

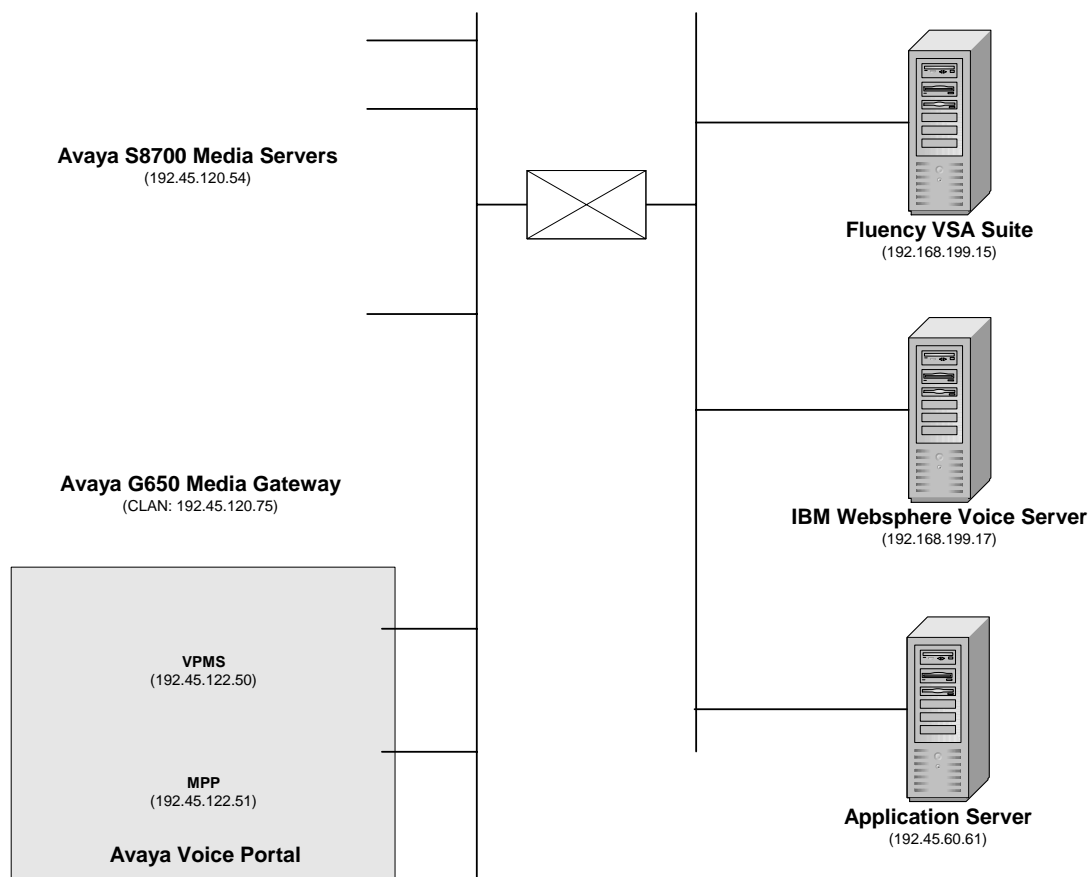


# 1. Introduction

These Application Notes describe the configuration steps required to integrate the Fluency Virtual Speech Agent (VSA) suite with Avaya Voice Portal. The Fluency VSA suite contains a number of packaged applications that customers can use in their call centers to create the solutions they need. The Fluency VSA suite is also a platform for deploying IVR speech applications by automating routine routing and transactional processes. The pre-packaged applications are configurable and can either be deployed independently or together throughout the enterprise, depending on specific business requirements.

The VSA Suite is underpinned by the Management Console that facilitates application configuration, system management and monitoring, logging and reporting, and data management.

**Figure 1** illustrates the configuration used for testing. In this configuration, Voice Portal interfaces with Avaya Communication Manager via H.323 and an IBM Websphere Voice Server was used as the speech server. The application server hosts the Voice Portal VXML scripts.



**Figure 1:** Configuration with Avaya Voice Portal and Fluency VSA

## 1.1. Equipment and Software Validated

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

Equipment	Software
Avaya Voice Portal	4.0.0.0.2901
Avaya S8700 Medias Servers with a G650 Media Gateway	Avaya Communication Manager 4.0 (R014x.00.0.730.5)
Fluency Virtual Speech Agent (VSA)	4.5 Build 15
IBM Websphere Voice Server	5.1.3 Windows Server 2003 English with - Websphere Voice Server Cumulative Fix Pack 3 and - iFix IC52120 - iFix IC53165 - iFix IC53418 - iFix IC53342
Application Server running on Windows Server 2003 with Internet Information Services (IIS) Enabled	N/A

## 2. Configure Avaya Communication Manager

This section describes the configuration of H.323 stations and the IP codec set for Voice Portal. This configuration also requires a C-LAN and Media Processor board for IP communication. This configuration is outside the scope of these application notes, but the reader may refer to [1] and [2] for additional information.

