**Avaya Solution & Interoperability Test Lab**

# Application Notes for Servion iAssist Call Back Manager with Avaya Voice Portal – Issue 1.0

## Abstract

These Application Notes describe the configuration steps required to integrate the Servion iAssist Call Back Manager with Avaya Voice Portal. The iAssist Call Back Manager offers callers queued to a call center the option to continue to wait in queue for an agent or request a call back. The call back can occur when an agent becomes available or at a specified date and time.

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

# 1. Introduction

These Application Notes describe the configuration steps required to integrate the Servion iAssist Call Back Manager with Avaya Voice Portal. The iAssist Call Back Manager offers callers queued to a call center the option to continue to wait in queue for an agent or request a call back. The call back can occur when an agent becomes available or at a specified date and time.

The iAssist Call Back Manager (CBM) consists of two modules: the Inbound Module and the Outbound Module. The Inbound Module is designed to take a call back request from a caller waiting to be serviced by an agent. The Outbound Module retrieves the call back request based on priority and time of the callback and then dials the agent queue. If the agent is available, the call details are voiced to the agent and then an outbound call to the telephone number specified by the caller is made. The incoming call flow is described below.

- Customer calls the contact center and gets routed to an agent queue.
- If the wait time in queue is more than the threshold set (Expected Wait Time), calls are routed to the inbound CBM application on Avaya Voice Portal.
- Once the call is answered by the CBM inbound channel on Avaya Voice Portal, CBM offers various options to leave a call back request. The following are the call back options:
    - Call back as soon as an agent is available
    - Call back at a later time on the same day
    - Call back on a different date/time
    - Call back after a specified time interval
- CBM then prompts the customer to enter the call back contact number, account information, and appropriate date/time of call back. A request is then registered into the CBM database.

The CBM outbound module running on the iAssist Admin server continuously polls the CBM database on a regular interval to retrieve pending callback requests. The outbound module then calls the appropriate agent group number to get an agent to process the callback. Once the agent answers the call, CBM plays the customer's information to the agent. CBM then dials the customer's number and joins the call with the agent. If the customer call cannot be completed, CBM reschedules the call based on a pre-defined schedule interval. CBM reschedules the call for a specified number of times. Once the maximum attempts have been made unsuccessfully, the call is marked as failed.

Another Servion related solution is described in [6], *Application Notes for Servion iAssist Call Survey Manager with Avaya Voice Portal*.

## 1.1. Interoperability Compliance Testing

Interoperability compliance testing included feature and serviceability testing. The feature testing focused on the following functionality:

- Routing incoming calls to Avaya Voice Portal when the expected wait time for an agent exceeds a configured threshold.
- Voice Portal successfully running the iAssist Inbound CBM application and all of the call back options tested.
- The ability of the caller to continue waiting in queue for an agent.
- The ability of the caller to make a call back request. The four call back options described in Section 1 were tested.
- iAssist CBM servicing pending call back requests and running the iAssist Outbound CBM application.
- Failure conditions, such as the call back failing due to network problems, and verifying that the call back was rescheduled.
- The ability to reschedule a call back if the call to the agent or caller is not completed within a specified timeout value.
- iAssist reports showing the registered call back requests and the call back status.

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

## 1.2. Support

For technical support on the iAssist Call Back Manager, contact Servion via phone, email, or internet.

- **Phone:** (609) 987-0044
- **Email:** usa@servion.com
- **Web:** http://www.servion.com

## 1.3. Reference Configuration

**Figure 1** illustrates the configuration used for testing. In this configuration, Avaya Voice Portal interfaces with Avaya Aura™ Communication Manager via H.323. The application server hosted the iAssist CBM applications supporting the CBM inbound and outbound modules. The Servion iAssist Admin server contained the Microsoft SQL database and also was used to configure the iAssist CBM application.

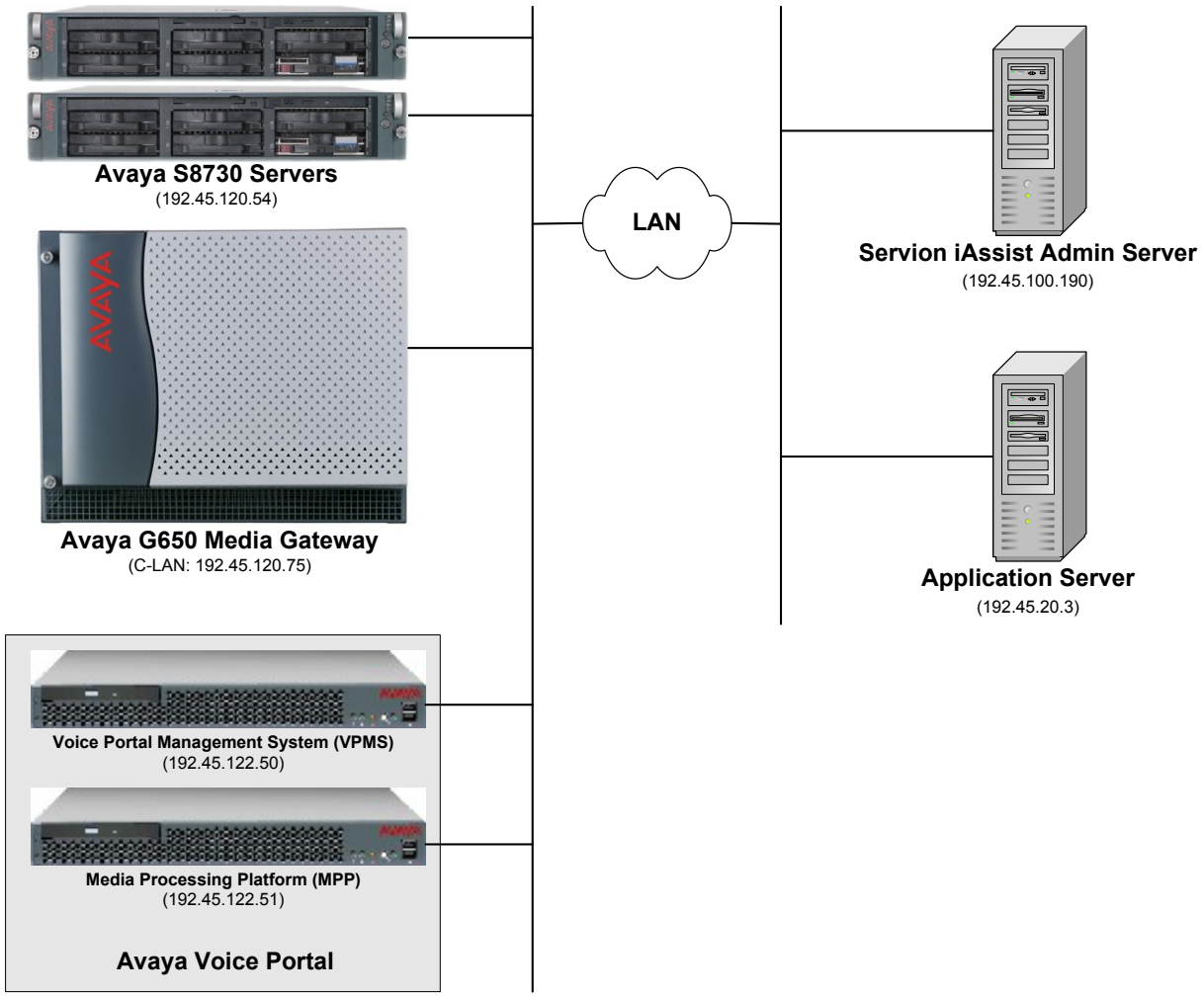



**Figure 1:** Configuration with Avaya Voice Portal and Servion iAssist

## 1.4. Equipment and Software Validated

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

| Equipment | Software |
|---|---|
| Avaya Voice Portal | 5.0.0.0.4602 |
| Avaya S8730 Servers with a G650 Media Gateway | Avaya Aura™ Communication Manager 5.2 (R015x.02.0.947.3) with Service Pack 1 (Patch 17294) |
| Servion iAssist Call Back Manager<br>▪ Microsoft Windows 2003 Server with IIS<br>▪ Microsoft .NET Framework 3.5 with Service Pack 1<br>▪ Microsoft SQL Server 2005 | 1.0 |
| Application Server running on Microsoft Windows XP Professional<br>▪ Apache Tomcat<br>▪ Java Development Kit<br>▪ Avaya Dialog Designer WebLM License Server<br>▪ Java Service Wrapper | <br><br>5.5.27<br>JDK 1.5.0_16<br>4.1<br><br>3.2.1 |

# 2. Configure Avaya Aura™ Communication Manager

This section provides the procedures for configuring Communication Manager via the System Access Terminal (SAT). The procedures include the following areas:

- Administer Feature Access Codes
- Administer H.323 Stations for Avaya Voice Portal
- Administer Hunt Groups for Agents and for Avaya Voice Portal Ports
- Administer Agent IDs for Agents and Avaya Voice Portal Ports
- Administer Call Vectoring for the iAssist CBM Inbound and Outbound Modules

## 2.1. Administer Feature Access Codes

In the **Feature Access Code (FAC)** form, configure a FAC for the **Converse Data Return Code**. This is required because iAssist CBM will return data to Communication Manager. iAssist CBM will return a '0' if the caller requests a call back and '1' if the caller opts to continue to wait in the split queue. The **Converse Data Return Code** is specified in the iAssist CBM configuration on the application server described in Section 4.2.

```
change feature-access-codes                                    Page   6 of   9
                              FEATURE ACCESS CODE (FAC)

                         Call Vectoring/Prompting Features

   Converse Data Return Code: #12

Vector Variable 1 (VV1) Code:
Vector Variable 2 (VV2) Code:
Vector Variable 3 (VV3) Code:
Vector Variable 4 (VV4) Code:
Vector Variable 5 (VV5) Code:
Vector Variable 6 (VV6) Code:
Vector Variable 7 (VV7) Code:
Vector Variable 8 (VV8) Code:
Vector Variable 9 (VV9) Code:
```

## 2.2. Administer H.323 Stations for Avaya Voice Portal

This section describes the configuration of H.323 stations for Avaya Voice Portal. This configuration also requires a C-LAN and Media Processor board for IP communication and the administration of a Network Region and IP Codec Set. This configuration is outside the scope of these application notes, but the reader may refer to [1] and [2] for additional information. In addition, special application SA8874 – Call Status Messages for 7434ND IP Softphone is required for this solution.

From the System Access Terminal (SAT), add an H.323 station for Voice Portal. 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'. The COR specified for this station should allow outgoing trunk calls. Repeat this step for each Avaya Voice Portal port.

```
add station 23801                                          Page   1 of   6
                                    STATION

Extension: 23801                       Lock Messages? n               BCC: 0
     Type: 7434ND                      Security Code: XXXXX            TN: 1
     Port: IP                        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: 23801
         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
```

## 2.3. Administer Hunt Groups

This section provides the Hunt Group configuration for the call center agents and the Avaya Voice Portal ports.

Agents will log into Hunt Group 250 configured below. Provide a descriptive name and set the **Group Extension** field to a valid extension. Enable the **ACD**, **Queue**, and **Vector** options. This hunt group will be specified in the **Agent LoginIDs** configured in Section 2.4.

```
add hunt-group 250                                          Page   1 of   3
                                  HUNT GROUP

           Group Number: 250                              ACD? y
             Group Name: Agents                         Queue? y
        Group Extension: 76000                         Vector? y
             Group Type: ucd-mia
                     TN: 1
                    COR: 1                     MM Early Answer? n
          Security Code:                 Local Agent Preference? n
 ISDN/SIP Caller Display:

            Queue Limit: 1
 Calls Warning Threshold:      Port:
  Time Warning Threshold:      Port:
```

On Page 2 of the Hunt Group form, enable the **Skill** option.

```
add hunt-group 250                                          Page   2 of   3
                                  HUNT GROUP

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


      Controlling Adjunct: none


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


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

The Voice Portal ports, configured as H.323 stations, will automatically log into Hunt Group 251 configured below. Provide a descriptive name and set the **Group Extension** field to a valid extension. Enable the **ACD**, **Queue**, and **Vector** options. This hunt group will be specified in the **Agent LoginIDs** configured in Section 2.4.

```
add hunt-group 251                                          Page   1 of   3
                                HUNT GROUP

           Group Number: 251                                ACD? y
             Group Name: Voice Portal Ports                 Queue? y
        Group Extension: 76002                              Vector? y
             Group Type: ucd-mia
                     TN: 1
                    COR: 1                        MM Early Answer? n
          Security Code:                   Local Agent Preference? n
 ISDN/SIP Caller Display:

            Queue Limit: unlimited
 Calls Warning Threshold:      Port:
  Time Warning Threshold:      Port:
```

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

```
add hunt-group 251                                          Page   2 of   3
                                HUNT GROUP

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


      Controlling Adjunct: none


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


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

## 2.4. Administer Agent IDs

This section provides the Agent Login IDs for the agents and the Avaya Voice Portal ports.

Add an **Agent LoginID** for each agent in the call center as shown below. In this configuration, agent login IDs 76301 to 76303 were created for three agents.

```
add agent-loginID 76301                                        Page   1 of   2
                                 AGENT LOGINID

               Login ID: 76301                                    AAS? n
                   Name: Agent 1                                AUDIX? n
                     TN: 1                                LWC Reception: spe
                    COR: 1                     LWC Log External Calls? n
          Coverage Path:                     AUDIX Name for Messaging:
          Security Code: 1234
                                       LoginID for ISDN/SIP Display? n
                                                           Password: 1234
                                             Password (enter again): 1234
                                                         Auto Answer: station
                                                   MIA Across Skills: system
                                          ACW Agent Considered Idle: system
                                          Aux Work Reason Code Type: system
                                            Logout Reason Code Type: system
                      Maximum time agent in ACW before logout (sec): system
                                           Forced Agent Logout Time:   :

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

On Page 2 of the **Agent LoginID** form, set the skill number (**SN**) to hunt group 250, which is the hunt group (skill) that the agents will log into.

```
add agent-loginID 76301                                        Page   2 of   2
                                 AGENT LOGINID
      Direct Agent Skill: 250                          Service Objective? n
Call Handling Preference: skill-level                Local Call Preference? n

    SN   RL SL          SN   RL SL          SN   RL SL          SN   RL SL
 1: 250     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:
```

Add an **Agent LoginID** for each Voice Portal port. The **AAS** option is enabled and the **Port Extension** is set to the extension of the H.323 stations corresponding to each Voice Portal port. Repeat this configuration for each H.323 station corresponding to a Voice Portal port. In this configuration, agent login IDs 73801 to 73808 were created.

