



## **Avaya Solution & Interoperability Test Lab**

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# **Application Notes for VPI EMPOWER Suite Performance Reporting with Avaya Call Management System R17 – Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for VPI EMPOWER Suite Performance Reporting to interoperate with Avaya Call Management System. VPI EMPOWER Suite Performance Reporting is a contact center performance reporting solution. It receives real-time and historical agent and skill statistics from Avaya Call Management System, stores the data in a local database, performs calculations, and presents processed data in various reports and displays.

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

# 1. Introduction

These Application Notes describe the configuration steps required for VPI EMPOWER Suite Performance Reporting to interoperate with Avaya Call Management System. VPI EMPOWER Suite Performance Reporting is a part of the VPI EMPOWER Suite software. It receives real-time and historical agent and skill statistics from Avaya Call Management System, stores the data in a local database, performs calculations, and present processed data in various reports and displays.

VPI EMPOWER Suite Performance Reporting is integrated with Avaya Call Management System via rt-socket and ODBC interfaces. In the compliance test, a number of skills on Avaya Aura® Communication Manager are configured to be “measured”. Real-time and historical statistics on the “measured” skills and the agents that log into those skills is sent by Avaya Aura® Communication Manager to Avaya Call Management System on a regular basis.

VPI EMPOWER Suite Performance Reporting collects the real-time statistics in Avaya Call Management System using an rt-socket adapter developed by Avaya Professional Services. The rt-socket adapter is installed on Avaya Call Management System. A TCP client-server model is used for establishing an rt-socket connection, with Avaya Call Management System being the “client”, and the VPI EMPOWER Suite Performance Reporting server being the “server”. The VPI EMPOWER Suite Performance Reporting server runs a TCP “listener” process to receive the data. Two real-time reports are presented in the data stream, one for agent and another for skill.

VPI EMPOWER Suite Performance Reporting also collects historical data from the Informix database inside Avaya Call Management System using an ODBC interface. The data is retrieved every each 30-minutes interval. Daily, weekly, and monthly statistics is aggregated by VPI EMPOWER Suite based upon the interval data. The historical data accessed by VPI EMPOWER Suite Performance Reporting relates to agent, skill, and dictionary information.

## 2. General Test Approach and Test Results

The interoperability compliance test included feature and serviceability testing.

The feature test cases were performed manually. Within a measured interval, incoming and outgoing calls were made to the measured skills to enable skill and agent data to be sent to CMS. Manual call controls and agent work mode changes were exercised to populate specific fields in the data stream. In the compliance test, the measured interval is fixed at 30 minutes per requirement of VPI EMPOWER Suite Performance Reporting.

After a call or agent work mode change was made and corresponding real-time records were stored in the VPI EMPOWER Suite Performance Reporting database, the data was reviewed against the matching CMS custom reports to verify proper parsing and storage of the real-time data.

At the end of a measured interval, VPI EMPOWER Suite Performance Reporting scheduled an ODBC access to retrieve the data related to agents and skills for that interval. The data, stored in the VPI EMPOWER Suite Performance Reporting database, was reviewed to verify proper parsing and storage of the historical data against the data in the CMS database.

The serviceability test cases were performed manually by forcing solution components to go out of service and come back and verifying VPI server's ability to recover.

DevConnect Compliance Testing is conducted jointly by Avaya and DevConnect members. The jointly-defined test plan focuses on exercising APIs and/or standards-based interfaces pertinent to the interoperability of the tested products and their functionalities. DevConnect Compliance Testing is not intended to substitute full product performance or feature testing performed by DevConnect members, nor is it to be construed as an endorsement by Avaya of the suitability or completeness of a DevConnect member's solution.

### 2.1. Interoperability Compliance Testing

The feature testing focused on verifying VPI EMPOWER Suite Performance Reporting correctly parsing and storing skill and agent data from CMS. A number of call center scenarios including agent login, agent mode change, agent logout, incoming call to VDN, abandon call, call waiting in queue, call waiting at agent, hold/resume, transfer, conference, direct agent call, extension call from agent, incoming call to agent extension, outbound call to PSTN, and redirect on no answer were exercised and a number of vector commands such as queue-to, busy, disconnect, route-to, and stop were executed to generate data for specific fields in the database tables and real-time reports.

The serviceability testing focused on verifying the ability of the VPI server to recover from adverse conditions, such as stopping the rt-socket adapter on CMS, disconnecting the VPI server from the network, and rebooting the VPI server.

## 2.2. Test Results

All test cases were executed successfully. Two observations were made as follows:

- After all the agents were logged out, the real-time database table for agents still showed the record of the agent that logged out the last. Other agents' records were removed correctly.
- The utcoffset field in the split historical table always showed 0 values.

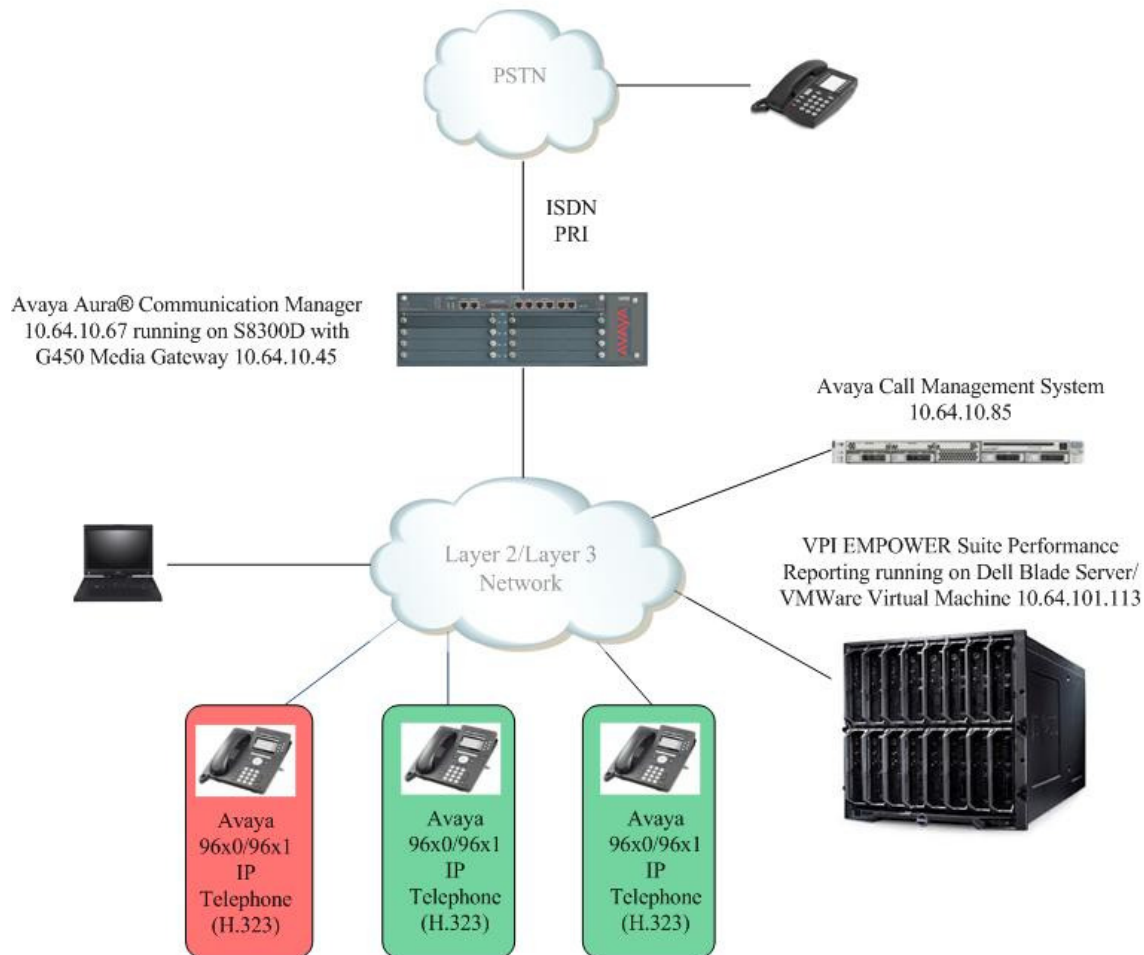
## 2.3. Support

Technical support on VPI EMPOWER Suite Performance Reporting can be obtained through the following:

- **Phone:** (805) 389-5201
- **Email:** support@vpi-corp.com
- **Web:** <http://www.vpi-corp.com/support.asp>

### 3. Reference Configuration

The compliance test was done with all the test equipment in an Avaya Lab. The Avaya side equipment included Communication Manager, CMS, and several IP phones. The VPI application and associated SQL Express database resided on a VMWare virtual machine running on a blade server. The VPortal interface of VPI EMPOWER Suite Performance Reporting was accessible through a web browser. All calls to and from the public network were routed through an ISDN PRI trunk.