From the System Access Terminal (SAT), add an H.323 station for Voice Portal. A call to this station will be routed to Voice Portal which in turn will run the Fluency VSA application. In the station form, set the **Type** to 7434ND provide a descriptive **Name**, set the **Security Code**, and set the **IP Softphone** field to 'y'.

```
add station 23802                                     Page 1 of 6
                                                    STATION
Extension: 23802                                     Lock Messages? n          BCC: 0
  Type: 7434ND                                       Security Code: XXXXX    TN: 1
Port: S00059                                         Coverage Path 1:         COR: 1
  Name: VP 192.45.122.50                               Coverage Path 2:         COS: 1
                                                    Hunt-to Station:
STATION OPTIONS
                                                    Time of Day Lock Table:
  Loss Group: 2                                       Personalized Ringing Pattern: 1
  Data Module? n                                       Message Lamp Ext: 23802
  Display Module? y
  Display Language: english                               Coverage Module? n
  Survivable COR: internal                               Media Complex Ext:
  Survivable Trunk Dest? y                               IP SoftPhone? y
                                                    IP Video Softphone? n
```

**Figure 2: Station Form**

In the IP codec set form associated with the IP network region of the H.323 station configured in **Figure 2**, set the **Audio Codec** field to one that is supported by the VSA application. In this configuration, G.711A was used.

```
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.711A      n              2          20
2:
3:
4:
```

**Figure 3: IP Codec Set Form**

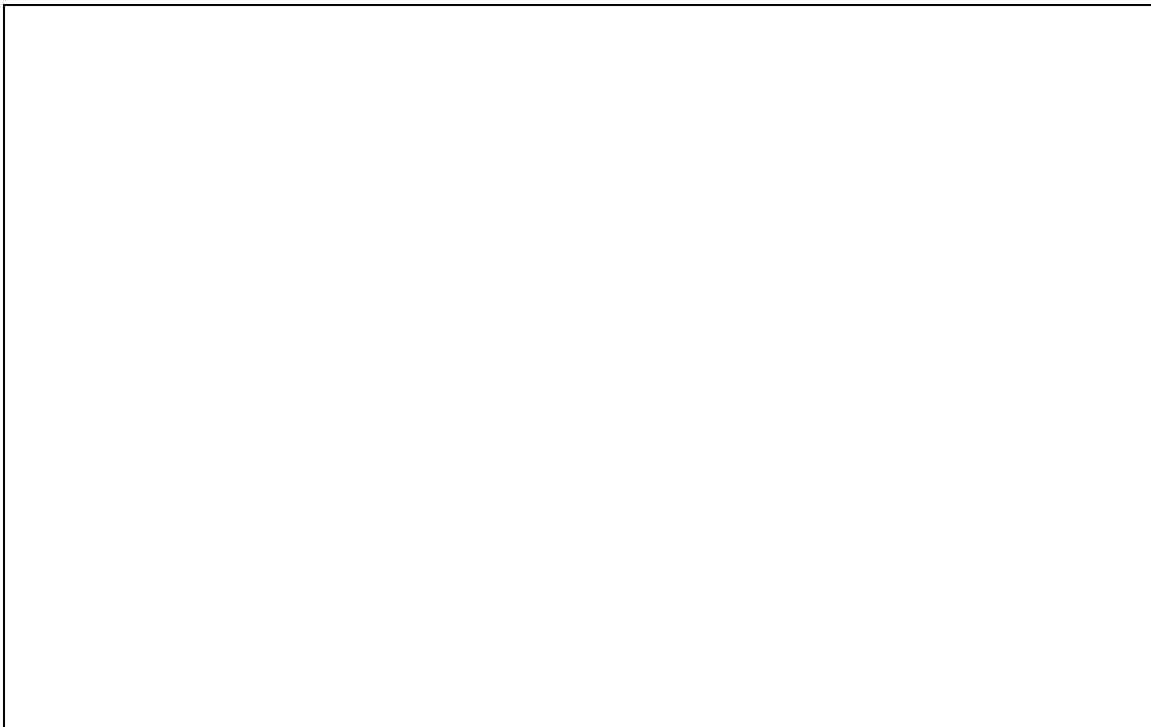
### 3. Configure Avaya Voice Portal

This section covers the administration of Avaya Voice Portal. The following Voice Portal configuration steps will be covered:

- Configuring an H.323 VoIP connection
- Adding an MPP server
- Configuring the VoIP audio format (mu-law or a-law)
- Adding a speech server
- Adding applications
- Starting the MPP server

Avaya Voice Portal is configured via the Voice Portal Management System (VPMS) web interface. To access the web interface, enter `http://<ip-addr>/VoicePortal` as the URL in an internet browser, where `<ip-addr>` is the IP address of the VPMS. Log in using the Administrator user role. The screen shown in **Figure 4** is displayed.

