Avaya Solution & Interoperability Test Lab

Application Notes for InfoTalk-Speaker with Avaya Interactive Response and Avaya Communication Manager - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for InfoTalk-Speaker to successfully interoperate with Avaya Interactive Response (IR) and Avaya Communication Manager. VoiceXML applications running on the Avaya IR platform utilize the text-to-speech (TTS) features of InfoTalk-Speaker using the Media Resource Control Protocol (MRCP) Version 1. Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the Developer*Connection* Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the compliance-tested configurations utilizing Avaya IR 1.3, Avaya Communication Manager 3.0.1 and InfoTalk-Speaker 2.0. VoiceXML applications running on the Avaya IR 1.3 platform utilize the text-to-speech (TTS) features of InfoTalk-Speaker 2.0 using the Media Resource Control Protocol (MRCP) Version 1.

InfoTalk-Speaker is a TTS solution; it brings more human-like voices to market. It speaks out computer and on-line texts into a natural, rhythmical and pleasant voice, with a quality superior to the mechanical sounds of legacy technologies.

InfoTalk-Speaker completely revolutionizes the voice application horizon. There is no longer the need to ask a human agent to create voice recordings repeatedly, which is cumbersome, unreliable and impractical. Instead, InfoTalk-Speaker automatically scans computer and on-line texts and speaks in a natural voice.

MRCP is an emerging, open standard for speech interfaces that supports the interoperability of vendor systems. MRCP addresses the communications between interactive voice response systems like the Avaya IR 1.3 and specialized speech engines such as the InfoTalk-Speaker 2.0 TTS engine. MRCP Version 1 uses the Real Time Streaming Protocol (RTSP) to establish connections from an MRCP client application to an MRCP server. All MRCP commands are then tunneled via RTSP Announce messages between the MRCP client and server. Audio data (synthesized speech delivered from a TTS engine) is then carried over a Real-time Transport Protocol (RTP) connection.

InfoTalk-Speaker is a software solution running both the InfoTalk-Speaker TTS engine and the InfoTalk MRCP Server 1.0 application on a Microsoft Windows 2000 or 2003 Server or Windows 2000 or XP Professional machine.

Figure 1 illustrates the configuration used to verify InfoTalk-Speaker 2.0 solution. The InfoTalk-Speaker 2.0 and InfoTalk MRCP Server 1.0 software were installed on a Windows XP Professional with Service Pack 2. VoiceXML scripts that used the TTS engine were installed on Avaya IR 1.3. The S8500B Media Server and G650 Media Gateway interfaced with the Avaya IR using the Voice over IP (VoIP) feature on Avaya IR. With VoIP, transmission to the switch is achieved without digital interfaces (T1/E1). Instead, all transmissions occur over the packet network using the network interface card (NIC) on the Avaya IR system. Avaya IP phones were used to place calls to the Avaya IR to run the VoiceXML scripts. The scripts would use the TTS engine to play synthesized prompts and verify DMTF presses and barge-in attempts.

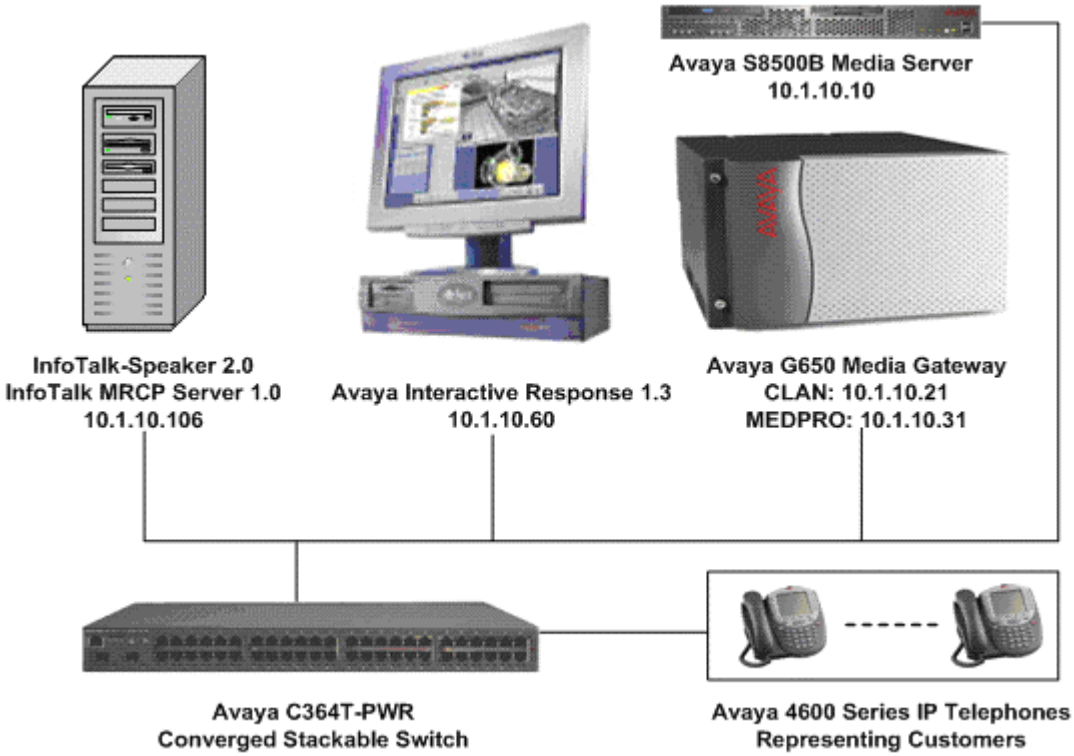


Figure 1: InfoTalk-Speaker 2.0 with Avaya IR 1.3 Configuration

2. Equipment and Software Validated

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

Equipment	Software
Avaya Interactive Response on SunBlade 150	1.3
Avaya S8500B Media Server	R013x.00.1.346.0 (3.0.1)
Avaya G650 Media Gateway • TN2312BP IP Server Interface • TN799DP C-LAN Interface • TN2302AP IP Media Processor	- HW07, FW022 HW01, FW016 HW20, FW107
Avaya 4600 Series IP Telephones	2.3 (4610SW) 2.3 (4620SW) 2.3 (4621SW) 2.5 (4625SW)
Avaya IR Designer	5.2
Avaya Dialog Designer	3.0.18
InfoTalk-Speaker	2.0
InfoTalk MRCP Server	1.0
Generic PC (Pentium 4, 2.8 GHz, 1 GB RAM)	Windows XP Professional with Service Pack 2

3. Configure Avaya Communication Manager

This section presents the configuration required on Avaya Communication Manager to interface with Avaya IR. This covers the following capabilities:

- Inbound calls are routed to **VDN 7910** that invokes **Vector 2.**
- **Vector 2** queues the incoming call to **Hunt Group 2** with IVR ports.
- IVR ports are configured as **Stations** (79101-79124).
- Stations associated with IVR ports automatically log into the hunt group via **Agent LoginIDs** (29101-29024).

The following configuration is performed via the System Access Terminal (SAT) on Avaya Communication Manager. It is assumed that the Avaya Media Server has already been assigned an IP address.