```
add agent-loginID 73801                                      Page   1 of   2
                                AGENT LOGINID

               Login ID: 73801                                    AAS? y
                   Name: VP Port 1                              AUDIX? n
                     TN: 1                                LWC Reception: spe
                    COR: 1                     LWC Log External Calls? n
          Coverage Path:                     AUDIX Name for Messaging:
          Security Code:
         Port Extension: 23801         LoginID for ISDN/SIP Display? n


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

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

On Page 2 of the **Agent LoginID** form, set the skill number (**SN**) to hunt group 251, which is the hunt group (skill) that the Voice Portal ports will log into.

```
add agent-loginID 73801                                      Page   2 of   2
                                AGENT LOGINID
      Direct Agent Skill:                                Service Objective? n
Call Handling Preference: skill-level                 Local Call Preference? n

    SN   RL SL          SN   RL SL          SN   RL SL          SN   RL SL
 1: 251     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:
```

## 2.5. Administer Call Vectoring

This section describes the procedures for configuring call vectoring for the iAssist CBM inbound and outbound calls.

Configure the **Vector Directory Number** (VDN) that will handle incoming customer calls. The VDN invokes a vector that will queue the call to an agent split and also route the call to the iAssist CBM application on Avaya Voice Portal if the call is queued and the expected wait time exceeds a configured threshold in the associated vector. In this example, VDN 70000 and vector 70 were used.

```
add vdn 70000                                              Page   1 of   3
                          VECTOR DIRECTORY NUMBER

                            Extension: 70000
                                Name*: iAssist Inbound VDN
                           Destination: Vector Number        70
                   Attendant Vectoring? n
                  Meet-me Conferencing? n
                    Allow VDN Override? n
                                  COR: 1
                                  TN*: 1
                             Measured: both
        Acceptable Service Level (sec): 20
               Service Objective (sec): 20
        VDN of Origin Annc. Extension*:
                            1st Skill*:
                            2nd Skill*:
                            3rd Skill*:
* Follows VDN Override Rules
```

Vector 70 checks the expected wait time for the agent split (skill 250) and if it doesn't exceed 30 seconds, it will queue the call to the agent split. If the expected wait time exceeds 30 seconds, the vector will queue the call to the agent split and to hunt group 251 consisting of Voice Portal ports. Voice Portal will then direct the call to the iAssist CBM application. iAssist CBM returns '0' if the caller requests a call back or '1' if the caller decides to remain in queue for an agent.

```
change vector 70                                             Page   1 of   6
                                 CALL VECTOR

    Number: 70               Name: iAssist CBM
Multimedia? n      Attendant Vectoring? n    Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? n
 Variables? y   3.0 Enhanced? y
01 wait-time    2   secs hearing ringback
02 goto step    5             if expected-wait    for skill 250  pri m  >  30
03 queue-to     skill 250  pri m
04 stop
05 queue-to     skill 250  pri m
06 converse-on  skill 251  pri h passing wait   and none
07 collect      1    digits after announcement none     for none
08 goto step    3             if digits           =      1
09 disconnect   after announcement none
```

VDN 75000 is dialed by the iAssist CBM outbound module to place a call to the agent split. Provide a descriptive name and specify the appropriate vector number. In this example, vector 250 will queue the call to the agent split.

```
add vdn 75000                                              Page   1 of   3
                          VECTOR DIRECTORY NUMBER

                            Extension: 75000
                                Name*: iAssist Outbound
                           Destination: Vector Number        250
                   Attendant Vectoring? n
                  Meet-me Conferencing? n
                    Allow VDN Override? n
                                  COR: 1
                                  TN*: 1
                             Measured: both
        Acceptable Service Level (sec): 20
               Service Objective (sec): 20
        VDN of Origin Annc. Extension*:
                            1st Skill*:
                            2nd Skill*:
                            3rd Skill*:
* Follows VDN Override Rules
```

Vector 250 configured below queues the call to the agent split (i.e., hunt group 250).

```
change vector 250                                            Page   1 of   6
                                  CALL VECTOR

    Number: 250              Name: Agent Queue
Multimedia? n      Attendant Vectoring? n    Meet-me Conf? n           Lock? n
     Basic? y   EAS? y   G3V4 Enhanced? y   ANI/II-Digits? y   ASAI Routing? y
 Prompting? y   LAI? y  G3V4 Adv Route? y   CINFO? y   BSR? y   Holidays? n
 Variables? y   3.0 Enhanced? y
01 wait-time    2   secs hearing ringback
02 queue-to     skill 250  pri h
03 stop
04
```

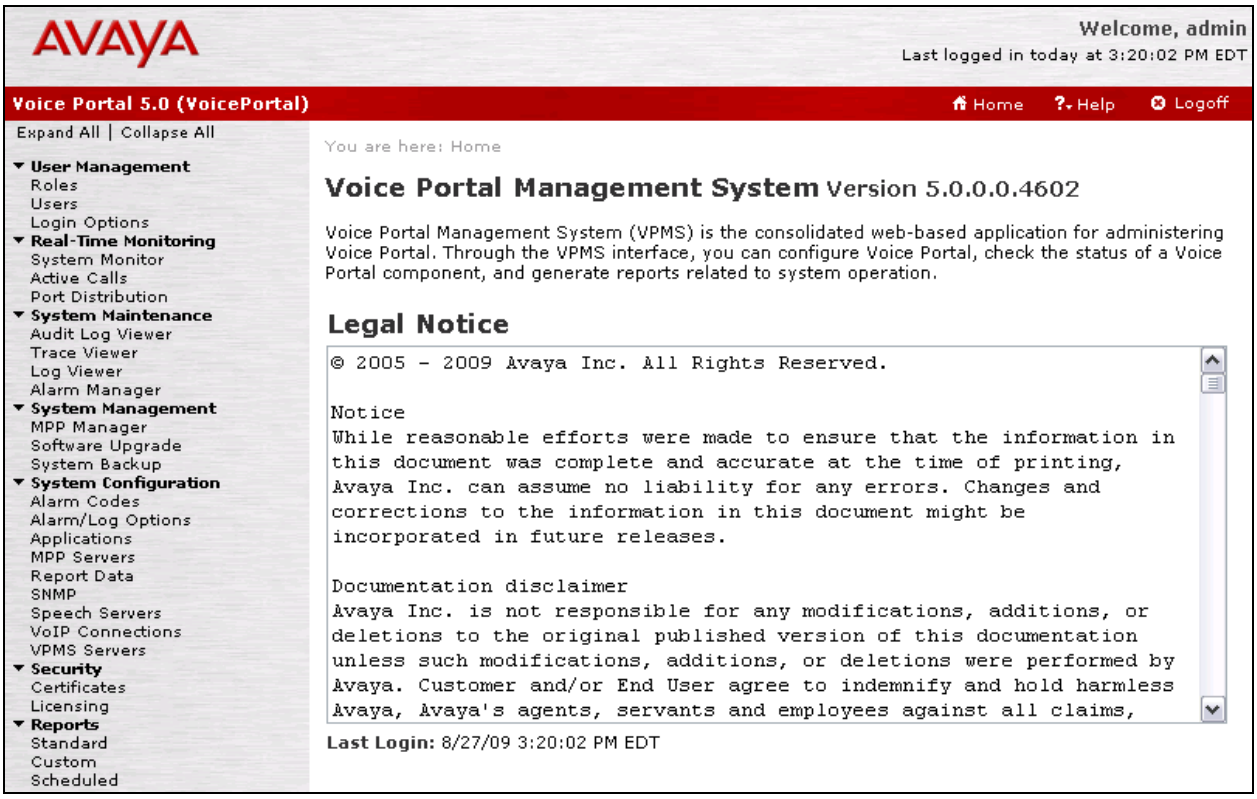
# 3. Configure Avaya Voice Portal

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

- Configuring an H.323 VoIP Connection
- Configuring iAssist CBM Applications
- Configuring Outcall Authentication
- Starting the MPP server

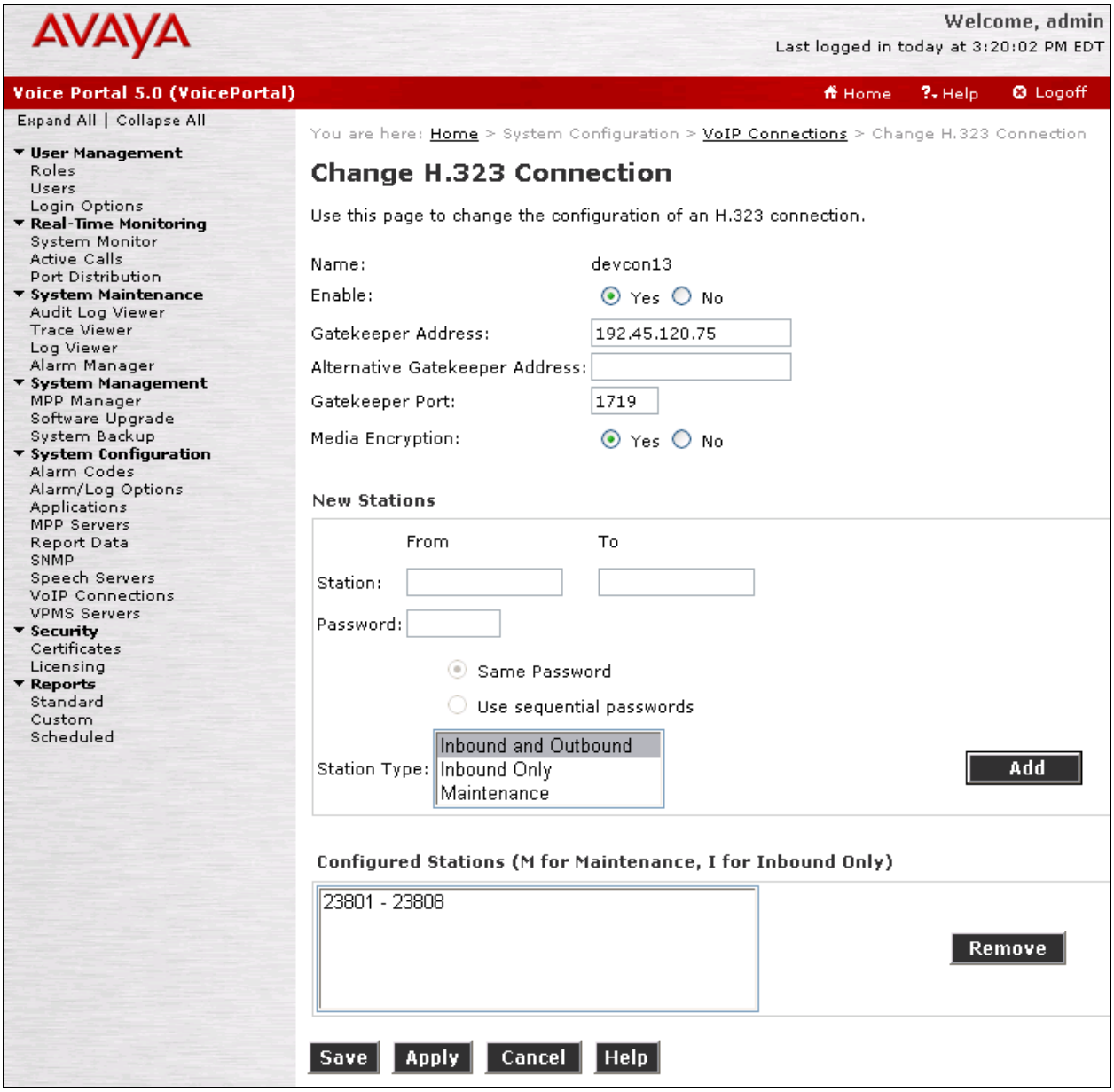
Avaya Voice Portal is configured via the Voice Portal Management System (VPMS) web interface. To access the web interface, enter http://<*ip-addr*>/VoicePortal as the URL in an internet browser, where <*ip-addr*> is the IP address of the VPMS. Log in using the Administrator user role. The screen shown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

**Note:** All of the screens in this section are shown after the Voice Portal had been configured. Save the screen parameters as you configure Avaya Voice Portal.



## 3.1. Configure an 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 below, 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 Communication Manager. In addition, set the **Password** for the stations and set the **Station Type** to *Inbound and Outbound*.