**Note:** All of the screens in this section are shown after the Voice Portal had been configured. Don't forget to save the screen parameters as you configure Avaya Voice Portal.



**Figure 4:** VPMS Main Screen

**Configure the H.323 VoIP Connection.** To configure an H.323 connection, navigate to the **VoIP Connections** page and then click on the **H.323** tab. In the H.323 tab shown in **Figure 5**, set the **Gatekeeper Address** to the IP address of the C-LAN in the G650 media gateway and the **Gatekeeper Port** to 1719. Next, configure the stations for Voice Portal, which map to the 7434ND stations configured in Avaya Communication Manager. In addition, set the **Password** for the stations and set the **Station Type** to **Inbound** and **Outbound**. In this configuration, only station 23802 mapped to the VSA application in Voice Portal.



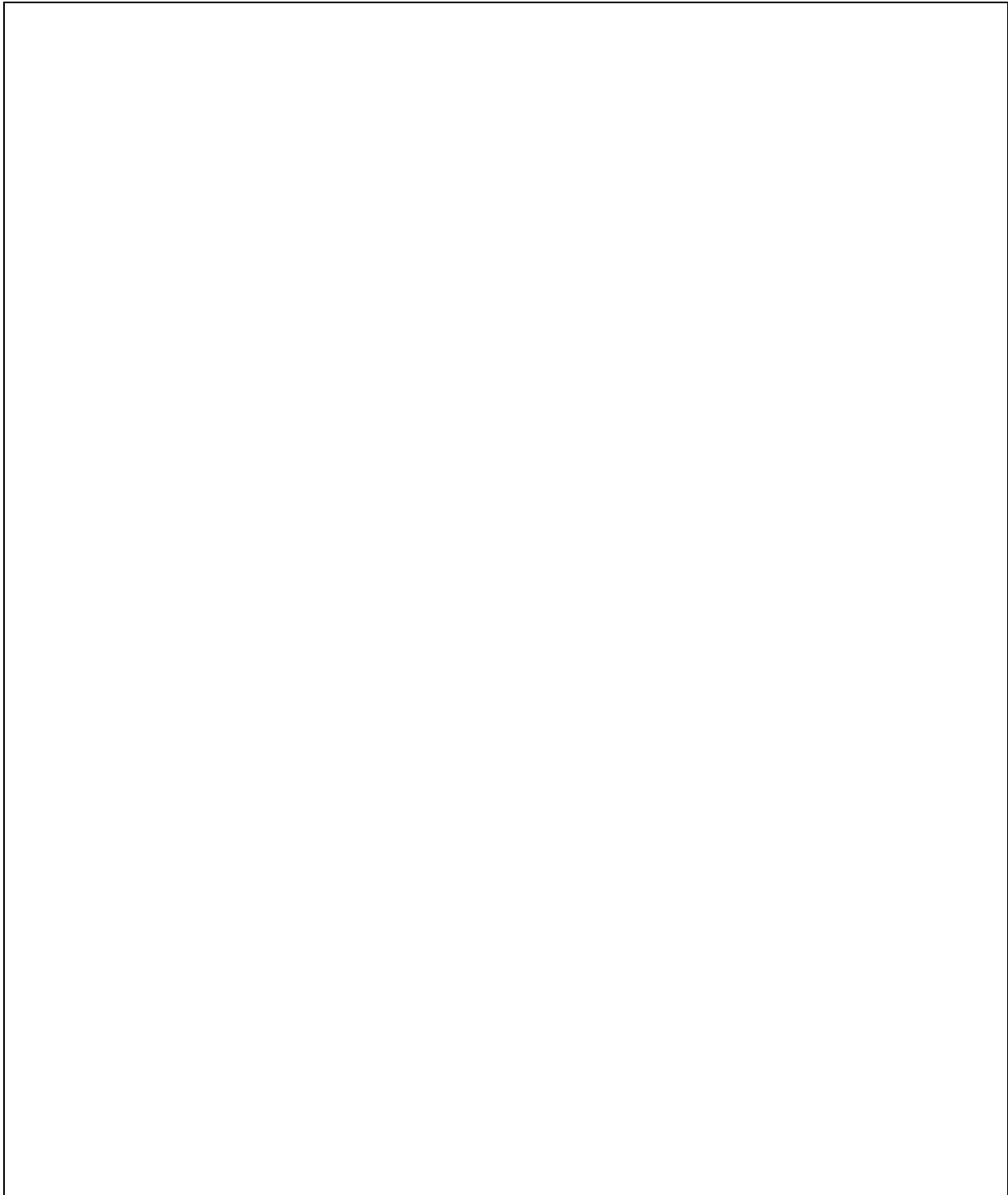
**Figure 5:** H.323 Connection

**Add an MPP Server.** Add the the MPP server by navigating to the **MPP Servers** screen from the left pane. In the MPP Server configuration page, specify a descriptive name and the **Host Address** of each MPP server. Also, specify the **Maximum Simultaneous Calls** supported by each MPP server. **Figure 6** shows the configuration for the first MPP server.



