



Avaya Solution & Interoperability Test Lab

Application Notes for Beijing InfoQuick SinoVoice Speech Technology (SinoVoice) jTTS with Avaya Interactive Response – Issue 1.0

Abstract

These Application Notes describe the configuration steps required to integrate SinoVoice jTTS with Avaya Interactive Response and Avaya Communication Manager. SinoVoice jTTS 5.0.1 uses the Media Resource Control Protocol (MRCP) version 1 for its Text-To-Speech (TTS) features to interface with VoiceXML applications running on Avaya Interactive Response 3.0.

Information in these Application Notes has been obtained through DevConnect compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

1. Introduction

These Application Notes describe the configuration steps required to integrate Beijing InfoQuick SinoVoice Speech Technology (SinoVoice) jTTS with Avaya Interactive Response (IR) and Avaya Communication Manager. SinoVoice jTTS uses the Media Resource Control Protocol (MRCP) version 1 for its Text-To-Speech (TTS) features to interface with VoiceXML (VXML) applications running on Avaya IR.

SinoVoice jTTS is the core TTS technology of SinoVoice which uses a large scale recorded voice library and algorithm based on hierarchical prosody structure matching. The large scale recorded voice library covers various articulation situations in all kinds of contexts, and based on hierarchical prosody structure matching, jTTS chooses the most proper original speech fragment for jointing.

SinoVoice jTTS interfaces to Avaya IR via a TCP/IP connection using two different protocols:

- Signaling requests for call set-up and teardown between servers use Real-time Streaming Protocol (RTSP) connections.
- Audio data (synthesized speech delivered from the TTS engine) is carried over a Real-time Transport Protocol (RTP) connection.

Figure 1 illustrates the test configuration used to verify the SinoVoice jTTS solution. SinoVoice jTTS was installed on a Microsoft Windows Server 2003 Standard Edition with Service Pack 2 with the MRCP Service and TTS Engine installed on the same server. VoiceXML applications developed using Avaya Dialog Designer were installed on a second Microsoft Windows Server running Apache Tomcat and accessed by Avaya IR. Avaya IR interfaced with Avaya Communication Manager running on the S8300 Server and G350 Media Gateway using the Voice over IP (VoIP) feature on Avaya IR. With VoIP, transmission to Avaya Communication Manager is achieved without digital interfaces (T1/E1). Instead, all transmissions occur over the IP network using the network interface card (NIC) on the Avaya IR system. Avaya IP telephones were used to place calls to Avaya IR, which would run the VoiceXML applications. The applications would use the TTS engine to play synthesized prompts and verify DTMF tones and barge-in attempts.

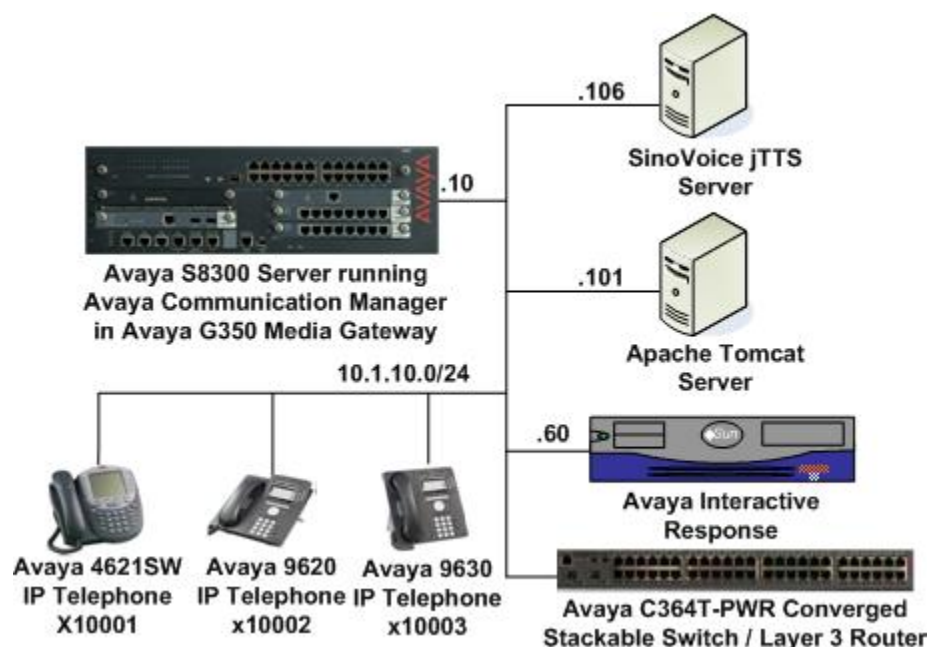


Figure 1: Test Configuration

2. Equipment and Software Validated

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

Equipment	Software
Avaya Interactive Response	3.0 with Service Pack 1
Avaya S8300 Server	Avaya Communication Manager 5.0 (R015x.00.0.825.4) with Service Pack 1 (00.0.825.4-15175)
Avaya G350 Media Gateway	27.27.0
Avaya 4621SW IP Telephone	2.8.8.7 (H.323)
Avaya 9600 Series IP Telephones	1.5 (H.323)
Avaya C364T-PWR Converged Stackable Switches	4.5.18
Apache Tomcat	5.5.25
Microsoft Windows Server 2003 Standard Edition	Service Pack 2
SinoVoice jTTS	5.0.1

3. Configure Avaya Communication Manager

This section presents the configuration required on Avaya Communication Manager to interface with Avaya IR. The configuration is performed via the System Access Terminal (SAT) on Avaya Communication Manager.

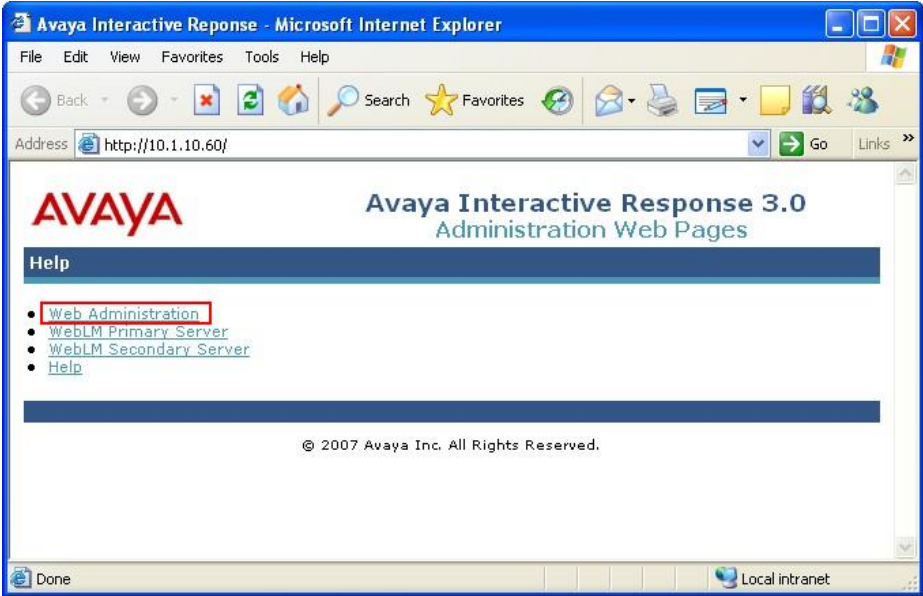
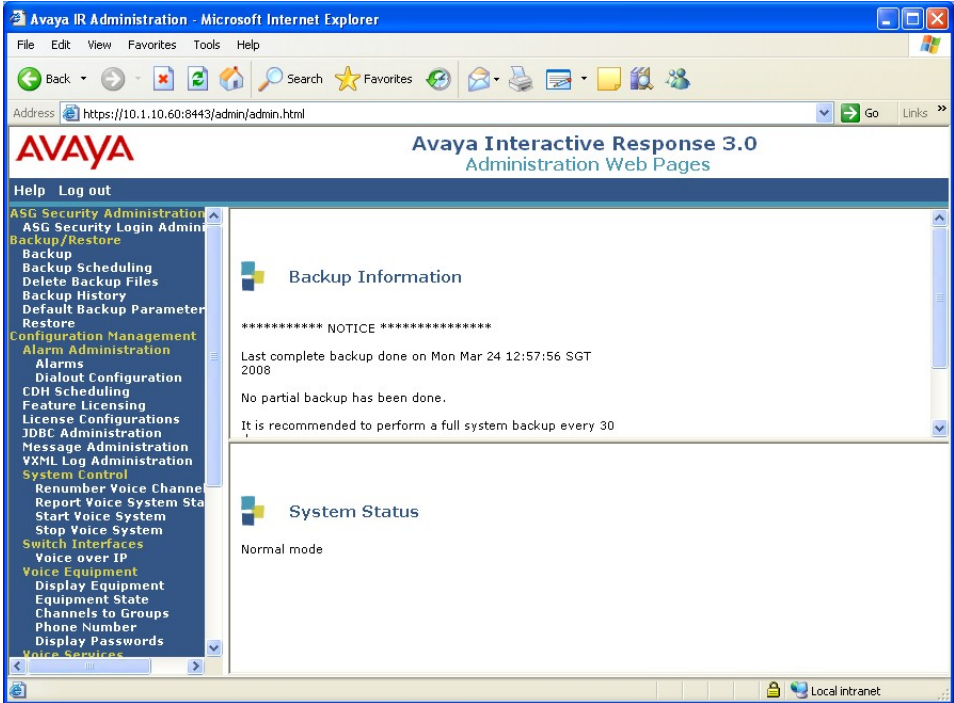
Step	Description
1.	<p>Use the display system-parameters customer-options command to check that Avaya Communication Manager has the feature license enabled for Avaya IR connectivity. On page 10, verify that the Limit field for IP_API_A has a value greater than or equal to the number of channels configured on Avaya IR in Section 4 Step 6. In this configuration, ten IR channels were configured for testing.</p> <pre> display system-parameters customer-options MAXIMUM IP REGISTRATIONS BY PRODUCT ID Product ID Rel. Limit Used IP_API_A : 200 10 IP_API_B : 0 0 IP_API_C : 0 0 IP_Agent : 200 0 IP_IR_A : 200 0 IP_Phone : 450 1 IP_ROMax : 450 0 IP_Soft : 200 0 IP_eCons : 10 0 oneX_Comm : 450 0 : 0 0 : 0 0 : 0 0 : 0 0 : 0 0 </pre>
2.	<p>Enter the change system-parameters features command. On page 6, set the 7434ND field to y.</p> <pre> change system-parameters features FEATURE-RELATED SYSTEM PARAMETERS Public Network Trunks on Conference Call: 5 Auto Start? y 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 Short Interdigit Timer (seconds): 3 Conference Tone? n Unanswered DID Call Timer (seconds): Intrusion Tone? n Line Intercept Tone 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 Recall from VDN? n DID Busy Treatment: tone Allow AAR/ARS Access from DID/DIOD? n Allow ANI Restriction on AAR/ARS? n 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 DTMF Tone Feedback Signal to VRU - Connection: Disconnection: </pre>