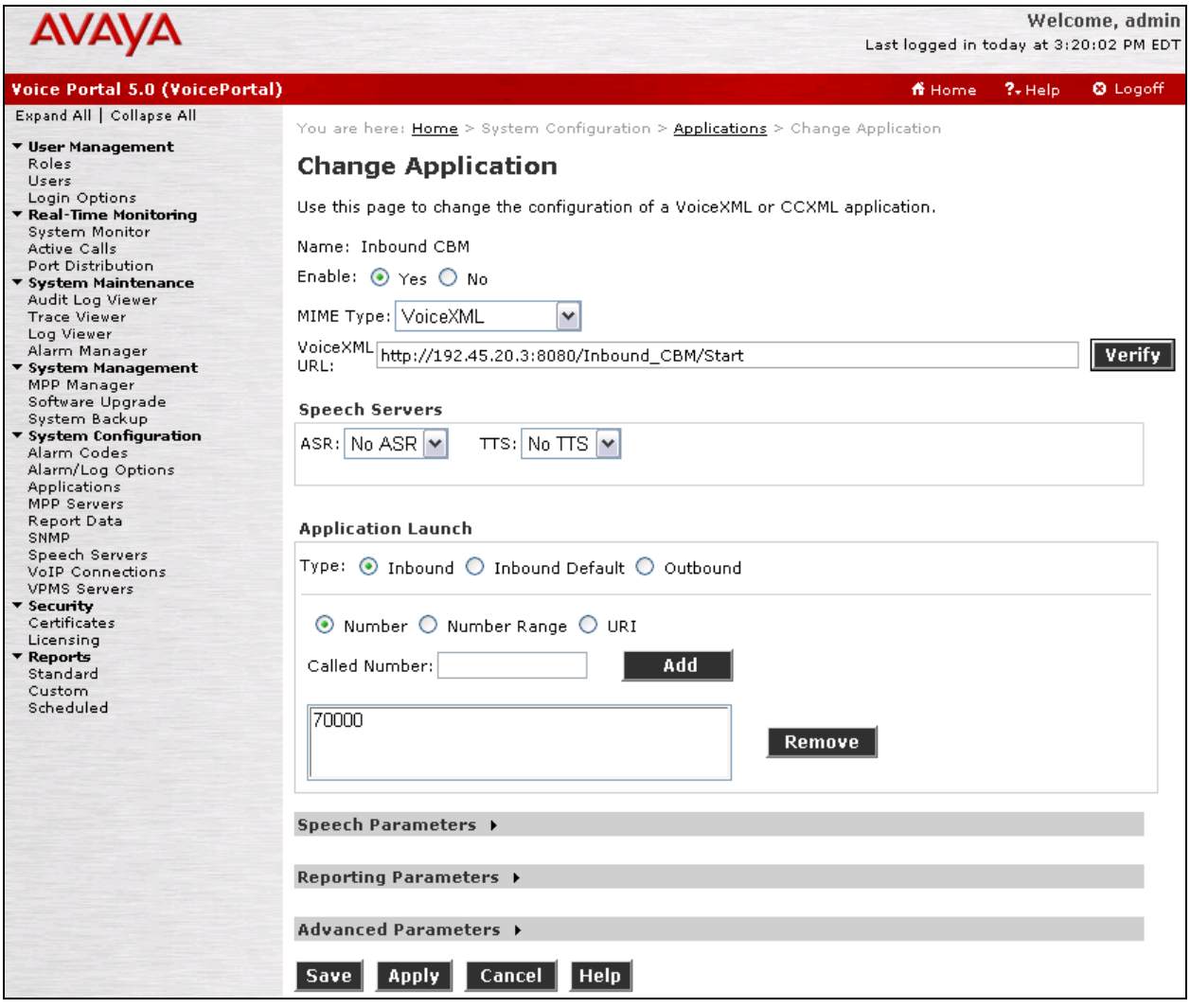


## 3.2. Configure iAssist CBM Applications

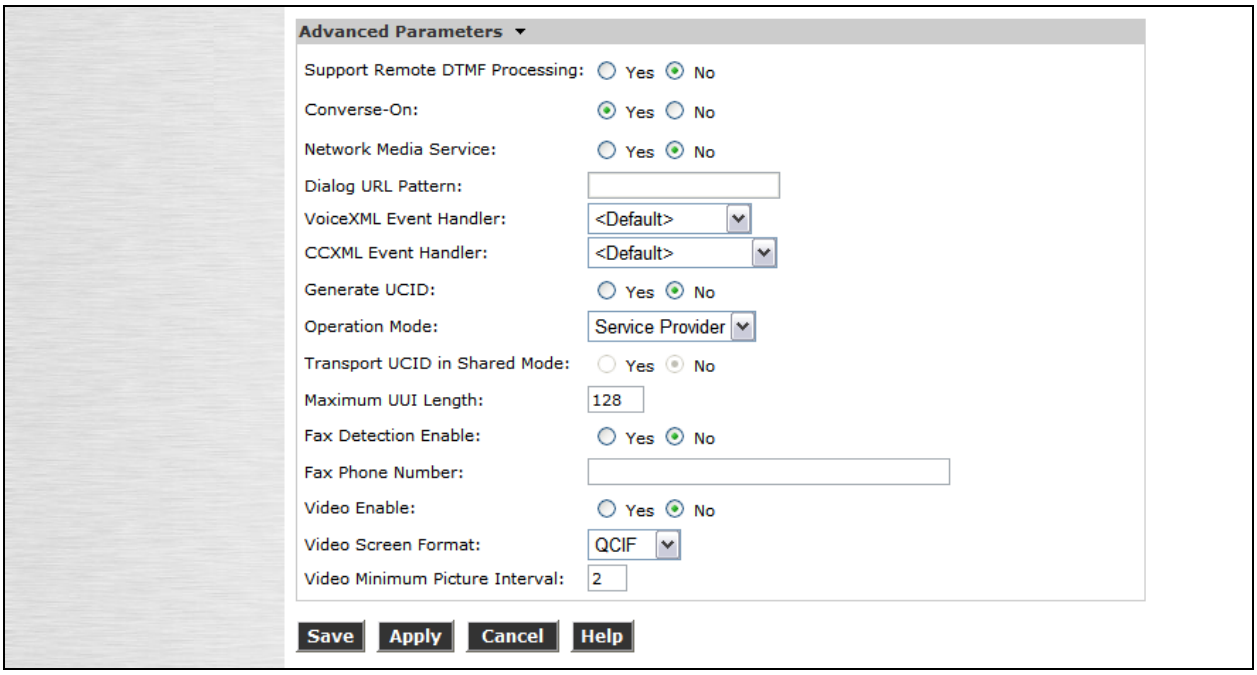
Two applications are configured in Avaya Voice Portal, one to handle inbound calls that are queued to the agent split and the second one to handle the call back request (i.e., outbound calls to agent and caller).

### 3.2.1. Configure the Inbound CBM Application

In the **Applications** page, add a Voice Portal application to handle incoming calls that are queued to the agent split. This application will provide the caller the option to either continue waiting in the agent queue or to request a call back. Configure the application as shown below.

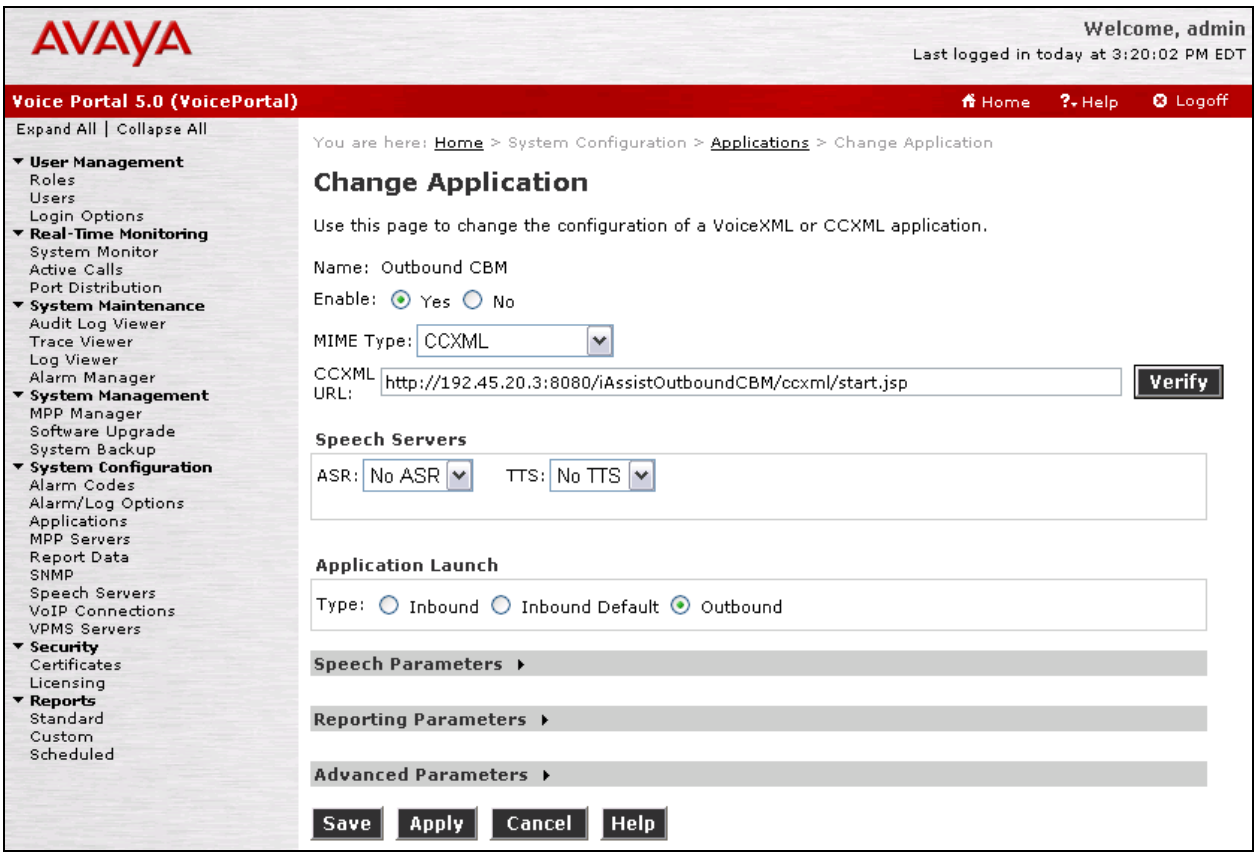


Under the **Advanced Parameters** section, enable **Converse-On**.



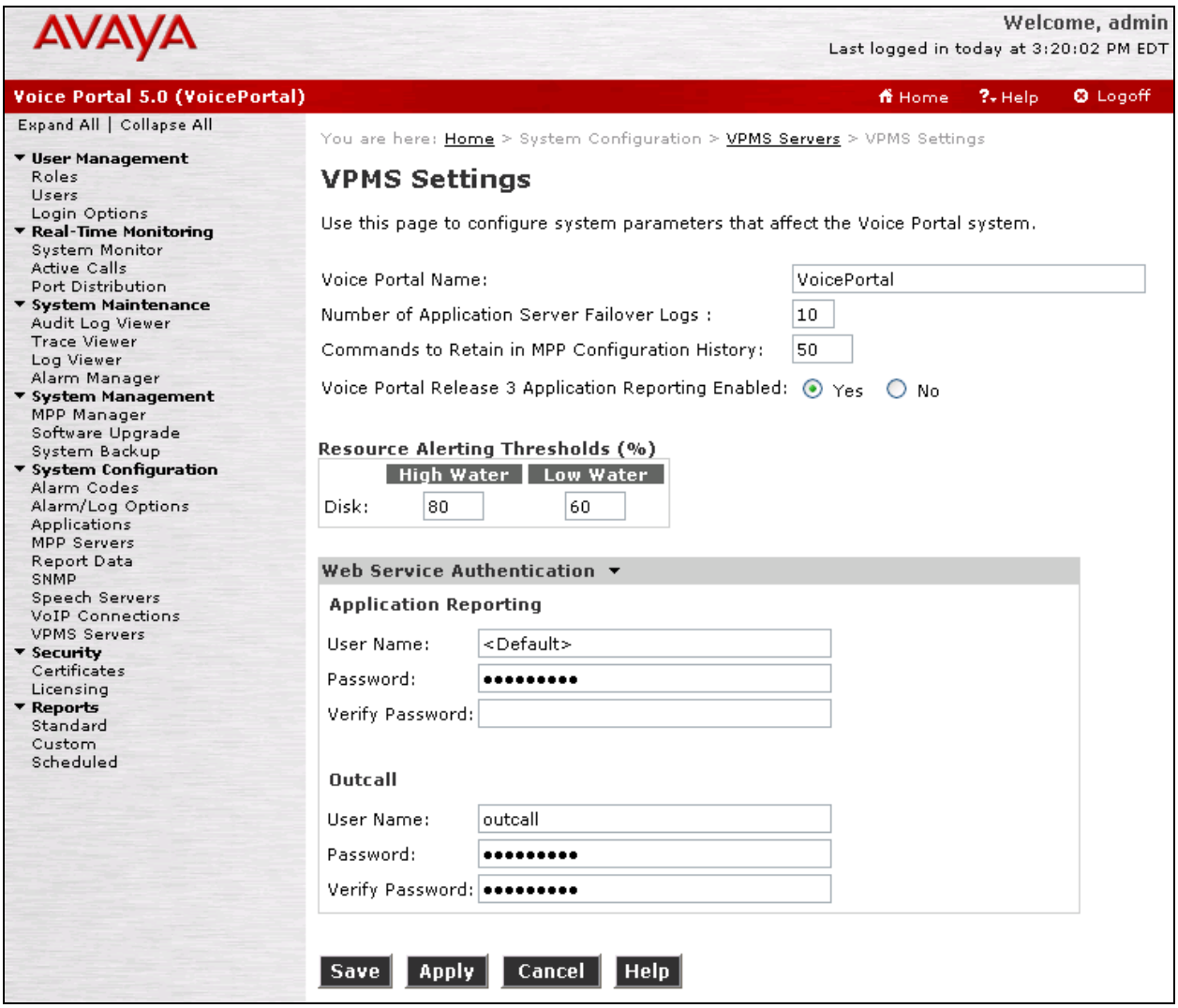
### 3.2.2. Configure the Outbound CBM Application

In the **Applications** page, add another Voice Portal application to handle the outbound calls to the agent and caller. Configure the application as shown below.



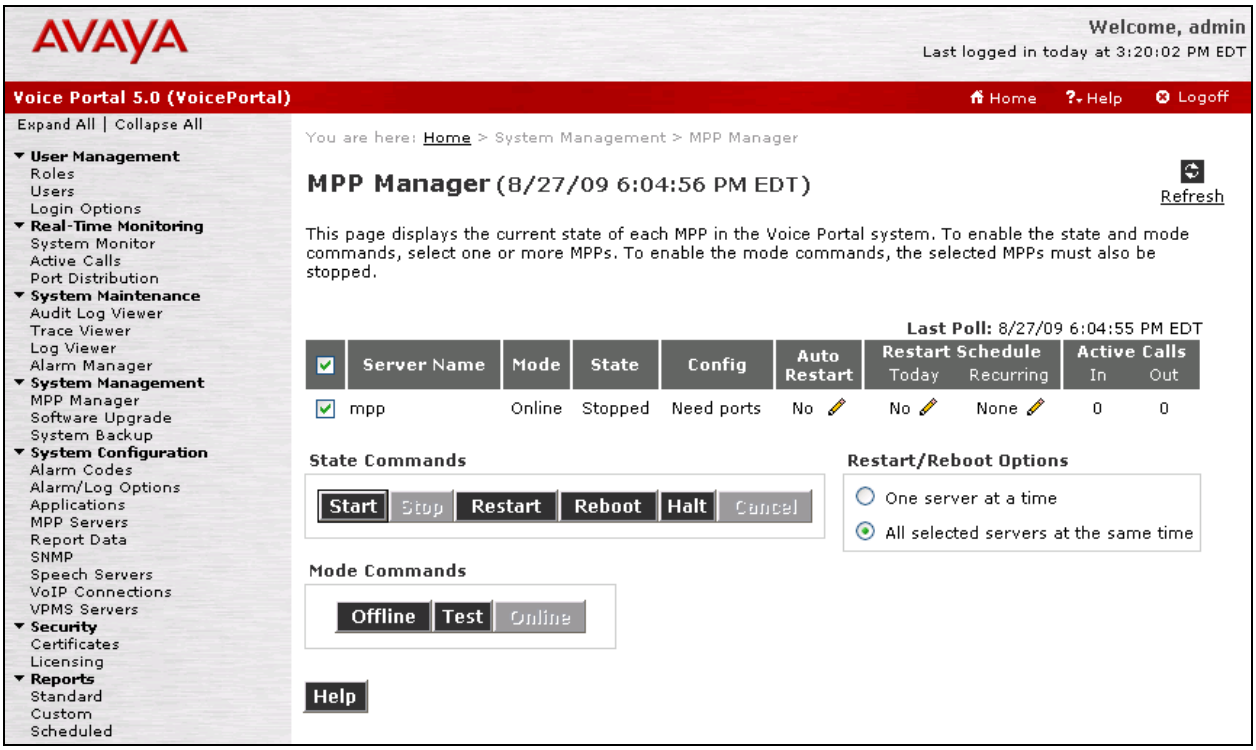
## 3.3. Configure the Outcall Authentication

Configure the Outcall User Name and Password that will be sent by iAssist CBM. Click on **VPMS Servers** in the left pane. In the resulting page, click on **VPMS Settings** to display the page below. Under the **Outcall** section, configure the **User Name** and **Password** used by iAssist CBM when it makes an outcall request to Voice Portal.