**Figure 6:** MPP Server

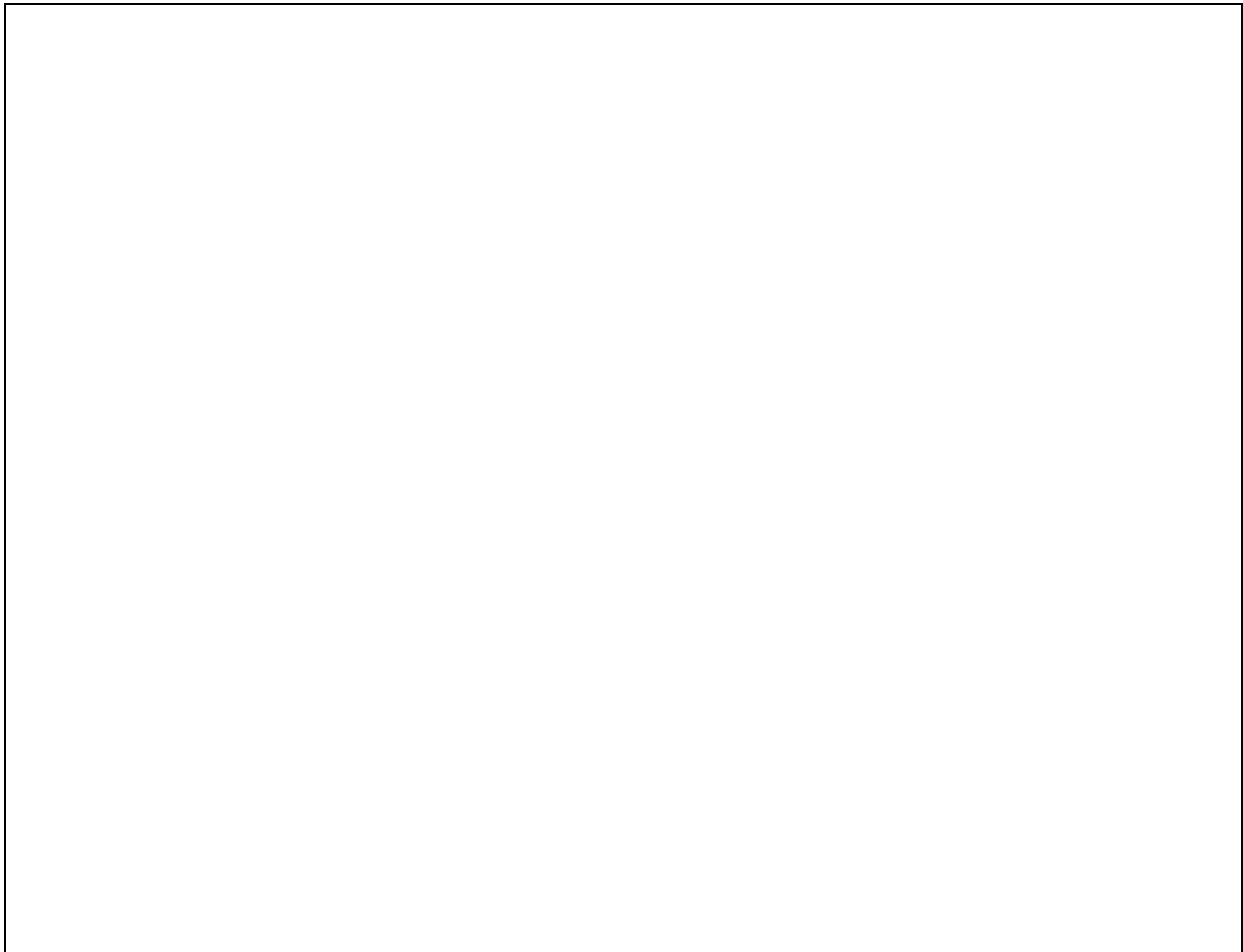
**Configure the VoIP Audio Format.** The **VoIP Audio Format** for the MPP server is configured in the **VoIP Settings** screen. The **MPP Native Format** field in **Figure 7** is set to audio/x-alaw-basis for alaw. The other fields may be left at default values.