Step	Description
1.	Use the **display system-parameters customer-options** command to check that Avaya Communication Manager has the feature license enabled for Avaya IR connectivity. On page 10, verify that the Limit field for **IP_IR_A** has a value greater than or equal to the maximum number of channels configured on Avaya IR.

```
display system-parameters customer-options                  Page  10 of  11
                     MAXIMUM IP REGISTRATIONS BY PRODUCT ID

Product ID  Rel. Limit          Used
IP_API_A       : 500            0
IP_API_B       : 0              0
IP_API_C       : 0              0
IP_Agent       : 100            0
IP_IR_A        : 100            30
IP_Phone       : 2400           4
IP_ROMax       : 2400           0
IP_Soft        : 100            0
IP_eCons       : 2              0
               : 0              0
               : 0              0
               : 0              0
               : 0              0
               : 0              0
               : 0              0
```

Step	Description
2.	Use the **add station n** command, where **n** is a valid extension, to configure each IVR port as a station with the **Type** field set to ***H.323***. Specify the **Security Code**, which will be used in Section 4 Step 6 when configuring the phone numbers on IR. Repeat this configuration for each IVR port. In this configuration, 30 IVR ports were configured with an extension range of 10101 to 10130. These stations will be members of **Hunt Group 110** (configured in Step 3) and will automatically log into the split via the **Agent LoginIDs** (configured in Step 4).

```
add station 10101                                          Page   1 of   3
                                    STATION

Extension: 10101                         Lock Messages? n           BCC: 0
     Type: H.323                         Security Code: 10101        TN: 1
     Port: IP                          Coverage Path 1:             COR: 1
     Name: IR #1                       Coverage Path 2:             COS: 1
                                       Hunt-to Station:           Tests? y

STATION OPTIONS
              Loss Group: 19               Message Waiting Indicator: none




          Survivable COR: internal
   SurvivablDTMF over IP: in-band

                                                                IP Video? n
```

Step	Description
3.	Enter the **add hunt-group n** command, where **n** is an unused hunt group number. The IVR ports, configured as H.323 stations, will automatically log into the hunt group. Set the **Group Extension** field to a valid extension and set **ACD**, **Queue** and **Vector** to ***y***.

```
add hunt-group 110                                          Page   1 of   3
                                  HUNT GROUP

            Group Number: 110                               ACD? y
              Group Name: IR Skill                        Queue? y
        Group Extension: 13110                           Vector? y
              Group Type: ead-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:
```

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

```
add hunt-group 110                                          Page   2 of   3
                                  HUNT GROUP

                    Skill? y      Expected Call Handling Time (sec): 180
                      AAS? y
                 Measured: none
     Supervisor Extension:


      Controlling Adjunct: none

 Timed ACW Interval (sec):


                                      Redirect on No Answer (rings):
                                                  Redirect to VDN:
                   Forced Entry of Stroke Counts or Call Work Codes? n
```

Step	Description
4.	Use the **add agent-loginID n** command, where **n** is a valid extension**,** to add an agent. Add an **Agent LoginID** for each IVR port. Set **AAS** to ***y*** and the **Port Extension** to the corresponding extension of the stations for each IVR port.

```
add agent-loginID 11101                                      Page   1 of   2
                                  AGENT LOGINID

                Login ID: 11101                                 AAS? y
                    Name: IR #1                               AUDIX? n
                      TN: 1                             LWC Reception: spe
                     COR: 1                    LWC Log External Calls? n
           Coverage Path:                    AUDIX Name for Messaging:
           Security Code:
                                           LoginID for ISDN Display? n
                                                     Port Extension: 10101

                                                       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

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

On Page 2 of the form, set the skill number (**SN**) to the hunt group configured in Step 3 and the skill level (**SL**) to ***1***. Repeat this step for each station configured in Step 2. In this configuration, agent login IDs 11101 to 11130 were created.

```
add agent-loginID 11101                                      Page   2 of   2
                                  AGENT LOGINID
      Direct Agent Skill:
Call Handling Preference: skill-level               Local Call Preference? n