**Figure 1: VPI EMPOWER Suite Performance Reporting with Avaya Call Management System**

## 4. Equipment and Software Validated

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

Equipment/Software	Version
Avaya S8300D Server running Avaya Aura® Communication Manager	Release 6.3 SP1 (patch 03.0.124.0-20850)
Avaya G450 Media Gateway MGP MM710 T1 Module	HW 1 FW 33.13.0 HW 04 FW 015
Avaya Call Management System	R17
Avaya 96x1 H.323 Telephones	Avaya one-X® Deskphone Release 6.2.3
Avaya 96x0 H.323 Telephones	Avaya one-X® Deskphone Release 3.2.0
VPI EMPOWER Suite Performance Reporting running under Windows Server 2008 R2 SP1 on a VMWare virtual machine <ul style="list-style-type: none"><li>• With Microsoft SQL Express Server 2012</li></ul>	5.4 SP3

## 5. Configure Avaya Aura® Communication Manager

The detailed administration of contact center resources and connectivity between Communication Manager and CMS is not the focus of these Application Notes and will not be described. For administration of contact center resources and connectivity to CMS, refer to the appropriate documentation listed in **Section 10**.

This section provides the procedures for how to enable skill and agent measurement data to be sent to CMS. The procedures include the following areas:

- Administer measured Skills and Agents

For the compliance testing, the following contact center resources were used.

VDN	Skill	Agents
25900	1	2501
25905	2	2502
25909	No skill involved	No agents involved

### 5.1. Administer Measured Skills and Agents

Use the “change hunt-group n” command, where “n” is the number of the Skill group to be measured by CMS. Navigate to **Page 2**, and set the **Measured** field to “external” or “both” to enable measurement data on the Skill group and the associated Agents to be sent to CMS. Repeat this step for all the Skill groups that will be measured by CMS.

change hunt-group 1	HUNT GROUP	Page 2 of 4
Skill? y	Expected Call Handling Time (sec): 20	
AAS? n	Service Level Target (% in sec): 80 in 20	
<b>Measured: both</b>		
Supervisor Extension:		
Controlling Adjunct: none		
VuStats Objective:		
Multiple Call Handling: none		
Timed ACW Interval (sec): 10	After Xfer or Held Call Drops? n	

For the compliance testing, two Skill groups with group numbers 1 and 2 were configured to be measured. In addition, two agents with extensions 25001 and 25002 and agent id 2501 and 2502 were used as available agents for the above Skill groups.

```
list agent-loginID 2501 count 2
```

AGENT LOGINID									
Login ID	Name	Extension		Dir	Agt	AAS/AUD		COR Ag	Pr SO
		Skil/Lv	Skil/Lv	Skil/Lv	Skil/Lv	Skil/Lv	Skil/Lv	Skil/Lv	Skil/Lv
2501	IP Agent 1	25001						1	lvl
	1/01	2/01	/	/		/	/	/	/
2502	IP Agent 2	25002			1			1	lvl
	1/01	2/01	3/01	/		/	/	/	/



## 6. Configure Avaya Call Management System

The connectivity between CMS and Communication Manager is assumed to be in place and will not be described. In addition, these Application Notes assume the intra-hour interval has been administered to 30 minutes.

This section provides the procedures for the following:

- Configure Rt-socket Adapter
- Enable Rt-socket Sessions
- Check Intra-hour Interval

### 6.1. Configure Rt-socket Adapter

Two rt-socket sessions need to be configured for the rt-socket adapter, one for the agent report and another for the skill report. The rt-socket adapter is configured through a configuration file named **rt.conf** located in the directory where the adapter software is installed. In the compliance test configuration, the path to the directory was **/export/home/pserv/rt\_socket**. In the **rt.conf** file, select a Session number and configure the following items:

- **HOST:** hostname of the VPI server which is defined in /etc/hosts
- **PORT:** port for the TCP/IP connection
- **ACD:** ACD that sources the real-time data
- **Report:** report to be sent in the data stream
- **REFRESH:** real-time report refresh rate
- **DEST\_APP:** destination application for rt\_socket. Not used in this test.

The following screenshot shows how the adapter was configured in the test configuration. Note that **Session 10** was used for the agent report and **Session 11** was used for the skill report. Also note that all the parameters had the Session number appended to their names.

```
#----- Session 10 -----
HOST10=vpi
PORT10=7000
ACD10=3
OPTS10="-E ==EOD== -S ==START=="
REPORT10=syntora_agent
MONITOR_LIST10="1-2000"
REFRESH10=5
DEST_APP10="VPI"      # destination app for rt_socket or Generic-RTA
#----- Session 11 -----
HOST11=vpi
PORT11=7001
ACD11=3
OPTS11="-E ==EOD== -S ==START=="
REPORT11=syntora_split
MONITOR_LIST11="1-2000"
REFRESH11=5
DEST_APP11="VPI"      # destination app for rt_socket or Generic-RTA
```

## 6.2. Enable Rt-socket Sessions

Log in CMS using an SSH client and with proper credentials. Change directory to /export/home/pserv/rt\_socket. Run the “./menurta” command to access the **RT\_Socket Menu**. From the menu, choose **2** to stop the sessions related to VPI interfaces. When prompted, enter the session numbers configured in **Section 6.1**.

```
----- RT_Socket Menu -----
1) Start RT_Socket Interface
2) Stop RT_Socket Interface
3) Check Status
4) Display License Info
5) View Maintenance Log
6) Show Version
7) Change Input Parameters
8) Display Configuration
0) Exit
=====
Choice ==> 2

Which rt_socket session do you want to stop? [1-32] [all] 10 11
stopping rt_socket session: 10 11
Stopping rt_socket session 10, please wait...
Stopping rt_socket session 11, please wait...

Press Enter to return to menu:
```

Once the sessions are stopped, press **Enter** to return to the **RT\_Socket menu** screen. Choose **1** from the menu to start the sessions. When prompted, enter the session numbers.

```
----- RT_Socket Menu -----
1) Start RT_Socket Interface
2) Stop RT_Socket Interface
3) Check Status
4) Display License Info
5) View Maintenance Log
6) Show Version
7) Change Input Parameters
8) Display Configuration
0) Exit
=====
Choice ==> 1

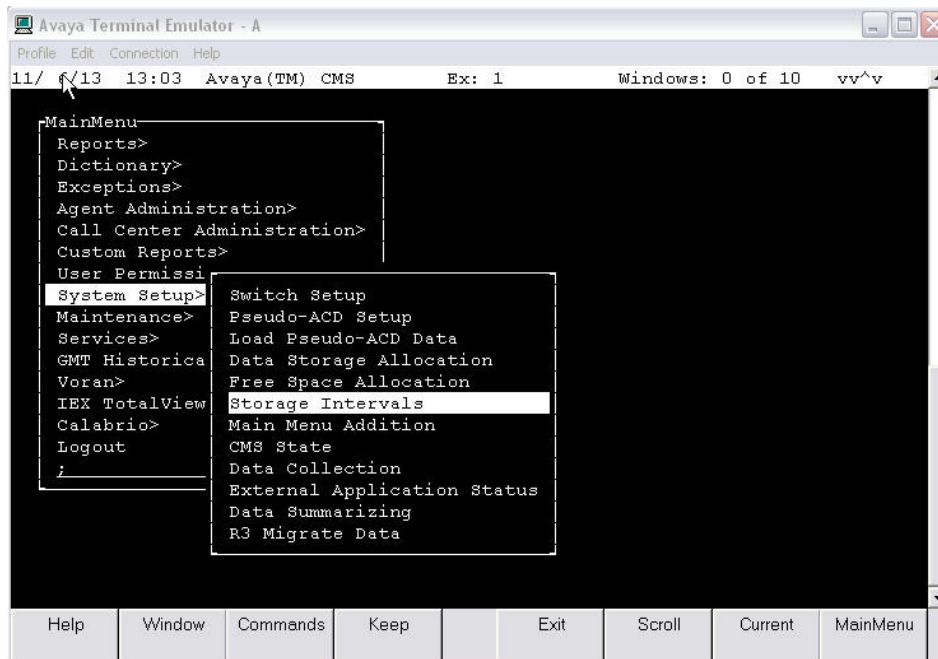
Which RT_Socket session do you want to start? [1-32] [all] 10 11
Starting session 10, please wait...
Starting session 11, please wait...

Press Enter to return to menu:
```

Once the sessions are started, press **Enter** to return to the **RT\_Socket menu** screen and then **0** to exit.