**Figure 7: VoIP Settings**

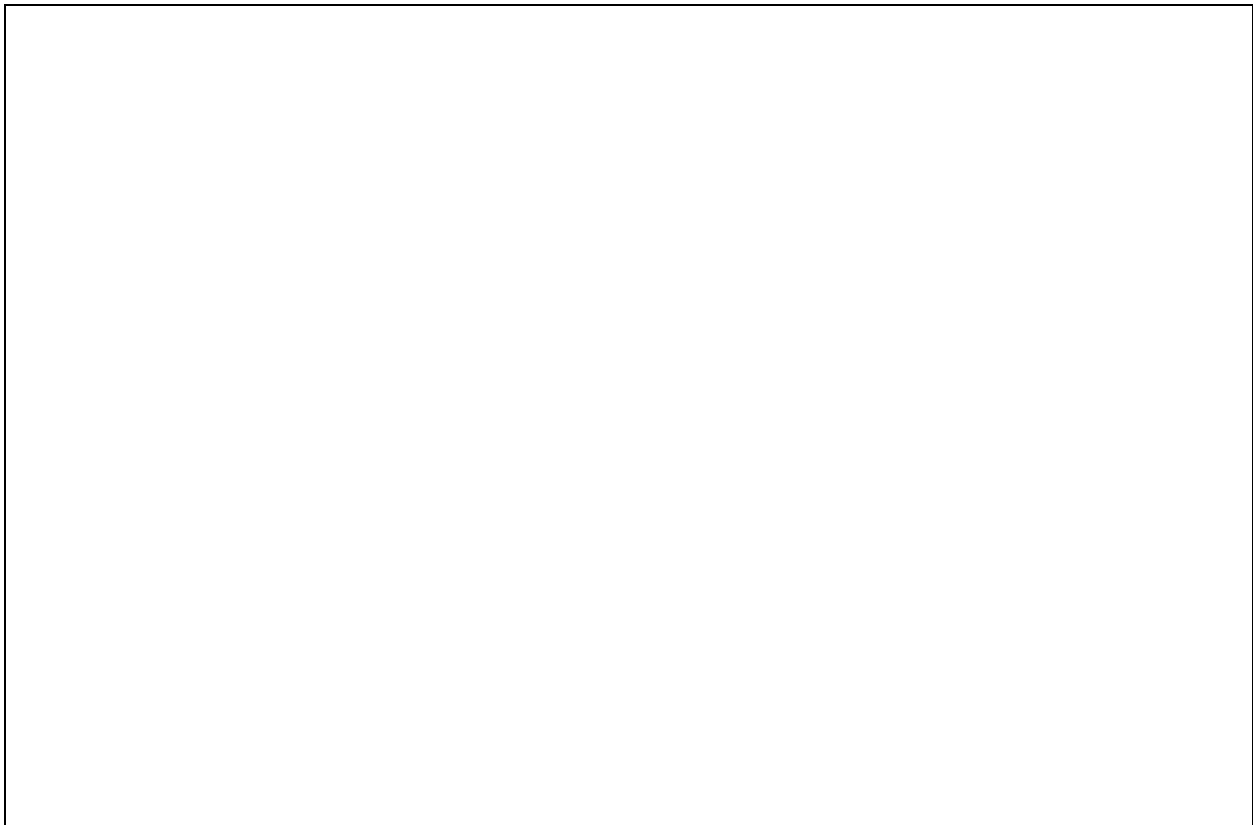


**Add an ASR Server.** To configure the automatic speech recognition (ASR) server, click on **Speech Servers** in the left pane, select the **ASR** tab, and then click **Add**. **Figure 8** shows the screen after the ASR server has already been configured. Set the **Engine Type** to the appropriate value. In this configuration, an IBM Websphere ASR server was used so the engine type was set to **IBM WVS**. Set the **Network Address** field to the IP address of the speech server and select the desired **Languages** to be supported. The other fields were set to their default values.



**Figure 8: ASR Speech Server**

**Add a TTS Server.** To configure the text-to-speech (TTS) server, click on **Speech Servers** in the left pane, select the **TTS** tab, and then click **Add**. **Figure 9** shows the screen after the TTS server has already been configured. Set the **Engine Type** to the appropriate value. In this configuration, an IBM Websphere TTS server was used so the engine type was set to **IBM WVS**. Set the **Network Address** field to the IP address of the speech server and select the desired **Languages** to be supported. The other fields were set to their default values.