    SN      SL          SN      SL          SN      SL          SN      SL
 1: 110     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:
```

Step	Description
5.	Use the **add vdn n** command, where **n** is an valid number**,** to create the Vector Directory Number (VDN) that will handle all incoming calls to the Avaya IR. Specify an unused Vector for **Vector Number**.
	`add vdn 14110` Page 1 of 3 VECTOR DIRECTORY NUMBER Extension: 14110 Name: Queue to IR **Vector Number: 110** Meet-me Conferencing? n Allow VDN Override? n COR: 1 TN: 1 Measured: none VDN of Origin Annc. Extension: 1st Skill: 2nd Skill: 3rd Skill:
6.	Use the **change vector n** command, where **n** is the vector number specified in Step 5, to configure the vector. VDN 14110, configured above, will invoke vector 110 which will queue the call to the IVR hunt group via the **queue-to skill** step. Configure vector 110 as shown below.
	`change vector 110` Page 1 of 3 CALL VECTOR Number: 110 Name: Q2 IR 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? y Variables? y 3.0 Enhanced? y 01 wait-time 0 secs hearing silence 02 **queue-to skill 110 pri m** 03 wait-time 30 secs hearing music 04 disconnect after announcement none 05

4. Configure Avaya Interactive Response (IR)

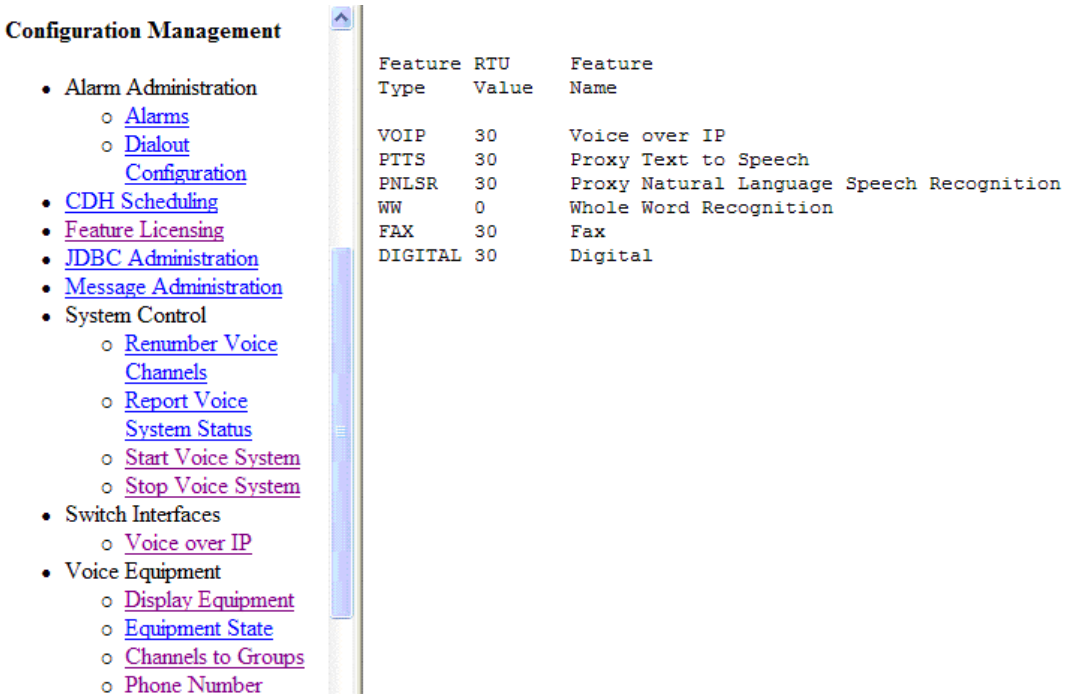
This section covers the configuration of Avaya IR. Avaya Communication Manager routes incoming calls to Avaya IR using Voice over IP (VoIP) over the data network. Each VoIP channel is assigned a VXML application and a phone number that matches a corresponding extension configured on Avaya Communication Manager in Section 3 Step 2 above. The VXML applications were developed using Avaya IR Designer and Avaya Dialog Designer on a Microsoft Windows XP Professional PC and then transferred to Avaya IR. The configuration steps required on Avaya IR are summarized below.

- Access Avaya IR via a web browser and log in.
- Stop the Avaya IR Voice System prior to configuring the VoIP interface.
- Configure the VoIP interface to Avaya Communication Manager.
- Start the Voice System.
- Assign phone numbers to channels.
- Assign services (VXML applications) to channels.
- Administer and assign InfoTalk-Speaker Text-to-Speech engine.

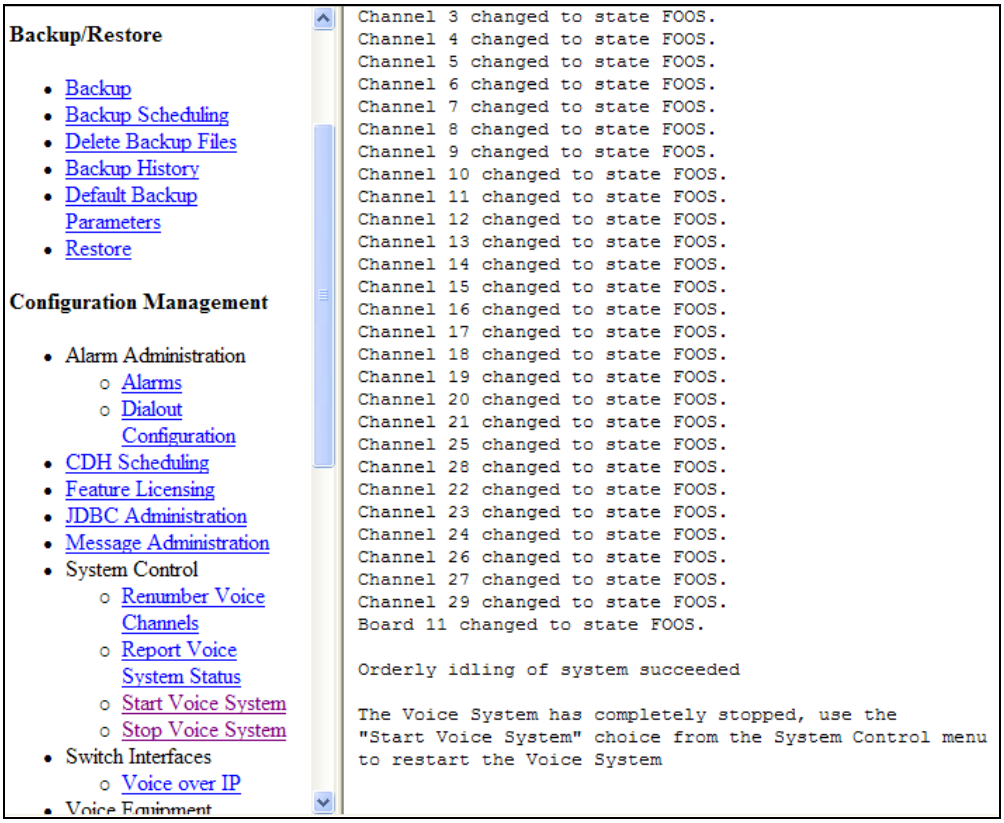
Step	Description
1.	The following packages were installed on Avaya IR to support MRCP Text to Speech. • Speech Proxy package (AVsproxy) • Proxy Text-to-Speech Package (AVttsprxy) • MRCP Text-to-Speech package (*AVmrcptts)* To verify the installed packages, run "pkginfo | grep AV" command from Avaya IR's command prompt.

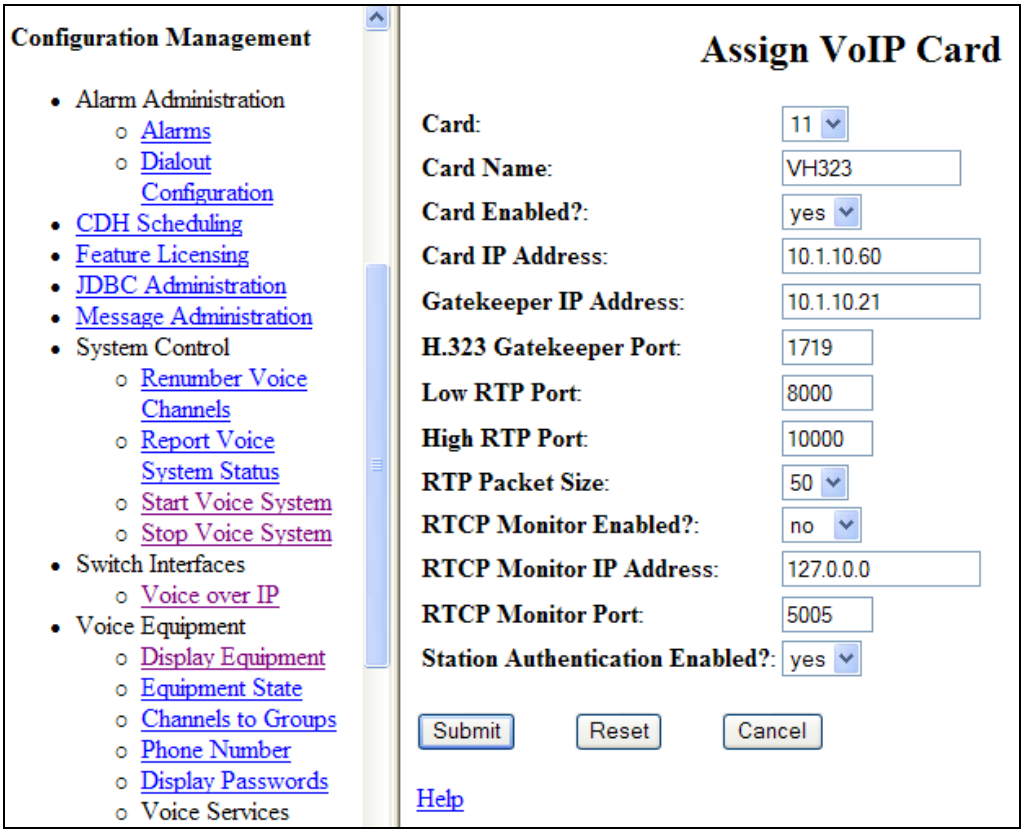
```
ir1(root)# pkginfo | grep AV
IVR         AVbackrst       Backup/Restore Utilities
IVR         AVftst          Feature Test Script Package
IVR         AVir            Interactive Response Base System
IVR         AVjdbcint       JDBC Integration
IVR         AVmigr          Migration Tools
IVR         AVmrcptts       MRCP TTS Proxy
IVR         AVsc            Service Creation Integration Package Release 5.2
