns the account number to the MPP.
- 12. The MPP sends the account number to the Application server for database query.
- 13. The Application server connects to the SQL server and queries for the account balance.
- 14. The SQL server returns the account balance to the Application server.
- 15. The Application server returns the account balance to the MPP.
- 16. The MPP sends the account number and account balance to the TTS application.
- 17. The TTS application returns the synthesized speech to the MPP.
- 18. The MPP responds to the caller with the synthesized speech saying the account number and account balance.
- 19. Call ends.

1.2. Test Configuration

Figure 1 illustrates the Retail Store Headquarters configuration used to verify these Application Notes. The Headquarters consists of a pair of Avaya S8710 Media Servers with one Avaya G650 Media Gateway. All IP telephones register to Avaya Communication Manager running on the Avaya S8710 Media Servers at the Headquarters.

Note: These Application Notes assume that the Retail Store Headquarters depicted in **Figure 1** is already in place, as well as Avaya Communication Manager, Avaya Media Gateway, routers,

WH; Reviewed:	Solution & Interoperability Test Lab Application Notes	3 of 54
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switches, Microsoft SQL server, Application server, and IBM WebSphere Voice server. Please consult the appropriate documentation listed in the References section of this document for more information on setting up these components. The focus of these Application Notes is to configure the Voice Portal system with Avaya Communication Manager.

Name	IP Address
C-LAN	30.1.1.4
MedPro	30.1.1.5
VPMS	30.1.1.12
MPP	30.1.1.11
Dialog Designer	30.1.1.16
Application server	30.1.1.15
IBM TTS/ASR	30.1.1.14
Microsoft SQL server	30.1.1.17

Table 1	-]	P	Address	Assignment
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Retail Store Headquarters Configuration

Figure 1: Network Configuration Diagram

2. Equipment and Software Validated

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

Equipment	Software		
Avaya Communication Manager			
Avaya S8710 Media Server	3.1.2 (R013x.01.2.632.1)		
Avaya G650 Media gateway			
IPSI (TN2312BP)	HW 10 FW 031		
C-LAN (TN799DP)	HW 017 FW 017		
MEDPRO (TN2302AP)	HW 20 FW 112		
Avaya Voice Portal			
 Voice Portal Management System 	3.0.1.0.2303		
 Media Processing Platform 	3.0.1.0-2308		
 Dialog Designer 	3.0.20		
Application Server			
 Apache Tomcat 	5.0.28		
J2sdk	1_4_1_02		
 Microsoft Windows 2003 Server 	SP 1		
IBM WebSphere Voice Server	WAS 5.1		
 ASR 	WVS 5.1.3		
 TTS 	WVS 5.1.3		
 Microsoft Windows 2003 Server 	SP 1		
Microsoft SQL Server	SQL 2000 SP 4		

Table 2 - Equipment and Version Validated

3. Configure Avaya Communication Manager

This section details the administration on Avaya Communication Manager that must be performed for the Avaya Voice Portal. The following commands are issued at the Avaya System Access Terminal (SAT) on the S8710 Media Server at the Headquarters location.

Step	Description					
1.	Issue the display system-parameters customer-options command and verify that there are					
	sufficient IP API A licenses. If not contact an authorized Avava account representative to					
	obtain those ligenses					
	obtain mese neelises.					
	display system-parameters customer-options Page 10 of 11					
	MAXIMUM IP REGISTRATIONS BY PRODUCT ID					
	Product ID Rel. Limit Used					
	IP_API_A : 2400 0					
	IP_API_B : 2400 0					
	IP_API_C : 2400 0					
	IP_Agent : 2400 0					
	IP_IR_A 2400 0 ID_Phone 12000 9					
	TP_FROMAX : 12000 0					
	IP Soft : 2400 0					
	IP_eCons : 20 0					
	: 0 0					
2	Icoue the change system never feetures command. On Dage 6 of the system					
4.	issue the change system-parameters reactives command. On Fage 0 of the system-					
	parameters features form, set 7434ND to "y".					
	change system-parameters features Page 6 of 17					
	FEATURE-RELATED SYSTEM PARAMETERS					
	Public Network Trunks on Conference Call: 5 Auto Start? n					
	Conference Parties with Public Network Trunks: 6 Auto Hold? n					
	Conference Parties without Public Network Trunks: 6 Attendant Tone? y					
	Night Service Disconnect Timer (seconds): 180 Bridging Tone? n					
	Improvered DID Call Timer (seconds): Intrusion Tone? n					
	Line Intercept Care Timer (seconds): 30 Mode Code Interface? n					
	Long Hold Recall Timer (seconds): 0					
	Reset Shift Timer (seconds): 0					
	Station Call Transfer Recall Timer (seconds): 0					
	DID Busy Treatment: tone					
	Allow AND AND A GOOGG from DTD /DIOD2 w					
	Allow AAR/ARS ACCESS From DID/DID/ Y					
	Use Trunk COR for Outgoing Trunk Disconnect? n					
	7405ND Numeric Terminal Display? n 7434ND? y					
	DISTINCTIVE AUDIBLE ALERTING					
	Internal: 1 External: 2 Priority: 3					
	Attendant Originated Calls: external					

Step	Description						
3.	Issue the change ip-codec-set 1 command. Enter the following values:						
	 Audio codec: Enter "G.711MU". The value administered here will be used in Voice Portal configuration Section 4 Step 5. Silence Suppression: Retain the default value "n". Frames Per Pkt: Enter "3". Packet Size (ms): Enter "30". 						
	 Media Encryption: Voice Portal supports Media Enc based on the system requirement, for example "aea" 	ryption. Enter the value					
	change ip-codec-set 1	Page 1 of 2					
	IP Codec Set						
	Codec Set: 1						
	Audio Silence Frames Packet Codec Suppression Per Pkt Size(ms) 1: G.711MU n 3 30 2: 3: 4: 5: 5:						
	Media Encryption 1: aea 2: 3:						

Step	Description					
4.	Issue the change ip-network-region <n></n> command, where <n></n> is a valid network region					
	number. On Page 1, set the Intra-region IP-IP Direct Audio, and Inter-region IP-IP					
	Direct Audio fields are set to " ves ".					
	Change ip-network-region 1 Page 1 of 19					
	IP NETWORK REGION					
	Region: 1					
	Location: 1 Authoritative Domain:					
	Name: Retail-HQ					
	MEDIA PARAMETERS Intra-region IP-IP Direct Audio: yes					
	Codec Set: 1 Inter-region IP-IP Direct Audio: yes					
	UDP Port Min: 5000 IP Audio Hairpinning? n					
	UDP Port Max: 5999					
	DIFFSERV/TOS PARAMETERS RICP Reporting enabled? y					
	Laidio DHB Value: 46 IIce Default Server PARAMELERS					
	Video PHB Value: 26					
	802.1P/O PARAMETERS					
	Call Control 802.1p Priority: 6					
	Audio 802.1p Priority: 6					
	Video 802.1p Priority: 5 AUDIO RESOURCE RESERVATION PARAMETERS					
	H.323 IP ENDPOINTS RSVP Enabled? n					
	H.323 Link Bounce Recovery? y					
	Idle Traffic Interval (sec): 20					
	Keep-Alive Interval (Sec): 5					
	Keep-Alive Count. 5					