Step	Description
3.	<p>Enter the add station n command where n is a valid extension, to configure the IR channel as a station with the Type field set to 7434ND. Specify the Security Code, which will be used in Section 4 Step 14 when configuring the phone numbers on IR. Set Port to X, Digital Module to y and IP Softphone to y.</p> <p>Repeat for each IR channel. In this configuration, ten IR channels were configured with an extension range of 10101 to 10110.</p>
	<pre> add station 10101 Page 1 of 6 STATION Extension: 10101 Lock Messages? n BCC: 0 Type: 7434ND Security Code: 12345 TN: 1 Port: X Coverage Path 1: COR: 1 Name: IR #1 Coverage Path 2: COS: 1 Hunt-to Station: STATION OPTIONS Loss Group: 2 Time of Day Lock Table: Data Module? n Personalized Ringing Pattern: 1 Display Module? y Message Lamp Ext: 10101 Display Language: english Coverage Module? n Survivable COR: internal Media Complex Ext: Survivable Trunk Dest? y IP SoftPhone? y Remote Office Phone? n IP Video Softphone? n </pre>

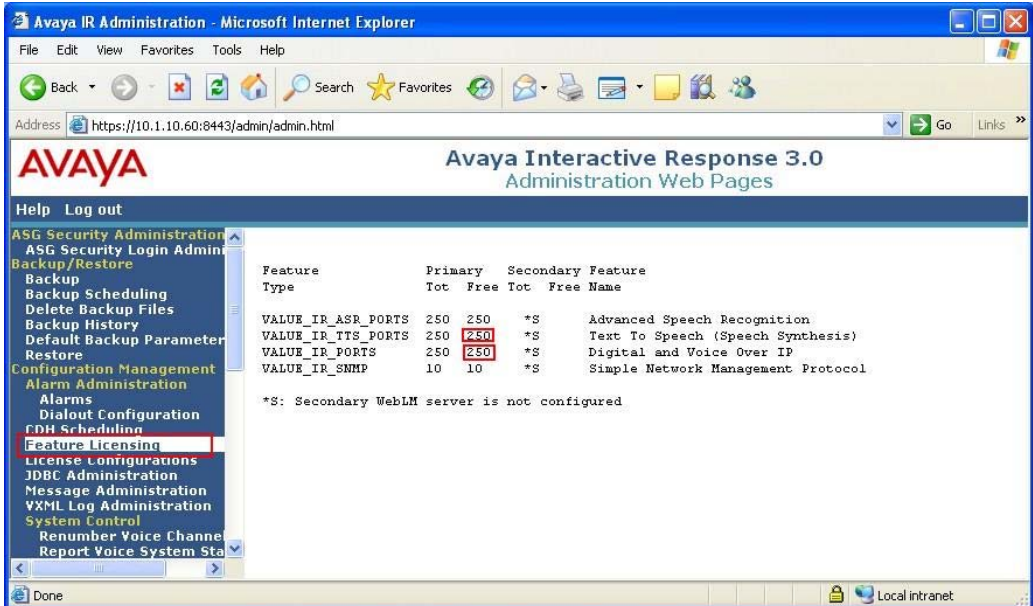
4. Configure Avaya Interactive Response

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 was assigned a phone number that matched a corresponding extension configured on Avaya Communication Manager in Section 3 Step 3. VXML applications developed using Avaya Dialog Designer were deployed to an Apache Tomcat server. Avaya IR was then configured to access the VXML applications.

Step	Description
1.	<p>The following packages need to be installed on Avaya IR to support the VoIP feature and MRCP Text-to-Speech.</p> <ul style="list-style-type: none"> • Voice Over IP (AVvoip) • Speech Proxy Base Software (AVsproxy) • Proxy Text-to-Speech Package (AVttsprxy) • MRCP TTS Proxy (AVmrcptts) <p>Enter the command pkginfo grep AV command from the Avaya IR command line to verify the required packages are installed.</p> <pre> irl(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 AVlm License Manager IVR AVmrcptts MRCP TTS Proxy IVR AVsc Service Creation Integration Packag e Release 5.2 IVR AVsproxy Speech Proxy Base Software IVR AVtsm Transaction State Machine IVR AVttsprxy Proxy Text-to-Speech Package IVR AVucid Universal Call ID IVR AVval Avaya IR System Validation Package IVR AVvoicxml2-0 Voice XML Interpreter IVR AVvoip Voice Over IP IVR AVwebadm Web Administration IVR AVxfer Call Transfer and Bridge Package </pre>

Step	Description
2.	<p>The Avaya IR configuration was performed via a web browser. Enter the IP address of Avaya IR in the URL field of the web browser. The initial Avaya IR webpage is displayed as shown. Click Web Administration to display the log in screen (not shown), and log into Avaya IR with the appropriate credentials.</p> 
3.	<p>After logging into Avaya IR, the main Avaya IR configuration webpage is displayed.</p> 

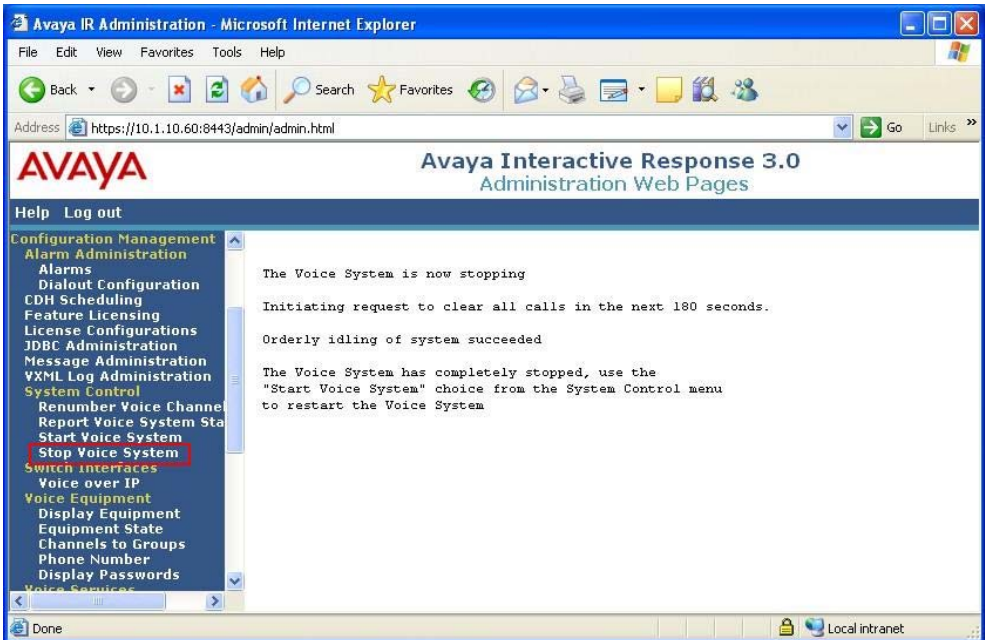
Step	Description
4.	<p>To verify that Avaya IR has the appropriate licenses to run the TTS applications, click Feature Licensing to display the Feature License page. Verify that the Free field for the Feature Type VALUE_IR_PORTS has a value equal or greater than the number of VoIP channels needed and VALUE_IR_TTS_PORTS has a value equal or greater than the number of TTS sessions needed. Otherwise, contact the Avaya sales channel to obtain the required licenses.</p>



The screenshot shows the Avaya IR Administration web interface in Microsoft Internet Explorer. The browser address bar shows the URL https://10.1.10.60:8443/admin/admin.html. The page title is "Avaya Interactive Response 3.0 Administration Web Pages". The left sidebar contains a navigation menu with the following items: Help, Log out, ASG Security Administration, ASG Security Login Admin, Backup/Restore, Backup, Backup Scheduling, Delete Backup Files, Backup History, Default Backup Parameter, Restore, Configuration Management, Alarm Administration, Alarms, Dialout Configuration, CDH Scheduling, Feature Licensing (highlighted with a red box), License Configurations, JDBC Administration, Message Administration, VXML Log Administration, System Control, Renumber Voice Channel, and Report Voice System Sta. The main content area displays a table of Feature Licenses:

Feature Type	Primary Tot	Primary Free	Secondary Tot	Secondary Free	Feature Name
VALUE_IR_ASR_PORTS	250	250	*S		Advanced Speech Recognition
VALUE_IR_TTS_PORTS	250	250	*S		Text To Speech (Speech Synthesis)
VALUE_IR_PORTS	250	250	*S		Digital and Voice Over IP
VALUE_IR_SNMP	10	10	*S		Simple Network Management Protocol

*S: Secondary WebLM server is not configured

Step	Description
5.	<p>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 (not shown), click Submit and wait until the system displays a message indicating that the Voice System has completely stopped.</p>  <p>The screenshot shows the 'Avaya IR Administration - Microsoft Internet Explorer' window. The address bar displays 'https://10.1:10.60:8443/admin/admin.html'. The page title is 'Avaya Interactive Response 3.0 Administration Web Pages'. On the left, a navigation menu lists various options, with 'Stop Voice System' highlighted under the 'System Control' section. The main content area on the right displays a status message: 'The Voice System is now stopping', 'Initiating request to clear all calls in the next 180 seconds.', 'Orderly idling of system succeeded', and 'The Voice System has completely stopped, use the "Start Voice System" choice from the System Control menu to restart the Voice System'.</p>

Step	Description
6.	<p>To configure the VoIP interface, follow these steps:</p> <ol style="list-style-type: none"> Under Switch Interfaces in the left pane, click Voice over IP to display the Voice over IP page (not shown). Click Assign Card and then click Submit to display the Assign VoIP Card page. Set Card IP Address to the IP address of the NIC card on Avaya IR used for VoIP, Gatekeeper IP Address to the IP address of the S8300 Server, RTP Packet Size to 20, Station Authentication Enabled to yes and Avaya CM Version to 3.0. Set No of Ports to the number of IR channels created in Section 3 Step 3. Click Submit.