IVR         AVsproxy        Speech Proxy Base Software
IVR         AVtscrtu        License Modification Package
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         AVvoicxml       Voice XML Interpreter
IVR         AVvoip          Voice Over IP
IVR         AVwebadm        Web Administration
IVR         AVxfer          Call Transfer and Bridge Package
```

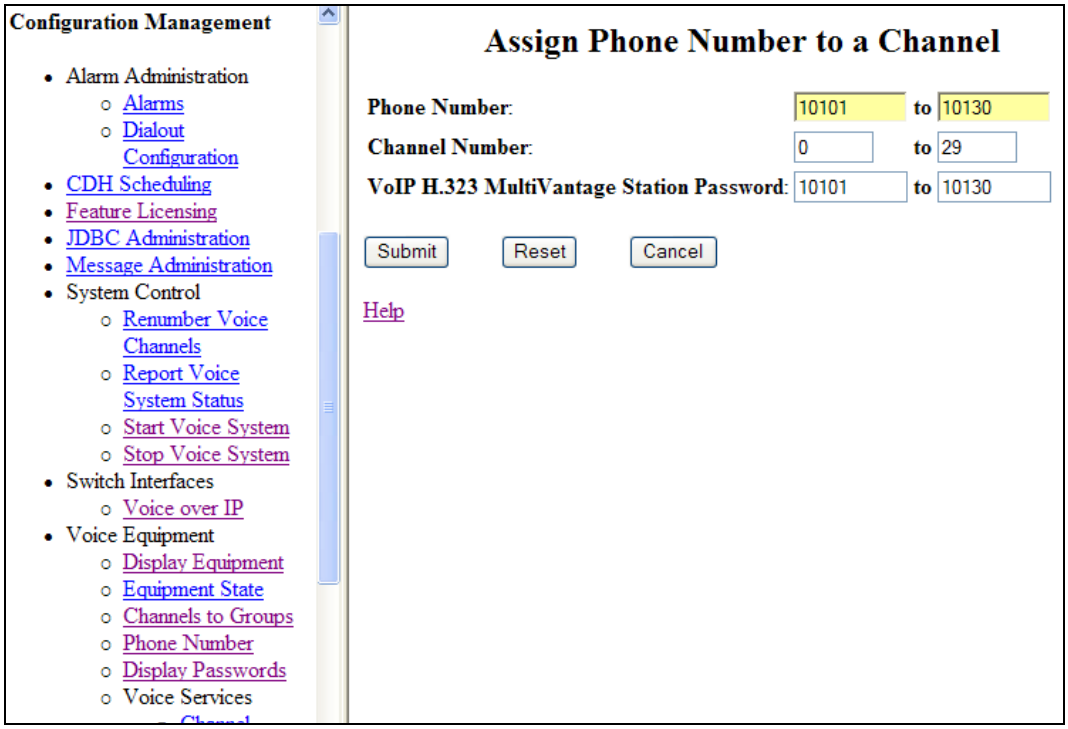
Step	Description
2.	Avaya IR configuration was performed via a web browser. Enter the IP address of Avaya IR in the URL field of the web browser. The initial Avaya IR web page is displayed. Click **Web Administration** to display the login screen shown below, and log into Avaya IR as "root". 

Step	Description
3.	After successfully logging into Avaya IR, the main Avaya IR configuration web page is displayed. Click **Feature Licensing** to display the Feature License page. Verify that the **Right-To-Use (RTU) Value** for the **Feature Type *VOIP*** is set to the number of VOIP channels used and ***PTTS*** is set to an appropriate value to support the number of channels. 

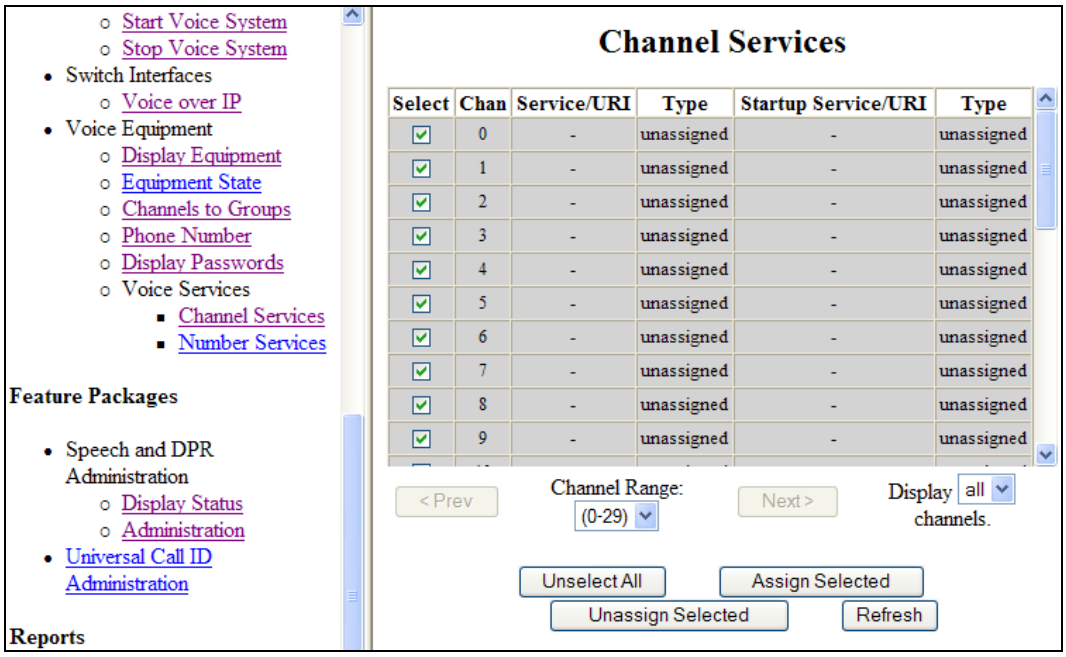
Step	Description
4.	Click **Stop Voice System** to stop the Voice System so that the VoIP interface can be configured. When the **Stop Voice System** page is displayed, click **Submit** and wait until the system displays a message at the bottom of the page indicating that the Voice System has completely stopped.



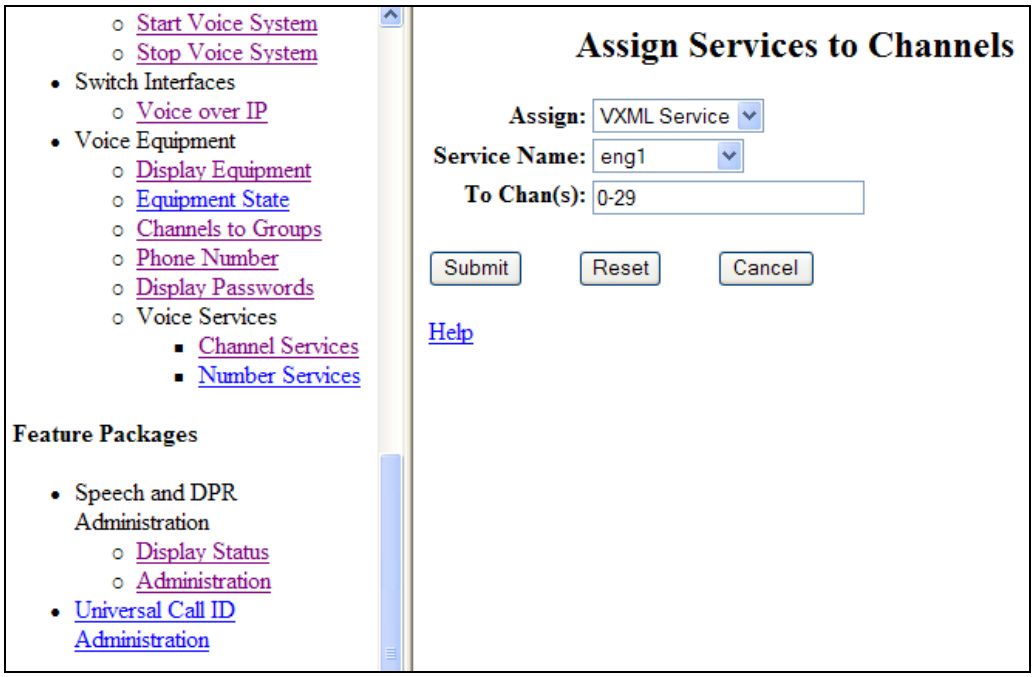
Step	Description
5.	To configure the VoIP interface to Avaya Communication Manager, follow these steps: a. Under **Switch Interfaces** in the left pane, click **Voice over IP** to display the **Voice over IP** page. b. Click **Assign Card** to display the **Assign VoIP Card** page. c. Set **Card IP Address** to the IP address of the NIC card on IR used for VoIP, **Gatekeeper IP Address** to the IP address of the CLAN board on Avaya Communication Manager and **Station Authentication Enabled** to ***yes***. d. Click **Submit**.  After the VoIP card is successfully configured, start the Voice System by clicking on **Start Voice System.** When the **Start Voice System** page is displayed, click **Submit** and wait until the system displays a message at the bottom of the page indicating that the startup of the Voice System is complete.

Step	Description
6.	To assign phone numbers to channels, click **Phone Number** to display the **Phone Number - Channel Assignment** page and click **Assign**. On the **Assign Phone Number to a Channel** page, set **Phone Number** to ***10101 to 10130***, **Channel Number** to ***0 to 29***, **VoIP H.323 MultiVantage Station Password** to ***10101 to 10130*** and click **Submit**. The **Phone Number** and **VoIP H.323 MultiVantage Station Password** fields must match the stations created in Section 3 Step 2. 

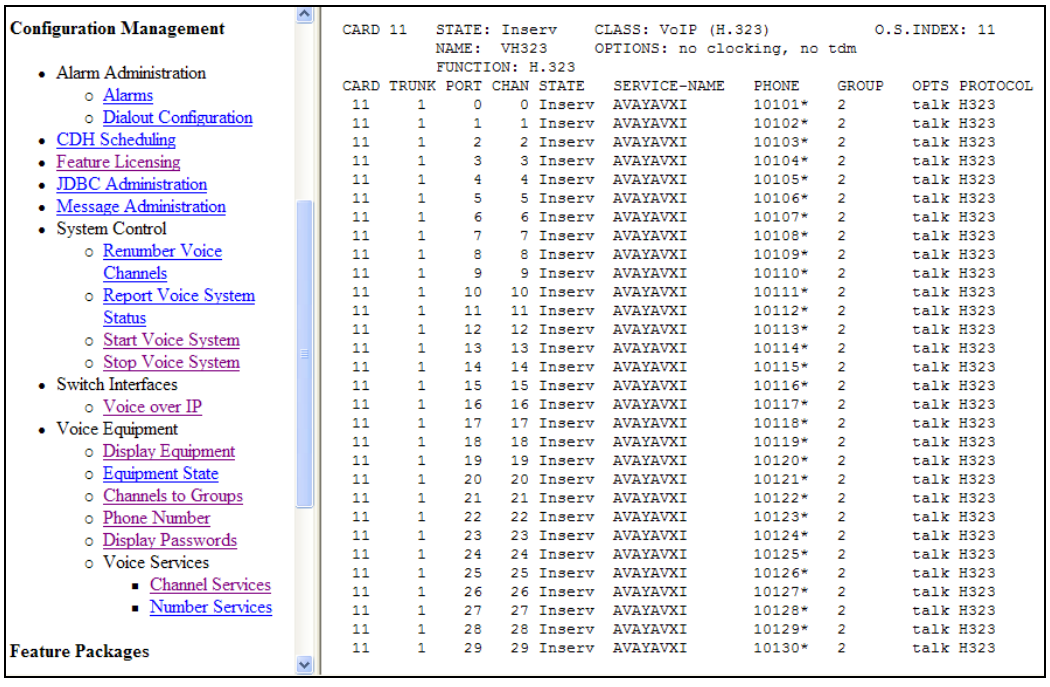
Step	Description