Step	Description					
5.	Issue the add station $<$ n $>$ command, where $<$ n $>$ is a valid unused station number, for					
	example 2220011. The station numbers correspond to the stations assigned to the VP ports					
	and will be used later in Section 4 Step 4. On Page 1, enter the following values:					
	 Type: Enter station type "7434N Port: Enter "IP". Name: Enter a descriptive name. Security Code: Enter a valid stat Display Module: Enter "y". Display Language: Enter "englis IP Softphone: Enter "y". 	D". ion security code. sh".				
	add station 2220011	Page 1 of 5 STATION				
	Extension: 2220011	Lock Messages? n BCC: 0				
	Type: 7434ND	Security Code: * TN: 1				
	Name: Voice Portal 1	Coverage Path 1: Cox: 1 Coverage Path 2: CoS: 1 Hunt-to Station:				
	STATION OPTIONS					
	Loss Group: 2 Data Module? n Display Module? y	Personalized Ringing Pattern: 1 Message Lamp Ext: 2220011				
	Display Language: english	Coverage Module? n				
		Media Complex Ext:				
		IP SoftPhone? y				
		IP Video Softphone? n				

On	1				
	Page 2, set the Multimed	ia Mode f	ield to " enhanc	ed".	
	add station 2220011			P	age 2 of
	FEATURE ODTIONS		STATION		
	LWC Reception	: spe	Auto Se	lect Any Idle Ap	pearance? n
	LWC Activation	? Y		Coverage Msg R	etrieval? y
	LWC Log External Calls	? n		Aut	o Answer: non
	CDR Privacy	? n ?	та	Data Res	triction? n
	Per Button Ring Control	: y ? n	Bride	ged Idle Line Pr	eference? n
	Bridged Call Alerting	? n	I	Restrict Last Ap	pearance? y
	Active Station Ringing	: single	Conf/Tra	ns on Primary Ap	pearance? n
	H.320 Conversion Service Link Mode	? n : as-needee	Per Station Cl	PN - Send Callin	g Number?
	Multimedia Mode	: enhanced	Di	aplass alignt Dod	image in a
	AUDIX Name	:	Sele	ect Last Used Ap	pearance? n
			Co	overage After Fo	rwarding? s
	Remote Softphone Emerge Emergency Location Ext:	ncy Calls: 2220011	as-on-local Dire Always Use? n	ect IP-IP Audio IP Audio Hai	Connections? rpinning? y
	add station 2220011		STATION	Page	3 of 5
	SITE DATA		DIATION		
	SITE DATA Room:		DIATION	Headset? n	L
	SITE DATA Room: Jack: Cable:		DIATION	Headset? n Speaker? n Mounting: d	
	SITE DATA Room: Jack: Cable: Floor:		SIAIDA	Headset? n Speaker? n Mounting: d Cord Length: 0	L L L
	SITE DATA Room: Jack: Cable: Floor: Building:		STATION	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color:	
	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING	Lis	-2:	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color:	
	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1:	Lis	-2:	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3:	
	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1: BUTTON ASSIGNMENTS	Lis	-2:	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3:	
	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1: BUTTON ASSIGNMENTS 1: call-appr 2: call-appr	Lis [.]	6: 7:	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3:	
	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1: BUTTON ASSIGNMENTS 1: call-appr 2: call-appr 3:	Lis	6: 7: 8:	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3:	
	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1: BUTTON ASSIGNMENTS 1: call-appr 2: call-appr 3: 4:	Lis	6: 7: 8: 9:	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3:	
On	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1: BUTTON ASSIGNMENTS 1: call-appr 2: call-appr 3: 4:	Lis [.] DISPLAY	6: 7: 8: 9: BUTTON ASSIG	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3:	to " normal "
On	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1: BUTTON ASSIGNMENTS 1: call-appr 2: call-appr 3: 4: Page 5, set item 1 of the I add station 2220011	Lis DISPLAY	6: 7: 8: 9: BUTTON ASSIG	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3: CNMENTS field	to " normal "
On	SITE DATA Room: Jack: Cable: Floor: Building: ABBREVIATED DIALING List1: BUTTON ASSIGNMENTS 1: call-appr 2: call-appr 3: 4: Page 5, set item 1 of the I add station 2220011	Lis [.] DISPLAY	5141104 52: 6: 7: 8: 9: BUTTON ASSIG	Headset? n Speaker? n Mounting: d Cord Length: 0 Set Color: List3: GNMENTS field	to " normal "
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P	Description					
	Repeat Step 5 as necessary to add additional stations 2220012 - 2220016 .					
	Jacua the add hunt group and a command where and is an unward hunt group numb					
	Issue the add hunt-group $\langle n \rangle$ command, where $\langle n \rangle$ is an unused hunt group number.					
	Page 1, enter the following values and leave the rest with the default values.					
	• Group Name: Enter a descriptive name.					
	• Group Extension: Enter a valid group extension, for example 2220511.					
	• ISDN/SIP Caller Display: Enter "grn-name"					
	• ISBN (Shi Culler Display: Eliter gip hume :					
	Add hunt-group 11 Page 1 of 60					
	HUNT GROUP					
	Group Number: 11 ACD? n					
	Group Name: Account Balance Queue? n					
	Group Type: ucd-mia Coverage Dath:					
	TN: 1 Night Service Destination:					
	COR: 1 MM Early Answer? n					
	Security Code: Local Agent Preference? n					
	ISDN/SIP Caller Display: grp-name					
	On Page 3, enter the Voice Portal station numbers in the Ext fields of the GROUP MEMBER ASSIGNMENTS . The station numbers were administered in Step 5 - 6.					
	On Page 3, enter the Voice Portal station numbers in the Ext fields of the GROUP MEMBER ASSIGNMENTS . The station numbers were administered in Step 5 - 6.					
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	On Page 3, enter the Voice Portal station numbers in the Ext fields of the GROUP MEMBER ASSIGNMENTS . The station numbers were administered in Step 5 - 6. add hunt-group 11 Page 3 of 60 HUNT GROUP Group Number: 11 Group Extension: 2220511 Group Type: ucd-mia Member Range Allowed: 1 - 1500 Administered Members (min/max): 1 /6 Total Administered Members: 6					
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Select a C-LAN to be used in Section 4 Step 4 for Voice Portal H.323 provisioning. Issu						
he display node-	names in co	omr	and. Note the C-LAN IP ad	ldress " 30.1.1.4 ".		
display node-nar	nes ip					
			IP NODE NAMES			
Name	IP Ad	dres	3			
C-LAN	30 .1	.1	.4			
G250-HQ1-lsp	40 .1	.1	.1			
HQ-VAL	30 .1	.1	.16			
MM-MAS	30 .1	.1	.9			
Medpro	30 .1	.1	.5			
RS1-IPO	11 .1	.1	.1			
RS2-G350	22 .1	.1	. 22			
RS4-IPSO	44 .1	.1	.1			
default	0.0	.0	.0			
procr	30 .1	.1	.1			

4. Configure Avaya Voice Portal System

This section details the administration of the Avaya Voice Portal Management System (VPMS) and the Media Processing Platform (MPP). It is assumed that the Avaya VPMS and MPP are installed and have the appropriate license. Please refer to the **Avaya Voice Portal Installation Guide** [2] for a description of these procedures. Avaya Voice Portal System is configured using the web interface. The VPMS web interface is accessed by typing the following URL on a web browser and then pressing Enter:

http://<hostname or IP address of VPMS server>:8080/VoicePortal

Step	Description						
1.	Log in to VPMS using prope	g in to VPMS using proper credentials.					
2.	In the left pane of the Voice I Licensing . Verify that there a TTS Connections . If not, con licenses.	Portal Management System, click on System Configuration → are sufficient licenses for Telephony Ports, ASR Connections, and ntact an authorized Avaya account representative to obtain these					
		VoicePortal/faces/main.jst Voice Portal Management System					
	Expand All Collapse All • User Management • System Configuration Applications ASR Servers Fault Settings Global Settings H.323 Connections Licensing MPP Servers Report Data SIP Connections SNMP Agent SNMP Traps TTS Servers YoIP Settings • Reports	You are here: Home > System Configuration > Licensing Licensing This page displays the Voice Portal license information that is currently in effect. Voice Portal Avaya License Manager (WebLM) to control the number of telephony ports that are used. License Information Telephony Ports: 500 ASR Connections: 500 TS Connections: 500 Last Successful Poll: 6/14/06 4:58:41 PM EDT License Server Ucense Server http://30.1.1.12:8080/WebLM/LicenseServer URL: Verify					