### 6.3. Check Intra-Hour Interval

Use Avaya Terminal Emulator to connect to CMS, and log in with proper credentials. Enter “cms” at the command prompt to display the **MainMenu** screen. Navigate to **System Setup** → **Storage Intervals** and press **Enter**.



The **System Setup: Storage Intervals** screen is displayed. Make certain that the **intra-hour interval** is set to “30 minutes”, as required by VPI EMPOWER Suite Performance Reporting.



## 7. Configure VPI EMPOWER Suite Performance Reporting

This section provides the procedures for configuring VPI EMPOWER Suite Performance Reporting. The procedures include the following areas:

- Administer Host Name for Avaya Call Management System
- Administer Real-Time Interface Information
- Administer ODBC interface parameters
- Administer agents

Note that configuration of VPI EMPOWER Suite Performance Reporting is typically performed by the VPI deployment engineers. The procedural steps presented in these Application Notes are for informational purposes.

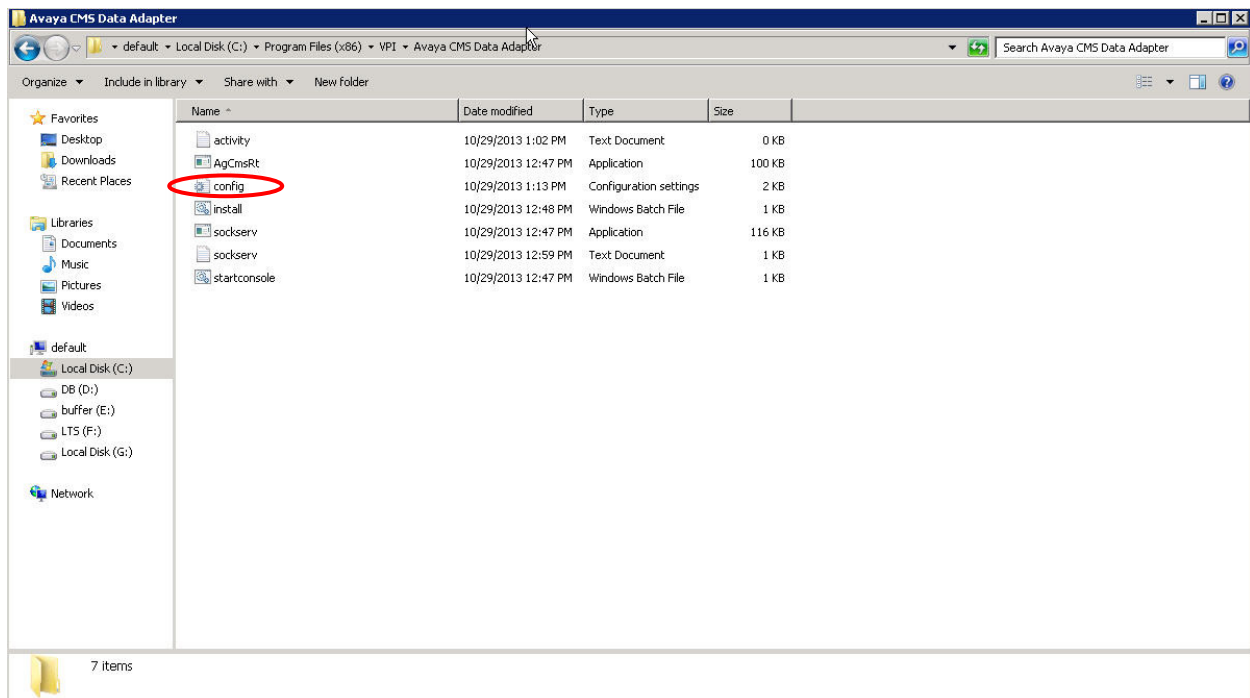
### 7.1. Administer Host Name for Avaya Call Management System

From the VPI EMPOWER Suite Performance Reporting server, open the **hosts** file in **C:\Windows\System32\drivers\etc** folder with the Microsoft Windows Notepad application. Add the following line to the bottom of the file where **10.64.10.85** is the IP address of CMS.

10.64.10.85 CMS
-----------------

### 7.2. Administer Real-Time Interface Information

From the VPI EMPOWER Suite Performance Reporting server, navigate to the **C:\Program Files (x86)\VPI\Avaya CMS Data Adapter** folder. Open the **config.ini** file with the Notepad application.



In the [AgentSplitFeed] section, set the **ClientAddress** parameter to the CMS hostname configured in **Section 7.1** and the **port** parameter to the port assigned to the agent report in **Section 6.1**.

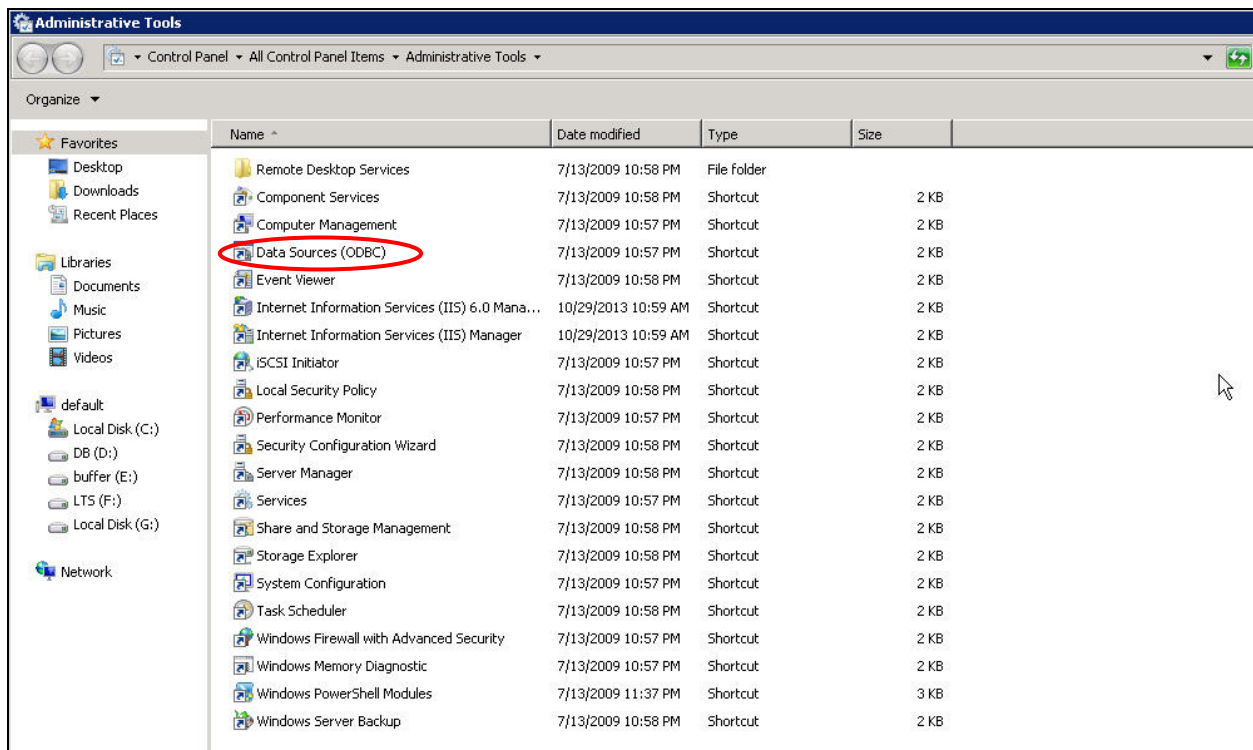
```
[AgentSplitFeed]
ClientAddress=cms
port=7000
```

In the [SplitFeed] section, set the **ClientAddress** parameter to the CMS hostname configured in **Section 7.1** and the **port** parameter to the port assigned to the skill report in **Section 6.1**.