7.	Assign a VXML application to each channel. This specifies which VXML application a particular IVR channel should run when it receives a call. Click **Channel Services** to display the **Channel Services** page. Click the drop-down beside **Display** and select ***all*** so as to display all channels. Click **Select All** and click **Assign Selected**. Thirty channels are used in this configuration because InfoTalk-Speaker 2.0 is configured with a 30-ports license.

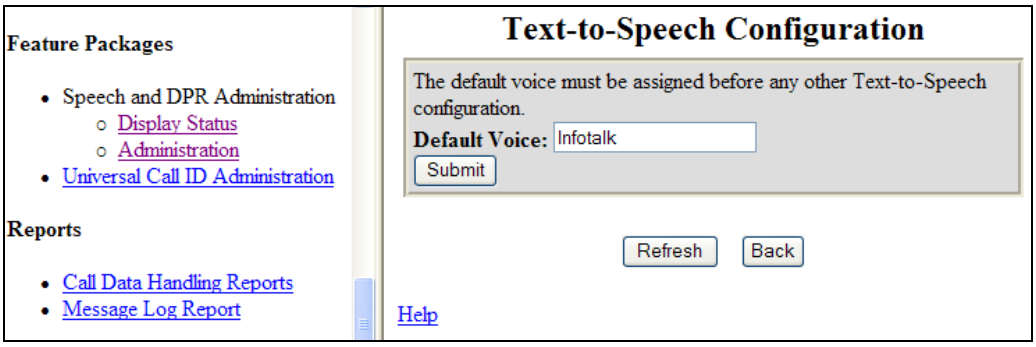
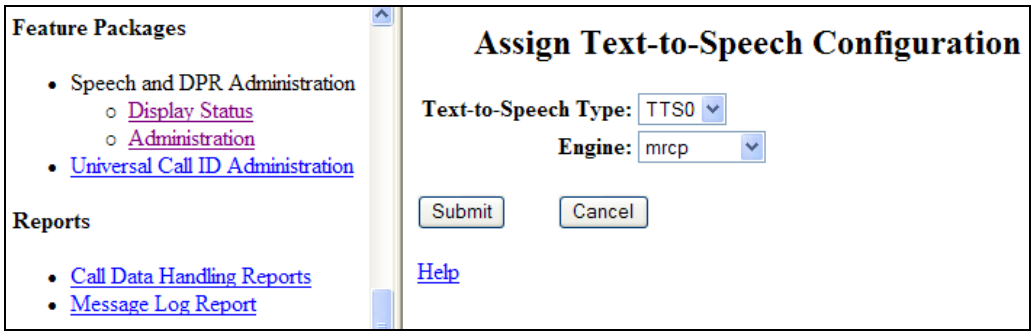


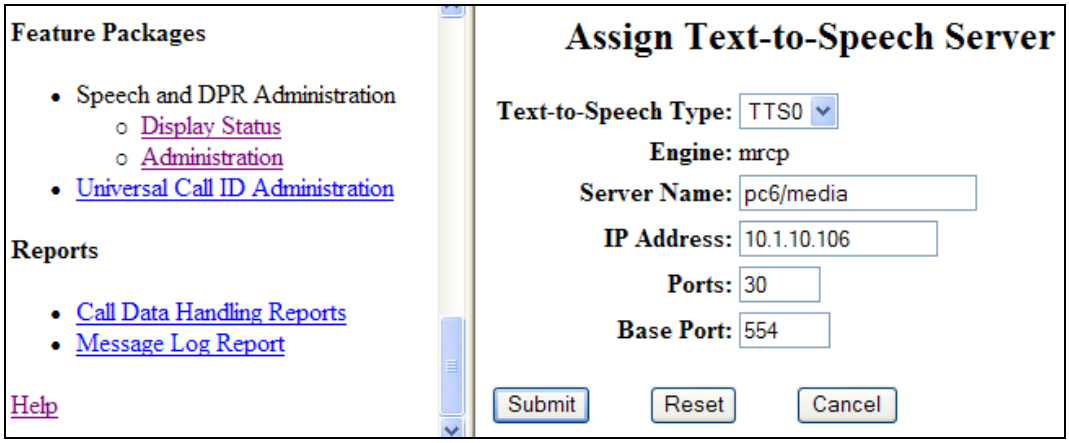
Step	Description
	On the **Assign Services to Channels** page that appears, select ***VXML Service*** for **Assign** and select the VXML application to be assigned for **Service Name**. Select **Submit**.



8.	To view the status of the channels and the configuration details, select **Display Equipment** from the left pane. Verify that the **STATE** for each channel is ***Inserv***.



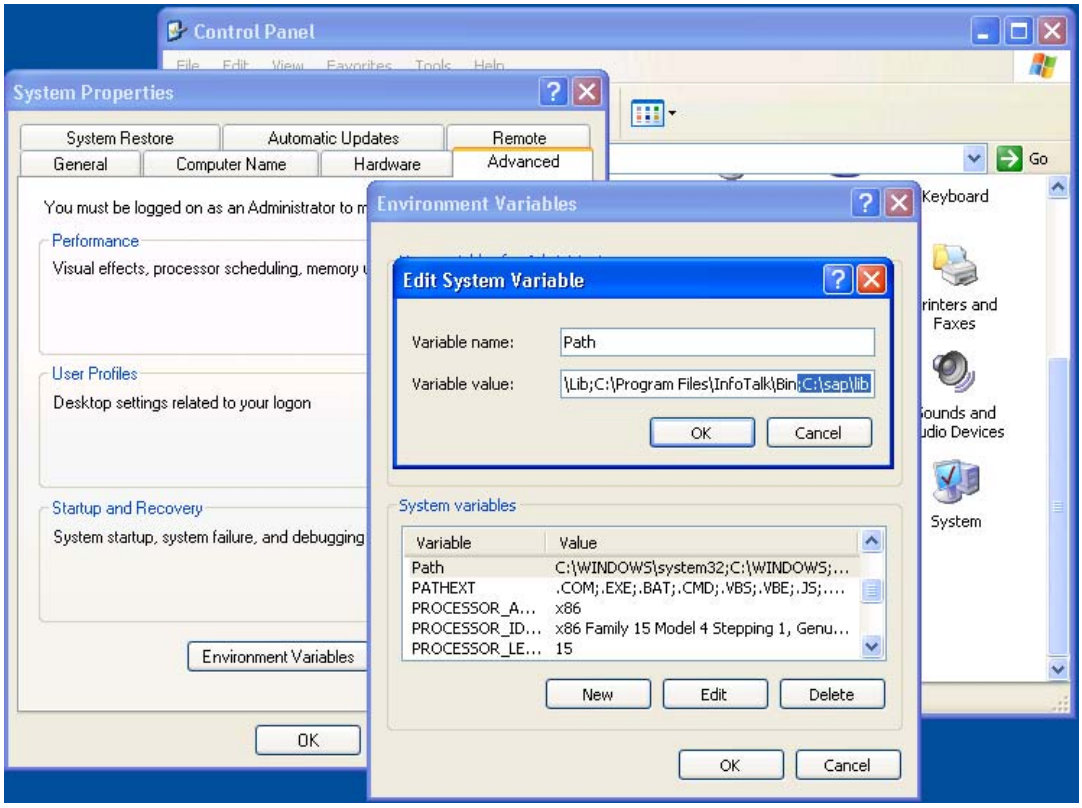
Step	Description
9.	Configure Avaya IR to use the Server installed with InfoTalk-Speaker 2.0 as a Text-to-Speech (TTS) Server.
	To assign a default voice for TTS: a. Click on **Speech and DPR Administration → Administration**. b. Select **Text-to-Speech Configuration**. The system displays the Text-to-Speech Configuration screen. c. In the **Default Voice** field, enter ***Infotalk***. d. Select **Submit**. The system displays information about the success or failure of the administration attempt. 
	To assign a TTS type: a. Click on **Speech and DPR Administration → Administration**. b. Select **Text-to-Speech Configuration**. The system displays the Text-to-Speech Configuration screen. c. If a Text-to-Speech type has not been previously assigned, select **Assign New Text-to-Speech Type**, or if a Text-to-Speech type has been previously assigned, in the Text-to-Speech Type field, select **Assign New**. d. In the **Text-to-Speech Type** field, select the first available TTS type (TTS0 to TTS9) to assign. In the **Engine** field, select ***mrcp***. e. Select **Submit**. The system displays information about the success or failure of the administration attempt. 

Step	Description
	To assign a TTS server with an MRCP engine: a. Click on **Speech and DPR Administration → Administration**. b. Select **Text-to-Speech Configuration**. The system displays the Text-to-Speech Configuration screen. c. In the **Text-to-Speech Type** field, select the TTS type (TTS0 to TTS9) assigned above for MRCP. d. Select **Assign New Server**. The system displays the Assign Text-to-Speech Server screen. e. In the **Server Name** field, type ***name/media***, where ***name*** is the Computer name of the PC running InfoTalk-Speaker. f. In the **IP Address** field, type the IP address of the PC running InfoTalk-Speaker. g. In the **Ports** field, type the number of ports to be used. The number must be less than or equal to the number of licensed ports on the Avaya IR. h. In the **Base Port** field, enter ***554***. The Base Port setting must match the InfoTalk MRCP Server setting in Section 5 Step 6. i. Select **Submit**. The system assigns the TTS server and displays information about the success or failure of the administration attempt. To complete the MRCP TTS configuration, **stop** and **start** the voice system. 