Step	Description				
4.	The Add H.323 Con	nection screen appears. Enter the following value	es:		
	 Name: Enter a d GateKeeper Add can be found in \$ GateKeeper Port Media Encryptic New Phone Nun From: Enter th To: Enter the I Password: Enter Check Use san Click Add. 	escriptive name, for example "C-LAN-HQ". Iress: Enter the ip address of the C-LAN "30.1.1. Section 3 Step 8. :: Use the default value. on: Check "Yes". This is administered in Section hber: he first station number "2220011" administered in ast station number "2220016" administered in Section er station password. ne password for all.	4 ". The C-LAN ip addess 3 Step 3. n Section 3 Step 5. ection 3 Step 6.		
	Scroll down to the bo	ttom of the screen, and click Save.			
	Yoice Portal - Microsoft Internet Explorer Eile Edit View Favorites Iools Help Back • O • X O Search Important Search Important Search Address Address Address Address Important Search Important Search				
	AVAYA Voice Management				
	Documentation Log Off Expand All Collapse All • User Management Users • System Maintenance System Monitor Port Distribution Log Viewer Alarm Manager • System Configuration Applications ASR Servers Fault Settings H.323 Connections Licensing MPP Servers Report Data SIP Connections SNMP Agent SNMP Traps TTS Servers Volt Settings • Reports Agplication Call Summary Call Detail Call Traffic Performance Session Detail	You are here: Home > System Configuration > H.323 Connections > Change Change H.323 Connection Use this page to change the configuration of an H.323 connection. Name: C-LAN-HQ Gatekeeper Address: 30.1.1.4 Gatekeeper Port: 1719 Media Encryption: ⓒ Yes C No New Phone Numbers From To Phone Number: ⓒ Use same password for all ⓒ Use sequential passwords Maintenance: ○ Yes ⓒ No Configured Phone Numbers (M for Maintenance) 2220011 - 2220016 Save Cancel Help	Add Remove		
			📄 💙 Local intranet 🥢		

WH; Reviewed: SPOC 9/20/2006

Step	Description		
5.	In the left pane of the VoIP Settings. The V Format drop down lis Communication Mana fields. Click on Save.	Voice Portal Management System, click on System Configur oIP Settings screen appears. Select "audio/basic" from the MP at. This setting is equivalent to the codec setting "G711MU" on ager administered in Section 3 Step 3. Retain the default values f	ation → P Native Avaya For all other
	🗿 Voice Portal - Microsoft Inte	ernet Explorer	- 🗆 ×
	File Edit View Favorites Tool	s Help	27
	🌏 Back 👻 🕗 🖌 😰 🍕	🏠 🔎 Search 🤺 Favorites 🕢 🔗 - 🌺 🧫 🦓	
	Address 🗃 https://30.1.1.12:8443/	VoicePortal/faces/main.jsf	🔰 Go 🛛 Links 🌺
	AVAYA Documentation Log Off	Vo Manageme	ice Portal ent System
	Expand All Collapse All		
	 User Management Users System Maintenance System Monitor Port Distribution Log Viewer Alarm Manager System Configuration Applications ASR Servers Fault Settings Global Settings H.323 Connections Licensing MPP Servers Report Data SIP Connections SNMP Agent SNMP Traps TTS Servers VoIP Settings Reports Application Call Summary Call Detail Call Traffic Performance Session Summary Session Detail 	Volume Frene Protocol (VolP) is the process of sending voice data through a network using or more standard protocols such as H.323 and Real-time Transfer Protocol (RTP). Use this page to configure parameters that affect how voice data is transferred through the network. Note that if the maxe any changes to this page, you must restart all MPPs. Port Ranges UDP: 30000 31999 TCP: 31000 31999 MRCP: 32000 32999 Port: Port: Image: Port: Image: Image:	one :o rou



p	Description			
	The Add MPP Servers screen appears. Enter the following values:			
	Name: Enter a descriptive name, for examHost Address: Enter the ip address of the	mple " mpps-hq ". MPP server, for example " 30.1.1.11 ".		
	Click Continue .			
	🚳 Voice Portal - Microsoft Internet Explorer			
	File Edit View Favorites Tools Help	2		
	🚱 Back 🔹 🕥 🖌 😰 🏠 🔎 Search 🤺 Favorites 🧭	🔗 - 💺 🖂 🦓		
	Address 🗃 https://30.1.1.12:8443/VoicePortal/faces/main.jsf	Go Links »		
	Αναγα	Voice Portal Management System		
	Documentation Log Off			
	Expand All Collapse All Vou are here: Home > System Conf User Add MPP Server System Monitor Use this page to add a new MPP se Vou are here: Home > System Conf Use this page to add a new MPP se Vou are here: Home > System Conf Use this page to add a new MPP se Vou are here: Monitor Name: Monitor Vou are here: Home > System Conf Host Address: [30,1,1,1,1]	figuration > <u>MPP Servers</u> > Add MPP Server		





Step	Description					
10.	The Add ASR Server screen appears. Enter the following values and retain the rest of the					
	default values					
	• Name: Enter a d	escriptive name, for				
	 Engine Type: Select "IBM WVS" from the Engine Type drop down list. Network Address: The ASR Engine is installed on the IBM WebSphere server. Enter the address of the IBM WebSphere server address. Ports per MPP: Enter a valid number that a MPP can connect to on this ASR. The valid 					
	numbers are 1 to	b 1000.				
		/ 10001				
	Clipto Comm					
	Click Save.					
				_		
	Voice Portal - Microsoft In	ternet Explorer		×		
	File Edit View Favorites To	ols Help		/		
	🌏 Back 👻 🕥 🖌 😰 1	🏠 🔎 Search 🛛 👷 Favorite	s 🚱 😞 + 🛬 🔜 🦓			
	Address 🗿 https://30.1.1.12:8443	3/VoicePortal/faces/main.isf	Go Links	»		
				_		
	۸\/۸\/۸		Voice Porta	d		
	FIVELYEL		Management System	n		
	Documentation Log Off					
	Expand All Collapse All	You are here: Home > Syst	tem Configuration > ASR Servers > Add ASR Server			
	– User Management					
	 ✓ System Maintenance 	Add ASR Serv	ver			
	System Monitor Port Distribution	Use this page to configure	Voice Portal to communicate with a new ASR server. Note that after adding			
	Log Viewer Alarm Manager	an ASR server, you must r	restart all MPPs.			
	- System Configuration	Name:	VP-WVS			
	Applications ASR Servers	Engine Type:	IBM WVS 🔹			
	Fault Settings Global Settings	Network Address:	30.1.1.14			
	H.323 Connections	Base Port:	554			
	MPP Servers	Ports per MPP:	20			
	Report Data SIP Connections	MRCP Ping Interval:	15 second(s)			
	SNMP Agent	MRCP Response Timeout	4 second(s)			
	TTS Servers	New Connection new Service				
	▼ Reports	New Connection per Sessi				
	Application Call Summary	RTSP URL:	30.1.1.14/media/recognizer			
	Call Detail		English(US) en-US			
	Performance	Languagos	English(UK) en-GB			
	Session Summary Session Detail	Languages.	English(Australian) en-AU			
			German de-DE			
		Save Cancel He	elp	-		

