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Avaya Solution & Interoperability Test Lab

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

Abstract

These Application Notes describe the configuration steps required to integrate the Servion iAssist Call Survey Manager with Avaya Voice Portal. iAssist Call Survey Manager is a performance and quality assurance application that allows customers (or subscribers) to provide feedback about their call center or product experience. iAssist Call Survey Manager is used to create, add, preview, modify, and remove surveys.

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.

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1. Introduction

These Application Notes describe the configuration steps required to integrate the Servion iAssist Call Survey Manager with Avaya Voice Portal. iAssist Call Survey Manager is a performance and quality assurance application that allows customers (or subscribers) to provide feedback about their call center or product experience. iAssist Call Survey Manager is used to create, add, preview, modify, and remove surveys.

iAssist Call Survey Manager (CSM) allows callers to participate in an automated survey on Avaya Voice Portal. Surveys can be created and assigned dynamically and survey reports can be captured and analyzed. This helps the organization improve quality, customer and employee satisfaction.

CSM provides flexibility in questionnaire design, storage of caller responses in a database, and generation of reports for easy analysis of the survey. CSM allows the creation and design of questionnaires with as many questions as desired. The sequencing of the questions may be dynamic based on the caller's previous answer selection. Typical surveys cover caller experience on their interaction with agents and product feedback. Reports can be captured and analyzed.

Another Servion related solution is described in [6], *Application Notes for Servion iAssist Call Back 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 and running iAssist CSM.
- The ability of the caller to complete the survey successfully.
- Verifying the correct response to invalid entries by the caller.
- Generating a survey report with the caller's responses.

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 Survey 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 CSM application. The Servion iAssist Admin server contained the Microsoft SQL database and was also used to configure the iAssist CSM application.
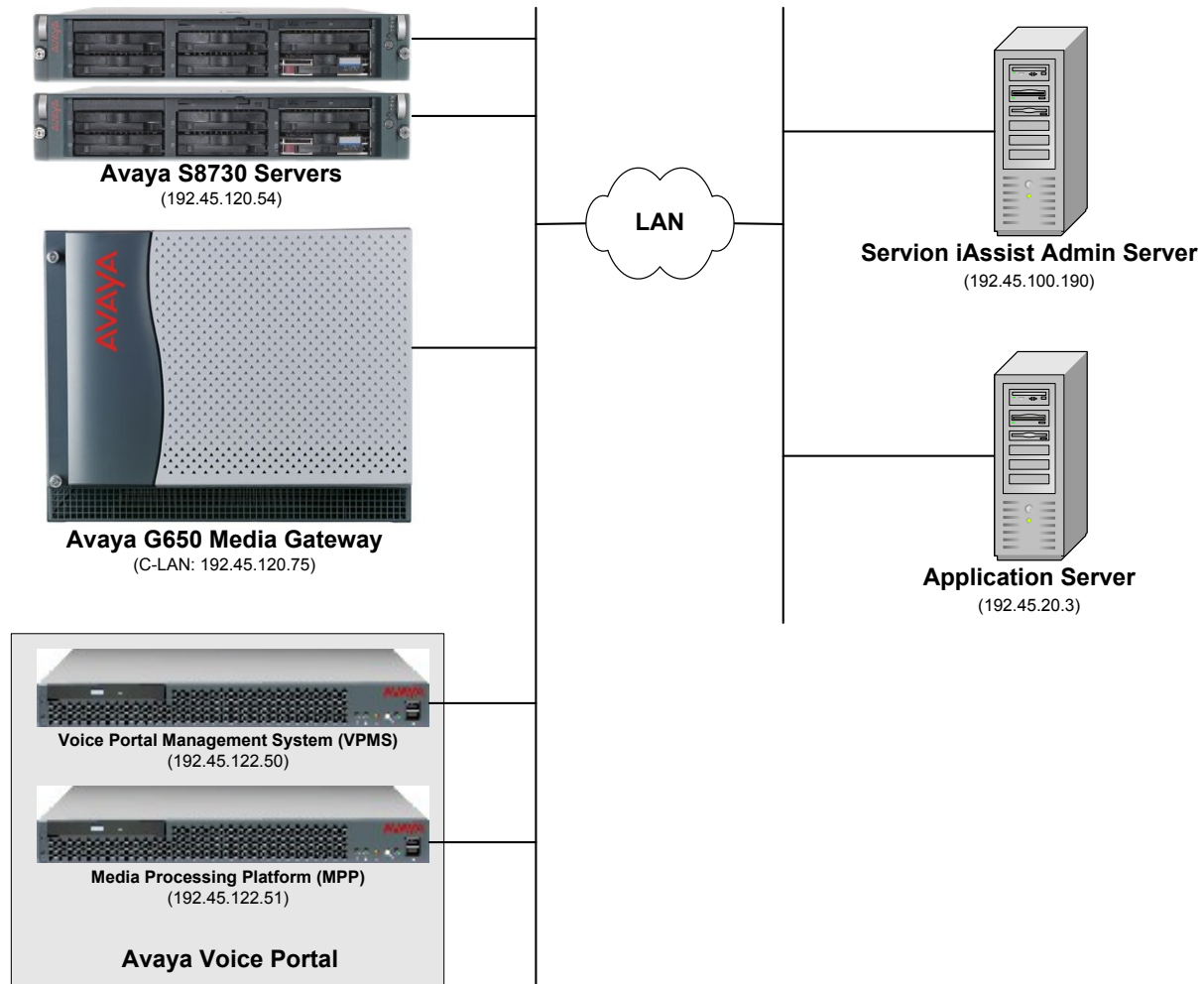
Figure 1: Configuration with Avaya Voice Portal and Servion iAssist