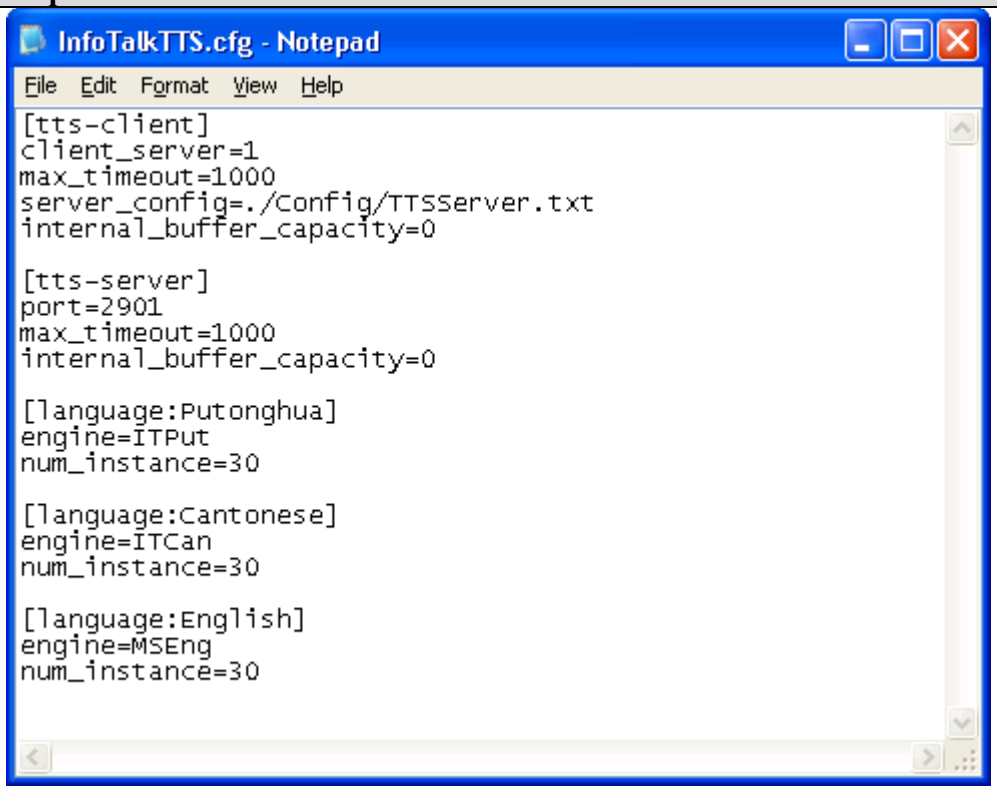
5. Configure InfoTalk-Speaker and InfoTalk MRCP Server

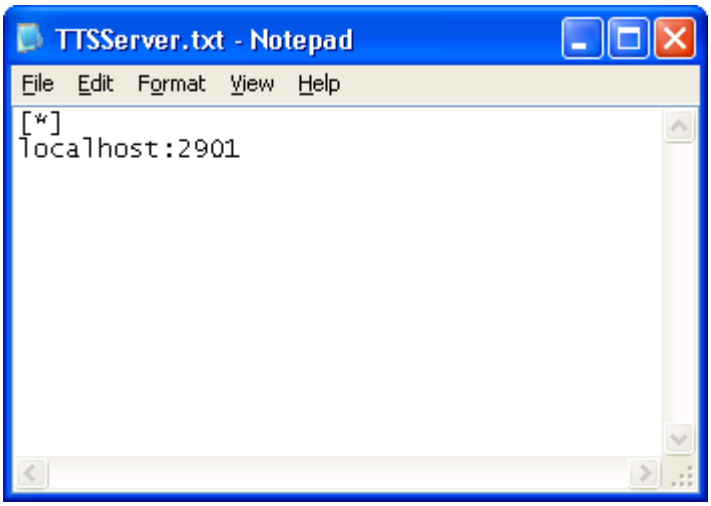
InfoTalk-Speaker and InfoTalk MRCP Server were installed on a Generic Pentium 4, 2.8 GHz server with 1 GB of memory running Microsoft Windows XP Professional with Service Pack 2. As all communication between the InfoTalk server and Avaya IR is via TCP/IP, it is strongly suggested that both systems be placed on the same IP subnet with minimal network traffic in order to minimize network latency.

Step	Description
	Installing InfoTalk-Speaker 2.0 software
1.	The InfoTalk-Speaker 2.0 software is distributed on two CD-ROMs. To install, place the first CD-ROM into the drive and run the file **Setup.exe.** The installation runs through the following steps: a. A welcome window will be displayed. Click **Next** to continue. b. Read and accept the license agreement and click **Next**. c. Select ***Complete*** for **Setup Type** and click **Next**. d. Select the destination folder and click **Next**. The default installation path is **C:\Program Files\InfoTalk**. e. Check the option **Install JRE after Installation?** and click **Install**. f. The installation wizard will install the product. g. At the end of installation process click on the "**Finish**" button. h. Restart the server after the installation. i. After the server has restarted, register InfoTalk-Speaker 2.0 License using the instructions found in *InfoTalk-Speaker Installation And User Guide* [4].
	Installing InfoTalk MRCP Server 1.0 software
2.	a. Download JRE 1.4.2_09 or above from Sun http://java.sun.com/ and install it if JRE 1.4 is not installed in Step 1. b. Insert the CD-ROM containing InfoTalk MRCP Server 1.0 software into the drive and run **InstallSAP.exe**. The default installation path is **C:\sap**. c. To add the path **C:\sap\lib** to the System environment variable **PATH**, double-click **System** from **Control Panel**. Click **Advanced** tab and **Environment Variables**. Under **System variables**, select **Path** and click **Edit**. Add **;C:\sap\lib** to the end of **Variable value**. Click **Ok** three times to exit the windows.

Step	Description
	
	Configuring InfoTalk MRCP Server 1.0 software
3.	Modify the file **sap_config.xml** found at C:\SAP\Config. a. Locate the line as shown below and change **mrcp_server_name** to the Computer Name of the system: <sap name="mrcp_server_name"> b. Locate the lines below and comment the lines out as shown. <!-- <audio-service name="ASR/recognizer" uri="ASR.xml" /> --> <!-- <audio-service name="TTS/synthesizer" uri="TTS.xml" /> --> The following line must not be commented. <audio-service name="TTS/media" uri="TTS.xml" /> c. Locate the line as shown below. This property sets the encoding of the requests. The **data** field should be set to the default value **"UTF-8"** in order to support double-byte languages. If Avaya IR is configured to send requests in another encoding such as ISO-8859-1, change the **data** field value accordingly. To determine the encoding used by Avaya IR, locate the **encoding** attribute in