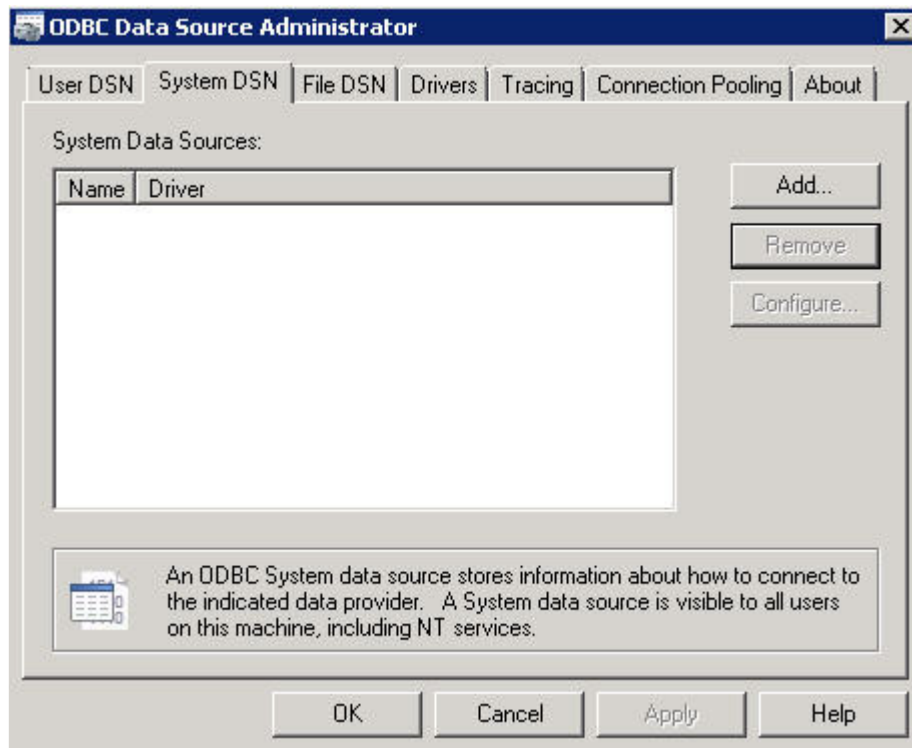
```
[SplitFeed]
ClientAddress=cms
port=7001
```

### 7.3. Administer ODBC interface parameters

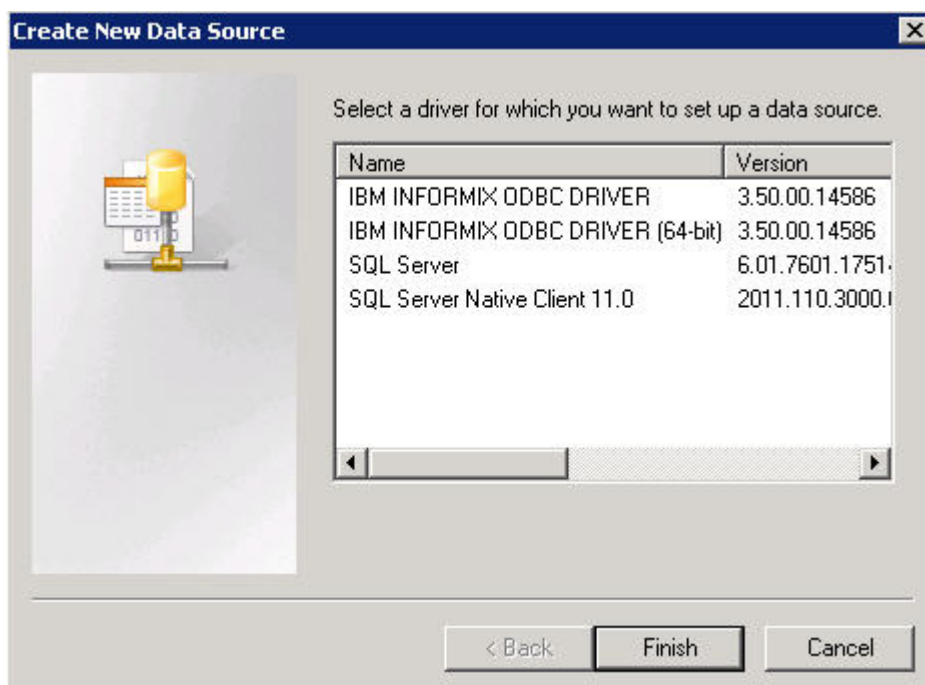
From the VPI EMPOWER Suite Performance Reporting server, navigate to the **Start → Control Panel → Administrative Tools** folder. Double click the **Data Source (ODBC)** item.



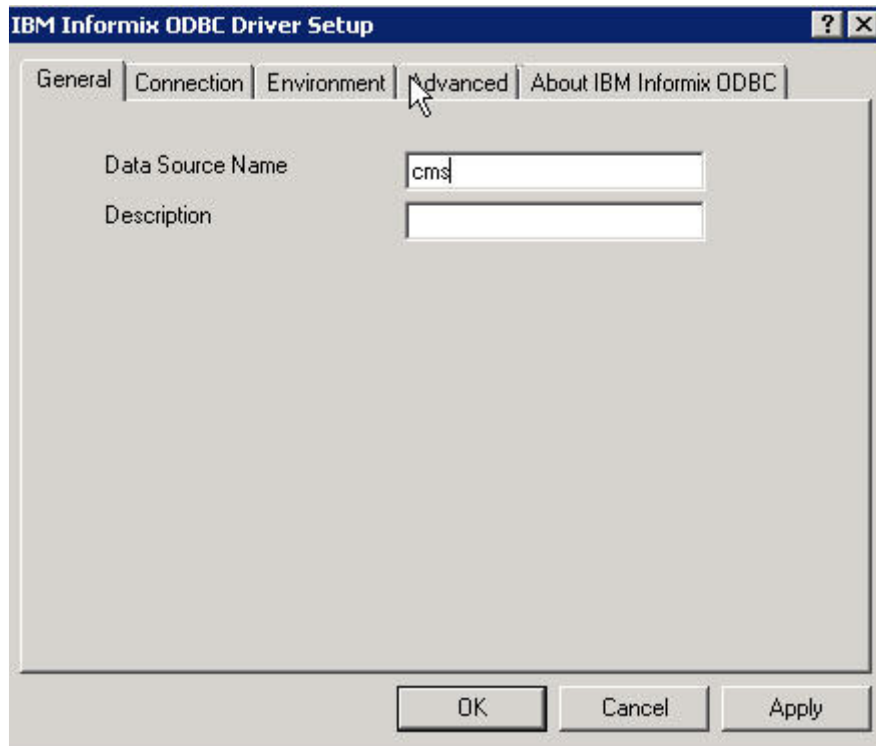
The **ODBC Data Source Administrator** window is displayed. Select the **System DSN** tab and click **Add....**



The **Create New Data Source** window is displayed. Select the **IBM INFORMIX ODBS DRIVER (64-bit)** driver and click **Finish**.



The **IBM Informix ODBS Driver Setup** window is displayed. Enter a name such as **cms** in the **Data Source Name** field.



Select the **Connection** tab and enter the following values:

- **Server Name:** “cms\_ol”
- **Host Name:** the IP address of CMS
- **Service:** “50001”
- **Protocol:** “onsoctcp” from the dropdown menu
- **Database Name:** “cms”
- **User Id:** a CMS user with normal user privilege
- **Password:** password of the above user

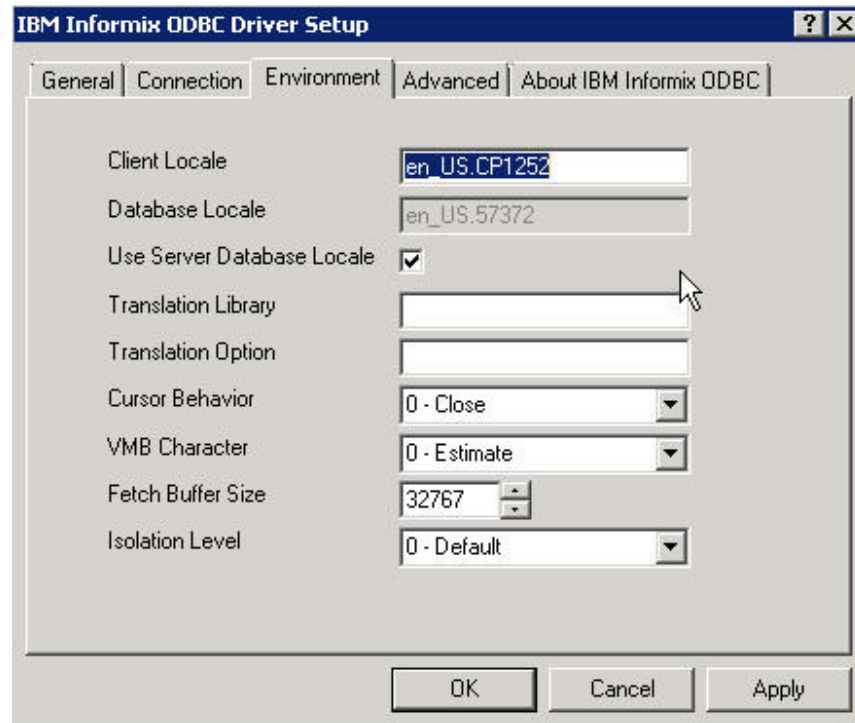
The screenshot shows the 'IBM Informix ODBC Driver Setup' dialog box with the 'Connection' tab selected. The fields are filled as follows:

Field	Value
Server Name	cms_ol
Host Name	10.64.10.85
Service	50001
Protocol	onsoctcp
Options	
Database Name	cms
User Id	
Password	

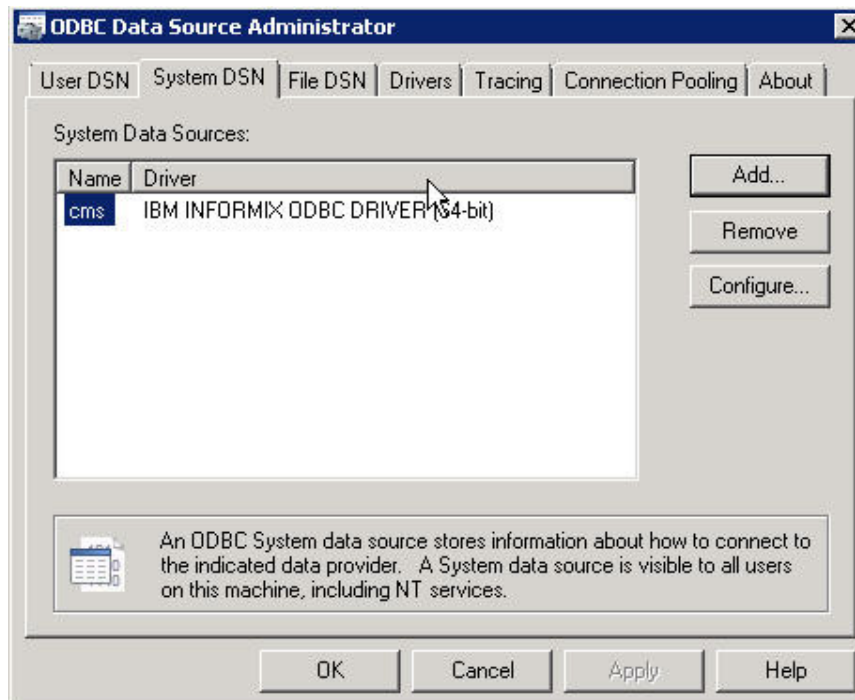
Buttons visible: 'Apply & Test Connection', 'OK', 'Cancel', 'Apply'.



Select the **Environment** tab and make sure that the **Use Server Database Locale** checkbox is checked. Click **Apply** followed by **OK**.



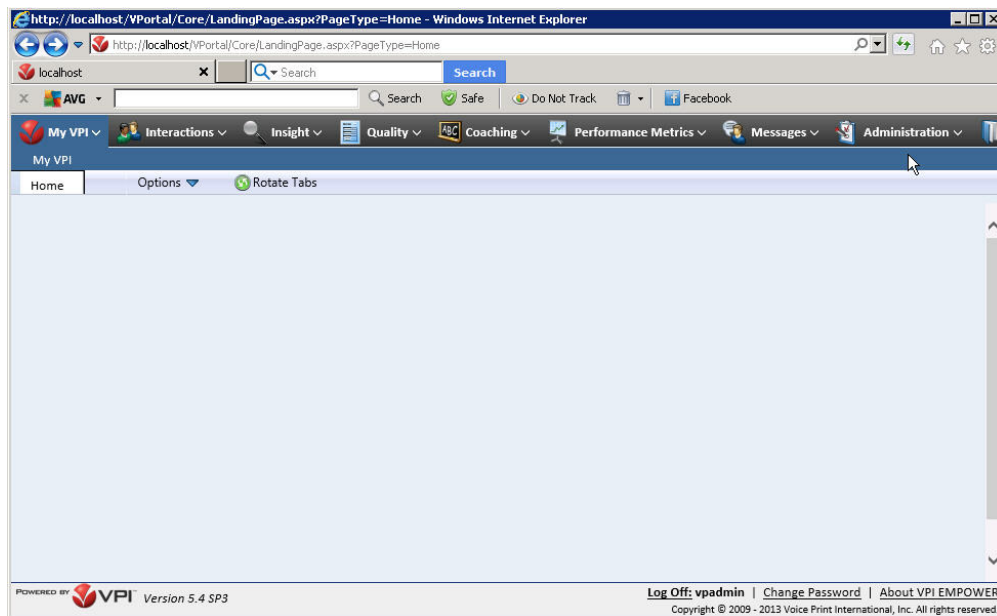
The **ODBC Data Source Administrator** window is displayed again, with the newly added data source shown under **System Data Sources**. Click **OK**.



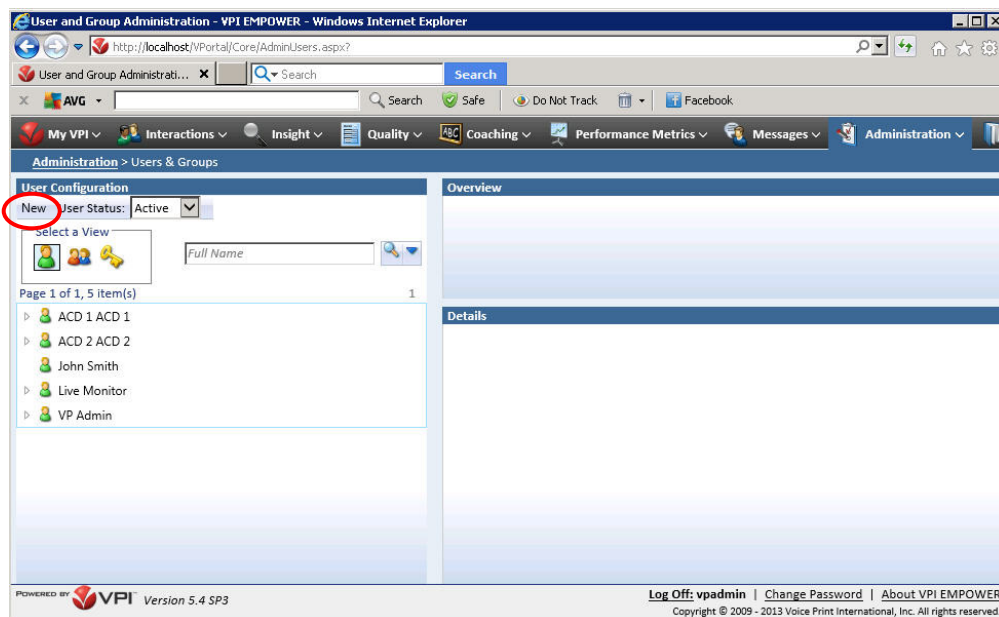
## 7.4. Administer Agents

VPI EMPOWERMENT Suite only stores agent data in the database if the agent is configured in the system (There is no similar requirement for skills). Agent information is configured via the VPortal application as follows.

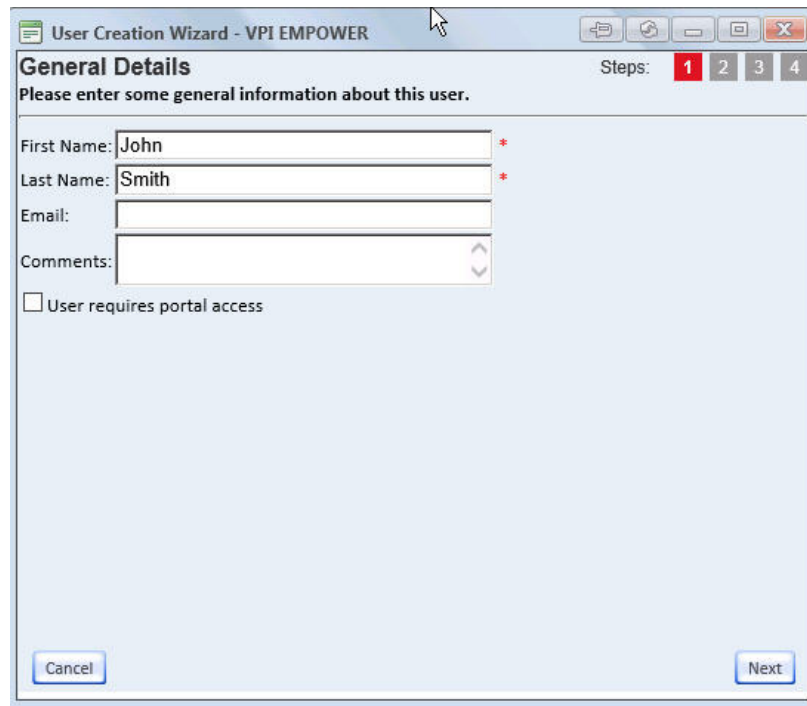
Enter <http://<ip-addr>/VPortal> in the URL field of a web browser where **<ip-addr>** is the IP address of the VPI server. Enter proper credentials to log in. The following screen is displayed.