## 3.4. Start the MPP Server

Start the MPP server from the **MPP Manager** page shown below. Select the 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*.



# 4. Configure Application Server

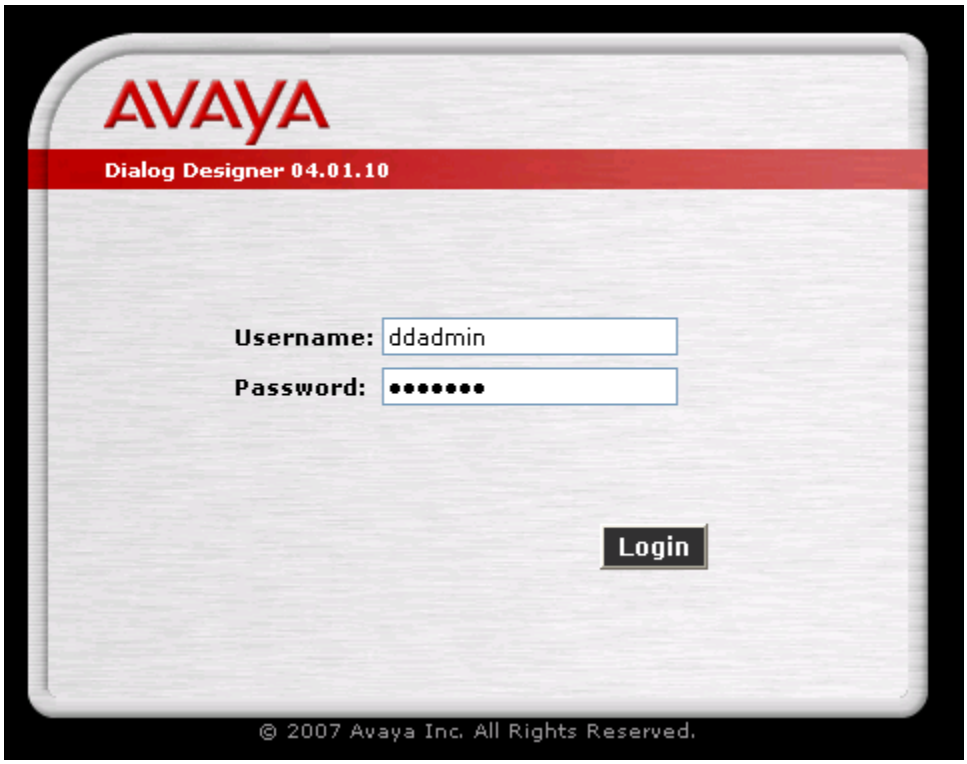
This section describes the configuration required on the application server for iAssist Call Back Manager. It is assumed that all of the required software listed in Section 1.4 has already been installed. Refer to [7] for more information on configuring the application server. The following configuration steps on the application server will be covered:

- Configure WebLM Licensing
- Deploy the iAssist CBM Application in Apache Tomcat
- Deploy the Java Service for the Outbound CBM Module

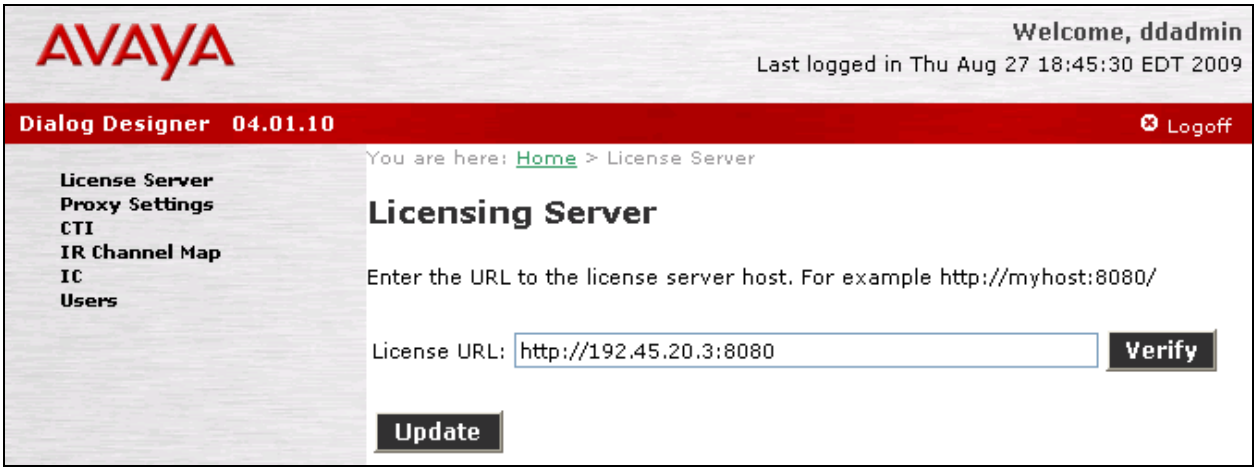
## 4.1. Configure WebLM Licensing

Since the application server will run Dialog Designer applications, it requires support files to be installed as described in [5], *Avaya Dialog Designer Developer's Guide Release 4.1*. These support files include Jars.zip, runtimeconfig.war, and weblm.jar, the client library for license management. A valid license is required to run Dialog Designer applications on Avaya Voice Portal. A license may be installed by accessing the following web page via a web browser: http://192.45.20.3:8080/WebLM/LicenseServer.

To access the Dialog Designer Admin Console (often referred to as ddadmin) via a web browser, enter the following URL: http://192.45.20.3:8080/runtimeconfig and log in using "ddadmin" account.



In the **Licensing Server** page, enter the URL of the WebLM license server, which is running on the application server itself. In this example, the **License URL** field is set to http://192.45.20.3:8080. Click **Update**.



## 4.2. Deploy iAssist Call Back Manager Application

This section describes the steps to deploy and configure the iAssist Call Back Manager in Apache Tomcat on the application server. The following configuration steps are required:

1. The iAssist CBM application is deployed in Apache Tomcat running on the application server. The following CBM application files need to be ported to the <tomcat_home>/webapps/ directory.

   - **Inbound_CBM.war** – This war file contains the inbound module of CBM application. This module collects the caller's details and logs a call back request.
   - **iAssistOutboundDialog.war** – This war file contains the outbound dialog module (Dialog Designer application).
   - **iAssistOutboundCBM.war** – This war file contains the outbound CCXML module.
   - **Phrases_CBM.zip** – This file contains the phrases used by both inbound and outbound CBM applications.

2. After deploying the application files in Apache Tomcat, create a new folder called C:\CBMProduct and extract the files in **C_CBMProduct_ConfigFiles.zip** to this folder. The following configuration files will be extracted:

   - **cbmconfig.properties** file is extracted to C:\CBMProduct\config\
   - **obCbmconfig.properties** is the property file used by the outbound Java Service application and is extracted to C:\CBMProduct\Outbound\configs\

3. In the **cbmconfig.properties** file, set the **FAC** parameter to "#12", which is the feature access code for **Converse Data Return Code** configured in Section 2.1.

4. Start Apache Tomcat.

5. Open the web.xml file located in the <tomcat_home>/webapps/Inbound_CBM/WEB-INF directory and modify the file as follows:

   - Search for CONFIG_FILE_PATH and provide the full path to the **cbmconfig.properties** file. By default, the path is C:\CBMProduct\config\cbmconfig.properties.
   - Provide the IP address of the iAssist Admin server (i.e., 192.45.100.190) in the URL for iAssistLicense Server.
   - Search for "CallBackService.svc" and specify the host and port details where the CBM web service is installed. In this configuration, the CBM web service was installed on the iAssist Admin server (i.e., 192.45.100.190).
   - Search for "Phrases_CBM" and provide the host and port details where the phrases are installed. In this configuration, the phrases are installed on the application server so the host and port details are 192.45.20.3:8080.

6. Repeat the above step for the web.xml files in the following directories:

- <tomcat_home>/webapps/iAssistOutboundDialog/WEB-INF
- <tomcat_home>/webapps/iAssistOutboundCBM/WEB-INF

7. Restart Apache Tomcat.

## 4.3. Deploy the Java Service

It is assumed that the Java Service Wrapper has already been installed on the application server. Start iAssist Inbound Java Service. These additional steps are required:

- Set the CLASSPATH Environment Variable
- Install the iAssist Outbound CBM Module

### 4.3.1. Set Environment Variables

Open the Windows Control Panel and double-click on **System**. In the **System Properties** window, select the **Advanced** tab and then click on **Environment Variables**. Set the CLASSPATH variable to:

C:\Program Files\Java\jdk1.5.0_16\bin;C:\Program Files\Java\jdk1.5.0_16\lib\tools.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\activation.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\axis.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\jaxrpc.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\saaj.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\wss4j.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\wsdl4j.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\commons-discovery-0.2.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\commons-httpclient-3.0.1.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\commons-logging-1.1.jar;C:\Program Files\CBMProperties\dbconfig.properties;C:\Program Files\CBMProperties\cbmconfig.properties;C:\Program Files\CBMProperties\log4j.properties;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\scertcommon-04.01.10.01.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\commons-codec-1.3.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\commons-el.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\jasper-compiler.jar;C:\Program Files\Apache Software Foundation\Tomcat 5.5\common\lib\log4j-1.2.8.jar;

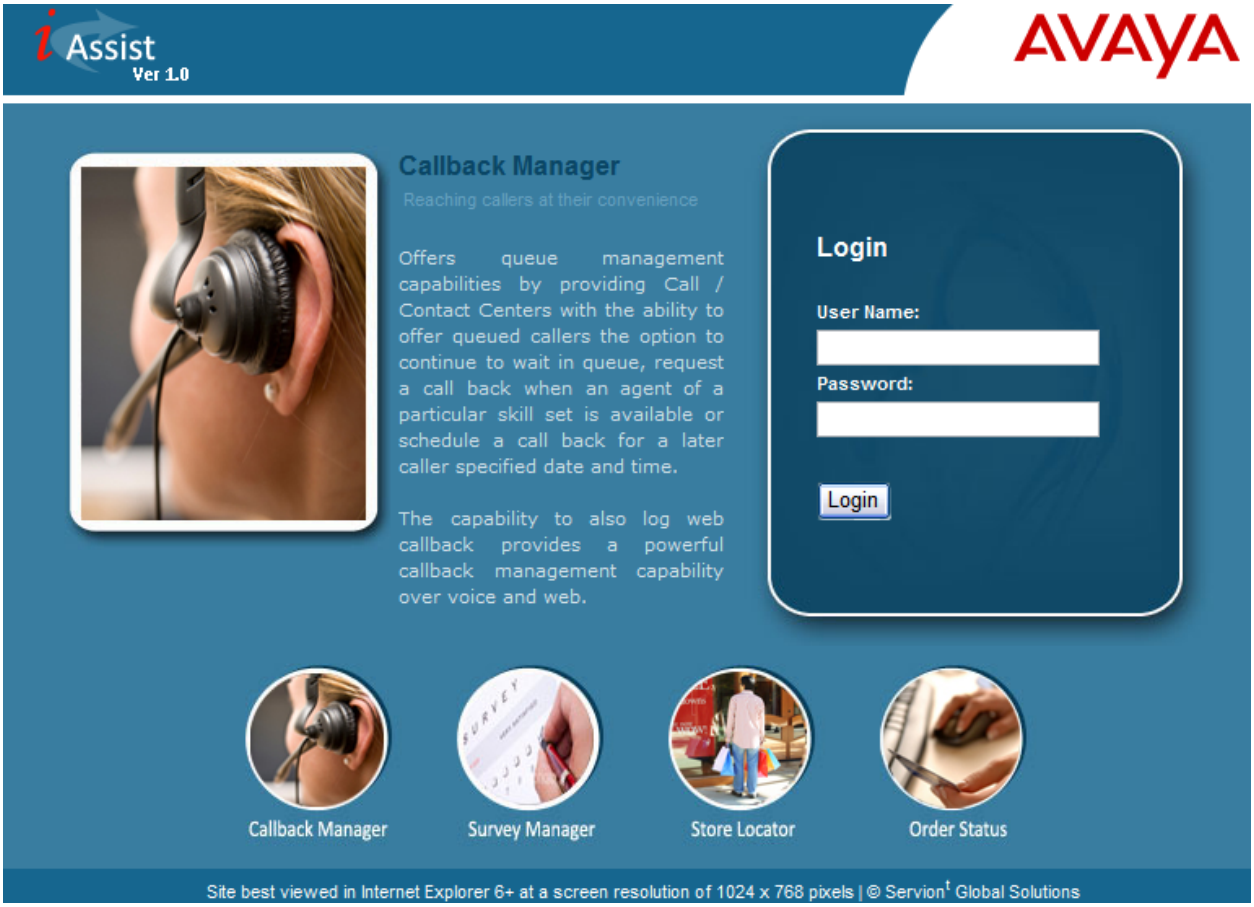
### 4.3.2. Install iAssist Outbound CBM Module

The application can be installed by running the **InstalliAssistOutboundCBM-NT.bat** install script from the command prompt. If the service is installed successfully, the script will terminate immediately. If there are any problems, an error message will be displayed. The script will then wait for the user to press a key before terminating. The Java Service application will be started after the configuration of the iAssist CBM application described in the next section.

# 5. Configure Servion iAssist Call Back Manager

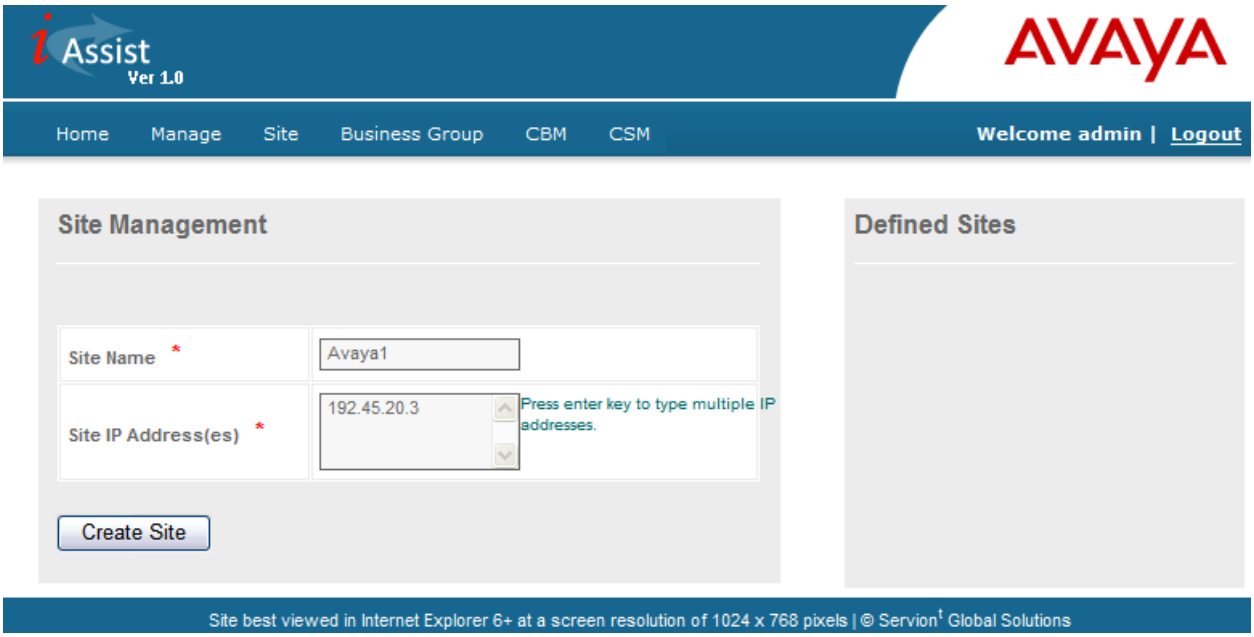
This section provides the steps for configuring the iAssist CBM application via the iAssist Admin application. It is assumed that the iAssist Admin application has already been installed. Refer to [7] for information on installing the iAssist Admin application. Refer to [8] for additional information on configuring iAssist CBM.