Step	Description
	the **<xml>** tag in the VoiceXML application file. <property name="request-decoder" data="UTF-8"/> d. Locate the line as shown below. <property name="tts-default-lang" data="en-US"/> This property sets the default language for the TTS server when the request is received without the language parameter. Below are the available values: "zh-CN": Putonghua "zh-TW": Mandarin "zh-HK": Cantonese "en-US": English
4.	Modify the file **sap.properties** found at C:\SAP\Config. The line shown below determines the location of the configuration file for the InfoTalk-Speaker TTS engine. sap.InfoTalk.tts.configFile = ./config/InfoTalkTTS.cfg
5.	Modify the file **InfoTalkTTS.cfg** found at C:\SAP\Config. a. Setup the available TTS language and maximum simultaneous instances of each language. If a language is not available, comment it out by inserting "#" at the beginning of the line. The following setting configures the InfoTalk MRCP server to handle a maximum of 30 simultaneous instances for each TTS language.

Step	Description
	 The relevant TTS Server default configuration file in the folder **<InfoTalk-Speaker installed path>\config** must be changed as well, depending on what TTS language is configured for TTS. TTS_put.cfg - Putonghua and English TTS_can_put.cfg - Putonghua, Cantonese and English
6.	Modify **TTS.xml** found at C:\SAP\Config. a. Locate the line as shown below. This property sets the port number of InfoTalk MRCP Server for the connection of MRCP client. It has to be matched with the settings in Section 4 Step 9 "Configure Avaya Interactive Response (IR)". <property name="tcpport"> 554 </property>

Step	Description
7.	Modify the file **TTSServer.txt** found at C:\SAP\Config. Specify the location of the InfoTalk-Speaker TTS Server that InfoTalk MRCP Server should connect to. The default values of location name and port number are as follows where both the software are installed on the same server. If InfoTalk-Speaker TTS Server is installed in another machine, its hostname or IP address has to be specified to replace the default "localhost". 

5. Interoperability Compliance Testing

This Interoperability Compliance Test included feature functionality and serviceability testing. Feature functionality testing focused on verifying that InfoTalk-Speaker and InfoTalk MCRP Server could successfully work with the Avaya IR for the use of synthesized voice in system responses (via Text-to-Speech). Voice XML scripts in English, Cantonese (Traditional Chinese) and Putonghua (Simplified Chinese) were used on Avaya IR to test TTS. Serviceability tests were used to verify that the InfoTalk Server recovered from adverse conditions, such as rebooting of the InfoTalk server, Avaya IR, and Avaya Communication Manager and disconnecting the ethernet cable to the InfoTalk server.