Click **Administration → Users & Groups**. The following screen is displayed. Click **New** to add an agent.

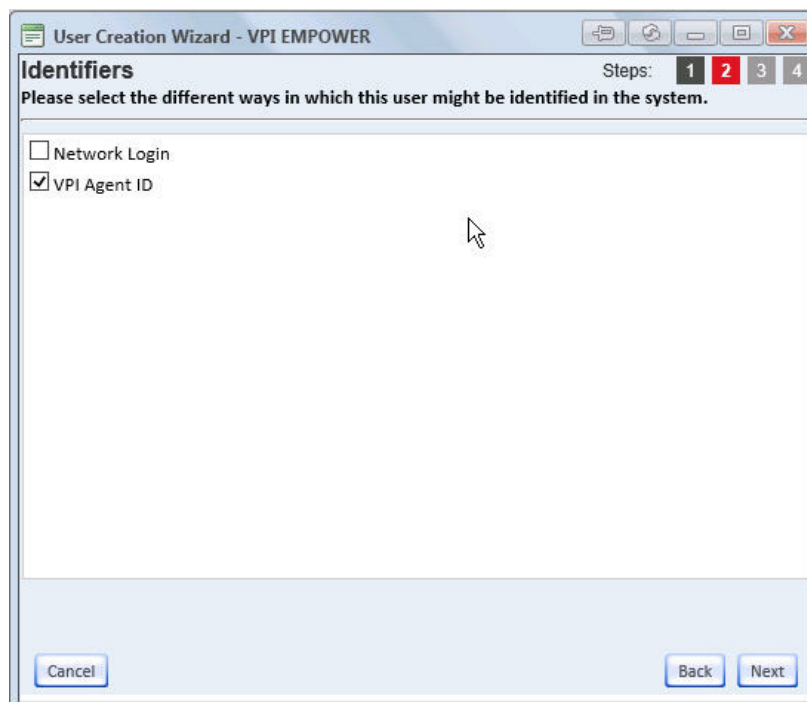


The User Creation Wizard – VPI EMPOWER window is displayed. Enter the First Name and Last Name of the agent. Click **Next**.



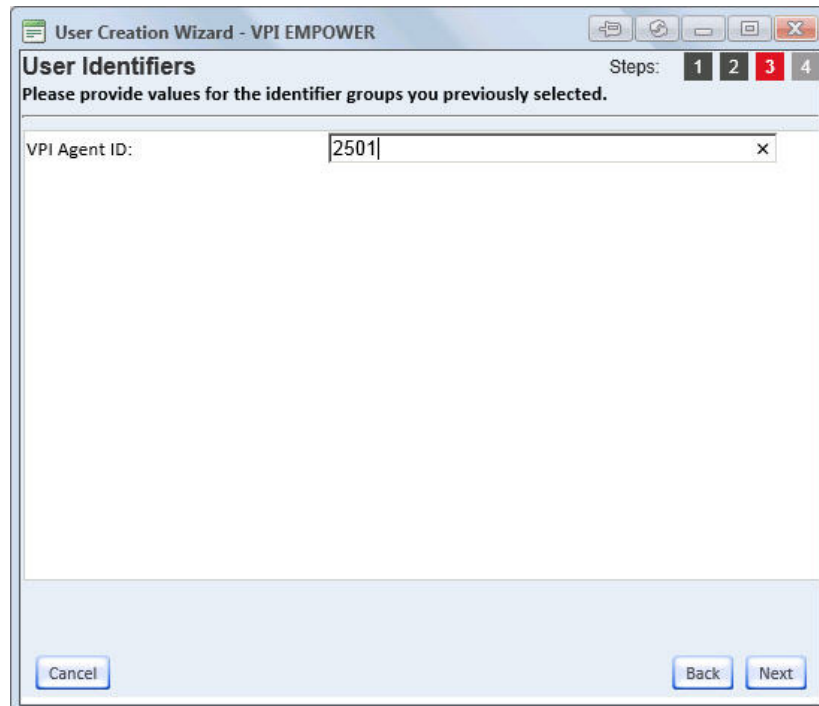
The screenshot shows the 'General Details' step of the 'User Creation Wizard - VPI EMPOWER'. The window title is 'User Creation Wizard - VPI EMPOWER'. The 'Steps' indicator shows 1, 2, 3, and 4, with '1' highlighted in red. The instruction is 'Please enter some general information about this user.' The form contains the following fields: 'First Name' with the value 'John', 'Last Name' with the value 'Smith', 'Email' (empty), and 'Comments' (empty text area). There is a checkbox labeled 'User requires portal access' which is currently unchecked. At the bottom, there are 'Cancel' and 'Next' buttons.

Check the **VPI Agent ID** checkbox. Click **Next**.



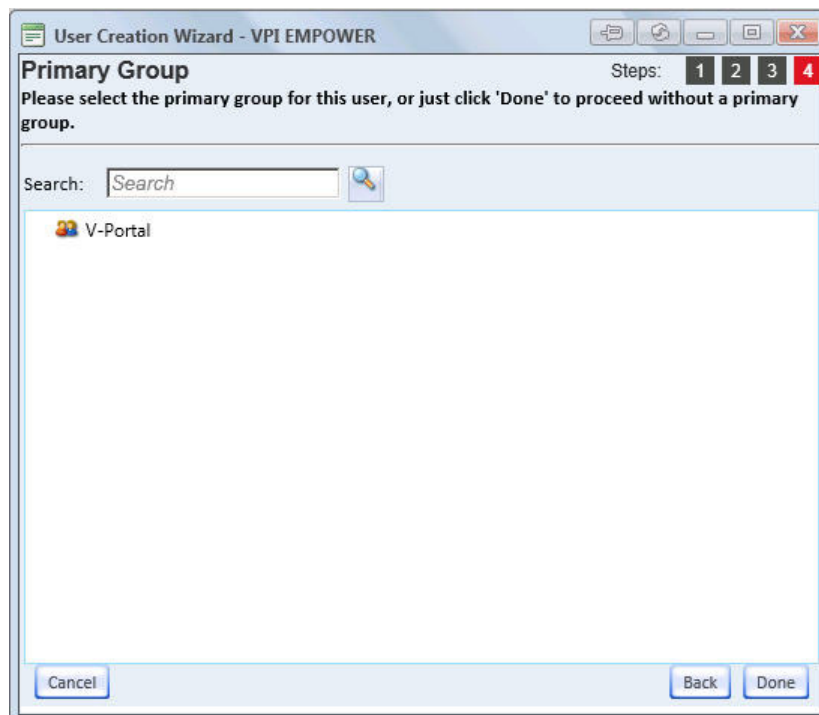
The screenshot shows the 'Identifiers' step of the 'User Creation Wizard - VPI EMPOWER'. The window title is 'User Creation Wizard - VPI EMPOWER'. The 'Steps' indicator shows 1, 2, 3, and 4, with '2' highlighted in red. The instruction is 'Please select the different ways in which this user might be identified in the system.' The form contains two checkboxes: 'Network Login' (unchecked) and 'VPI Agent ID' (checked). At the bottom, there are 'Cancel', 'Back', and 'Next' buttons.

Enter an agent ID listed in the table in **Section 5** to the **VPI Agent ID** field. Click **Next**.



The screenshot shows the 'User Creation Wizard - VPI EMPOWER' window at the 'User Identifiers' step. The title bar includes standard window controls. The step indicator shows four steps, with the third step (User Identifiers) highlighted in red. The instruction reads: 'Please provide values for the identifier groups you previously selected.' There is a text input field labeled 'VPI Agent ID:' containing the value '2501'. At the bottom, there are 'Cancel', 'Back', and 'Next' buttons.

Click **Done**.



The screenshot shows the 'User Creation Wizard - VPI EMPOWER' window at the 'Primary Group' step. The title bar includes standard window controls. The step indicator shows four steps, with the fourth step (Primary Group) highlighted in red. The instruction reads: 'Please select the primary group for this user, or just click 'Done' to proceed without a primary group.' There is a search bar with the placeholder text 'Search' and a magnifying glass icon. Below the search bar, a list box contains one item: 'V-Portal' with a small icon to its left. At the bottom, there are 'Cancel', 'Back', and 'Done' buttons.

Repeat the procedure for all the agents.

## 8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of CMS and VPI EMPOWER Suite Performance Reporting.

### 8.1. Verify Avaya Call Management System Real-Time Adapter

Log in CMS using an SSH client and with proper credentials. Change directory to /export/home/pserv/rt\_socket. Run the “./menurta” command to access the **RT\_Socket Menu**. From the menu, choose **3** to check the status of the sessions.