Step	Description							
11.	In the left pane of the Voice Portal Management System, click on TTS Servers. The TTS							
	Servers screen appears. Click on Add. The Add TTS Server Screen appears. Enter the							
	following values and retain the rest of the default values.							
	Tonowing values and reall the rest of the default values.							
	• Name: Enter a d	lescriptive name for	r example "VP-WVS"					
	• Name. Enter a C	alact " IDM WVS " f	rom the Engine Type dron down list					
	• Englite Type. So	and The TTC Engine	is installed on the IDM WebSchere conver Enter the ID	,				
	• Network Addres	ss: The TTS Engine	is installed on the IBM webSphere server. Enter the IP					
	address of the II	BM webSphere serv	er address.					
	• Ports per MPP:	Enter a valid numbe	r that a MPP can connect to on this TTS. The valid					
	numbers are 1 to	o 1000.						
	Click Save.							
	🔮 Voice Portal - Microsoft In	nternet Explorer	_ 🗆 ×					
	File Edit View Favorites To	ools Help		1				
	🔇 Back 🗸 🕥 - 💌 💈	🔗 🔎 Search 😽 Favorites	s 🚱 🔗 💺 🥽 🦓					
	Address Abtroc // 30 1 1 12:844	13/VoicePortal/faces/main_isf	▼ Son Links ≫					
	Regs//30/17/12/044	sy voice of call acesymain.jsi		-				
	A\/A\/A		Voice Portal					
	FIVELYEL		Management System					
	Documentation Log Off							
	Expand All Collapse All	You are here: Home > Syst	tem Configuration > TTS Servers > Add TTS Server					
	✓ User Management Users							
	System Maintenance	Add 11S Serv	/er					
	Port Distribution	Use this page to configure	Voice Portal to communicate with a new TTS server. Note that after adding					
	Log Viewer Alarm Manager	a 115 server, you must re:	start all MPPs.					
	 System Configuration Applications 	Name:	VP-WVS					
	ASR Servers Fault Settings	Engine Type:	IBM WVS					
	Global Settings	Network Address:	30.1.1.14					
	Licensing	Base Port:	554					
	MPP Servers Report Data	Ports per MPP:	20					
	SIP Connections SNMP Agent	MRCP Ping Interval:	15 second(s)					
	SNMP Traps	MRCP Response Timeout:	4 second(s)					
	TTS Servers New Connection per Session: Yes No Voltation RTSP URL: 30.1.1.14/media/synthesizer							
	Call Summary Call Detail English(US) en-US Andrew M							
	Call Detail	Call Traffic English(US) en-US Allison F						
	Call Detail Call Traffic Performance		English (195) and 18 Tulor E	υ.				
	Call Detail Call Traffic Performance Session Summary	Languages/TTS Voices:	English(US) en-US Tyler F English(UK) en-GB David M					
	Call Detail Call Traffic Performance Session Summary Session Detail	Languages/TTS Voices:	English(US) en-US Tyler F English(UK) en-GB David M English(UK) en-GB Sally F					
	Call Detail Call Traffic Performance Session Summary Session Detail	Languages/TTS Voices:	English(US) en-US Tyler F English(UK) en-GB David M English(UK) en-GB Sally F English(UK) en-GB Dawn F					
	Call Detail Call Traffic Performance Session Summary Session Detail	Languages/TTS Voices:	English(US) en-US Tyler F English(UK) en-GB David M English(UK) en-GB Sally F English(UK) en-GB Dawn F					
	Call Detail Call Traffic Performance Session Summary Session Detail	Languages/TTS Voices:	English(US) en-US Tyler F English(UK) en-GB David M English(UK) en-GB Sally F English(UK) en-GB Dawn F					

Step	Description				
12.	In the left pane of the Voice Portal Management System, click on Applications. The				
	Applications screen appears. Click Add.				
	🗿 Voice Portal - Microsoft Internet Explorer 📃 💌				
	File Edit View Favorites Tools Help 🥂				
	🔇 Back + 🚫 - 🖹 🖉 🏠 🔎 Search 🤺 Favorites 🚱 🔗 - 🌺 🤜 🦓				
	Address 🗃 https://30.1.1.12:8443/VoicePortal/faces/main.jsf 🖸 💽 Go 🛛 Links 🎽				
	Voice Portal Management System				
	Documentation Log Off				
	Expand All Collapse All Vou are here: Home > System Configuration > Applications Vou are here: Home > System Configuration > Applications System Maintenance System Maintenance System Monitor Port Distribution Log Viewer Alarm Manager Officer Configuration				
	Ask Servers Ask Servers Fault Settings Global Settings H.323 Connections Licensing MPP Servers Report Data Md Delete Help Method Settings Constructions Licensing MPP Servers Report Data Constructions Licensing MPP Servers Report Data Constructions Licensing MPP Servers Report Data Constructions Licensing MPP Servers Report Data				

Step	Description				
13.	The Add Application	screen appears. Enter the following values:			
	 Name: Enter a descriptive name. VoiceXML URI: Enter "http://<application address="" ip="" server="">:8080/<application name="">/Start", for example: "http://30.1.1.15:8080/BONStoreDriectory/Start".</application></application> Phone Number: Enter the hunt-group number added in Section 3, Step 7, and then click Add. Retain the rest of the default values. Scroll down to the bottom of the screen, and click Save. 				
	🔮 Voice Portal - Microsoft Int	ernet Explorer - 🗆 🗙			
	File Edit View Favorites Too	s Help 🥂			
	🌀 Back 👻 🌍 🖌 🞽 💈 🔇	🏠 🔎 Search 🤺 Favorites 🤣 🔗 🌭 🔜 🦓			
	Address 🙆 https://30.1.1.12:8443	WoicePortal/faces/main.jsf 🛛 💽 Go 🛛 Links 🎽			
		Voice Portal			
	ΑνΑγΑ	Management System			
	Documentation Log Off				
	Expand All Collapse All	You are here: <u>Home</u> > System Configuration > <u>Applications</u> > Add Application			
	✓ User Management Users	Add Application			
	 System Maintenance System Monitor 				
	Port Distribution Log Viewer	use this page to deploy a new voice.ML application on the voice Portal system.			
	Alarm Manager System Configuration	Name: BONStoreDirectory			
	ASR Servers	VoiceXML URI: http://30.1.1.15:8080/BONStoreDirectory/Start			
	Global Settings	ASR Enabled: O Yes O No			
	Licensing MPP Servers	ASR Engine Type: IBM WVS 🔽			
	Report Data SIP Connections SNMP Agent	ASR Languages:			
	SNMP Traps TTS Servers	TTS Enabled: 📀 Yes 🔿 No			
	Reports Application	TTS Engine Type: IBM WVS			
	Call Summary Call Detail Call Traffic	English(US) en-US Andrew M TTS Languages/Voices:			
	Session Summary	Application Reporting: O Yes O No			
	Session Detail	Converse-On: O Yes 🖲 No			
		New Called Numbers (DNIS)			
		Phone Number: 2220511 To: Add			
		Configured Called Numbers			
		<no number="" phone=""></no>			
		Remove			
		Kenove			
	1				

5. Design and Generate Speech Application

These Application Notes assume that the Dialog Designer (DD) depicted in **Figure 1** is already installed. Refer to [3] for detailed information about installation procedure. The DD was used to develop and generate the speech application. The speech application is a set of servlets, grammars and other artifacts which are needed to generate VoiceXML at run-time.

5.1. Develop the Speech Application

This section describes the steps necessary to design a sample application with a database connector using the Dialog Designer. It is assumed that the Dialog Designer, Microsoft SQL server and the Microsoft JDBC driver were already installed. In this sample application, the database name "RetailStore" and the database table "consumerAccount" must be created before the DD database connector configuration in Steps 6 and 7 can be performed.