5.1. General Test Approach

All feature functionality test cases were performed manually to verify proper operation. The general test approach included:

- Verifying Text-To-Speech Feature Functionality between Avaya IR, InfoTalk-Speaker and InfoTalk MRCP Server.
    - Complete synthesized prompts could be heard by the caller.
    - The Barge-in feature worked when DTMF was pressed.
    - Six simultaneous users could access the synthesized prompts.
    - The synthesized prompts could be heard in English, Cantonese and Putonghua.

5.2. Test Results

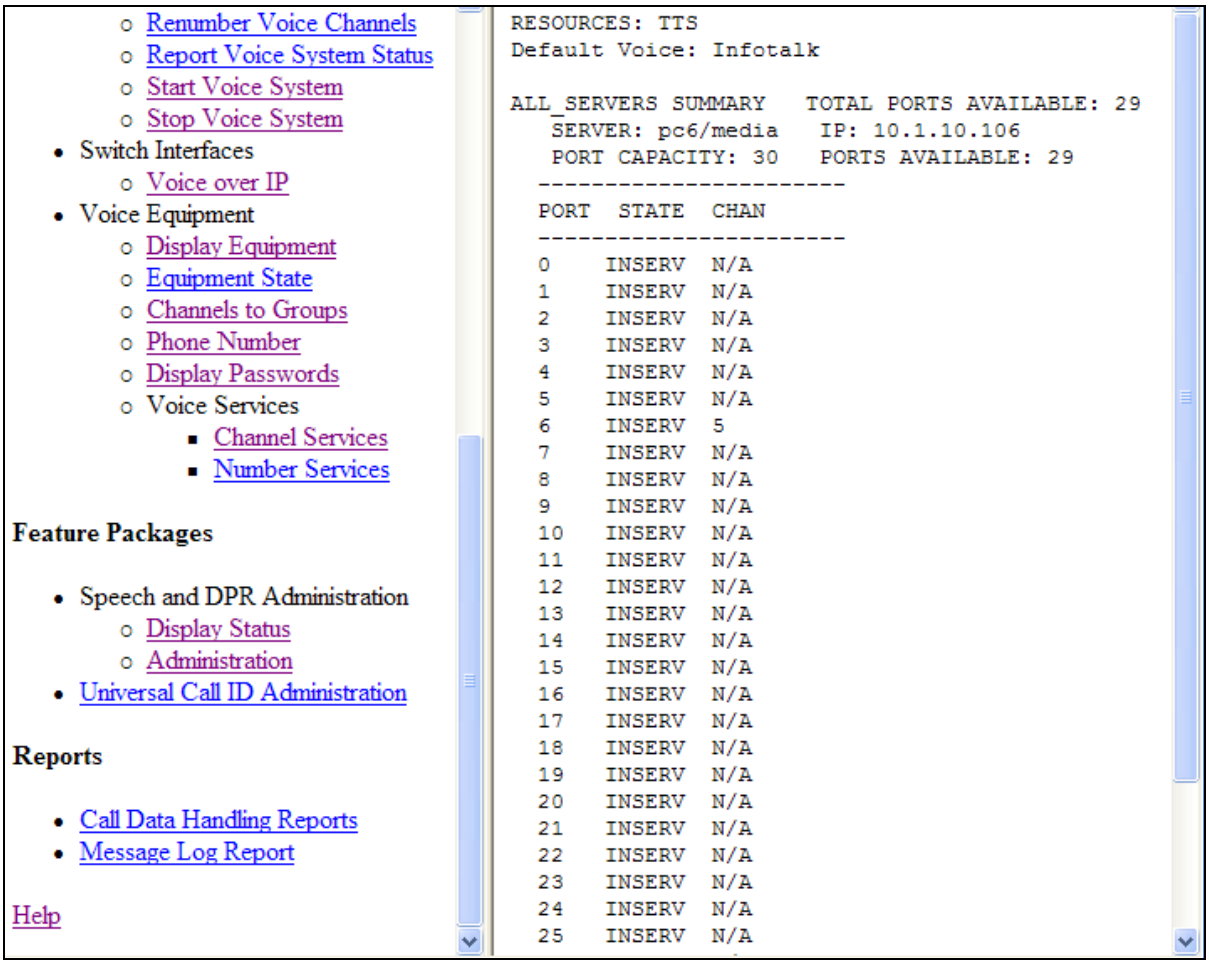
All feature functionality and serviceability test cases passed. InfoTalk-Speaker successfully communicated with Avaya IR using VoiceXML applications through the MRCP V1 protocol. For serviceability testing, InfoTalk Server was able to recover after resets of the InfoTalk Server, Avaya IR and Avaya Communication Manager. The InfoTalk Server was also able to recover from network disconnects and reconnects.

6. Verification Steps

The status of the connectivity between the InfoTalk Server and Avaya IR can be obtained by viewing the Speech Resource Status Window in Avaya IR (**Web Administration → Speech and DPR Administration → Display Status → Speech Resource Status**).

Select the **Resource Type** that was configured for TTS, then click **Submit**.

Verify that the **STATE** of the ports show **INSERV**. When TTS resources are being requested by the Avaya IR, the **CHAN** field will be populated with the corresponding IR channel.



7. Support

For technical support on InfoTalk-Speaker and MRCP Server contact:

Telephone : +65 6890-5967
Fax : +65 6895-4110
Email : Chunlei.pan@infotalkcorp.com

8. Conclusion

These Application Notes describe the compliance-tested configuration used to validate Avaya Communication Manager 3.0.1 and Avaya Interactive Response 1.3 with InfoTalk-Speaker 2.0 and InfoTalk MRCP Server 1.0. All test cases were completed successfully.

9. Additional References

This section references the product documentations that are relevant to these Application Notes.

The following documents are available at http://support.avaya.com.

[1] *Avaya Interactive Response Online Documentation.*
[2] *Administrator's Guide for Avaya Communication Manager*, Issue 1, June 2005, Document ID 03-300509.
[3] *Avaya Communication Manager Release 3.0 Call Center Software Automatic Call Distribution (ACD) Guide*, Issue 1, June 2005, Document ID 07-300301.
[4] *Avaya Interactive Response Release 1.2.1 MRCP Installation and Reference Guide*, Issue 1.0, November 2004, Document ID 107222.

The following documents are available from InfoTalk:

[4] *InfoTalk-Speaker Installation And User Guide*, Version 2.0.X.303
[5] *InfoTalk-Speaker Developer's Guide*, Version 2.0.X.303

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya Developer*Connection* Program at devconnect@avaya.com.