To configure iAssist Call Back Manager, access the iAssist Admin application by opening a web browser and entering http://<*ip addr*>/iAssist, where <*ip addr*> is the IP address of the iAssist Admin server. Log in using the appropriate credentials. The login screen is displayed below.

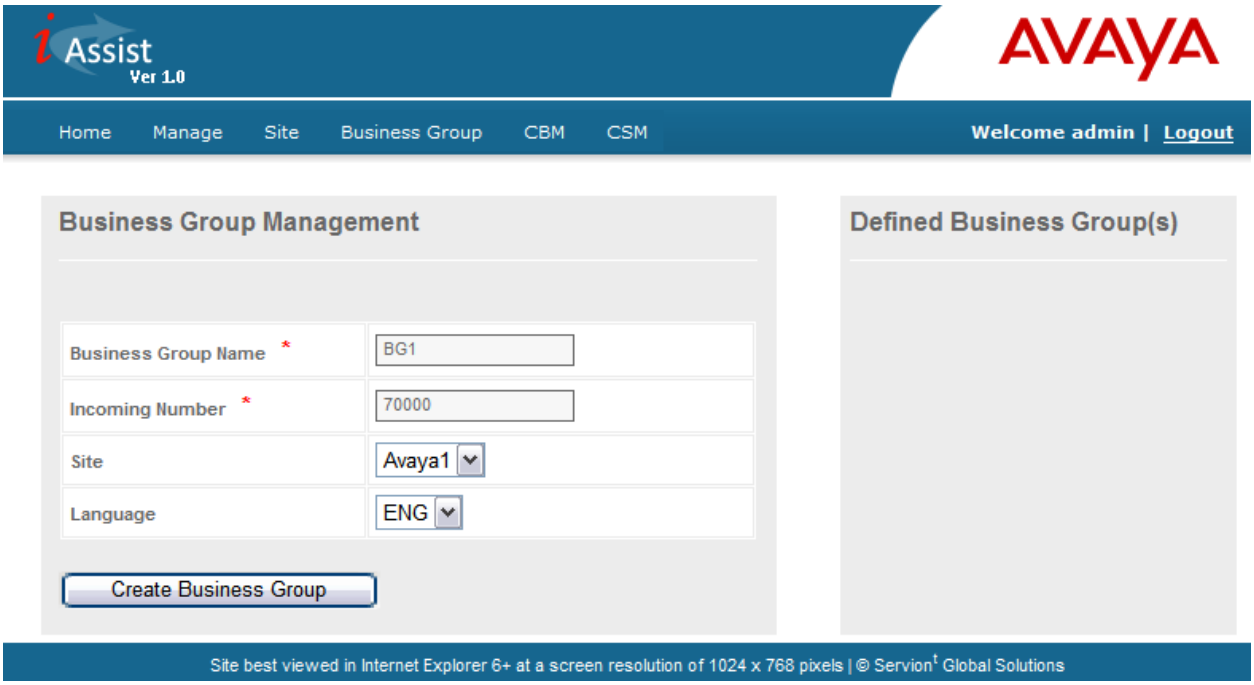


After successfully logging in, the main screen is displayed.

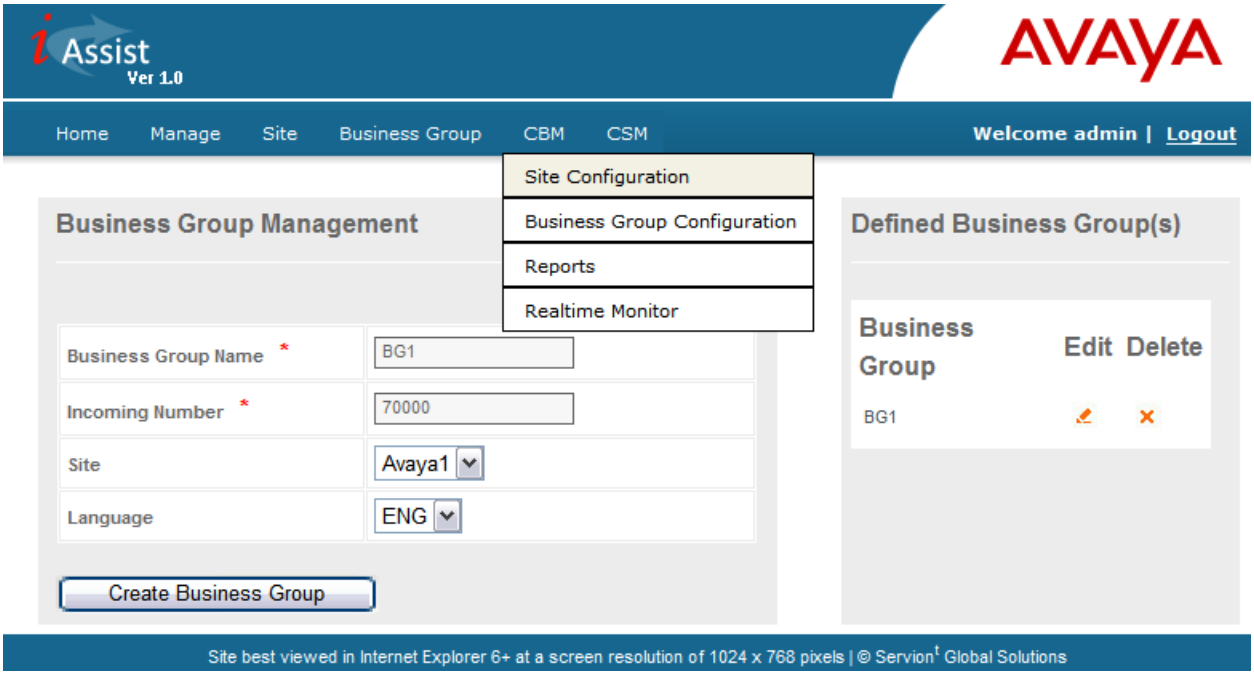

From the iAssist Admin menu, click on **Site** to add a new site. A site defines the location where the CBM application will run. Provide a **Site Name** and specify the IP address of the application server in the **Site IP Address(es)** field as shown below. Click **Create Site** to save the changes.



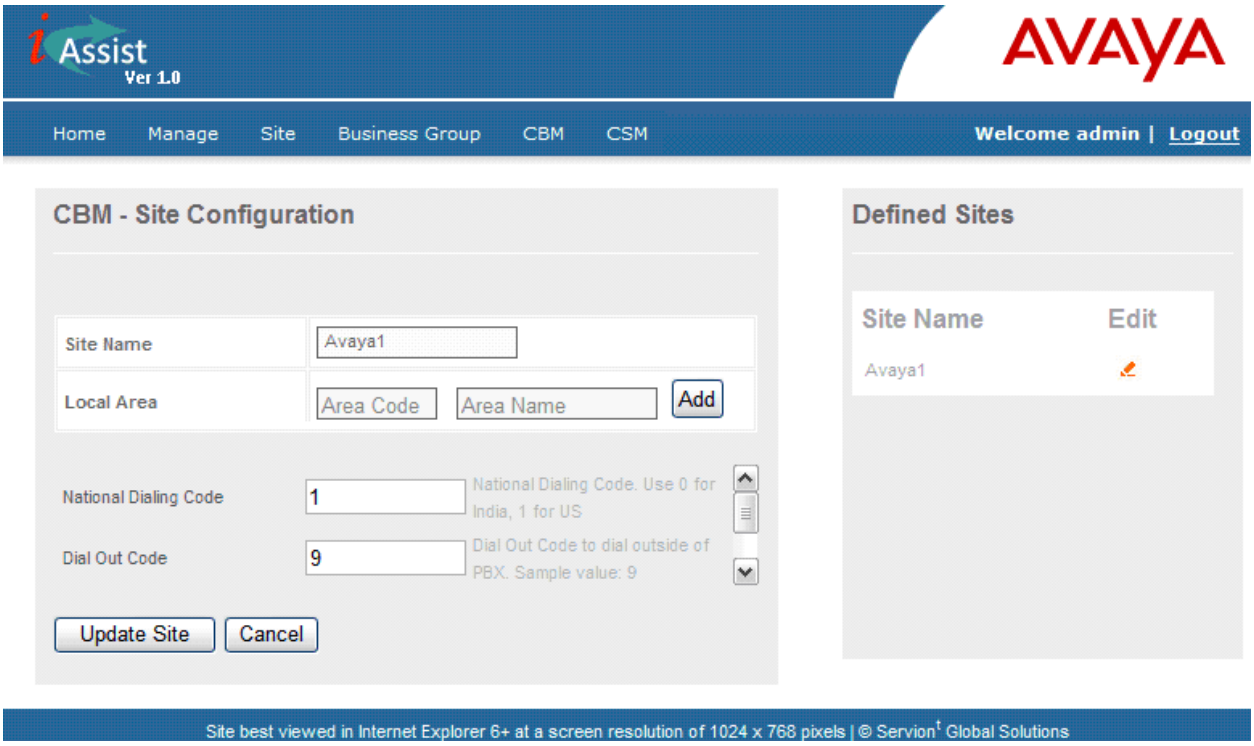
Select the **Business Group** option in the menu to create a business group. In the following screen, provide a **Business Group Name** such as "BG1", set the **Incoming Number** to the VDN which routes calls to Voice Portal (e.g., 70000), choose the **Site** configured above and select the appropriate **Language**. Click **Create Business Group** to save the changes.



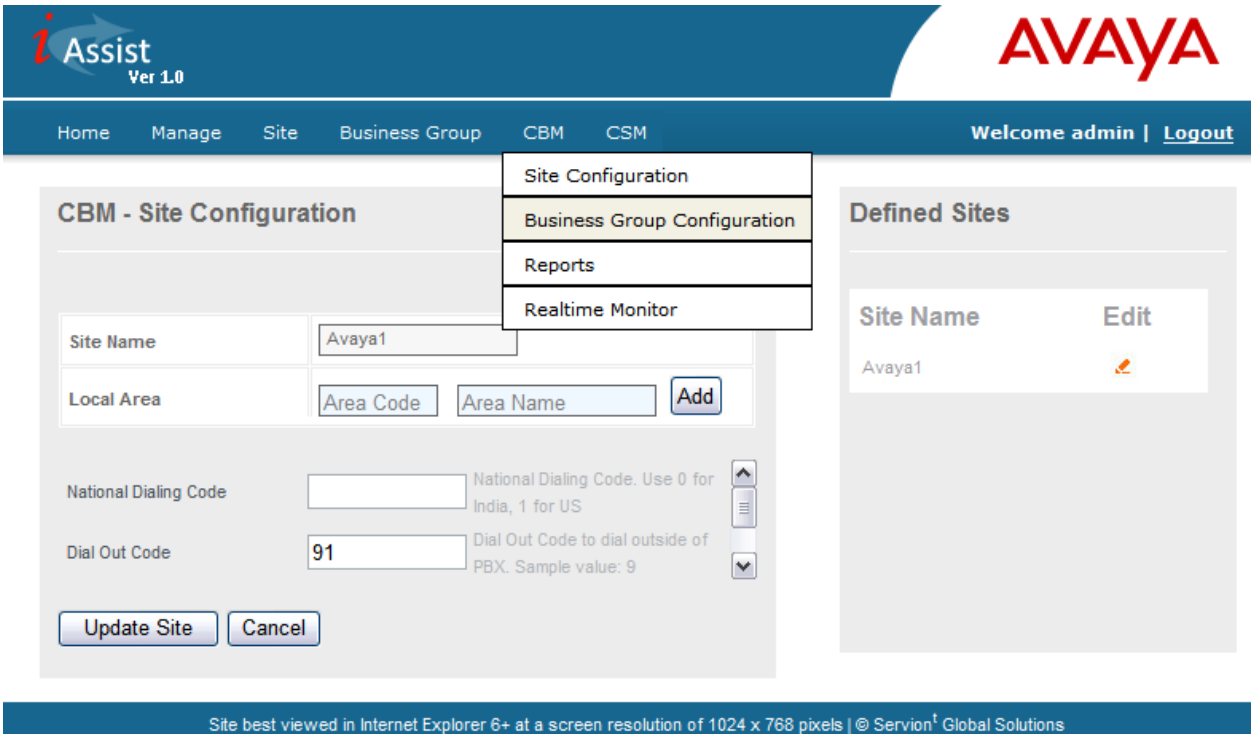

The next step is to start configuring the iAssist CBM application by navigating to **CBM→Site Configuration**.