Step	Description
2.	The New Speech Project screen appears. Enter a descriptive project name, for example " BONStoreDirectory ". Check the Use default checkbox. Click Finish .
	Se New
	Speech Project Create a Speech Project
	Project name: BONStoreDirectory Project contents Use default Directory: C:\Eclipse\workspace\BONStoreDirectory Browse
	<back next=""> Finish Cancel</back>



Step	Description				
4.	The Properties for BONStoreDirectory screen appears. Click the Data Sources tab.				
	Properties for BONSt	oreDirectory _ 🗆 🗙			
	Info	Dialog Designer			
	Builders				
	Dialog Designer Java Build Path	General Speech Languages Data Sources Web Descriptor			
	Java Compiler	Project Norsey BONStoreDirectory			
	Javadoc Location Java Task Tags				
	Project References				
	Tomcat	Runtime Version: 03.00.20			
		Mode: Speech/DTMF 🔽 Type: Application			
		Icons			
		Smally 📕 Browse			
		OK Cancel			
5.	The JDBC Data Sour	ces appears. To add JDBC data source, click Add.			
	The postion for PONSt				
	E Propercies for BONSI				
	Info	Dialog Designer			
		General Speech Languages Data Sources Web Descriptor			
	Java Build Path				
	- Java Compiler	JDBC Data Sources			
	Java Task Tags				
	Tomcat	Add			
		Edit			
		Delete			
		OK Cancel			

tep	Description					
•	In the Create a	new data source window, enter the following values.				
	 Name: Enter a descriptive name, for example "BONStoreDirectory". Driver Class Name: Select "com.microsoft.jdbc.sqlserver.SQLServerDriver" from the pull-down menu. Connection URL: Select "jdbc:microsoft:sqlserver://30.1.1.17:1433;databasename=RetailStore" from the pull down menu. The IP address 30.1.1.17 is the IP address of the SQL server. 1433 is the port number used by the JDBC connector. RetailStore is the database name in the SQL server. Note: The database name must be already created in the SQL server prior to performing this step. Username/Password: Enter the proper credentials. Click OK. Mew data source Create a new data source					
	Name:	BONStoreDirectory				
	Driver Class Name:	com.microsoft.jdbc.sqlserver.SQLServerDriver				
	Connection URL: jdbc:microsoft:sqlserver://30.1.1.17:1433;databasename=RetailStore					
	Username: **					
	Password:	**				
		OK Cancel				

Step	Description				
7.	Add a new database op	eration. In the Navigator view, click connectivity \rightarrow dboperations \rightarrow			
	New → Database Operation File. The Database Operation screen appears. Enter the				
	following values, and then click Next .				
 Data Source name: Select "BONStoreDirectory" from the drop down list. The na BONStoreDirectory was administered in Step 6. Operation: Select "Query" from the drop down list. Table name: Select "dbo.consumerAccount" from the drop down list. Note: The database table must be already created in the SQL server prior to performing this set. File name: Enter a descriptive name, for example "myAccBalance". Mark the Open file for editing checkbox. 					
	Available Projects				
	BONStoreDirectory				
	Data Source name:	BONStoreDirectory			
	Operation:	Query			
	Table name:	dbo.consumerAccount			
	File name:	myAccBalance 🔽 Open file for editing			
		< Back Next > Finish Cancel			

Step	Description	Description					
8.	The Map colur	The Map columns to variables screen appears. To create new variables, check the accNumber					
	and accBalanc	e, and New vari a	ne accPwd colum	nn exists in the			
	database table,	but is not require	ed in this d	atabase operation	on. Click Finish .		
	Sew New					×	
	Database Opera	tion					
	Map columns to va	ariables					
	Column Name	Column Type	Function	Variable Name	Variable Field	Auto Create	
	🔽 accNumber	CHAR	•	<u> </u>	-	🔽 🔽 New variable	
	accPwd	CHAR	-		-	💌 🗖 New variable	
	accBalance	DECIMAL	•		-	🔽 🔽 New variable	
					1		
				< Back	Next >	Finish Cancel	
9.	The myAccBal	ance.dbop scree	en appears	in the workspace	e. This database	query operation uses	
	account number	r to query the ac	count bala	nce. To set the c	juery condition,	click the Predicate	
	tub.						
	🖉 myAccBalance	.dbop - Eclipse Platfo	orm			- 🗆 ×	
	File Edit Navigate	Search Project Tomcat	Run Window	Help			
		_ ∛ ₿ 8 -# 48	* 🌋 🛛 🐙 🔏	📓 🔍 • 📝		😰 🧇 Speech 🛛 »	
	👸 *myAccBalance.db	op ×				B	
	Datasource name:	BONStoreDirectory		Operation: Overv		Distinct select:	
	Table name:	dbo.consumerAccount		Type: table			
		,		.,,,			
	Column Name	Data Type		Variable Name	Variable Field	Order By	
	accNumber	CHAR	accN	umber 💌	•		
	accBalance	DECIMAL	accB	alance 🔹	-		
	Database Operation	Predicate SQL Query					

Description					
The Predicate tab appears. The following steps, add a Simple database operation for account					
balance query.					
• From the palette under Condition select Simple and place it in the workspace					
• Under Operand select Column and place it in the workspace under Simple. In the A					
• Onder Operand, select Column, and place it in the workspace under Simple. In the A					
Properties view, for the Name property, select "accNumber" from the Value drop do					
list.					
• Under Operator , select Comparison , and place it in the workspace under Column. In					
Avaya Properties view, for the Name property, select "=" from the Value drop down					
• Under Operand , select Variable , and place it in the workspace under Comparison. In					
Avava Properties view for the Name property select "accNumber" from the Value					
down list					
down nst.					
Speech myAccBalance doop Eclince Diatform					
File Edit Navigate Search Project Tomcat Run Window Help					
- 🔄 - 🔄 🗁 📾 🛛 🛷 🍞 👯 🐗 🖨 🌋 🛛 🛛 🐙 🕺 💁 - 🖌 🔗 📑 🧇 Speech 🏇 Debug					
] 🎨 🗢 ▼ 🔿 👻					
℃-Navigator X □ ⑤ *myAccBalance.dbop X □					
← →					
Column (accNumber)					
Comparision (<not set="">)</not>					
Solution Sol					
terre data x Variable					
Flow AND Boolean					
🖾 Avaya Properties 🗙 🛛 📴 🍰 🖾 👻 🗖 🗖					
Property Value Name accNumber					
accNumber accBalance					
Column to be used					
Speech - myAccBalance.dbop - Eclipse Platform					
🔗 🛛 🏷 🗸 🗸 🗸					
A t → t → T					
Image: Simple ((accNumber = \${accNumber}))					
Image: Simple Image: Simple ((accNumber = \${accNumber})) Image: Simple (Column (accNumber) Image: Simple (Column (accNumber)					
Image: Condition Image: Condition Image: Comparison (=) Image: Condition (=) Image: Constraint (=) Image: Constraint (=) Image: Constraint (=) Ima					
Condition Condition Condition Compound Column (accNumber) Comparison (=) Variable (\${accNumber})					
Image: Condition Image: Condition Image: Condition					
Image: CVS Reposito Image: CVS Reposit					
CVS Reposito Condition Simple Column Column Variable (\${accNumber})					
CVS Reposito					
Comparison (=) Variable Variable Column Variable Comparison Predicate SQL Query Database Operation Predicate SQL Query					
CVS Reposito					
CVS Reposito CVS Reposito CVS Reposito Condition Condition Column (accNumber) Comparison (=) Comparison (=) Variable (\${accNumber}) Comparison (=) Variable (\${accNumber}) Comparison Database Operator Comparison Database Operation Predicate SQL Query Comparison Console Property Value					
Image: CVS Reposito Image: CVS Reposito Image: Condition Ima					
CVS Reposito Imple Condition Simple Condition Simple Column (accNumber) Comparision (=) Variable Variable Variable Variable Wariable Variable Value Name Field					
CVS Reposito CVS Reposito CVS Reposito CVS Reposito Cup and Comparison Compa					
Compound Comparison Comparison Database Operator Average Properties S Console Property Variable Value Val					

Step	Description
11.	To create a new prompt file, click File → New → Prompt File from Dialog Designer main screen. The Prompts screen appears. In the Available Projects click on project name BONStoreDirectory . Enter a descriptive name in the File Name field, for example " MenuPrompt ". Click Finish .
	See New
	Prompts Create a Prompt
	Available Projects
	File Name: MenuPrompt
	Finish Cancel
12.	The MenuPrompt.prompt [english] appears in the work place. In the Avaya Properties view, TTS Text Property, enter the text in the Value field, for example "Welcome to the BON's Store Information Center". To save the change, click on the Save tab.
	Speech - MenuPrompt.prompt [english] - Eclipse Platform File Edit Navigate Search Project Tomcat Run Window Help [*] • □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □
	Image: Standard S
	Image: Console Debug Image: Console Debug Image: Console Debug Ima

Step	Description
13.	Repeat Steps 11 - 12 to add additional text to speech prompts as necessary. For the testing,
	"NoMatch", "NoInput", "echoAccount" and "returnBalanceVoice" text prompt files were
	created.