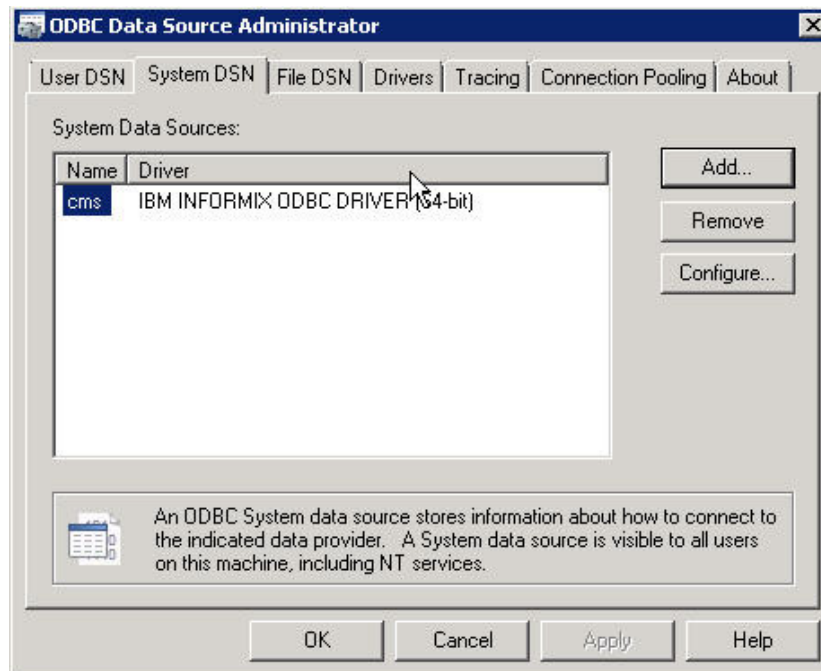
```
----- RT_Socket Menu -----  
1) Start RT_Socket Interface  
2) Stop RT_Socket Interface  
3) Check Status  
4) Display License Info  
5) View Maintenance Log  
6) Show Version  
7) Change Input Parameters  
8) Display Configuration  
0) Exit  
=====  
Choice ==> 3
```

Verify that the sessions are running and connected.

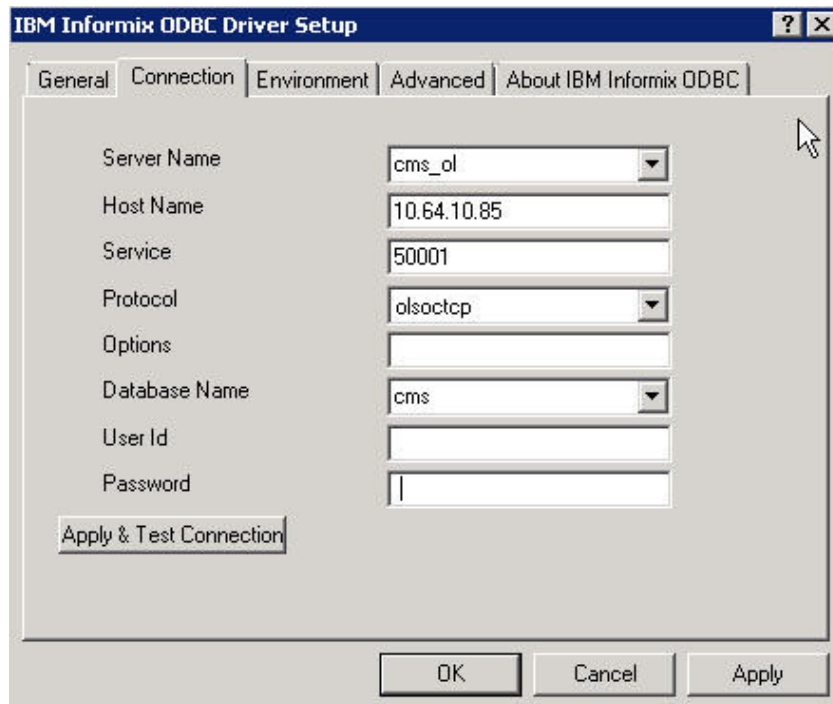
```
Checking status of all configured sessions...  
  
.  
.  
RT_Socket session 10 is running and is connected  
RT_Socket session 11 is running and is connected  
  
Press Enter to return to menu:
```

## 8.2. Verify ODBC Connection

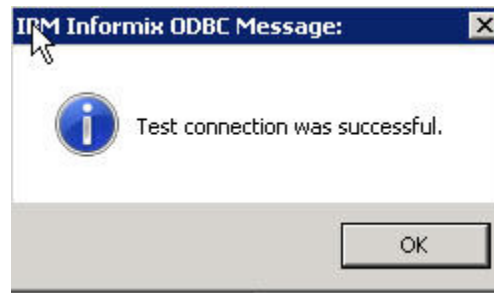
From the **ODBC Data Source Administrator** window (see **Section 7.3**), select the Data Source created for this test (i.e. **cms**). Click **Configure....**



The **IBM Informix ODBS Driver Setup** window is displayed. Select the **Connection** tab. Click the **Apply & Test Connection** button.



If the following window is displayed, it means that the ODBC connection is working.

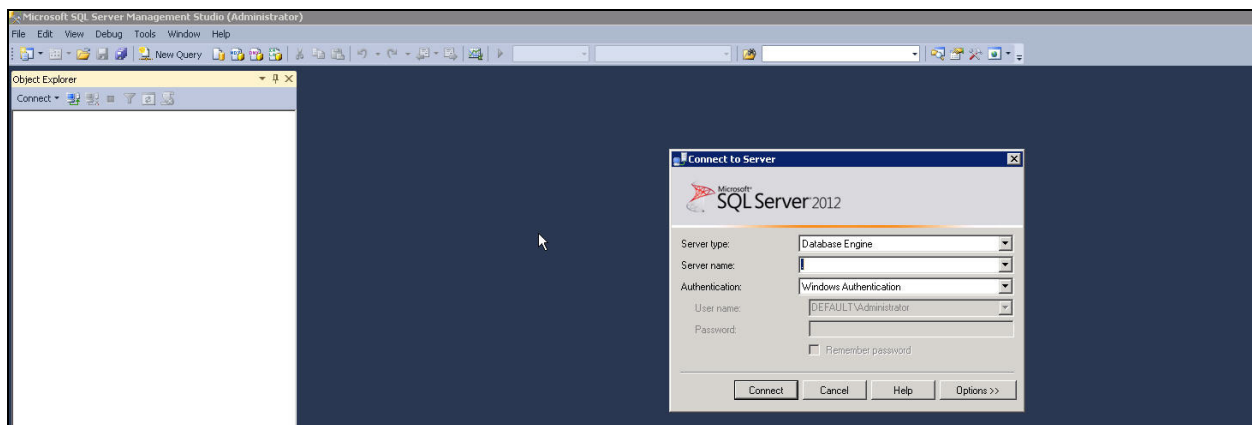


### 8.3. Verify VPI EMPOWER Suite Performance Reporting

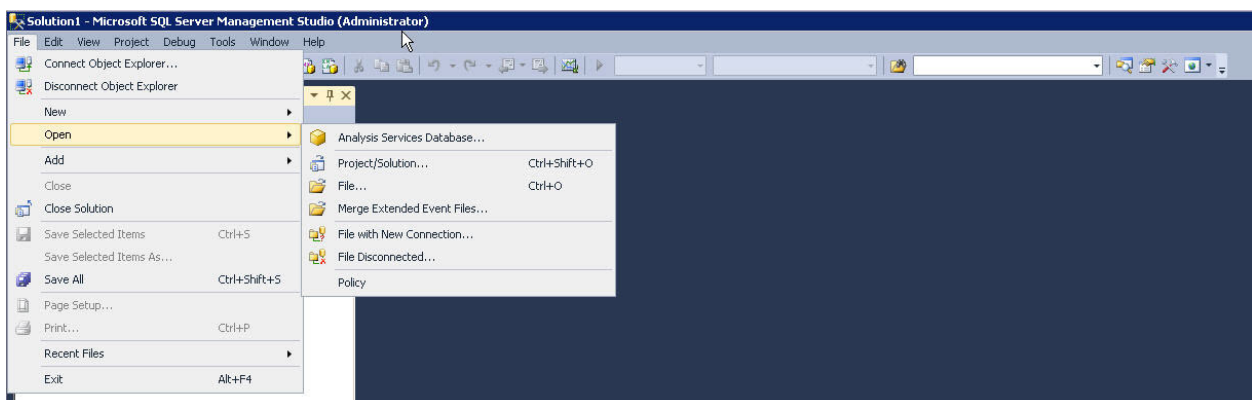
Prior to verifying VPI EMPOWER Suite Performance Reporting, make calls to the measured resources on Communication Manager, to enable measurement data to be sent to CMS.