**Figure 9:** TTS Server

**Add an Application.** On the **Applications** page, add a Voice Portal application. Specify a **Name** for the application, set the **MIME Type** field to the appropriate value (e.g., VoiceXML), and set the **VoiceXML URL** field to point to a VoiceXML application on the Fluency VSA server. Next, specify the type of ASR and TTS servers to be used by the application and the called number that invokes the application. The **Applications** screen is shown in **Figure 10**.

**Note:** The Verify button may be clicked to verify connectivity between Voice Portal and Fluency VSA. If connectivity exists and the Fluency VSA server is running, a web-browser with the VoiceXML code will be displayed.



**Figure 10:** Applications

**Start the MPP Server.** Start the MPP server from the **MPP Manager** page shown in **Figure 11**. Select each MPP and then click the **Start** button. After the MPP is started, the **Mode** of the MPP should be Online and the **State** should be Running



**Figure 11:** MPP Manager

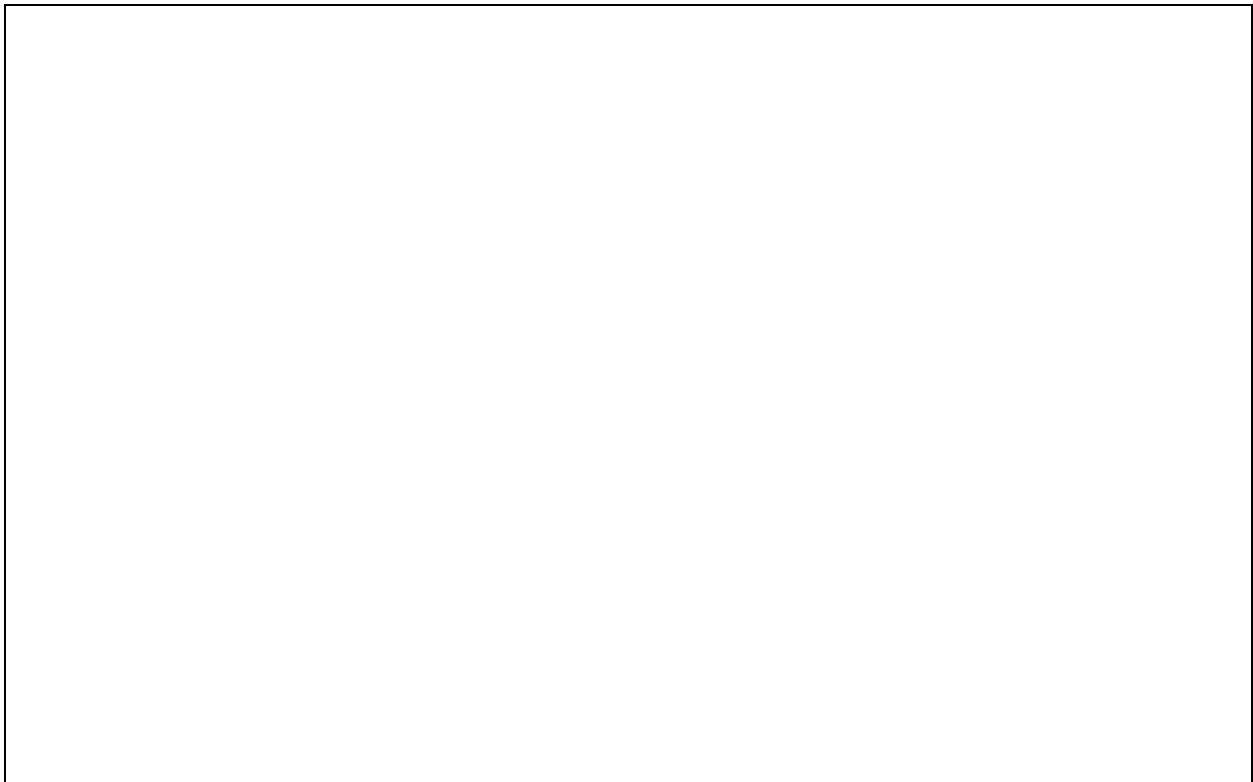
## 4. Configure Fluency VSA

For detailed information on deploying VSA applications refer to the VSA documentation in the references section. The VSA Suite is underpinned by the **Management Console** that facilitates application configuration, system management and monitoring, logging and reporting, and data management.

To access the **Management Console** open a web browser and specify the URL in the following format, replacing *<hostname>* with the name of the host:

```
http://<hostname>:7080/VSAConsole/UserLogin.do
```

Next, specify the username and password in the **Login** page. After successfully logging in, the VSA Suite's Management Console will open as shown in **Figure 12**.



**Figure 12:** The VSA Suite's Management Console

**Selector** is the first application that the system runs when it receives a call. **Selector** is used to configure which application instances to run after answering calls.