Step	Description
14.	To create a DTMF grammar file, click File \rightarrow New \rightarrow Grammar File from Dialog Designer main screen. The Grammars screen appears. Enter a descriptive name in the File Name field, for example "account_DTMF_input". Select "Built-in" from the Style drop down list and retain the default values for other fields. Click on Finish . This file will be used in Step 15.
	See New
	Grammars Create a Grammar
	Available Projects
	File Name: account_DTMF_input
	Type: Static 🔽 Open file for editing when done
	Mode: DTMF Generate sample grammar
	Style: Built-in
	Finish Cancel
	A new page appears. Select "digits" from the Type drop down list. The sample configuration uses a 4 digit account number. To set the grammar file to accept exactly 4 digits, enter "4" in the Exact Length field. Click the Save icon.
	Image: Consectivity Image: Consectivity

Step	Description				
15.	To create a static grammar	r file, click File → Ne v	w → Grammar Fil	e. The New Gram	mars
	Create a Grammar scree	en appears. Enter a des	criptive name in the	File Name field. I	Retain the
	default values for other fie	elds. Click Finish .	1		
	Se New			×	
	Grammars				
	Create a Grammar			BC	
	- Available Projects				
	BONStoreDirectory			<u></u>	
	File Name: EnterAccountNumb	ber			
	Type: Static	💌 🔽 Open file	e for editing when done		
	Mode: Voice	💌 🗖 Generat	e sample grammar		
	Style: Custom	-			
		_			
			Finish	Cancel	
	the add rows icon to add a from 1 to 9. To collect 4 re	o 9. Enter digit 0 in rov $\overrightarrow{\mathbf{M}}$ $\overrightarrow{\mathbf{M}}$ $\overrightarrow{\mathbf{M}}$ to add/c additional 9 rows. In co esponses in a single gr ow one of columns 2 to	w one of column 1 a lelete a grammar r olumn 1 of the new ammar file, click ac o 4 enter "%1" Cli	nd then click the F ow/column appear rows enter a uniqu ld columns icon to ck the Save icon	cnter r. Click e digit add
	Speech - EnterAccountNumber. File Edit Navigate Search Project Tor ▷↑ • □ ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ● ●	.gram [english] - Eclipse Platfor omcat Run Grammar Window Help & & &	m Ø Q. • 믍 ℡ ឝ ឝ		-□×
] + * * * × *		(N Cabunda and Million bar	CVS Repo	sito
			BC Linter Accountivumber .gran		
	BONStoreDirectory		1 %1	%1	
		1 -	-		
		3 -	-	-	
	myAccBalance.dbop	4 -	-	-	
	terestations →	6 -	-	-	
	english	7 -	-	-	
	🔁 🖓 grammars	9 -	-	-	
	E flow				
	main.flow				
	project.variables				

Step	Description		
16.	Add a Prompt & Collect node to the call flow. In the Navigator view, click		
	BONStoreDirectory \rightarrow flow \rightarrow main flow. The work flow editor palette and the		
	BONStoreDirectory [main.flow] workspace appear. From the palette select the Prom		
	Collect node	and place it in the workspace. In the Avava Properties view edit the name in the	
	Value field t	o a descriptive name for example " Prompt And Collect Acct Num " Click Save	
	value nela l	o a descriptive name, for example TromptAndConcerActivum . Chek bave.	
	Speech - BO	JStoreDirectory Imain flowd - Folipse Diatform	
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	K *BONStoreDirect	cory [main.flow] 🛛	
	N Select		
	► Connection	and Start ≫	
	E Label		
	🔁 Templates	*	
	🐗 Announce	Next >	
	Prompt & Collec	t PromptAndCollectAcctNum	
	Plind Transfer		
	Bridged Transfe		
	Disconnisce		
	N Application How		
	🗷 Avaya Propertie	s× E 券 R ▼ □	
	Property	Value	
	Name Comments	PromptAndCollectAcctivum	
	Location	(105, 82)	

Step	Description				
17.	Repeat Step16 to place the following nodes in the workspace.				
	 Select the Data node and place it in the workspace. In the Avaya Properties view, Name Property, enter a descriptive name in the Value field, for example "remChar". Select the Data node and place it in the workspace. In the Avaya Properties view, Name Property, enter a descriptive name in the Value field, for example "getBalance". Select the Announce node and place it in the workspace. In the Avaya Properties view, Name Property, enter a descriptive name in the Value field, for example "annBalance". Select the Return node and place it in the workspace. In the Avaya Properties view, Name Property, enter a descriptive name in the Value field, for example "annBalance". Select the Return node and place it in the workspace. In the Avaya Properties view, Name Property, enter a descriptive name in the Value field, for example "annBalance". 				
	Click the Save icon.				
	Speech - BONStoreDirectory [main.f	low] - Eclipse Platform	n		- 🗆 ×
	C1 + [2] (2) 30 40 500 cl + 100 cc + 1 C1 + [2] (2) 30 40 500 cl + 100 cc +		₽ 8 04 • ∕∕	?] *\$> \$> →	eech 🏇 Debug
	🔁 Navigator 🛛 🗖 🗖	K *BONStoreDirectory [ma	ain.flow] 🗙		
	BONStoreDirectory	Select Connection Connection Label Connection Connect Connec	AppRoot Start > PromptA PromptA getBala annB.	ndCollectAcctNum Next >	
	Flow main.flow project.variables Flow Avaya Properties Avaya Properties Avaya Properties Avaya Properties				
		log Property Value			
	⊕ web-INF ⊕ ⊕ work	Name remChar Comments			
	Location (66, 146)				
		<u></u>			

WH; Reviewed: SPOC 9/20/2006

Step	Description			
18.	In the workspace as shown in Step 17, double click on the PromptAndCollectAcctNum node.			
	The PromptAndCollectAcctNum appears in the workspace. Click on each item to enter the			
	following values in the Avava Properties :			
	• Input: Enter a descriptive name, for example "account_inp".			
	• Prompt: Enter the name of the prompt file, "MenuPrompt", created in Step 12.			
	• Grammar: To	collect caller touch	tone inputs, enter the name of the grammar file, created in	
	Step 14, " acc	count_DTMF_input	2	
	• Grammar: Fo	or caller utterance, en	ter the name of the grammar file, created in Step 15.	
	"accNumber	·Voice"		
	- No Input: En	tor the name of the n	compt file name "NoInnut" erected in Stan 12	
	• NO IIIput. Eli		ompt me name Nomput created in Step 13.	
	• No Match: E	inter the name of the	prompt file name "Nolviaten" created in Step 13.	
	• Next: Leave	it "not set".		
	Click the Save ico	n.		
	Speech - BONStoreDi	rectory [main_flow] - Eclipse D	latform	
	File Edit View Navigate	earch Project Tomcat Pun Win		
] 🖉 🛇 🗱 📃 🔽 🦉			
	Sa Navigator 🗴 🖓 🗖 👯 BONStoreDirectory [main.flow] 🗙 🗖			
	🗘 ⇔ 🖗 🗉 🔩 ▼		×	
	🗄 🗁 connectivity 🔺	Form Items	<pre>put <name="account_inp"> Prompt <name="menuprompt"> </name="menuprompt"></name="account_inp"></pre>	
	tendish		Grammar <name="account_dtmf_input" weight="1.0"></name="account_dtmf_input">	
	🗄 🗁 grammars		Grammar <name="enteraccountnumber" weight="1.0"> Material AccountNumber" weight="1.0"></name="enteraccountnumber">	
	- C phrases	Prompt	Voinput Prompt <name="noinput"></name="noinput">	
		🕹 Grammar	S No Match	
	main.flow	Next		
	💭 X project.variab	👍 Link	ext <next rom="not" set=""></next>	
	Event Handlers Event Handlers Complete Long the design of the second se			
	Image: Second			
	Property Value			
	Name MenuPrompt			
		l		