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^{TM} Communication Manager 5.2 (R015x.02.0.947.3) with Service Pack 1 (Patch 17294)
Servion iAssist Call Survey Manager ▪ Microsoft Windows 2003 Server with IIS ▪ Microsoft .NET Framework 3.5 with Service Pack 1 ▪ Microsoft SQL Server 2005	1.0
Application Server running on Microsoft Windows XP Professional ▪ Apache Tomcat ▪ Java Development Kit ▪ Avaya Dialog Designer WebLM License Server	5.5.27 JDK 1.5.0_16 4.1

2. Configure Avaya Aura^{TM} Communication Manager

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

- Administer H.323 Stations for Avaya Voice Portal
- Administer Hunt Groups for Avaya Voice Portal Ports
- Administer Agent IDs for Avaya Voice Portal Ports
- Administer Call Vectoring to Route Calls to Voice Portal

2.1.   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'. Repeat this step for each Avaya Voice Portal port.   The **duplicate station** command may be used as an alternative to add more stations.

```
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
```

2.2. Administer Hunt Groups

This section provides the Hunt Group configuration for the Avaya Voice Portal ports.

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 2.3.

```
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
```

2.3. Administer Agent IDs

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

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:
```

2.4. Administer Call Vectoring

This section describes the procedures for configuring call vectoring so that incoming calls will be routed to Avaya Voice Portal, which in turn will run the iAssist CSM application.

Configure the **Vector Directory Number** (VDN) that will handle incoming customer calls. This VDN invokes a vector that will route the call to the iAssist CSM application on Avaya Voice Portal. In this example, VDN 70001 and vector 71 were used.

```
add vdn 70001                                              Page   1 of   3
                            VECTOR DIRECTORY NUMBER