Avaya IR Administration - Microsoft Internet Explorer

Address: https://10.1.10.60:8443/admin/admin.html

AVAYA Avaya Interactive Response 3.0 Administration Web Pages

Help Log out

ASG Security Administration
ASG Security Login Administration
Backup/Restore
Backup
Backup Scheduling
Delete Backup Files
Backup History
Default Backup Parameters
Restore
Configuration Management
Alarm Administration
Alarms
Dialout Configuration
CDH Scheduling
Feature Licensing
License Configurations
JDBC Administration
Message Administration
VXML Log Administration
System Control
Renumber Voice Channels
Report Voice System Status
Start Voice System
Stop Voice System
Switch Interfaces
Voice over IP
Voice Equipment
Display Equipment
Equipment State
Channels to Groups
Phone Number
Display Passwords
Voice Services
Channel Services
Number Services
Feature Packages
Speech and DPR Administration
Display Status
Administration
Universal Call ID Administration
Reports
Call Data Handling Reports
Message Log Report
VXML Log Report
VXML Performance Log Report
VXML Feature

You are Here: Configuration Management>Switch Interfaces>Voice over IP>Assign VoIP Card

Assign VoIP Card: 6

Card Name: VH323

Card Enabled?: yes

Card IP Address: 10.1.10.60

Gatekeeper IP Address: 10.1.10.10

H.323 Gatekeeper Port: 1719

Backup Gatekeeper IP: 127.0.0.0

Low RTP Port: 8000

High RTP Port: 10000

RTP Packet Size: 20

RTCP Monitor Enabled?: no

RTCP Monitor IP Address: 127.0.0.0

RTCP Monitor Port: 5005

Station Authentication Enabled?: yes

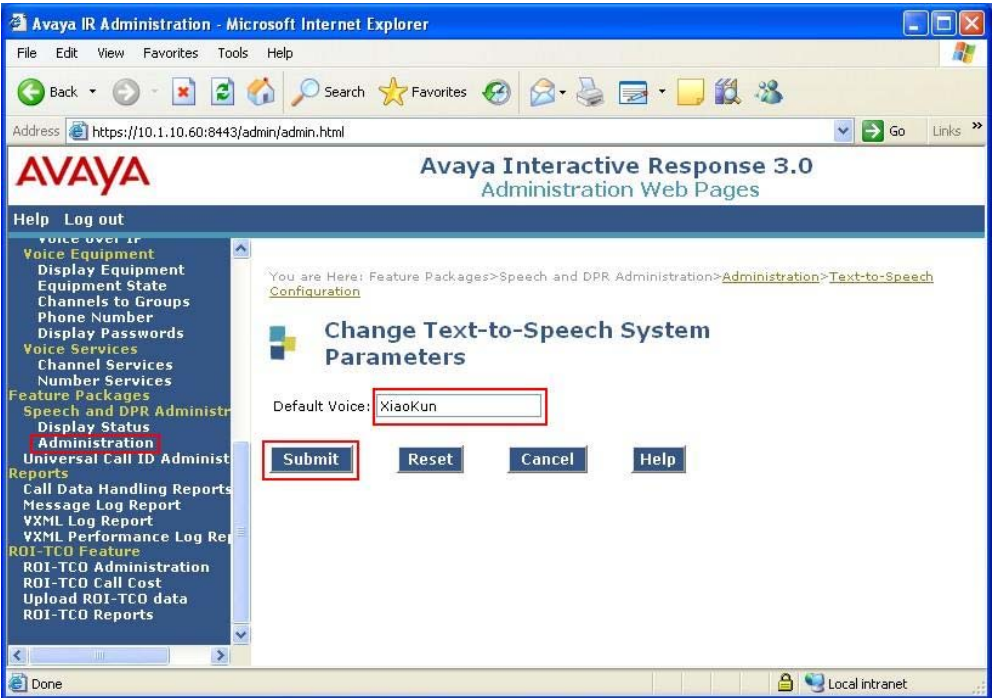
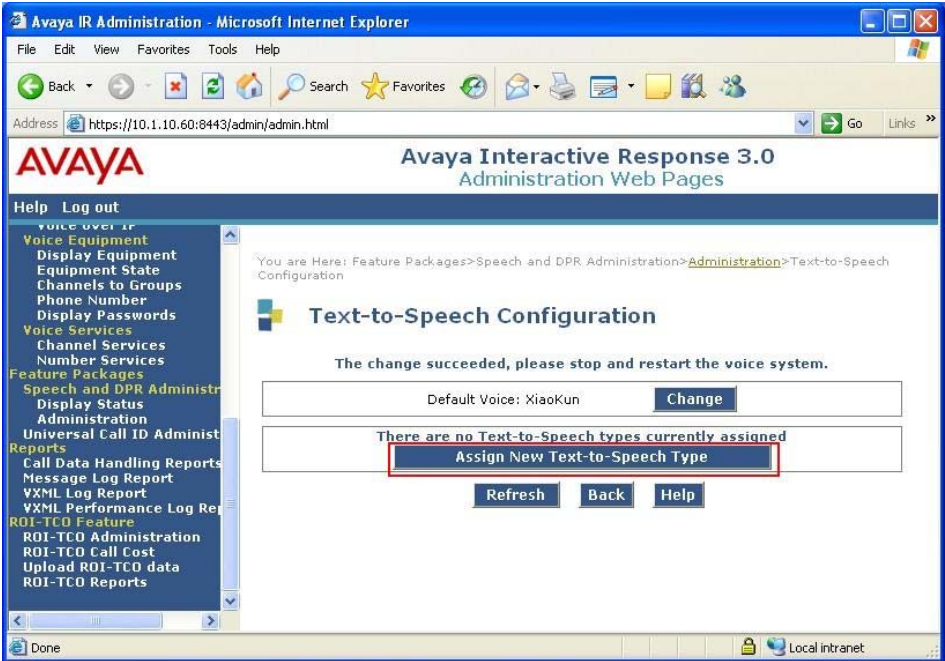
Avaya CM Name: CM6

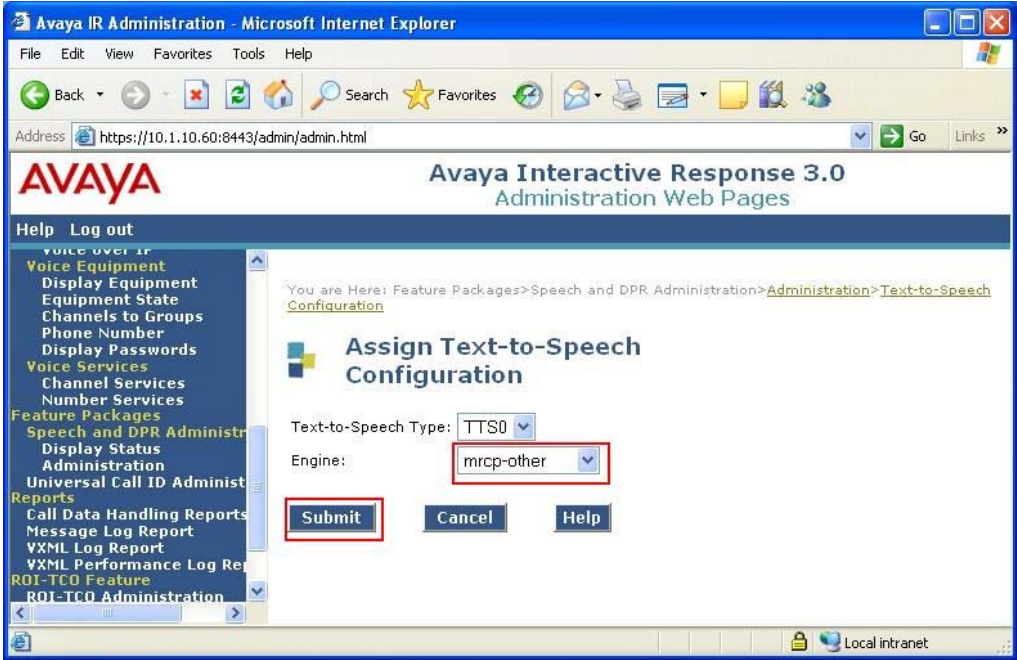
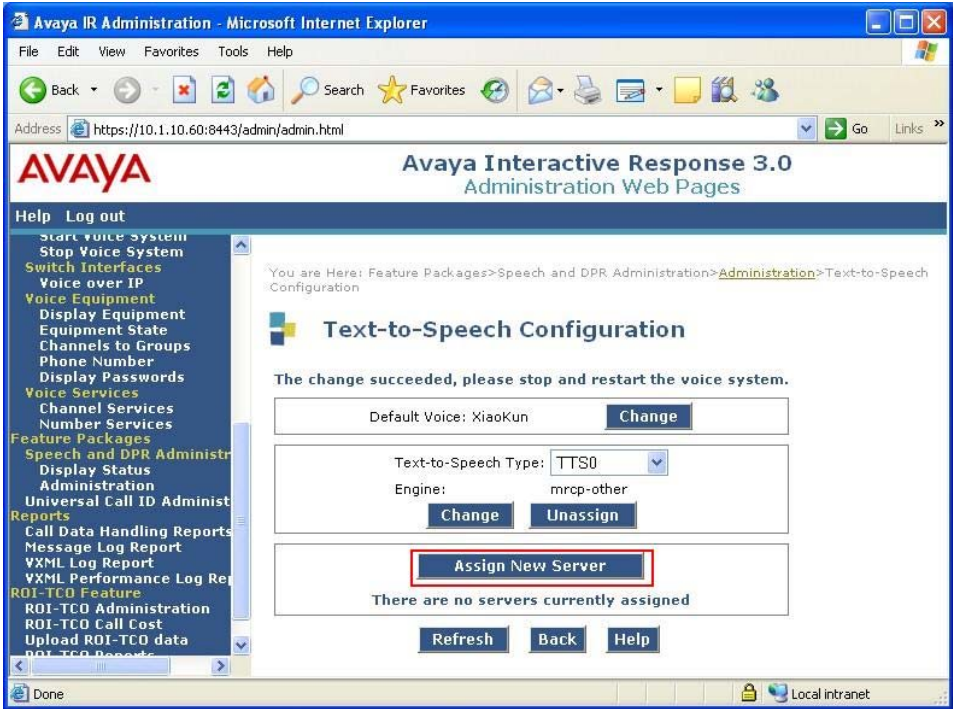
No of Ports: 10