Step	Description				
19.	The remChar node is needed to remove space characters added by the speech to text conversion. In the workspace as shown in Step 17, click on the remChar node. In the Avaya Properties view, enter the following values:				
	 Type: Select "Remove Character" from the drop down list. Destination Variable: Select "accNumber" from the drop down list. Source Variable: Select "account_inp" from the drop down list. Source Variable Field: Select "value" from the drop down list. 				
	Click the Save icon.				
	Speech - BONStoreDirectory [main.flow] - Eclipse Platform				
	$ \begin{bmatrix} c_{ac} & v_{ew} & v_{avgace} & search & roject & roincat & can & window & rep \\ \hline c_{ac} & \bullet & \hline c_{ac} & \bullet & \bullet & \bullet \\ \hline c_{ac} & \bullet & \bullet & \bullet & \bullet & \bullet & \bullet \\ \hline c_{ac} & \bullet \\ \hline c_{ac} & \bullet \\ \hline c_{ac} & \bullet \\ \hline c_{ac} & \bullet \\ \hline c_{ac} & \bullet & $				
	*BONStoreDirectory [main.flow] ×				
	K Application Flow remChar				
	🖾 Avaya Properties 🛛 Console	🖬 🍰 💀 🗸 🗖 🗖			
	Property	Value			
	Туре	Remove Character			
	Destination Variable	accNumber			
	Source Variable	account inp			
	Source Variable Field	value			
	Character				
	l				

Step	Description		
20.	The getData node is used to send the database query to the SQL server. In the workspace as shown in Step 17, double click on the getData node. The getData appears in the workspace. Click on Database Operation . In the Avaya Properties , Property Name , enter the database name " myAccBalance " in the Value field. The database operation was created in Steps 7 - 10.		
	Speech - BONStoreDirectory [main.f	'low] - Eclipse Platform	_ 🗆 🗙
	HIE Edit View Navigate Search Project T	omcat Run Window Help	
			CVS Reposito
	🔁 Navigator 🛛 🗖 🗖	K BONStoreDirectory [main.flow] ×	
	BONStoreDirectory BONStoreDirectory doperations myAccBalance.dbop connectivity english consections connections conneconnections conneconnections conneconnections conne	Database ▲ ▲ Web Service → ☑ Operation → ☑ Condition ↓ ☑ Trace ✓ ☑ Application Flow ☑ getBalance	x Deparation <name="myaccbalance"> : form="not set"></name="myaccbalance">
	accNumberVoice.gram	🖾 Avaya Properties 🔀	😝 🐎 🔜 👻 🗖
	enterPwdVoice.gram	Property Name	Value myAccBalance
	Voice5Digits.gram	•	·





Step	Description		
23.	 To add a text variable in the echo on Text Variable and place it in values: Variable: Enter "account_i Variable Field: Select "valu Format: Enter "text". 	Account prompt file, open the open the open the open the workspace. In the Avaya Pr p". The account_inp is created e" from the drop down list.	echoAccount prompt file. Click operties, enter the following in Step 18.
	🚝 HelloWorld - Speech - echoAccount.pror	ot [english] - Eclipse Platform	- 🗆 🗙
	File Edit Navigate Search Project Tomcat Run	Window Help	
] ∎ • ⊒ ≙ ≞ ∛ 8 औ 4 d ∡] ♡ ♡ ¥ ∎ ★ ¢ ¢ ¢ ./] 🐙 🧏 🖉] 💁 -] 🛷] 🐤	
	🔁 Navigator 🛛 🗖 🗖	🖋 echoAccount.prompt [english] 🗙	
	Image: Second	Segment Phrase Condition	umber you entered is) nt_inp:value)
	In the tar on per on pe	🖾 Avaya Properties 🔀	🔓 🍰 💀 👻 🗖 🗖
	Flow Troject.variables	Property Value Variable account_inp Variable Field value Format text	
24.	Similarly, using Step 23 as a guid returnBalanceVoice prompt file	e adds the text variable accNu n	nber in the

5.2. Export Project

This section describes the steps necessary to export the sample speech application project from the Avaya Dialog Designer (DD) to the Application server. It is assumed that the WebLM and the DD license file are already installed on the Apache Tomcat server.

Step	Description
1.	In the Navigator view, right click on BONStoreDirectory \rightarrow Export. The Export screen appears. In the Select an export destination list, select "Export Dialog Designer Project", and then click Next.
	🚝 Export 🗙
	Select Exports a Dialog Designer Project to a deployable Web ARchive (WAR) file.
	Select an export destination:
	 Deployable features Deployable plug-ins and fragments Export Dialog Designer Project File system JAR file Javadoc Phrases Zip File Prompts Zip File Team Project Set Zip file
	<back next=""> Finish Cancel</back>

Step	Description					
2.	The Export Dialog Designer project screen appears. Select the project name from the Available					
	Projects, for example " BONStoreDirectory ". To save the export project, enter the path and					
	directory name, for example "C:\tmp", in the Destination Directory field. Click Next.					
	X					
	Export Dialog Designer project					
	Select project to be packaged into a deployable Archive file and the destination for the archive and installation scripts					
	Available Projects					
	BONStoreDirectory					
	Destination Directory					
	C:\tmp Browse					
	< Back Next > Finish Cancel					

Step	Description	
3.	The Platform Details screen appears. Enter the following values:	
	• Platform: Select "Voice Portal" from the drop down list.	
	• Servlet container: Select "Apache Tomcat" from the drop down list.	
	• License server URI: "Enter the following http:// <ip address="" of="" th="" the="" weblm<=""><th>server</th></ip>	server
	>:8080/WebLM/LicenseServer". Note: The DD license file is installed on thi	s WebLM.
	For example "http//:30.1.1.15:8080/WebLM/LicenseServer".	
	• Grammar computability: From the drop down list, select the ASR server which	will be used
	to process the voice recognition. For example, the "IBM" is used in this config	uration.
	Retain the default values for all other fields.	
	Click Next.	
	Platform Details	
	Set platform-specific details for the application.	
	Target platform	
	Platform: Voice Portal	
	Servlet container: Apache Tomcat	
	License server LIRT: http://30.1.1.15/8080/WebLM/LicenseServer	
	Speech	
	Grammar compatability: IBM	
	Grammar caching: none 👻	
	Enable Speech Synthesis Markup Language (SSML) generation in project prompts.	
	Proxy settings	
	bypass proxy server for local addresses.	
	HTTP proxy host address:	
	HTTP proxy host port:	
	< Back Next > Finish Cancel	

Step	Description
4.	The Options screen appears. For the testing, the JAR file is used to deploy the DD project class files. Verify that the Jar file is selected on the Options form. Retain the default values for all other fields. Click Next .
	Options
	Select options for deployment.
	Actions
	Regenerate applications
	M Rebuild applications
	Packaging Depley preject class files as:
	• JAR file
	C class files
	Include source code
	Include project meta files
	Reusable Modules
	< Back Next > Finish Cancel