                         Extension: 70001
                             Name*: iAssist CSM
                       Destination: Vector Number          71
                 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 71 configured below routes the call to Voice Portal (i.e., hunt group 251).

```
change vector 71                                           Page   1 of   6
                              CALL VECTOR

    Number: 70                     Name: iAssist CSM
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 251  pri m
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 CSM Application
- 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.

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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 the iAssist CSM Application

In the **Applications** page, add a Voice Portal application that runs the iAssist CSM application. Configure the application as shown below.

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3.3. 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*.

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4. Configure Application Server

This section describes the configuration required on the application server for iAssist Call Survey 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 CSM Application in Apache Tomcat

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.

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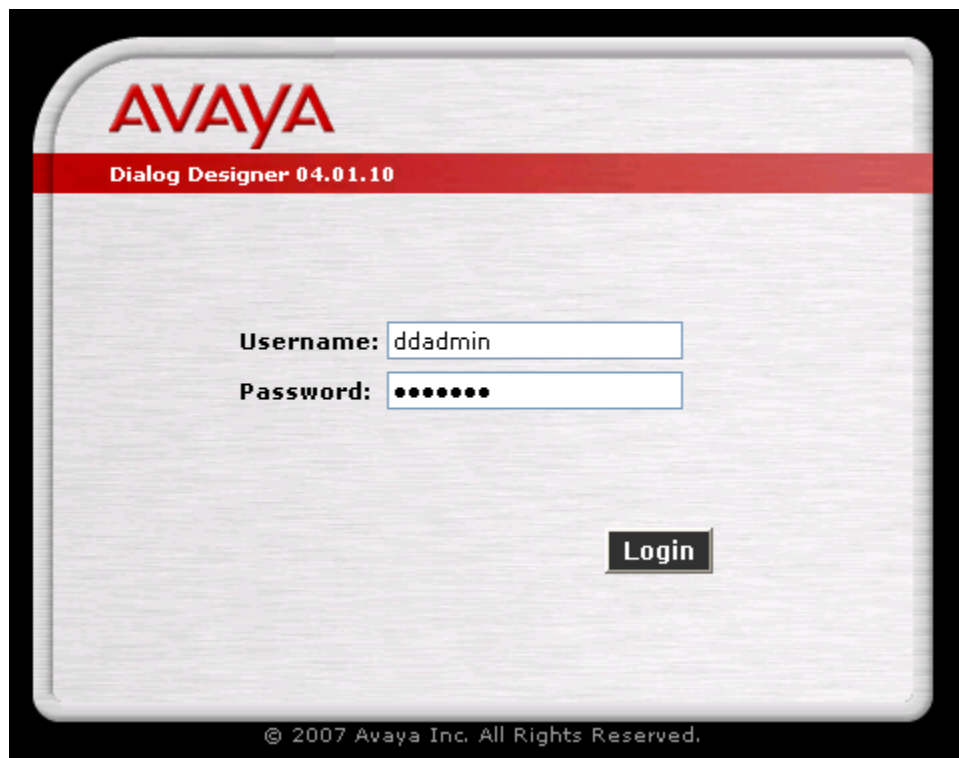
In the **Licensing Server** page, enter the URL of the WebLM license server, which is running on the application server itself. In this example, the **License URL** field is set to http://192.45.20.3:8080. Click **Update**.

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4.2. Deploy iAssist Call Survey Manager Application

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

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

   - **Inbound_CSM.war** – This war file contains the inbound module of CSM application. This module collects the caller's responses for the survey and logs the details to the database.
   - **Phrases_CSM.zip** – This file contains the phrases used by the inbound CSM application.

2. After deploying the application files in Apache Tomcat, create a new folder called C:\CSMConfig and copy the **inboundcsmconfig.properties** file to this folder. The content of the properties file is shown below.

```
#iAssist - CSM - Inbound IVR Flow Parameters

#Below parameters are used for License Web Service Web Service Calls
ApplicationID=2
SurveyType=I

Language=en-us

AgentIDMinLength=5
AgentIDMaxLength=5
AgentIDNoMatchTries=2
AgentIDNoInputTries=2

CustomerIDMinLength=3
CustomerIDMaxLength=3
CustomerIDNoMatchTries=3
CustomerIDNoInputTries=3

SecondaryCustomerIDMinLength=4
SecondaryCustomerIDMaxLength=4
SecondaryCustomerIDNoMatchTries=3
SecondaryCustomerIDNoInputTries=3

NoMatchTries=3
NoInputTries=3

SurveyQuestionNoMatchTries=2
SurveyQuestionNoInputTries=2
```

3. Start Apache Tomcat.

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

▪ Set the following parameters as shown below.

```xml
<?xml version="1.0" encoding="UTF-8" standalone="no" ?>
  <!DOCTYPE web-app (View Source for full doctype...)>
- <web-app id="WebApp_ID">
- <context-param>
  <param-name>RecordedPhrasePath</param-name>
  <param-value>C:\\CSMAudio\\</param-value>
  <description>Path of the confirmation recorded phrases</description>
    </context-param>
- <context-param>
  <param-name>DefaultRecordedPath</param-name>
  <param-value>C:\\Program Files\\Apache Software Foundation\\Tomcat
    5.5\\webapps\\Inbound_CSM\\data\\temp\\</param-value>
  <description>Path where the recorded files would reside by
    default</description>
    </context-param>
- <context-param>
  <param-name>ConfigurationFilePath</param-name>
  <param-value>C:\\CSMConfig\\inboundcsmconfig.properties</param-value>
  <description>Path of the Inbound CSM Configuration Parameters</description>
    </context-param>
- <context-param>
  <param-name>DynamicAudioFilePath</param-name>
  <param-
    value>http://192.45.20.3:8080/Inbound_CSM_Phrases/english/custom</param-
    value>
  <description>Path of the Inbound CSM Dynamic Audio Files</description>
    </context-param>
- <context-param>
  <param-name>ReleaseLicenseFile</param-name>
  <param-value>C:\\CSM\\CSM_ReleaseLicense_Inbound.txt</param-value>
  <description>Path of the File , that has the license count to be released(DUE
    to License Web Service failure)</description>
    </context-param>
- <context-param>
  <param-name>FailOverDataFile</param-name>
  <param-value>C:\\CSM\\CSM_Inbound.txt</param-value>
  <description>Path of the Inbound CSM Caller Responses are stored(DUE to CSM
    Web Service failure)</description>
    </context-param>
```

▪ Search for "Inbound_CSM_Phrases" 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. For example, the entries should appear as follows:

```xml
- <context-param>
  <param-name>english.phraseset.InboundCSM_Phraseset.urlbase</param-name>
  <param-
    value>http://192.45.20.3:8080/Inbound_CSM_Phrases/english/custom/</param-
    value>
    </context-param>
```

- Update the IP address in the URL for the **iAssist License Web Service**. In this configuration, the IP address should be 192.45.100.190, the IP address of the iAssist Admin server. For example, the entry should appear as follows:

```
- <context-param>
  <param-name>LicenseServer_1248870928532_WS_ENDPOINT</param-name>
  <param-
    value>http://192.45.100.190/iAssistLicenseServer/LicenseServer.svc</param-
    value>
  <description>Web Service end point for LicenseServer</description>
    </context-param>
```

- Update the IP address in the URL for the **iAssist CSM Web Service**. In this configuration, the IP address should be 192.45.100.190, the IP address of the iAssist Admin server. For example, the entries should appear as follows:

```
- <context-param>
  <param-name>Service_1249468708288_WS_ENDPOINT</param-name>
  <param-value>http://192.45.100.190/CSMService/Service.svc</param-value>
  <description>Web Service end point for Service</description>
    </context-param>
```

5. Restart Apache Tomcat.

5. Configure Servion iAssist Call Survey Manager

This section provides the steps for configuring the iAssist CSM 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.

To configure iAssist Call Survey 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 CSM 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 "BG2", set the **Incoming Number** to the VDN which routes calls to Voice Portal (e.g., 70001), choose the **Site** configured above and select the appropriate **Language**. Click **Create Business Group** to save the changes.

The next step is to start creating a new survey for the iAssist CSM application by navigating to **CSM→Survey** as shown below.

In the **Create New Survey** screen, provide a descriptive **Survey Name** and select the appropriate **Survey Type** and **Business Group Name**. Lastly, specify the timeframe in which this survey should be active. Click **Create Survey** to save the changes.

From iAssist Admin, navigate to **CSM→Survey Question** as shown below. The following screen will allow the user to create the survey questions.

In the **Create Survey Questions** screen, configure each individual survey question. In the **Question** field, enter a descriptive question name or the question in text format. The **Question File Name** provides a voice file that plays the question to the caller. The **Question Type** field specifies the response type expected for the question, such as Yes/No, number within a particular range, etc. Click **Create Survey Question** to save the changes. Repeat this step for each survey question.

The following screen lists 10 questions created for the survey in the left pane.

Next, navigate to **CSM→Map Questions** to select the questions that comprise the survey and to specify the order in which the questions are answered.

In the **Map survey questions** screen, select the questions to include in the survey identified in the **Select Survey** field and specify the flow or sequence of the questions. In addition, the next question can be selected dynamically based on the response to the current question. Click **Map Questions** to save the changes.

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6. General Test Approach and Test Results

This section describes the interoperability compliance testing used to verify the iAssist CSM 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 CSM application to allow the caller to provide agent or product feedback. After the survey was completed, a survey report was generated to review the survey responses. In addition, it was verified that the CSM application handled error conditions, such as entering an invalid response, properly.

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 CSM application.

7. Verification Steps

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

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

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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 a call to the VDN and verify that the call is routed to Voice Portal and the CSM greeting is played to the caller. Enter the customer ID and respond to the questions.

4. Verify that the survey responses were saved to the database. From iAssist Admin, navigate to **CSM→Reports** to display the **Select Report** page. Request a **Survey Response Report** and specify the appropriate values for the other fields. Click **Show Report**.

5. The Survey Response Report is displayed with the caller's survey responses.

Survey Response Report

From Date : 8/31/2009 12:00:00AM   Business Group : BG2   ANI   :
To Date   : 8/31/2009 11:59:59 PM   SurveyName   : AvayaTest   Sec.Customer ID:
Site   : Avaya1   Customer ID   : 321

Survey Responses

ANI :   24511

    Question :   question1

    Answer   :   yes

    Question :   question2

    Answer   :   yes

    Question :   question3

    Answer   :   no

8. Conclusion

These Application Notes describe the configuration steps required to integrate the Servion iAssist Call Survey 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^{TM} Communication Manager*, Document 03-300509, Issue 5, May 2009, available at http://support.avaya.com.
[2] *Avaya Aura^{TM} 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 Back Manager with Avaya Voice Portal*, Issue 1.0, available at http://www.avaya.com.
[7] *iAssist CSM Installation Manual.*