A default application can be assigned for all calls to be routed to. Alternatively, **Selector** can be configured to route calls to different application instances based on:

- The number being dialed, called Direct Dealing Inward number (DDI)
- The number the caller is dealing from, called Calling Line Identifier (CLI)
- The port number of the calling application instance, called port number ranges

If both a default application and port-based routing are defined, port-based routing takes precedence. If DDI, CLI, or port-based routing is defined, **Selector** attempts to match the specified ranges for each route with the data received from the speech stack. If conflicts occur in the ranges defined for each application, then the first route that matches the range takes precedence.

## 4.1. Configure Selector

Either the default application or the advanced route settings, or both of them, need to be configured. The steps for configuring **Selector** are:

1. Configure the default application.
2. Configure the emergency message.
3. Configure the advanced route settings.

### To configure the default application

A default application for all calls to be routed to can be assigned as follows.

1. Click **Selector** in the left pane of the Management Console
2. The **Selector** page appears in the right pane.

3. To assign a default application for all calls to be routed to, select the application from the **Default Application** list.

**Note:** Advanced route settings override the default application.

### To configure the emergency message

1. On the **Selector** page, click **Configure Emergency Message**.
2. The **Emergency Message configuration : Selector** page appears.
3. Do one of the following:
  - To have **Selector** play back an emergency message, for example, a promotional message, and continue running, select the **Emergency message enabled** check box, configure the prompt, and select **Continue with application** from the **Call routing after emergency message** list.
  - To have **Selector** play back an emergency message, for example, a service outage message, and then to run another application, select the **Emergency message enabled** check box, configure the prompt, and select the application from the **Call routing after emergency message** list.
4. Configure the emergency message prompt as specified in the “To configure a single-part message prompt” section in the VSA Application Configuration Guide [6] [7].

**Note:** Clear the **Emergency message enabled** check box to prevent the configured emergency message from playing

5. Click **Ok** to return to the **Selector** page.
6. Click **Save Changes**.

### To configure the advanced route settings

To configure routes to different application instances, based on the number being dialed (called DDI), the number the caller is dealing from (called CLI), or the port number of the calling application instance (called PORT).

1. On the **Selector** page, click the link to open advanced route settings.  
The **Application Routing**, **Application** and **Range** headings appear.
2. Click **Add**.
3. Select the appropriate calling type from the **Application Routing** list.
4. Select the appropriate application instance from the **Application** list.
5. Type the range of values in the **Range** field.
6. To add more routes, click **Add** and configure as above.
7. To delete a route, select the route (indicated by a dot in the selection column) and click **Delete**.
8. To change the order of the routes, select the route (indicated by a dot in the selection column) and click **Up** or **Down**.
9. Click **Save Changes**.

## 4.2. Editing Selector

**Caution:** Any changes made to Selector are effective on the live system as soon as **Save Changes** is clicked on the **Selector** page.

### To edit an instance

1. Click **Selector** in the left pane of the Management Console. The **Selector** page appears in the right pane.
2. Make the required edits and click **Save Changes**.

For detailed information, see “To configure the default application”, “To configure the emergency message”, and “To configure the advanced route settings” in the VSA Application Configuration Guide.

## 5. Interoperability Compliance Testing

This section describes the interoperability compliance testing used to verify applications created and deployed using the Fluency VSA Suite with Avaya Voice Portal. This section covers the general test approach and the test results.

### 5.1. General Test Approach

The interoperability compliance test included feature and serviceability testing. The feature testing focused on verifying the following:

- Placing calls to Avaya Voice Portal that ran IVR applications on the Fluency VSA platform.
- Exercising many of the pre-packaged Fluency VSA applications, including blind and supervised transfers, DTMF input, speech recognition and text-to-speech. An IBM Websphere Voice Server was used as the speech server.

The serviceability testing focused on verifying the ability of the Fluency VSA server to recover from adverse conditions, such as power failures and disconnecting cables to the IP network.