Step	Description						
5.	The Configure web applicat	tion descriptor scre	en appears, review the settings and click Finish				
	to export the project.	1					
	to export the project.						
	75						
	<u>.</u>						
	Configure web application descriptor	tion for the treat platform for the .					
	Pen orm any rinai application descriptor coningura	uon for the target platform for the :	elected project.				
	Application Servlets						
	General						
	✓ Use container default						
	Session timeout:						
	Parameters		1				
	Name	Value	Description				
	sage.startlanguage	english	The starting language for the application.				
	sage.general.project.useproxy sage.general.project.proxyhost	false	Use Proxy for HTTP Proxy Host Address				
	sage.general.project.proxyport		Proxy Host Port				
	sage.general.project.bypassforlocalhost	false http://30.1.1.15:8080/Webl	By pass proxy server for local addresses				
	runtime-ASR	IBM	Runtime ASR {SRGS Nuance ScanSoft IBM}, Note Nuance is Nuance 8				
	runtime-SSML	false	Runtime SSML Generation {true false} - "true" enables SSML generatio				
	runtime-Platform	Voice Portal	Runtime Platform {Desktop Voice Porta Other IR}				
	dd.ds.BONStoreDirectory	com.microsoft.idbc.salserver	Datasource information				
			Add Edit Delete				
			< Back Next > Finish Cancel				
6.	The resulting Speech Applica	ation must be copied	to the Application server. To do this, perform				
	the following:	1					
	the following.						
	1. The DD creates a new BONStoreDirectory.war file under the C:\tmp directory which						
	was administered in S	Step 2.					
	2 Copy the BONStore	Directory.war file to	o the Application server under " <anache< th=""></anache<>				
	Z. Copy the Bortotore	annal" Noto The	Anacha Tomast Hamas is the noth to the				
	I omcat Home>/ wer	Dapps / . Note: The	<apache 1="" home="" omcat=""> is the path to the</apache>				
	Apache Tomcat home	e directory. The defa	ult <apache b="" home<="" tomcat="">> path is:</apache>				
	"C·\Program Files\A	nache Software Fo	undation\Tomcat 5 0"				
		ipache Soltware Pe					
	3. When the copy is don	e, restart the Tomca	t server engine. The application is ready to run.				
	Use the VPMS Add A	Application page. de	escribed in Section 4. Steps12 and 13. to add the				
	comple application on	the VD					
	sample application of						

6. Verification Steps

This section provides the tests that may be used to verify the proper VP configuration:

Step	Descriptio	n							
1.	Verify MPP stations register to the Avava Communication Manager via the C-LAN.								
-	Issue the li	Issue the list registered in-stations command from the Avava Communication Manager SAT to					0		
			2220011	22200	16 administra	nd in Costion	2 Store 5 or	d C and na distant	:
	verify the s	stations .	2220011 -	22200	16, administer	red in Section	1 5, Steps 5 and	1 6, are registered	m
	Avaya Cor	nmunica	ation Mana	.ger.					
	list reg	istered-	ip-stations	3					
				REGIS	TERED IP STATT	IONS			
				REGIO		-0110			
	Station	Set	Product	Prod	Station	Net Orig	Gatekeeper	TCP	
	Ext	Туре	ID	Rel	IP Address	Rgn Port	IP Address	Skt	
	301	4612	IP_Phone	1.800	30.1.1.199	1	30.1.1.4	У	
	2220011	7434ND	IP_API_A	3. 0	30.1.1.11	1	30.1.1.4	У	
	2220012	7434ND	IP_API_A	3. 0	30.1.1.11	1	30.1.1.4	У	
	2220013	7434ND	IP_API_A	3. 0	30.1.1.11	1	30.1.1.4	У	
	2220014	7434ND	IP_API_A	3. 0	30.1.1.11	1	30.1.1.4	У	
	2220015	7434ND	IP_API_A	3. 0	30.1.1.11	1	30.1.1.4	Y	
	2220016	1434ND	IP_API_A	3. 0	30.1.1.110	1	30.1.1.4	Ŷ	
	2222000	4625	IP_Phone	2.500	30.1.1.110	1	30.1.1.4	Y 	
	3330010	4620	IP_PHONE	2.302	40 1 1 112	1	30.1.1.4	y V	
	33330010	4602+	IP_Phone	1 800	40.1.1.112	1	30.1.1.4	y V	
	5555001	10021	II_I IIOIIC	1.000	10.1.1.111	-	50.1.1.1	2	
	-								

Step	Description					
2.	From the VPMS, click on System Maintenance \rightarrow System Monitor. Verify the status of the					
	System Monitor as shown below:					
	 Mode: Online State : Running Config: OK Call Capacity: The number of stations displayed is the same as the number of stations administered. Alarms: No alarms. 					
	🗿 Voice Portal - Microsoft Internet Explorer 📃 🗖 🗙					
	File Edit View Favorites Iools Help					
	🌀 Back 🔻 🕥 🖌 😰 🏠 🔎 Search 🤺 Favorites 🚱 🔗 🖌 🌺 🚍 🦓					
	Address 🙆 https://30.1.1.12:8443/VoicePortal/faces/main.jsf					
	Voice Portal					
	AVAYA Management System					
	Documentation Log Off					
	Expand All Collapse All You are here: <u>Home</u> > System Maintenance > System Monitor					
	User Management Users System Monitor (6/30/06 6:01:39 PM EDT)					
	System Maintenance System Monitor Port Distribution Log Viewer Alarm Manager					
	System Configuration Applications Last Poll: 6/30/06 6:01:37 PM EDT ASS Servers					
	Fault Settings System Name Mode State Config Restart Call Capacity Active Calls Calls Today Alarms Global Settings VPMS					
	H.323 Connections mpps-hg Online Running OK No 6/6/64 0 0					
	Report Data Summary 6/6/64 0 0					
	SNMP Agent SNMP Traps					
	TTS Servers VoIP Settings					
	▼ Reports Application ▼ Refresh Help					
	😂 🔂 Local intranet					
3.	Verify the initial TTS speech is heard.					
	Place a call to the hunt group number.					
	Verify the "Welcome to the BONStore's account information center" and "Please enter your					
	account number" are heard.					
4.	Verify touch tone input is successfully processed.					
	Place a call to the hunt group number. After prompted to enter the account number, press "2201"					
	on the touch tone key pad.					
	Verify the account number and account balance are heard.					
5.	Verify voice input is successfully processed.					
	Place a call to the hunt group number. After prompted to enter the account number, say "2201".					
	Verify the account number and account balance are heard.					
L	•					

Step	Description
6.	Verify "no input" is detected when caller does not enter the account number. Place a call to the hunt group and do not speak or press any touch tone key.
	Verify "no input" is heard.
7.	Verify "no match" is detected when caller enter less than 4 digits. Place a call to the hunt group and only say two digits. Verify "no match" is heard.
8.	Verify MPP can recover from the C-LAN connection failure. Disconnect C-LAN and reconnect C-LAN. Verify after C-LAN is reconnected, all IP stations are re-registered. Repeat Steps 3 - 5 to verify the call.

7. Conclusion

These Application Notes demonstrate how to provision the Avaya Voice Portal with Avaya Communication Manager to interact with the IBM TTS and ASR applications. These Application Notes also provides steps necessary to develop a sample speech application. The sample application was used to verify the Voice Portal configuration.

8. Additional References

The following documents can be found at <u>http://support.avaya.com</u>:

- [1] Administrator's Guide for Avaya Communication Manager, Issue 2, May 2006; Doc ID: 03-300509
- [2] "Administering Avaya Voice Portal 3.0.1", April 2006
- [3] "Avaya Dialog Designer Developer's Guide", Issue 1, August 2005

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