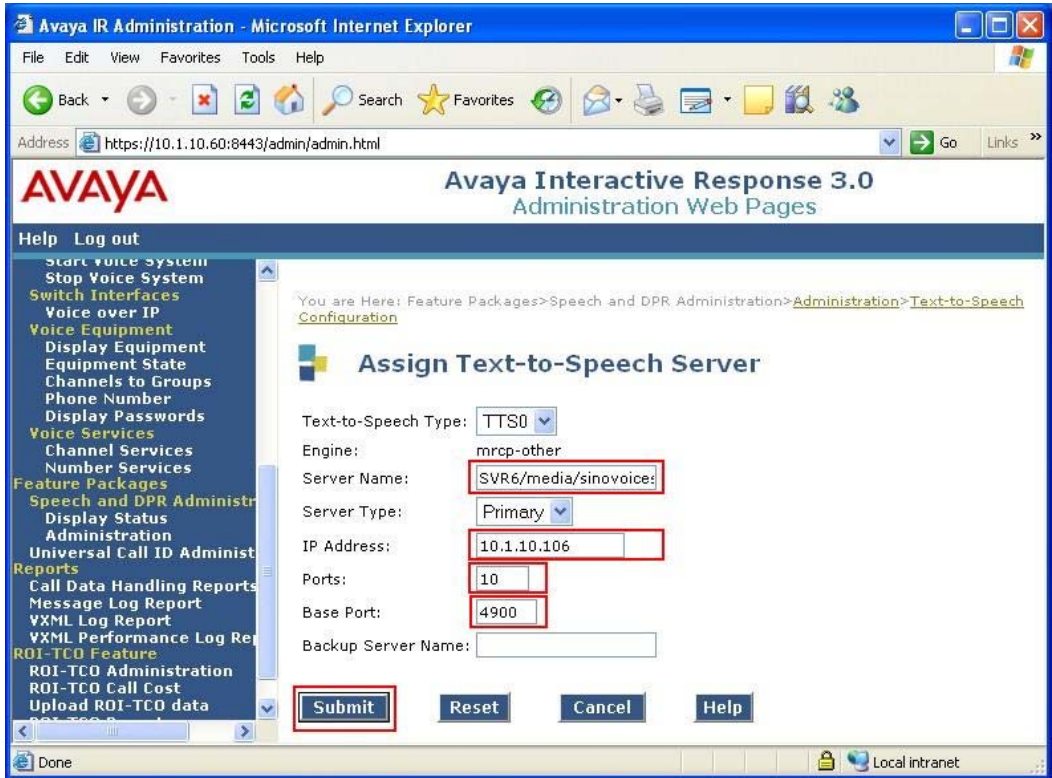
Avaya CM Version: 3.0

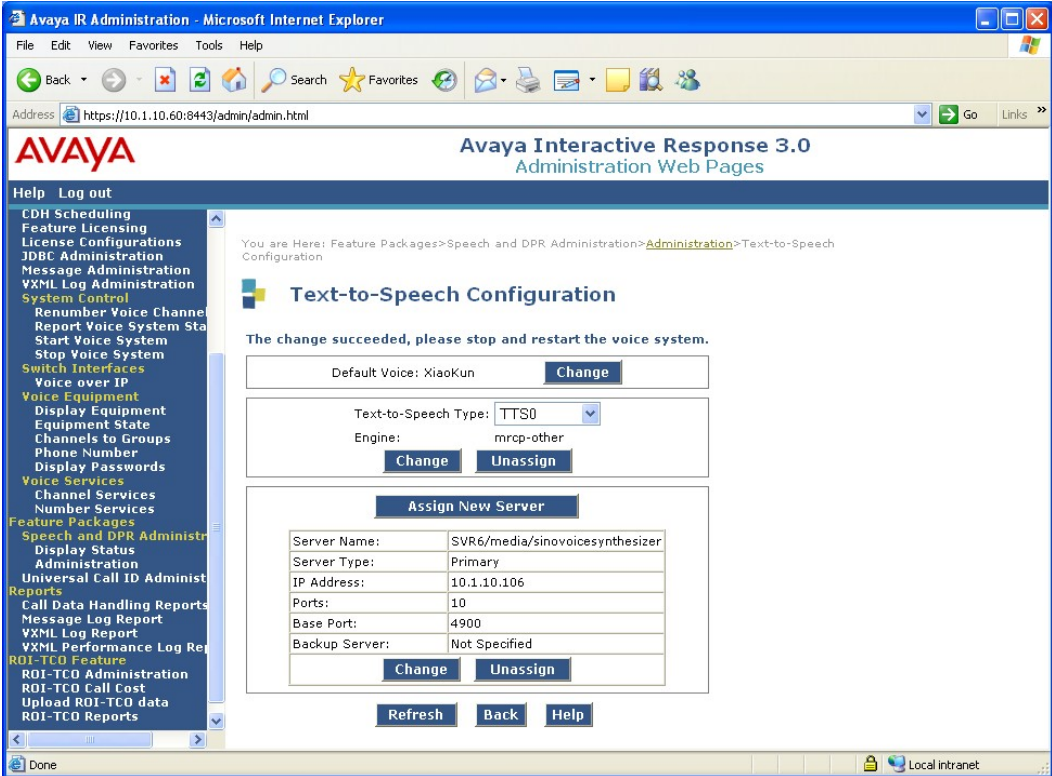
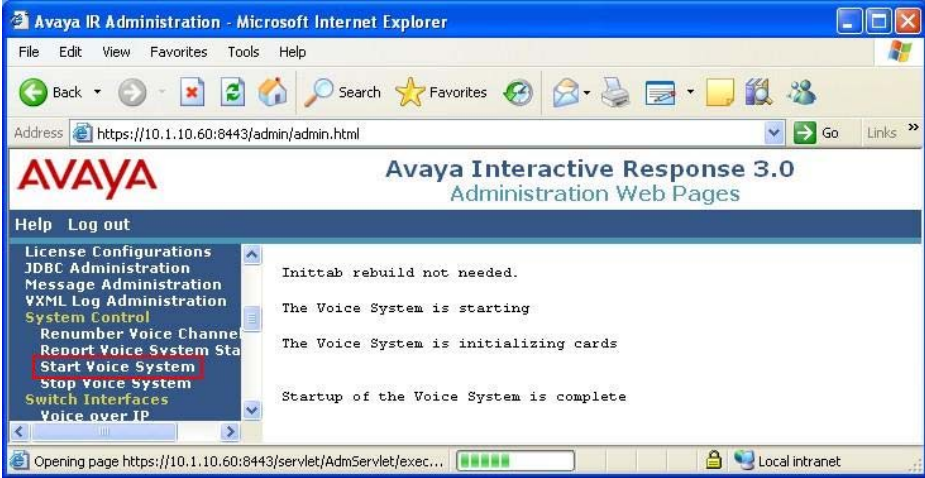
Media Encryption: Disabled