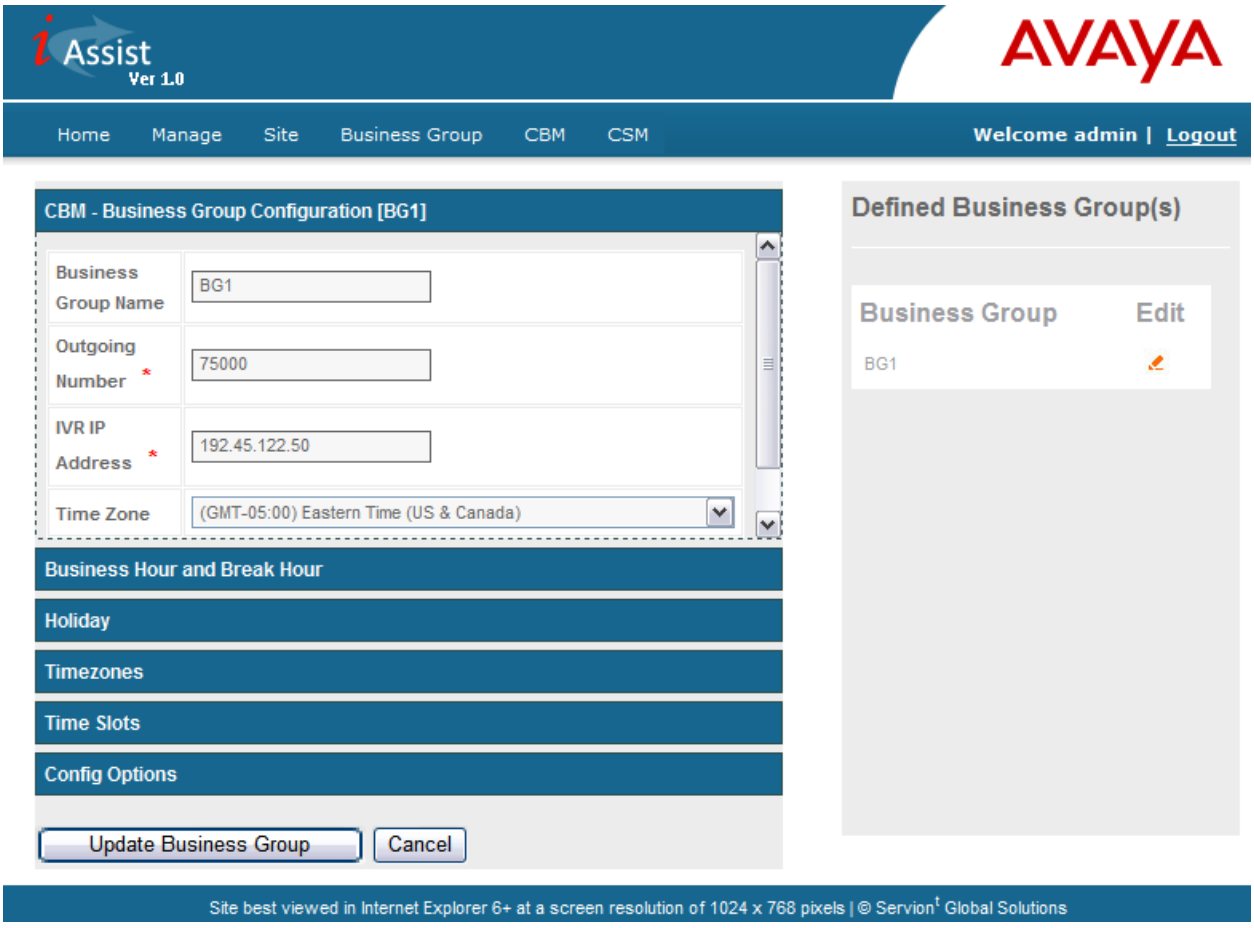
In the **CBM – Site Configuration** screen, click the **Edit** icon under **Defined Sites** for the desired site. In this configuration, the *Avaya1* site will be updated. The **Site Name** will be automatically populated. Next, configure the **Dial Out Code** and **National Dialing Code** required to dial outside Communication Manager. In this configuration the dial out sequence was set to "91", where '9' corresponds to the ARS access code configured in Communication Manager and '1' corresponds to the prefix mark that is required when dialing 10-digit numbers starting with the area code. Click **Update Site** to save the changes to the *Avaya1* site.



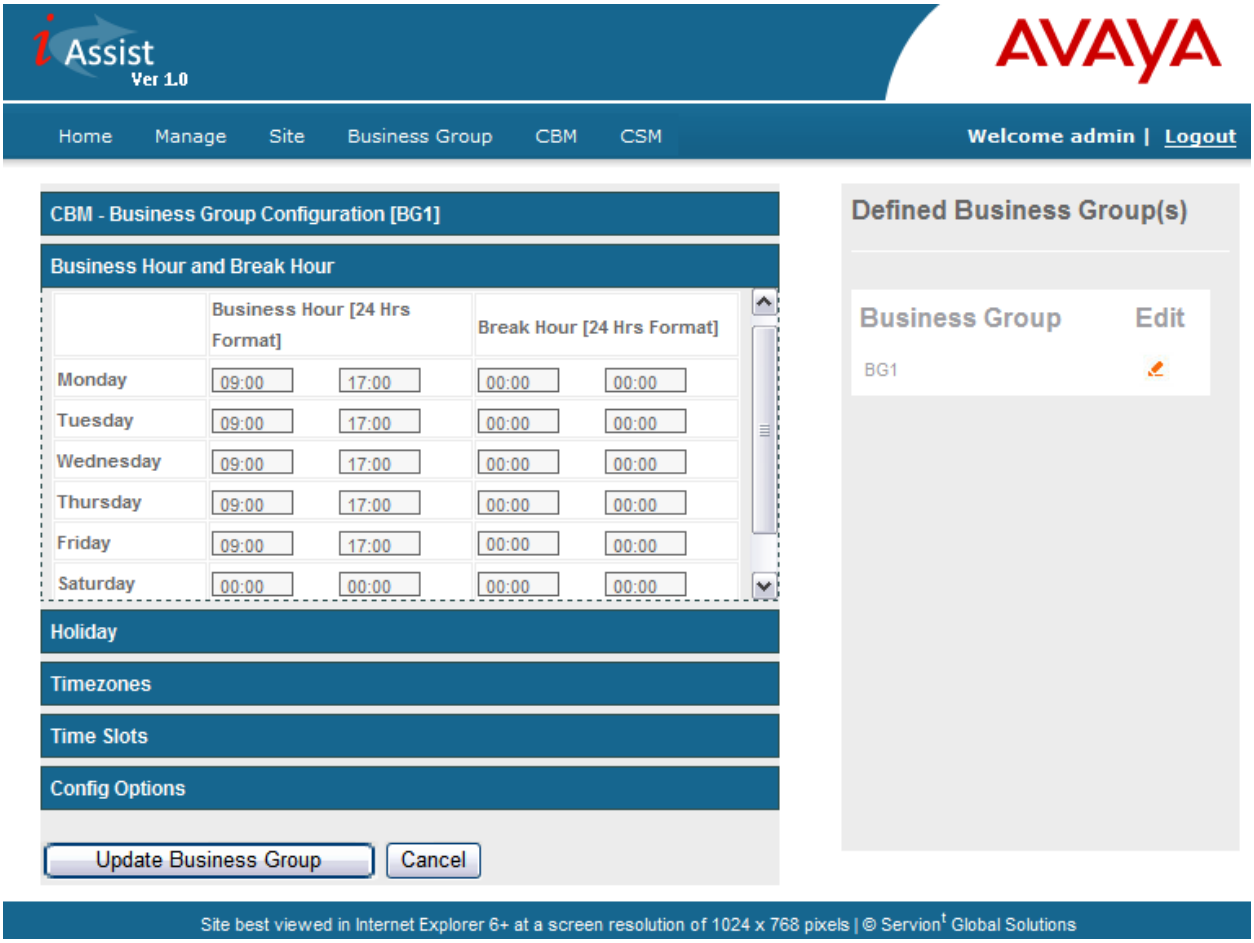
Next, configure the **Business Group** for the CBM application by navigating to **CBM→Business Group Configuration** as shown below.



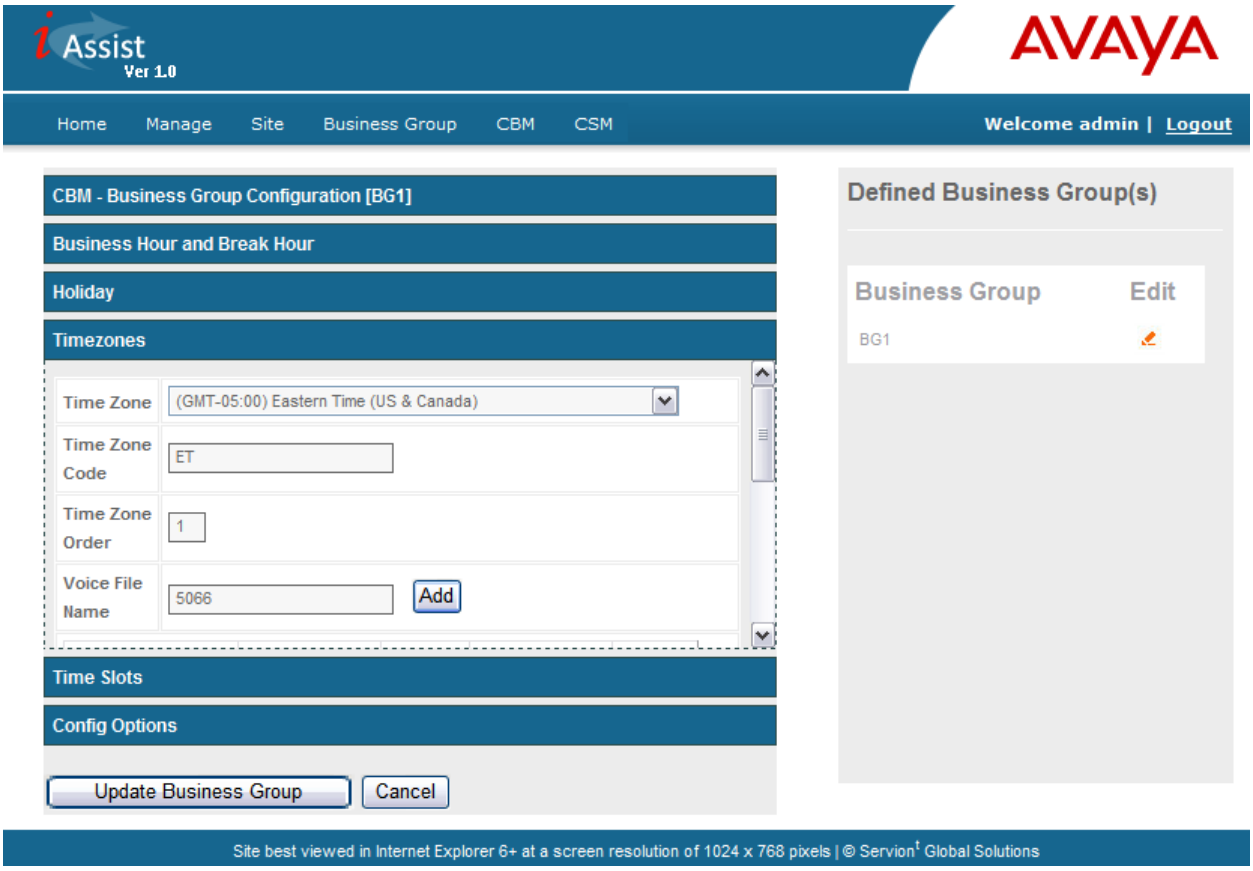
In the **CBM – Business Group Configuration** tab, click the **Edit** icon of the desired business group in the **Defined Business Group(s)** pane. The **Business Group Name** field is automatically populated. Set the **Outgoing Number** to the VDN that queues calls to the agent split. In this configuration, VDN 75000 routes calls to agents. Next, set the **IVR IP Address** field to the IP address of Voice Portal, specifically the VPMS, and select the appropriate **Time Zone** where the iAssist is deployed. Finally, set the desired Priority (not shown) for this business group.



In the **Business Hour and Break Hour** tab, configure the agent schedule. Call back requests will not be allowed outside of this schedule.



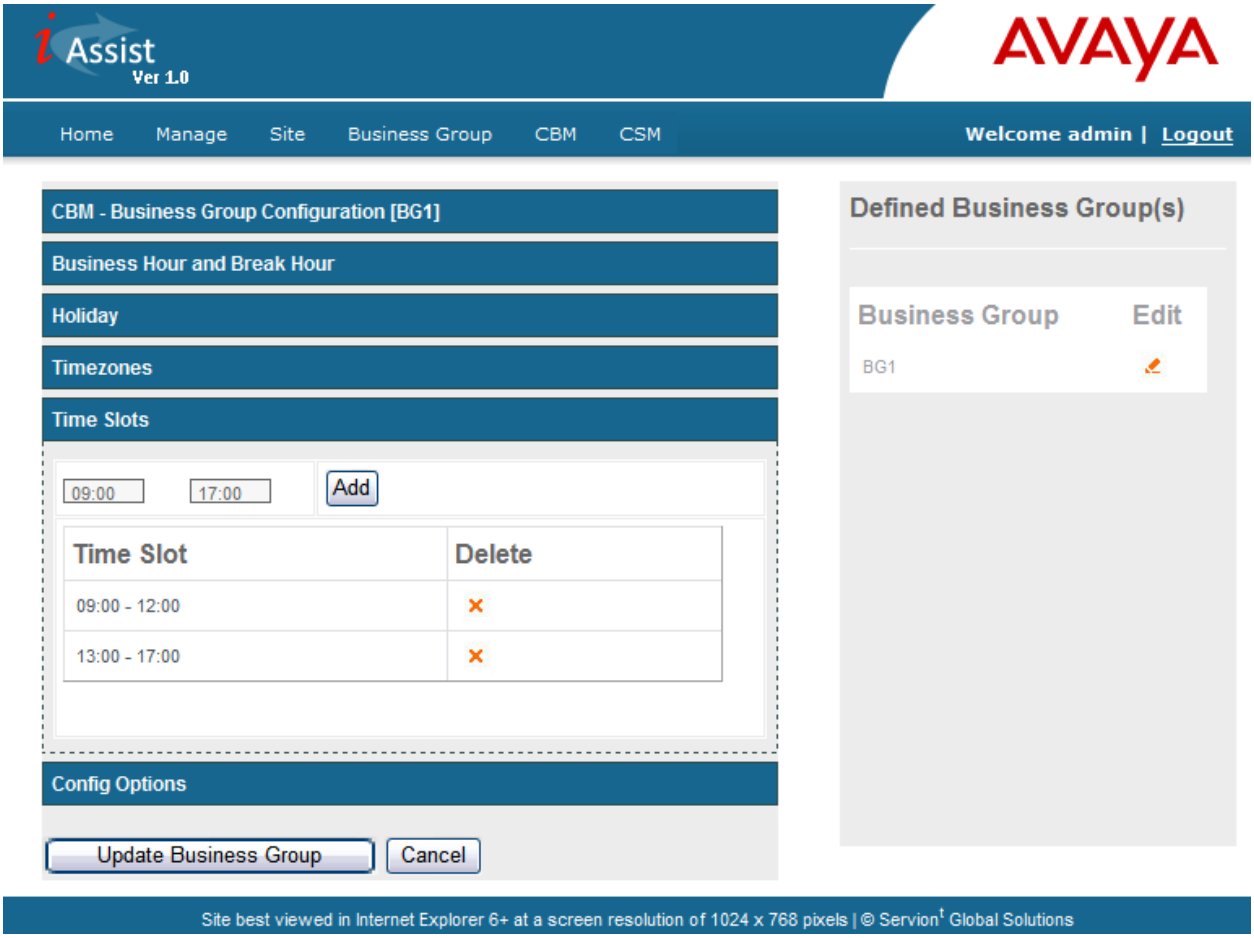
In the **Timezones** tab, configure the time zones available for the business group. When a caller requests a call back at a specified time, CBM will ask the caller for their time zone. In this configuration, four time zones were configured for Eastern Time, Central Time, Mountain Time, and Pacific Time. The screen below shows the configuration for Eastern Time. The **Time Zone Code** was set to "ET". The **Time Zone Order** was set to '1' indicating that this time zone will be listed first and that the caller should enter DTMF digit '1' to select Eastern Time. The **Voice File Name** specifies the voice file with a recording saying, "For Eastern Time, press 1". Click **Add** to add the configured time zone. Repeat this step for the other time zones.