### 5.2. Test Results

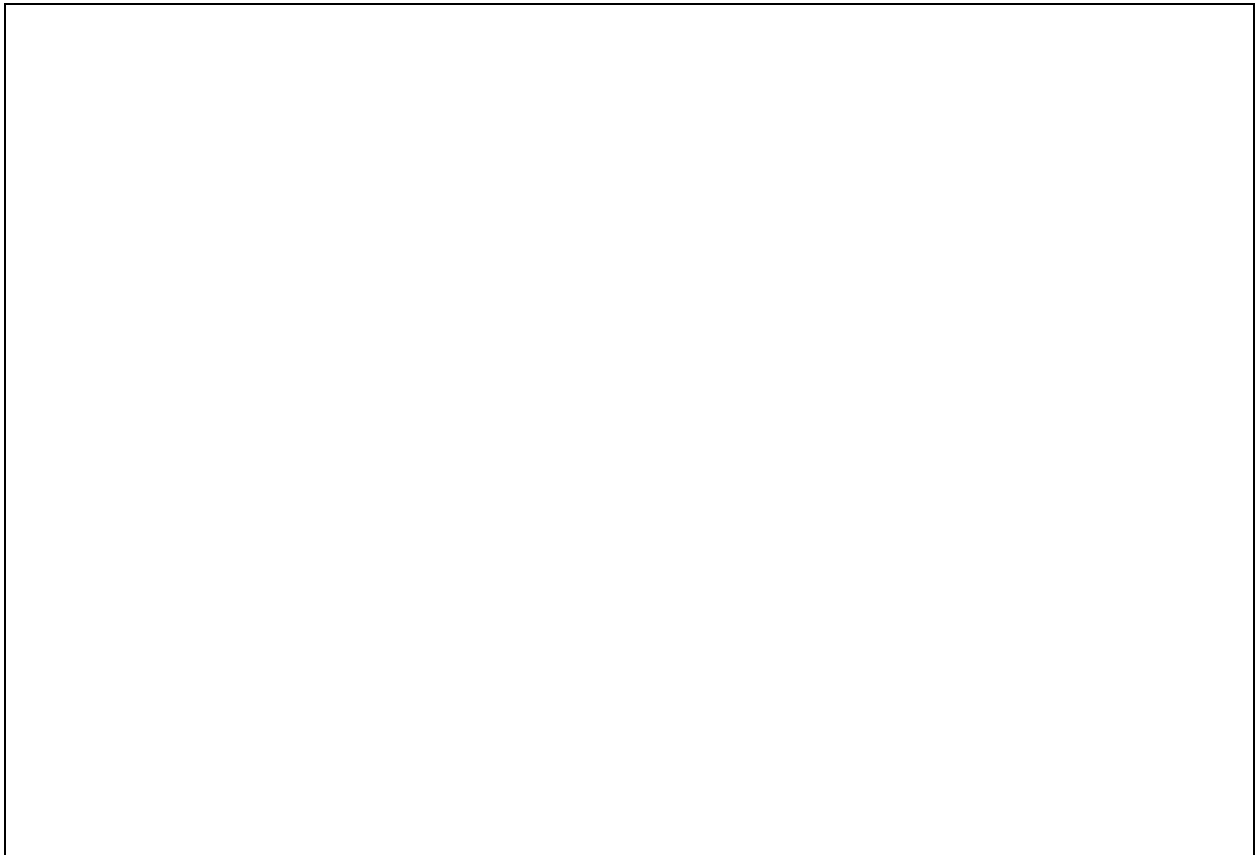
All test cases passed. Avaya Voice Portal was successful in running applications developed and deployed on Fluency VSA.



## 6. Verification Steps

This section provides the verification steps that may be performed to verify that the Voice Portal can run IVR applications on the Fluency VSA server.

1. From the VPMS web interface, verify that the MPP servers are online and running in the **System Monitor** page shown in **Figure 13**.



**Figure 13:** System Monitor

2. From the VPMS web interface, verify that the ports on the MPP server are in-service in the **Port Distribution** page shown in **Figure 14**.



**Figure 14:** Port Distribution

3. Place a call to Voice Portal that runs a Fluency VSA application. Verify that the application answers the call and that the caller can input information via speech and DTMF. Transfer the call to another user and verify that the call is transferred successfully.

## 7. Support

To contact Fluency Voice by phone or access their website:

- **Phone:** 020-7022-2460 (UK)  
617-217-2775 (US)
- **Web:** <http://www.fluencyvoice.com>

## 8. Conclusion

These Application Notes describe the configuration steps required to integrate the Fluency Virtual Speech Agent (VSA) suite with Avaya Voice Portal. All feature and serviceability test cases were completed successfully.

## 9. Additional References

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

- [1] Administrator Guide for Avaya Communication Manager Document 03-300509, Issue 3.1, February 2007, available at <http://support.avaya.com>.
- [2] Feature Description and Implementation for Avaya Communication Manager Document 555-245-205, Issue 5, February 2007, available at <http://support.avaya.com>.
- [3] Installing and Configuring Avaya Voice Portal 4.0 June 2007, available at <http://support.avaya.com>.
- [4] Administering Avaya Voice Portal 4.0 June 2007, available at <http://support.avaya.com>.
- [5] Virtual Speech Agent (VSA) Suite 4.4 Product Technical Specification Version 1.0, September 28, 2007.
- [6] Virtual Speech Agent (VSA) Suite 4.3 Application Configuration Guide Version 1.2.
- [7] Virtual Speech Agent (VSA) Suite 4.4 Application Configuration Guide Version 1.2.

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