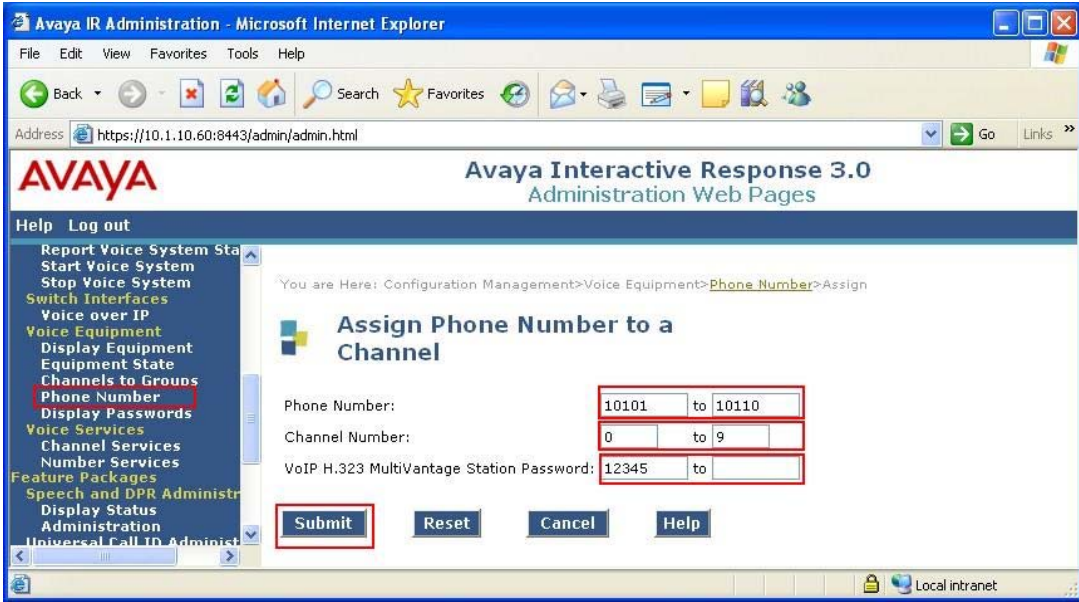
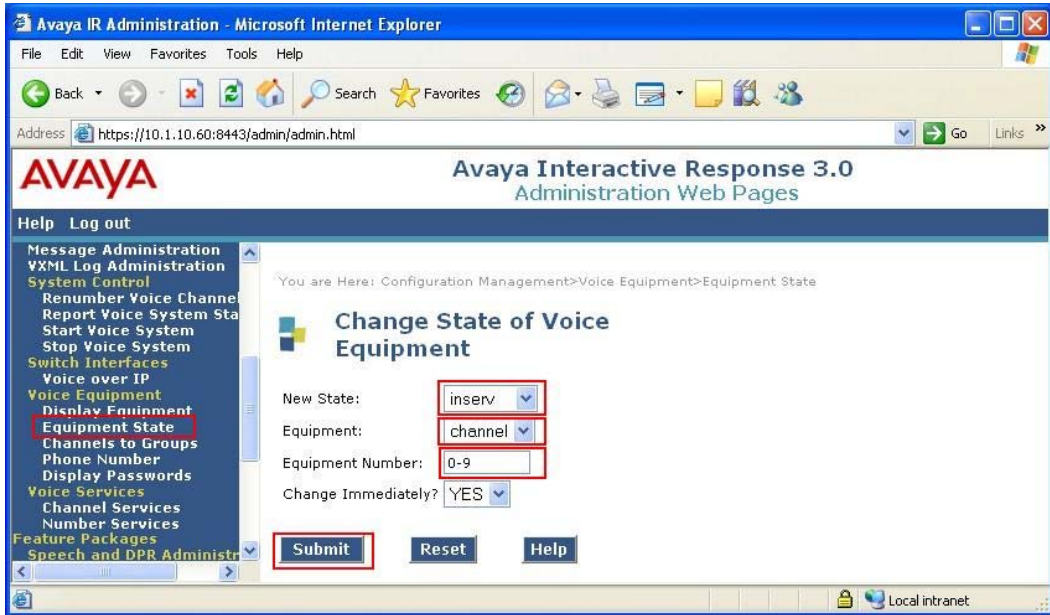
Submit Reset Cancel Help

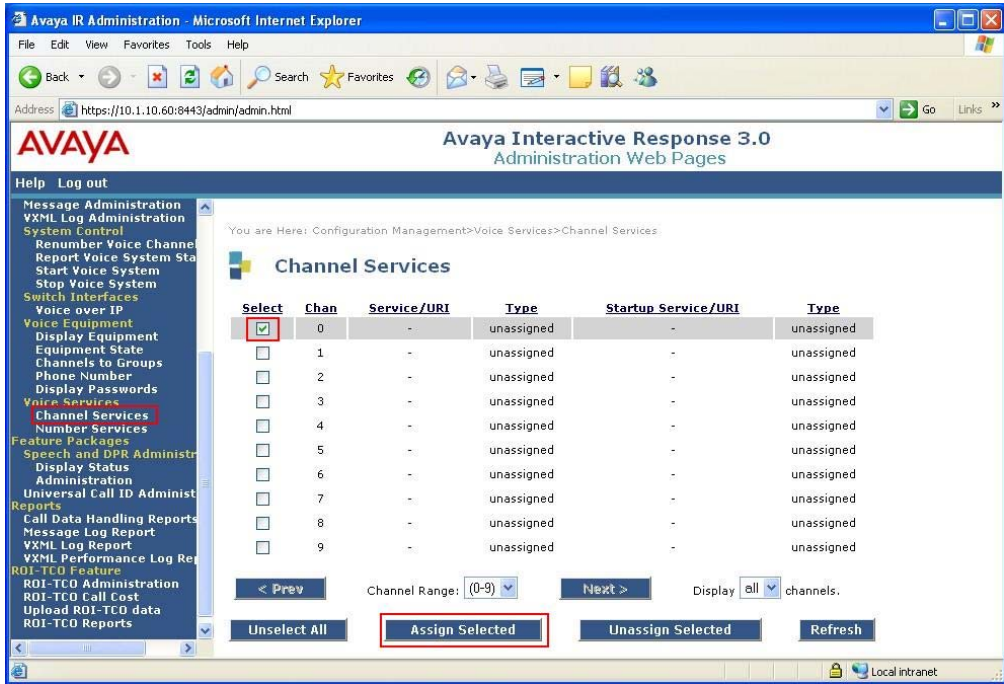
Step	Description
7.	<p>To Configure the TTS engine in Avaya IR, click Administration under Speech and DPR Administration in the left pane and then click Text-to-Speech Configuration (not shown). Set the Default Voice to XiaoKun and click Submit.</p>  <p>The screenshot shows the Avaya IR Administration web interface in Microsoft Internet Explorer. The address bar shows 'https://10.1.10.60:8443/admin/admin.html'. The page title is 'Avaya Interactive Response 3.0 Administration Web Pages'. The left navigation pane shows 'Administration' under 'Speech and DPR Administration'. The main content area is titled 'Change Text-to-Speech System Parameters'. It shows 'Default Voice: XiaoKun' in a text box. Below the text box are four buttons: 'Submit', 'Reset', 'Cancel', and 'Help'. The 'Submit' button is highlighted with a red box.</p>
8.	<p>To assign the Text-to-Speech Type, click Assign New Text-to-Speech Type.</p>  <p>The screenshot shows the Avaya IR Administration web interface in Microsoft Internet Explorer. The address bar shows 'https://10.1.10.60:8443/admin/admin.html'. The page title is 'Avaya Interactive Response 3.0 Administration Web Pages'. The left navigation pane shows 'Administration' under 'Speech and DPR Administration'. The main content area is titled 'Text-to-Speech Configuration'. It shows a message: 'The change succeeded, please stop and restart the voice system.' Below the message is a text box with 'Default Voice: XiaoKun' and a 'Change' button. Below that is a message: 'There are no Text-to-Speech types currently assigned'. Below this message is a button labeled 'Assign New Text-to-Speech Type', which is highlighted with a red box. Other buttons 'Refresh', 'Back', and 'Help' are also visible.</p>

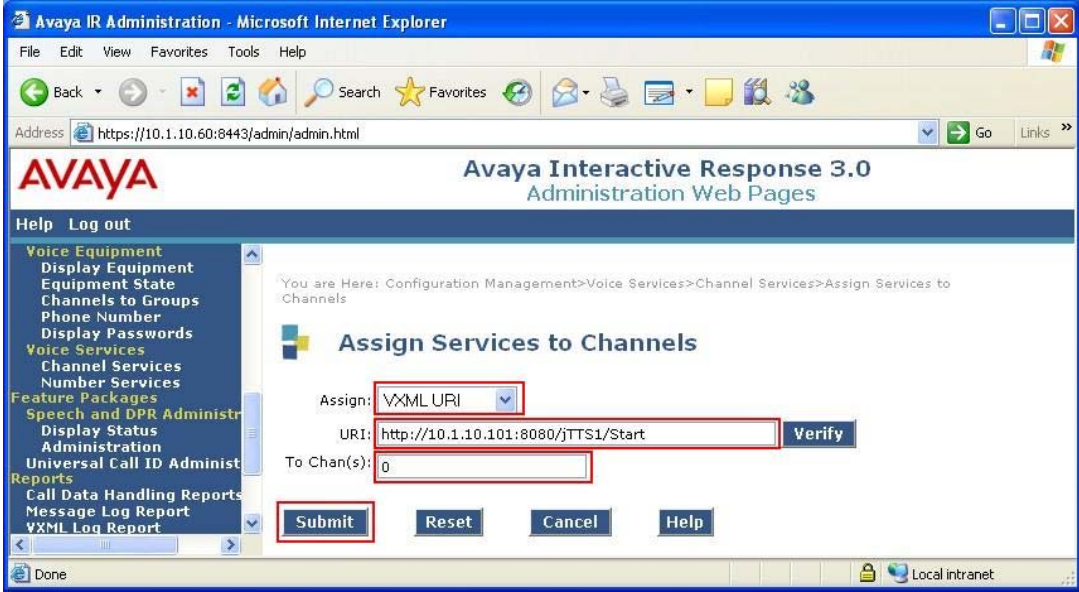
Step	Description
9.	<p>The Assign Text-to-Speech Configuration page is displayed. Set the Engine field to mrccp-other and click Submit.</p>  <p>The screenshot shows the Avaya IR Administration web interface in Microsoft Internet Explorer. The page title is 'Avaya Interactive Response 3.0 Administration Web Pages'. The left sidebar contains a navigation menu with categories like 'Voice over IP', 'Voice Services', 'Feature Packages', 'Reports', and 'ROI-TCO Feature'. The main content area is titled 'Assign Text-to-Speech Configuration'. It includes a breadcrumb trail: 'You are Here: Feature Packages>Speech and DPR Administration>Administration>Text-to-Speech Configuration'. The 'Text-to-Speech Type' is set to 'TTS0'. The 'Engine' dropdown menu is open, showing 'mrccp-other' selected. The 'Submit' button is highlighted with a red rectangular box. Other buttons visible are 'Cancel' and 'Help'.</p>
10.	<p>In the Text-to-Speech Configuration page, click Assign New Server.</p>  <p>The screenshot shows the 'Text-to-Speech Configuration' page. The breadcrumb trail is 'You are Here: Feature Packages>Speech and DPR Administration>Administration>Text-to-Speech Configuration'. A message states: 'The change succeeded, please stop and restart the voice system.' Below this, there are fields for 'Default Voice: XiaoKun' with a 'Change' button, and 'Text-to-Speech Type: TTS0' and 'Engine: mrccp-other' with 'Change' and 'Unassign' buttons. The 'Assign New Server' button is highlighted with a red rectangular box. Below it, a message says 'There are no servers currently assigned'. At the bottom are 'Refresh', 'Back', and 'Help' buttons.</p>