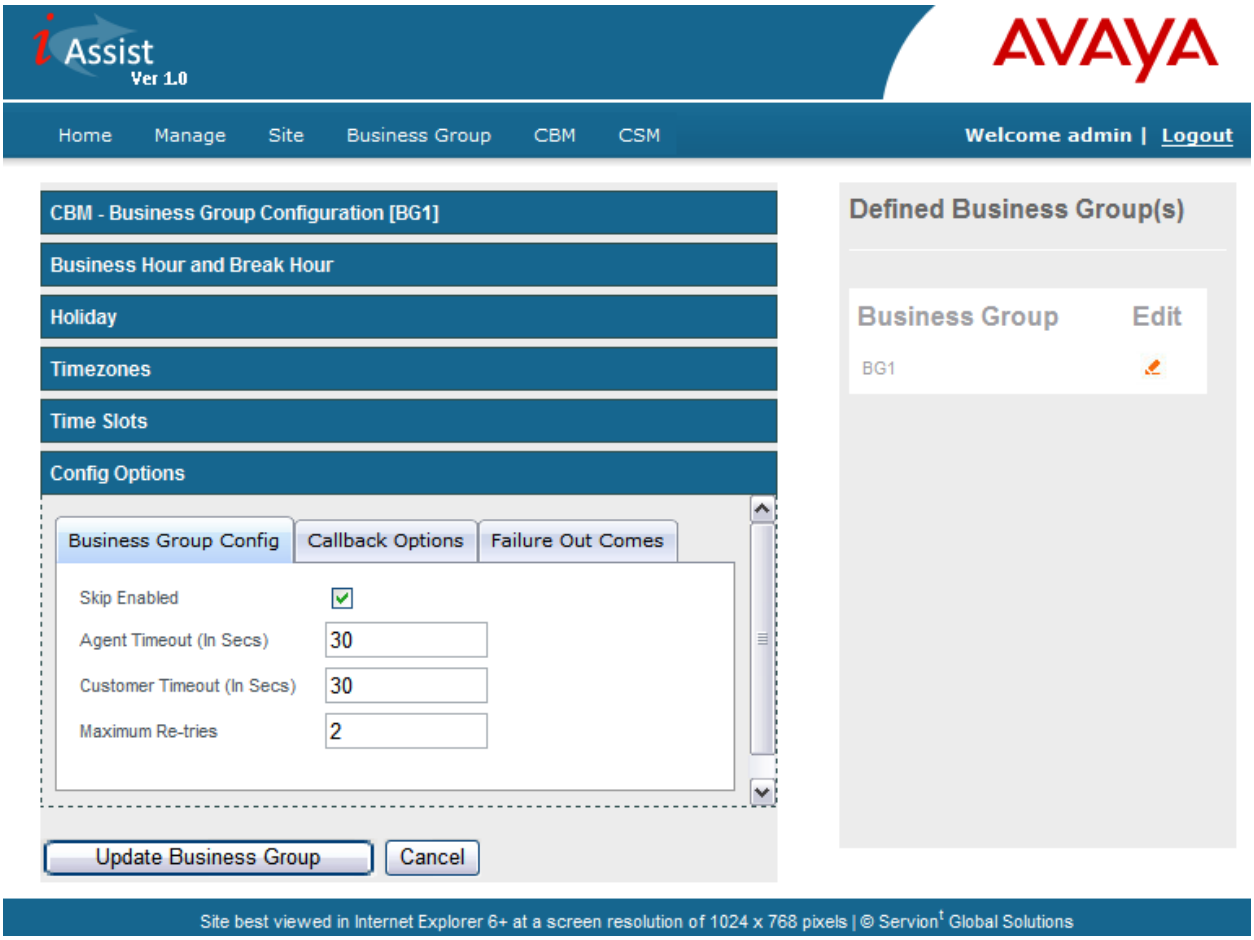

The table below lists all the time zones that were configured in iAssist. The caller can then specify any one of these time zones when making a call back request.

| Timezone | Timezone Code | Voice File | Timezone Order | Delete |
|---|---|---|---|---|
| (GMT-05:00) Eastern Time (US & Canada) | ET | 5066 | 1 | ✕ |
| (GMT-06:00) Central Time (US & Canada) | CT | 5067 | 2 | ✕ |
| (GMT-07:00) Mountain Time (US & Canada) | MT | 5063 | 3 | ✕ |
| (GMT-08:00) Pacific Time (US & Canada) | PT | 5062 | 4 | ✕ |

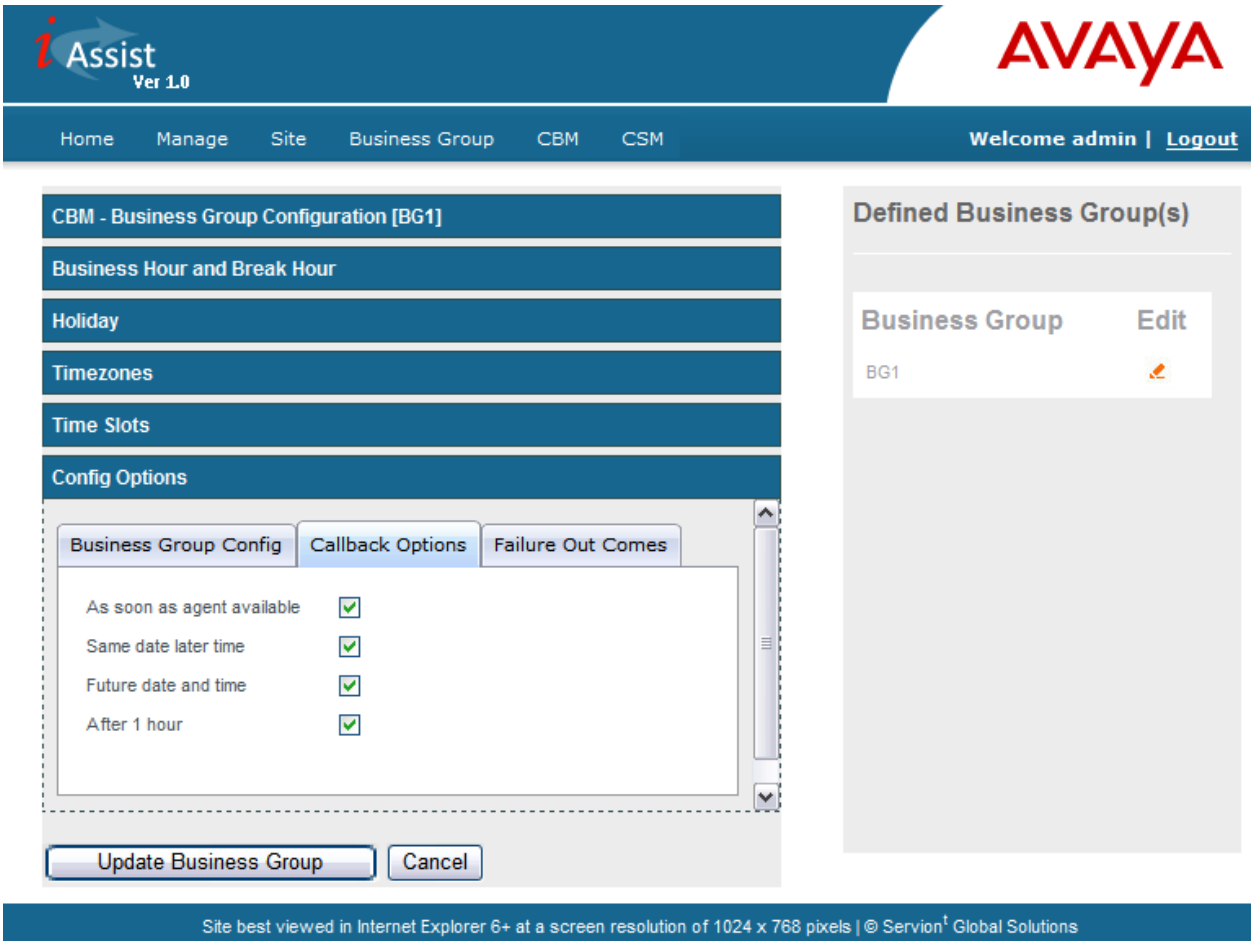
In the **Time Slots** tab, configure the time slots in which callers can receive a call back on that same day. In this example, a morning time slot and an afternoon time slot were added.



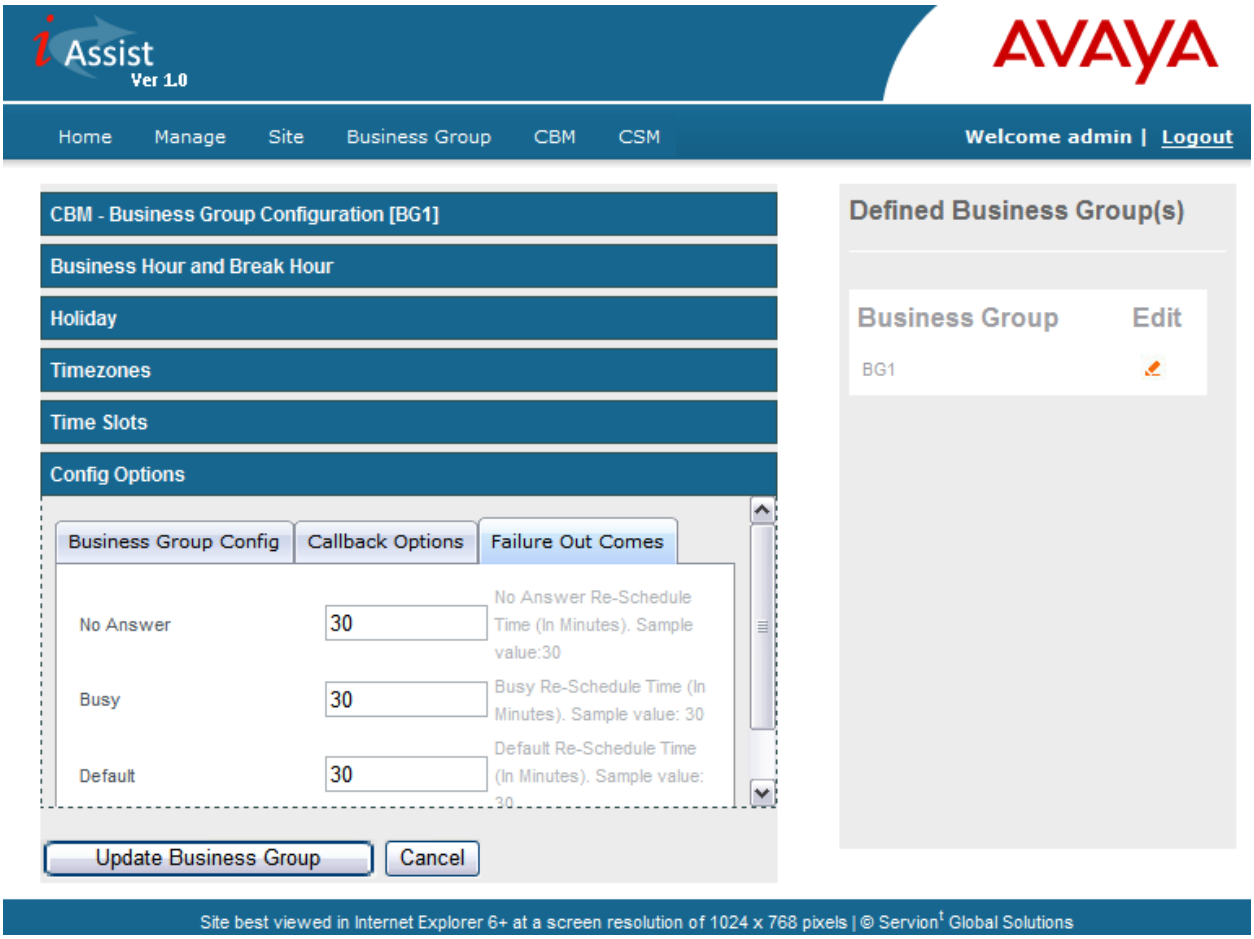
In the **Config Options** tab, other options may be selected for the CBM application. For example, under **Business Group Config**, if **Skip Enabled** is selected, the agent has the option to reschedule a call back request after receiving a call back attempt with the customer details. The other fields specify the maximum duration to check for the agent's and caller's availability before the call back is rescheduled. In addition, the maximum number of retries is also configured here. In this example, CBM will attempt to connect to the caller two times before considering the call back as failed.



In the next tab under **Config Options**, the call back options available to the caller are selected. In this configuration, all call back options were enabled.



In the **Failure Out Comes** tab, the **No-Answer**, **Busy**, and **Default** timers are set. For example, if the agent or caller does not answer the call within 30 seconds, the call back is rescheduled. After completing the **CBM – Business Group Configuration**, click **Update Business Group** to save the changes.




After configuring the iAssist CBM application, start the **iAssistOutboundJavaService** under Windows Services or by entering the "net start iAssistOutboundJavaService" command in a command prompt window.

# 6. General Test Approach and Test Results

This section describes the interoperability compliance testing used to verify the iAssist CBM applications with Avaya Voice Portal.

The interoperability compliance test included feature and serviceability testing. The feature testing focused on routing calls to Voice Portal and running the iAssist CBM applications to allow the caller the option to request a call back. All of the call back request options available in the Inbound CBM application were tested. In addition, the Outbound CBM application was also verified. The iAssist Outbound CBM Module initiated the call back to the agent and caller and established a two-way talk path. Conditions where the call back could not be established were also verified. In these cases, the call was either rescheduled or marked as failed, if the number of retries was exceeded. Finally, the registered call back requests and call back status were verified in iAssist reports.