Step	Description
11.	<p>In the Assign Text-to-Speech Server page, set Server Name to <jTTS Server Host Name>/media/sinovoicesynthesizer and IP Address to the IP address of the SinoVoice jTTS Server. Set Ports to the number of ports available on the SinoVoice jTTS Server according to its installed license as shown in Section 5 Step 1 and set Base Port to 4900. Click Submit.</p> 

Step	Description
12.	<p>The Text-to-Speech configuration on Avaya IR is complete. The Text-to-Speech Configuration page shows the configuration.</p>  <p>The screenshot shows the 'Avaya IR Administration - Microsoft Internet Explorer' window. The address bar displays 'https://10.1.10.60:8443/admin/admin.html'. The page title is 'Avaya Interactive Response 3.0 Administration Web Pages'. The left sidebar contains a navigation menu with categories like 'CDH Scheduling', 'Feature Licensing', 'System Control', 'Switch Interfaces', 'Voice Services', 'Feature Packages', 'Reports', and 'ROI-TCO Feature'. The main content area is titled 'Text-to-Speech Configuration' and includes a message: 'The change succeeded, please stop and restart the voice system.' Below this, there are configuration fields for 'Default Voice: XiaoKun', 'Text-to-Speech Type: TTS0', 'Engine: mrccp-other', and a table for 'Assign New Server' with details for 'SVR6/media/sinovoicesynthesizer'.</p>
13.	<p>After the VoIP card and Text-to-Speech are successfully configured, start the Voice System by clicking on Start Voice System. When the Start Voice System page is displayed (not shown), click Submit and wait until the system displays a message indicating that the startup of the Voice System is complete.</p>  <p>The screenshot shows the 'Avaya IR Administration - Microsoft Internet Explorer' window. The address bar displays 'https://10.1.10.60:8443/admin/admin.html'. The page title is 'Avaya Interactive Response 3.0 Administration Web Pages'. The left sidebar contains a navigation menu with categories like 'License Configurations', 'System Control', 'Switch Interfaces', and 'Voice over IP'. The main content area displays a progress bar and status messages: 'Inittab rebuild not needed.', 'The Voice System is starting', 'The Voice System is initializing cards', and 'Startup of the Voice System is complete'.</p>

Step	Description
14.	<p>To assign phone numbers to the channels, click Phone Number to display the Phone Number - Channel Assignment page (not shown) and click Assign. On the Assign Phone Number to a Channel page, set Phone Number to 10101 to 10110, Channel Number to 0 to 9, and VoIP H.323 MultiVantage Station Password to the Security Code of the stations created in Section 3 Step 3. Click Submit.</p> 
15.	<p>To bring the channels into service, click Equipment State on the left pane. Set New State to inserv, Equipment to channel, and Equipment Number to 0-9, and click Submit.</p> 

Step	Description
16.	<p>Assign a VoiceXML application to channel 0 (i.e., the first channel). This specifies which application would run when the channel receives a call. Click Channel Services on the left pane to display the Channel Services page. Click the checkbox for Chan 0 and then click Assign Selected.</p> <p>Note: It is assumed that the VoiceXML application has already been developed and is deployed on the Apache Tomcat server.</p>  <p>The screenshot shows the Avaya IR Administration interface in a Microsoft Internet Explorer browser. The address bar shows the URL https://10.1.10.60:8443/admin/admin.html. The page title is 'Avaya Interactive Response 3.0 Administration Web Pages'. The left navigation pane lists various administrative functions, with 'Channel Services' selected and highlighted in red. The main content area displays the 'Channel Services' configuration page. It includes a breadcrumb trail: 'You are Here: Configuration Management>Voice Services>Channel Services'. Below this is a table with columns: 'Select', 'Chan', 'Service/URI', 'Type', 'Startup Service/URI', and 'Type'. The table lists channels 0 through 9. Channel 0 has its 'Select' checkbox checked. All other channels have their checkboxes unchecked. The 'Service/URI' and 'Type' columns are empty for all channels. At the bottom of the table, there are buttons: '< Prev', 'Channel Range: (0-9)', 'Next >', 'Display all channels.', 'Unselect All', 'Assign Selected' (highlighted with a red box), 'Unassign Selected', and 'Refresh'.</p>

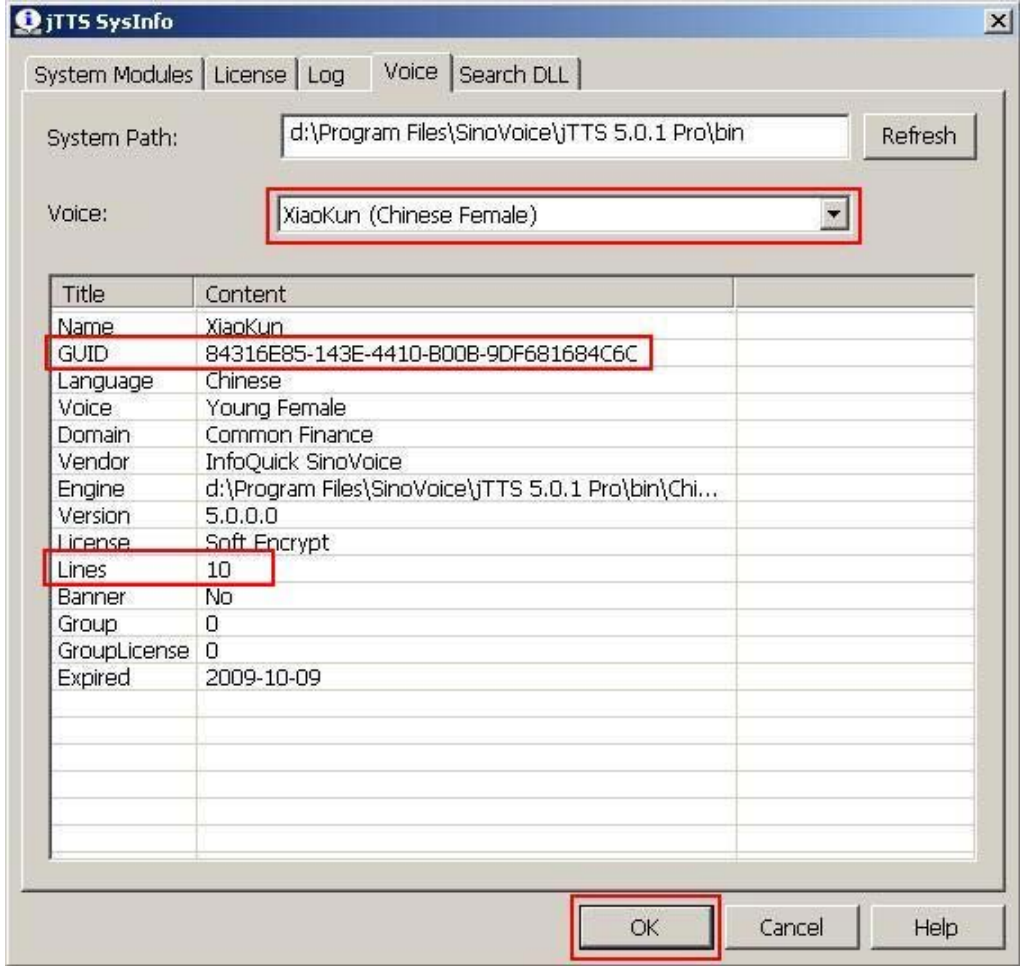
Step	Description
17.	<p>Configure the Assign Services to Channels page as shown. This configuration assigns a VoiceXML application jTTS1 deployed on the Apache Tomcat Server to channel 0. Set Assign to VXML URI, set URI to http://<IP address of Apache Tomcat server>:8080/jTTS1/Start, and set To Chan(s) to 0. Repeat this procedure for all channels that should run this application. Note that the user may change the To Chan(s) field to 0-9 to assign the application to all the 10 channels in a single step. Click Submit.</p> 

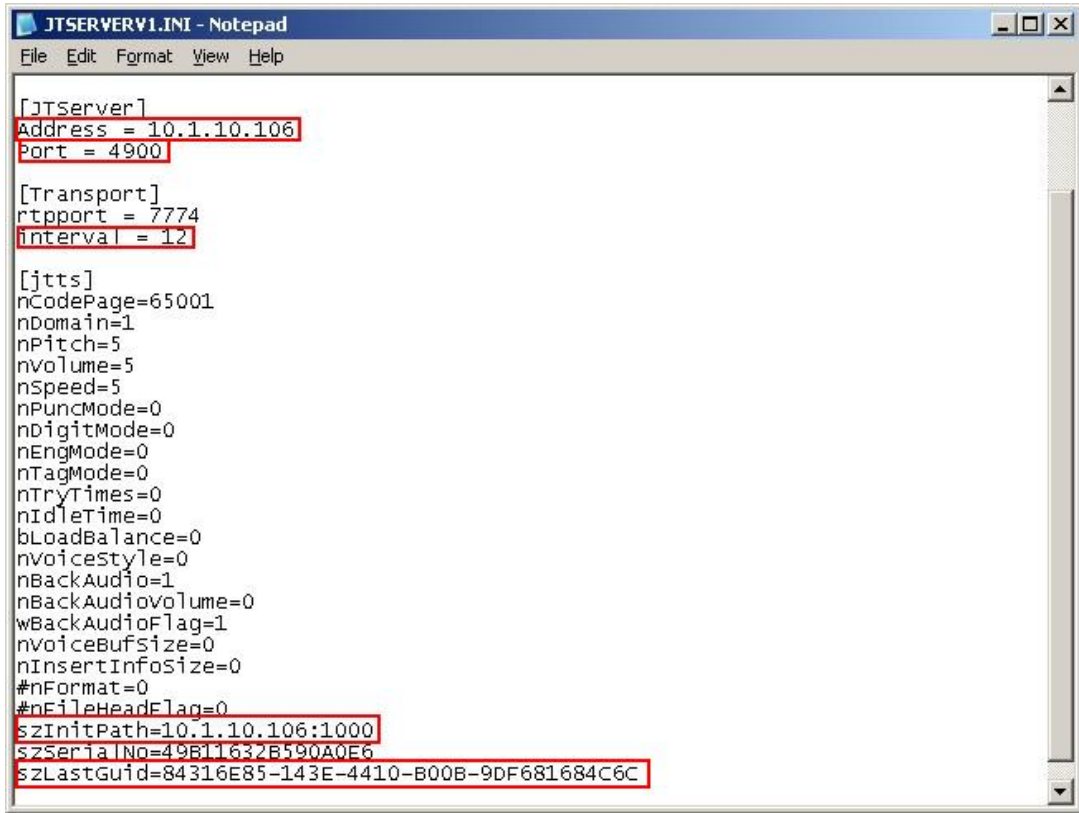
5. Configure SinoVoice jTTS

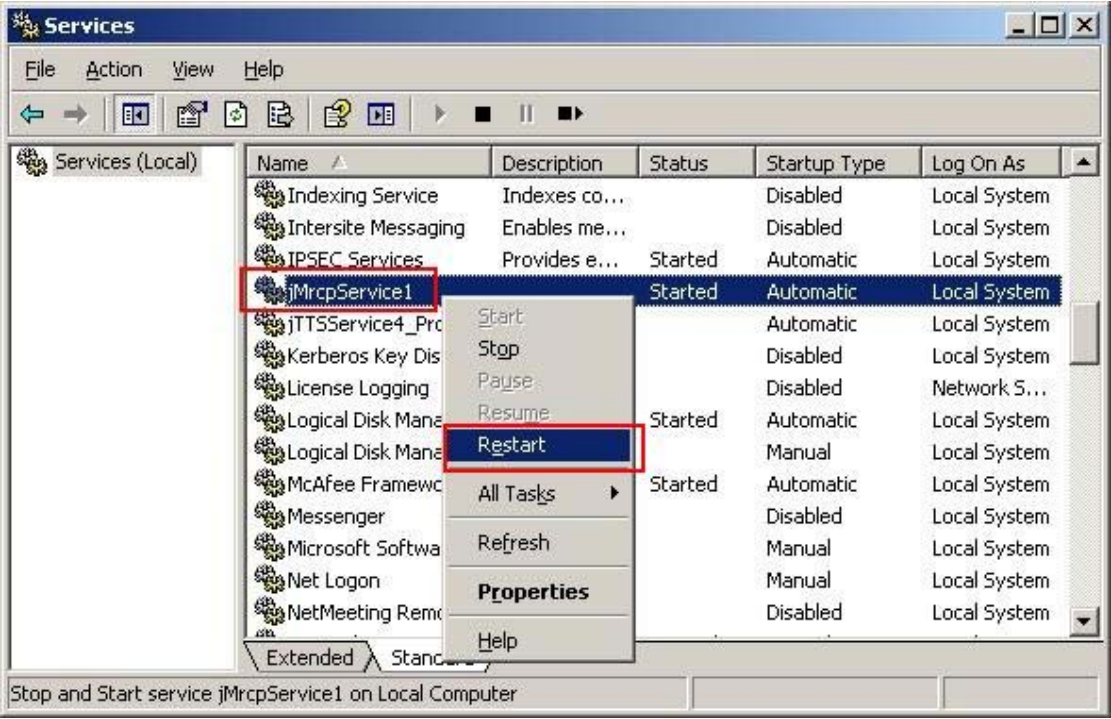
The following components are required to run the SinoVoice jTTS MRCP Server.

- jTTS Platform Engine
- jTTS Voice Library
- jMRCP Server

In this test configuration, both the jTTS Platform Engine and jMRCP Server are installed on the same machine.

Step	Description																														
1.	<p>On the jTTS server, click Start > All Programs > jTTS 5.0.1 Professional > jTTS System Information. On the jTTS SysInfo window, click the Voice tab. Select the Voice that will be used as the default voice and note the value for GUID. This value will be used in Step 2 when configuring the jMRCP Server. The value for Lines determines the number of lines licensed for jTTS. Click OK to close the window.</p>  <p>The screenshot shows the 'jTTS SysInfo' window with the 'Voice' tab selected. The 'System Path' is 'd:\Program Files\SinoVoice\jTTS 5.0.1 Pro\bin'. The 'Voice' dropdown is set to 'XiaoKun (Chinese Female)'. Below is a table of voice parameters:</p> <table border="1"> <thead> <tr> <th>Title</th><th>Content</th></tr> </thead> <tbody> <tr> <td>Name</td><td>XiaoKun</td></tr> <tr> <td>GUID</td><td>84316E85-143E-4410-B00B-9DF681684C6C</td></tr> <tr> <td>Language</td><td>Chinese</td></tr> <tr> <td>Voice</td><td>Young Female</td></tr> <tr> <td>Domain</td><td>Common Finance</td></tr> <tr> <td>Vendor</td><td>InfoQuick SinoVoice</td></tr> <tr> <td>Engine</td><td>d:\Program Files\SinoVoice\jTTS 5.0.1 Pro\bin\Chi...</td></tr> <tr> <td>Version</td><td>5.0.0.0</td></tr> <tr> <td>License</td><td>Soft Encrypt</td></tr> <tr> <td>Lines</td><td>10</td></tr> <tr> <td>Banner</td><td>No</td></tr> <tr> <td>Group</td><td>0</td></tr> <tr> <td>GroupLicense</td><td>0</td></tr> <tr> <td>Expired</td><td>2009-10-09</td></tr> </tbody> </table> <p>The 'OK' button is highlighted at the bottom right of the window.</p>	Title	Content	Name	XiaoKun	GUID	84316E85-143E-4410-B00B-9DF681684C6C	Language	Chinese	Voice	Young Female	Domain	Common Finance	Vendor	InfoQuick SinoVoice	Engine	d:\Program Files\SinoVoice\jTTS 5.0.1 Pro\bin\Chi...	Version	5.0.0.0	License	Soft Encrypt	Lines	10	Banner	No	Group	0	GroupLicense	0	Expired	2009-10-09
Title	Content																														
Name	XiaoKun																														
GUID	84316E85-143E-4410-B00B-9DF681684C6C																														
Language	Chinese																														
Voice	Young Female																														
Domain	Common Finance																														
Vendor	InfoQuick SinoVoice																														
Engine	d:\Program Files\SinoVoice\jTTS 5.0.1 Pro\bin\Chi...																														
Version	5.0.0.0																														
License	Soft Encrypt																														
Lines	10																														
Banner	No																														
Group	0																														
GroupLicense	0																														
Expired	2009-10-09																														

Step	Description
2.	<p>Edit the file JTSERVERV1.INI located in the D:\Program Files\SinoVoice\jTTS 5.0.1 Pro\bin\ directory using Notepad. Configure the parameters as follows:</p> <ul style="list-style-type: none"> • Address – Specify the IP address of the jMRCP Server. • Port – Specify the port that jMRCP Server will listen on. • interval – Specify the RTP packet interval in milliseconds. • szInitPath – Enter the IP address and port of the jTTS Platform Engine. • szLastGuid – Specify the default voice by entering the GUID value from Step 1.  <pre> [jTServer] Address = 10.1.10.106 Port = 4900 [Transport] rtpport = 7774 interval = 12 [jtts] nCodePage=65001 nDomain=1 nPitch=5 nvolume=5 nspeed=5 nPuncMode=0 nDigitMode=0 nEngMode=0 nTagMode=0 nTryTimes=0 nIdleTime=0 bLoadBalance=0 nvoicestyle=0 nBackAudio=1 nBackAudiovolume=0 wBackAudioFlag=1 nvoiceBufSize=0 nInsertInfoSize=0 #nFormat=0 #nFileHeadFlag=0 szInitPath=10.1.10.106:1000 szSerialNo=49B11632B590A0E6 szLastGuid=84316E85-143E-4410-B00B-9DF681684C6C </pre> <p>Save the file and exit Notepad.</p>

Step	Description
3.	<p>Click Start > Administrative Tools > Services. In the Services window, right-click on jMrcpService1 and click Restart to effect the changes in Step 2.</p>  <p>The screenshot shows the Windows Services console window. The 'Services (Local)' list on the left contains several services. 'jMrcpService1' is selected and highlighted in blue. A right-click context menu is open over it, with the 'Restart' option highlighted in blue. Other visible services include Indexing Service, Intersite Messaging, IPSEC Services, jTTSService4_Pro, Kerberos Key Dis, License Logging, Logical Disk Mana, Logical Disk Mana, McAfee Framewo, Messenger, Microsoft Softwa, Net Logon, and NetMeeting Remo. The status bar at the bottom reads 'Stop and Start service jMrcpService1 on Local Computer'.</p>

6. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying that SinoVoice jTTS could successfully work with the Avaya IR for the use of synthesized voice in system responses (via Text-to-Speech). Voice XML applications using Simplified Chinese and English prompts were used in the testing.

Serviceability tests were used to verify that the SinoVoice jTTS Server recovered from adverse conditions, such as rebooting of the SinoVoice jTTS server, Avaya IR, and Avaya Communication Manager and disconnecting the Ethernet cable to the SinoVoice jTTS server.

6.1. General Test Approach

The feature testing was performed by placing calls to Avaya IR to verify proper operation and included the following:

- Complete synthesized prompts could be heard by the caller.
- The Barge-in feature worked when DTMF was pressed.
- Three simultaneous users could hear the synthesized prompts.

- The synthesized prompts could be heard in Simplified Chinese and English.

6.2. Test Results

All test cases passed. Avaya IR was successful in running VXML applications that use the TTS engine of SinoVoice jTTS.

7. Verification Steps

7.1. Verify Avaya IR

From the Avaya IR web interface, click **Display Equipment** on the left pane. Verify that the **STATE** field shows **Inserv** for all channels.