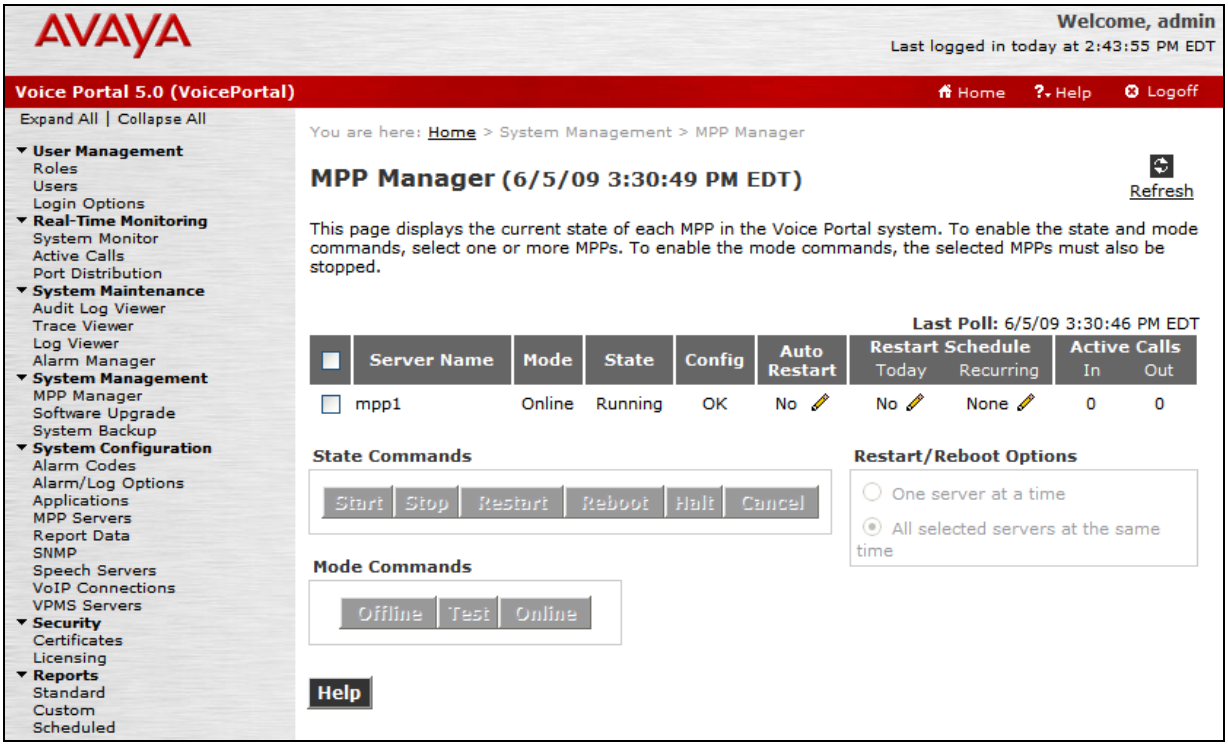
The serviceability testing focused on verifying the ability of iAssist Admin server and Avaya Voice Portal to recover from adverse conditions, such as power failures and disconnecting cables to the IP network.

All test cases passed. Avaya Voice Portal was successful in running the iAssist CBM applications.

# 7. Verification Steps

This section provides the verification steps that may be performed to verify that Voice Portal can run iAssist CBM applications.

1. From the VPMS web interface, verify that the MPP server is online and running in the **System Monitor** page shown below.



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

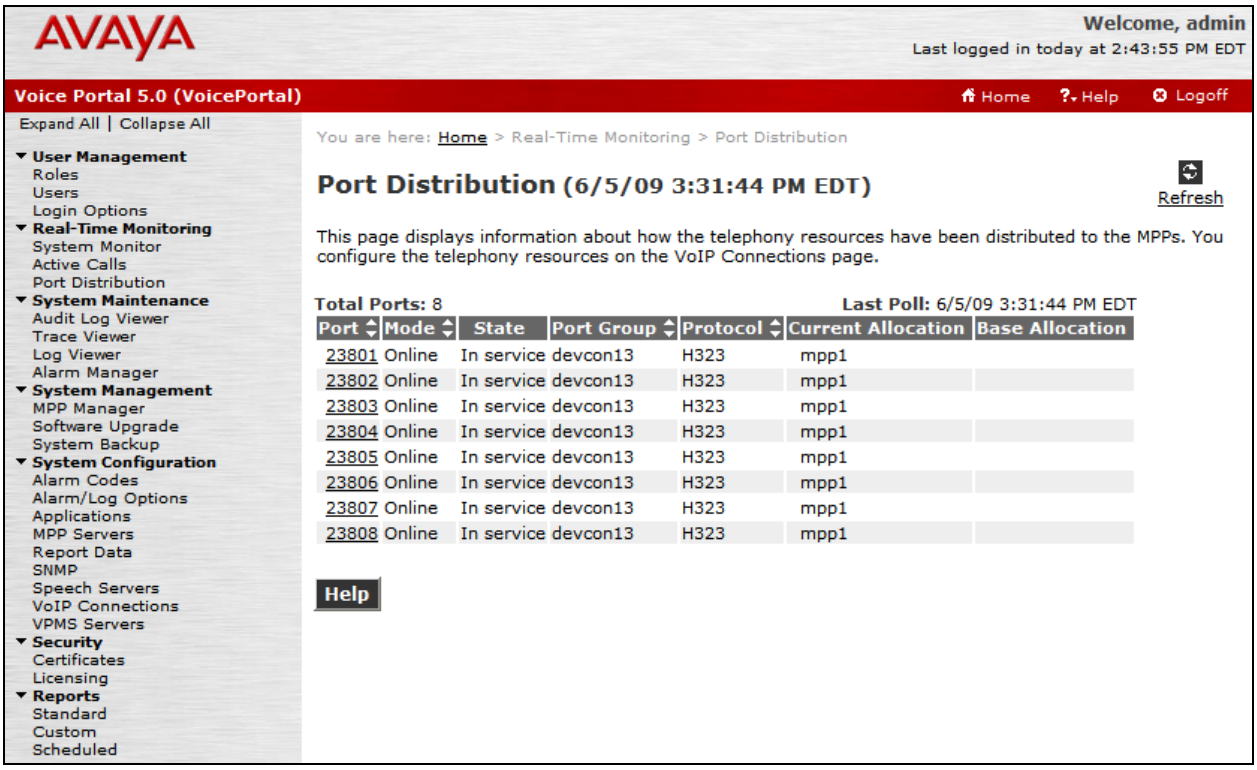
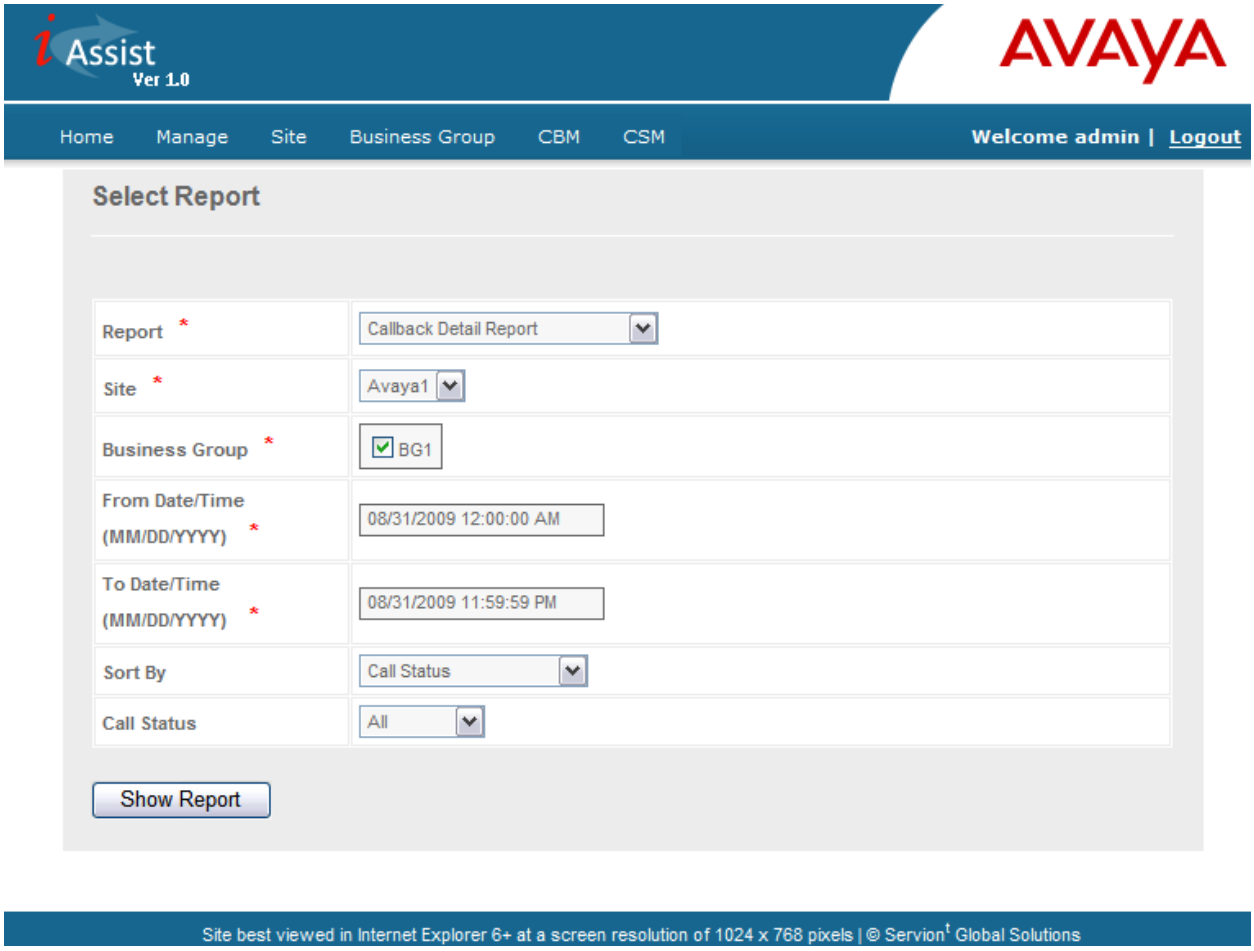



**Figure 2:** Port Distribution

3. Place enough calls to the VDN that handles incoming calls and queues them to the agent split so that the expected wait time exceeds the threshold configured in the vector shown in Section 2.5.

4. Place another call to the VDN and verify that the call is routed to Voice Portal and the CBM greeting is played to the caller. Request a call back using any of the available options.

5. Verify that the call back request was registered by generating a report. From iAssist Admin, navigate to **CBM→Reports** to display the **Select Report** page. Request a **Callback Detail Report** and specify the appropriate values for the other fields. Click **Show Report**.



6. The CallBack Detail Report is displayed with the pending call back requests registered.

**CALLBACK DETAIL REPORT**

**From:** 8/31/2009 12:00:00AM **To:** 8/31/2009 11:59:59PM **Site:** Avaya1

| # | Callback Number | Customer ID | Request Type | Status | Request Received Time | Callback Requested Time | Actual Contact Time | No. of Attempts |
|---|---|---|---|---|---|---|---|---|
| 1 | 7328521645 | 654321 | As soon as agent available | Completed | 8/31/2009 8:52:28AM | 8/31/2009 8:52:28AM | 8/31/2009 9:14:46AM | 1 |
| 2 | 6099774705 | 54321 | As soon as agent available | Failed | 8/31/2009 9:05:03AM | 8/31/2009 9:05:03AM | | 1 |
| 3 | 7328521645 | 123789 | As soon as agent available | Deleted | 8/31/2009 9:35:38AM | 8/31/2009 9:35:38AM | | 2 |
| 4 | 7328521645 | 444555 | As soon as agent available | Completed | 8/31/2009 9:39:42AM | 8/31/2009 9:39:42AM | 8/31/2009 10:42:13AM | 3 |
| 5 | 7328521645 | 222222 | As soon as agent available | Deleted | 8/31/2009 9:46:06AM | 8/31/2009 9:46:06AM | | 2 |
| 6 | 7328521645 | 333333 | As soon as agent available | Pending | 8/31/2009 9:48:33AM | 8/31/2009 9:48:33AM | | 2 |
| 7 | 7328521645 | 444444 | As soon as agent available | Completed | 8/31/2009 9:55:29AM | 8/31/2009 9:55:29AM | 8/31/2009 9:55:51AM | 1 |
| 8 | 7328521645 | 555555 | As soon as agent available | Completed | 8/31/2009 9:57:23AM | 8/31/2009 9:57:23AM | 8/31/2009 10:28:28AM | 2 |
| 9 | 7328521645 | 666666 | As soon as agent available | Completed | 8/31/2009 10:01:17AM | 8/31/2009 10:01:17AM | 8/31/2009 10:34:11AM | 2 |
| 10 | 7328521645 | 777777 | As soon as agent available | Completed | 8/31/2009 10:02:18AM | 8/31/2009 10:02:18AM | 8/31/2009 10:34:57AM | 2 |
| 11 | 7328521645 | 888888 | As soon as agent available | Pending | 8/31/2009 10:09:19AM | 8/31/2009 10:09:19AM | | 2 |
| 12 | 7328521645 | 999999 | As soon as agent available | Completed | 8/31/2009 10:11:53AM | 8/31/2009 10:11:53AM | 8/31/2009 10:43:14AM | 2 |
| 13 | 7328521645 | 111111 | As soon as agent available | Pending | 8/31/2009 10:15:28AM | 8/31/2009 10:15:28AM | | 1 |
| 14 | 7328521645 | 444444 | Same date later time | Completed | 8/31/2009 10:22:06AM | 8/31/2009 9:00:00AM | 8/31/2009 10:22:27AM | 1 |
| 15 | 7328521645 | 444444 | Same date later time | Pending | 8/31/2009 10:25:13AM | 8/31/2009 9:00:00AM | | 1 |

7. Make an agent available so that one of the pending call back requests is serviced. Verify that the agent and the caller are joined together and a two-way talk path is established.

8. Generate another report and verify that the call back request status has transitioned from Pending to Completed.

# 8. Conclusion

These Application Notes describe the configuration steps required to integrate the Servion iAssist Call Back Manager application 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] *Administering Avaya Aura™ Communication Manager*, Document 03-300509, Issue 5, May 2009, available at http://support.avaya.com.

[2] *Avaya Aura™ Communication Manager Feature Description and Implementation*, Document 555-245-205, Issue 7, May 2009, available at http://support.avaya.com.

[3] *Implementing Avaya Voice Portal on multiple servers*, March 2009, available at http://support.avaya.com.

[4] *Administering Avaya Voice Portal*, March 2009, available at http://support.avaya.com.

[5] *Avaya Dialog Designer Developer's Guide Release 4.1*, available at http://support.avaya.com.

[6] *Application Notes for Servion iAssist Call Survey Manager with Avaya Voice Portal*, Issue 1.0, available at http://www.avaya.com.

[7] *iAssist CBM Installation Manual.*

[8] *iAssist Adminstration Manual.*

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 Dev*Connec*t Program at devconnect@avaya.com.