Avaya IR Administration - Microsoft Internet Explorer

Address: https://10.1.10.60:8443/admin/admin.html

Avaya Interactive Response 3.0 Administration Web Pages

Help Log out

Left Pane:

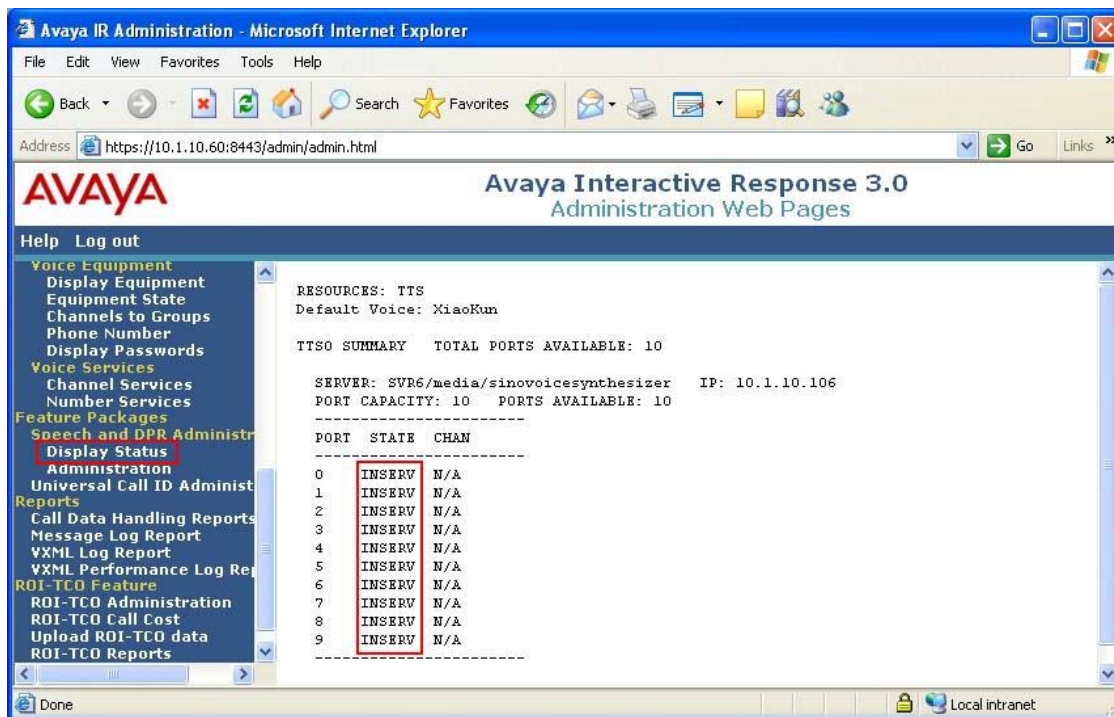
- Renumber Voice Channel
- Report Voice System Sta
- Start Voice System
- Stop Voice System
- Switch Interfaces
- Voice over IP
- Voice Equipment
 - Display Equipment
 - Equipment State
 - Channels to Groups
 - Phone Number
 - Display Passwords
- Voice Services
 - Channel Services
 - Number Services
- Feature Packages
- Speech and DPR Administr

Main Content:

CARD 6 STATE: Inserv CLASS: VoIP (H.323) O.S.INDEX: 6
 NAME: VH323 OPTIONS: no clocking, no tdm
 FUNCTION: H.323

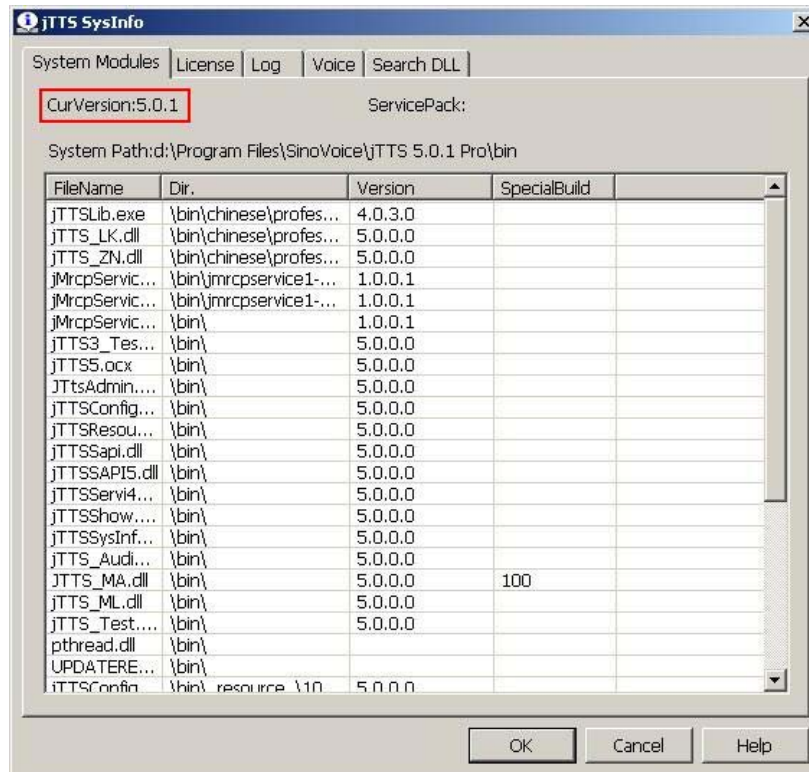
CARD	TRUNK	PORT	CHAN	STATE	SERVICE-NAME	PHONE	GROUP	OPTS	PROTOCOL
6	1	0	0	Inserv	AVAYAVXI0	10101*	2	talk	H323
6	1	1	1	Inserv	AVAYAVXI1	10102*	2	talk	H323
6	1	2	2	Inserv	AVAYAVXI2	10103*	2	talk	H323
6	1	3	3	Inserv	AVAYAVXI0	10104*	2	talk	H323
6	1	4	4	Inserv	AVAYAVXI1	10105*	2	talk	H323
6	1	5	5	Inserv	AVAYAVXI2	10106*	2	talk	H323
6	1	6	6	Inserv	AVAYAVXI0	10107*	2	talk	H323
6	1	7	7	Inserv	AVAYAVXI1	10108*	2	talk	H323
6	1	8	8	Inserv	AVAYAVXI2	10109*	2	talk	H323
6	1	9	9	Inserv	AVAYAVXI0	10110*	2	talk	H323

To check the status of the MRCP connection between Avaya IR and the SinoVoice jTTS server, click **Display Status** in the left pane. In the Display Speech Proxy Status page (not shown), click **Speech Resource Status** and then select the **Resource Type** associated with the SinoVoice jTTS server (e.g. TTS0) and click **Submit** (not shown). Verify that the **STATE** field shows **INSERV** for all ports.

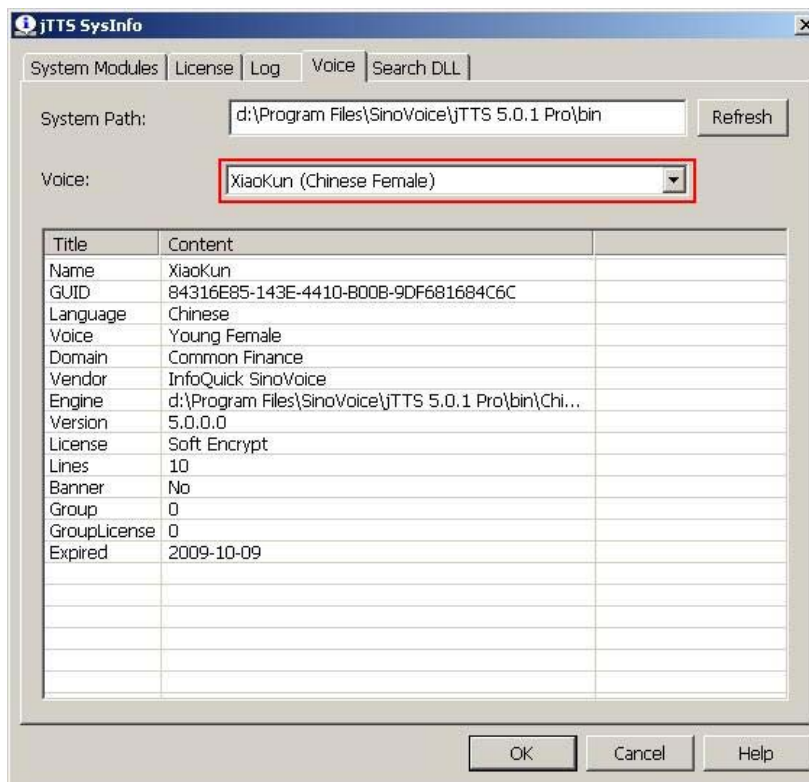


7.2. Verify SinoVoice jTTS

Click **Start > All Programs > jTTS 5.0.1 Professional > jTTS System Information**. On the jTTS SysInfo window, click the **System Modules** tab. Verify that the jTTS Platform Engine is installed and the version is 5.0.1.



Click the **Voice** tab. Verify that the desired voice for speech synthesis is installed and licensed.



8. Support

For technical support on SinoVoice jTTS, contact the SinoVoice support team at:

- Phone: +86-13911536580 or +86-13911536589
- Fax: +86-10-82825830
- Email: tts@sinovoice.com.cn

9. Conclusion

These Application Notes describe the compliance-tested configuration used to validate Avaya Communication Manager 5.0 and Avaya Interactive Response 3.0 with SinoVoice jTTS 5.0.1. All test cases were completed successfully.

10. Additional References

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

[1] *Interactive Response 3.0 Documentation Library*.

[2] *Administrator Guide for Avaya Communication Manager*, Release 5.0, Issue 4.0, January 2008, Document Number 03-300509.

The following documents are available from SinoVoice in Microsoft Compiled HTML Help format:

[1] *jTTS5 Manual*

[2] *jTTS4MRCP Manual*

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