#### 8.3.1. Verify Real-Time Data

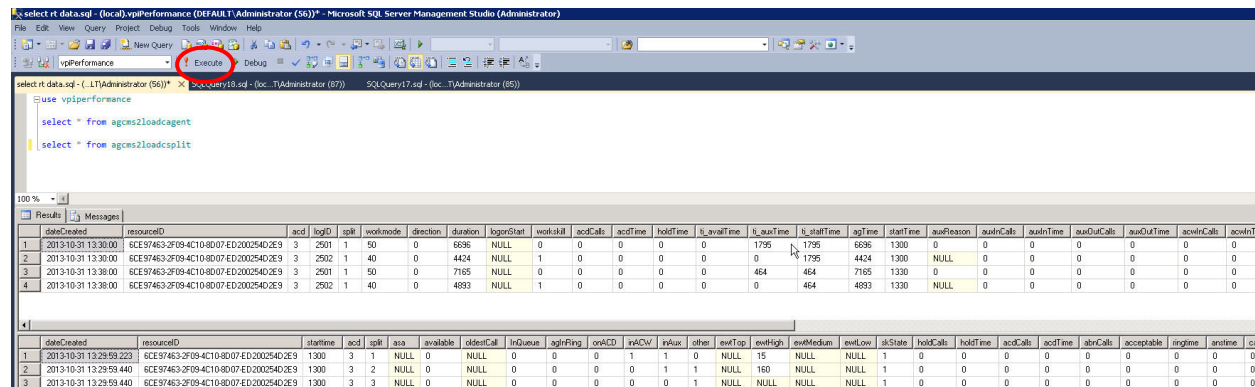
Click **Start** → **All Programs** → **Microsoft SQL Server 2012** → **SQL Server Management Studio** to launch the SQL Express database GUI interface. Click **Connect**.



Click **Open** → **File** and select a pre-programmed SQL command file (not shown) that displays the real-time agent and split data.



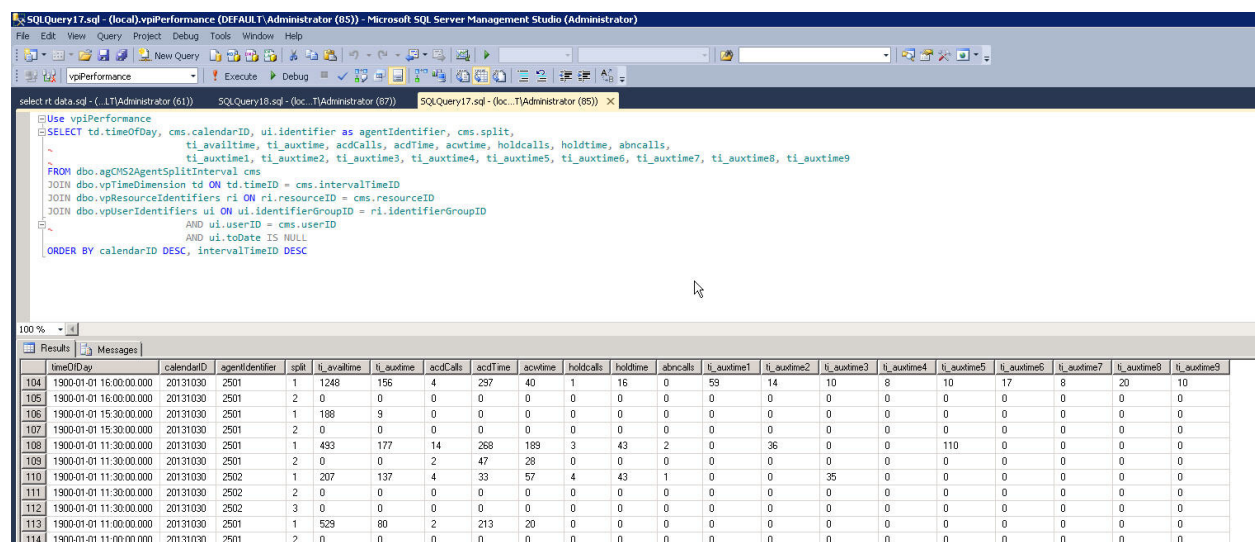
Click the **Execute** button in the tool bar. The real-time agent and split records are displayed.



	dateCreated	resourceID	acd	logID	split	workmode	direction	duration	logonStart	workunit	acdCalls	acdTime	holdTime	ti_availability	ti_audTime	ti_staffTime	agTime	startTime	auxReason	auxnCalls	auxnTime	auxOutCalls	auxOutTime	acwCalls	acwTime
1	2013-10-31 13:30:00	6CE97463-2F09-4C10-8D07-ED200254DCE9	3	2501	1	50	0	6696	NULL	0	0	0	0	0	1795	1795	6696	1300	0	0	0	0	0	0	0
2	2013-10-31 13:30:00	6CE97463-2F09-4C10-8D07-ED200254DCE9	3	2502	1	40	0	4424	NULL	1	0	0	0	0	0	1795	4424	1300	NULL	0	0	0	0	0	0
3	2013-10-31 13:30:00	6CE97463-2F09-4C10-8D07-ED200254DCE9	3	2501	1	50	0	7165	NULL	0	0	0	0	0	464	464	7165	1330	0	0	0	0	0	0	0
4	2013-10-31 13:30:00	6CE97463-2F09-4C10-8D07-ED200254DCE9	3	2502	1	40	0	4893	NULL	1	0	0	0	0	0	464	4893	1330	NULL	0	0	0	0	0	0

### 8.3.2. Verify Historical Agent Data

Click **Open** → **File** and select a pre-programmed SQL command file (not shown) that displays the historical agent data. Click the **Execute** button in the tool bar. The historical agent records are displayed.

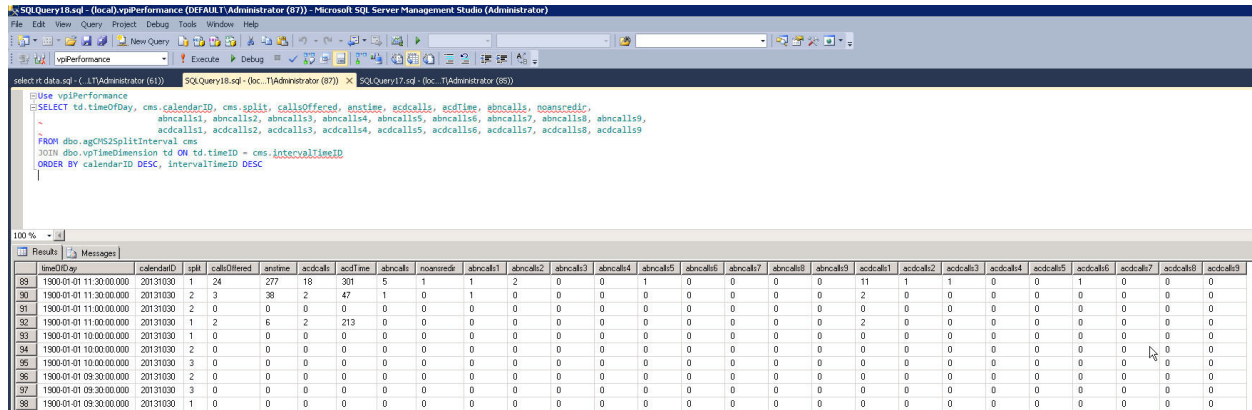


	timeOfDay	calendarID	agentIdentifier	split	ti_availability	ti_audTime	acdCalls	acdTime	acwTime	holdCalls	holdTime	abnCalls	ti_audTime1	ti_audTime2	ti_audTime3	ti_audTime4	ti_audTime5	ti_audTime6	ti_audTime7	ti_audTime8	ti_audTime9
104	1900-01-01 16:00:00.000	20131030	2501	1	1248	156	4	297	40	1	16	0	53	14	10	8	10	17	8	20	10
105	1900-01-01 16:00:00.000	20131030	2501	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
106	1900-01-01 15:30:00.000	20131030	2501	1	188	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
107	1900-01-01 15:30:00.000	20131030	2501	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



### 8.3.3. Verify Historical Skill Data

Click **Open** → **File** and select a pre-programmed SQL command file (not shown) that displays the historical skill data. Click the **Execute** button in the tool bar. The historical skill records are displayed.



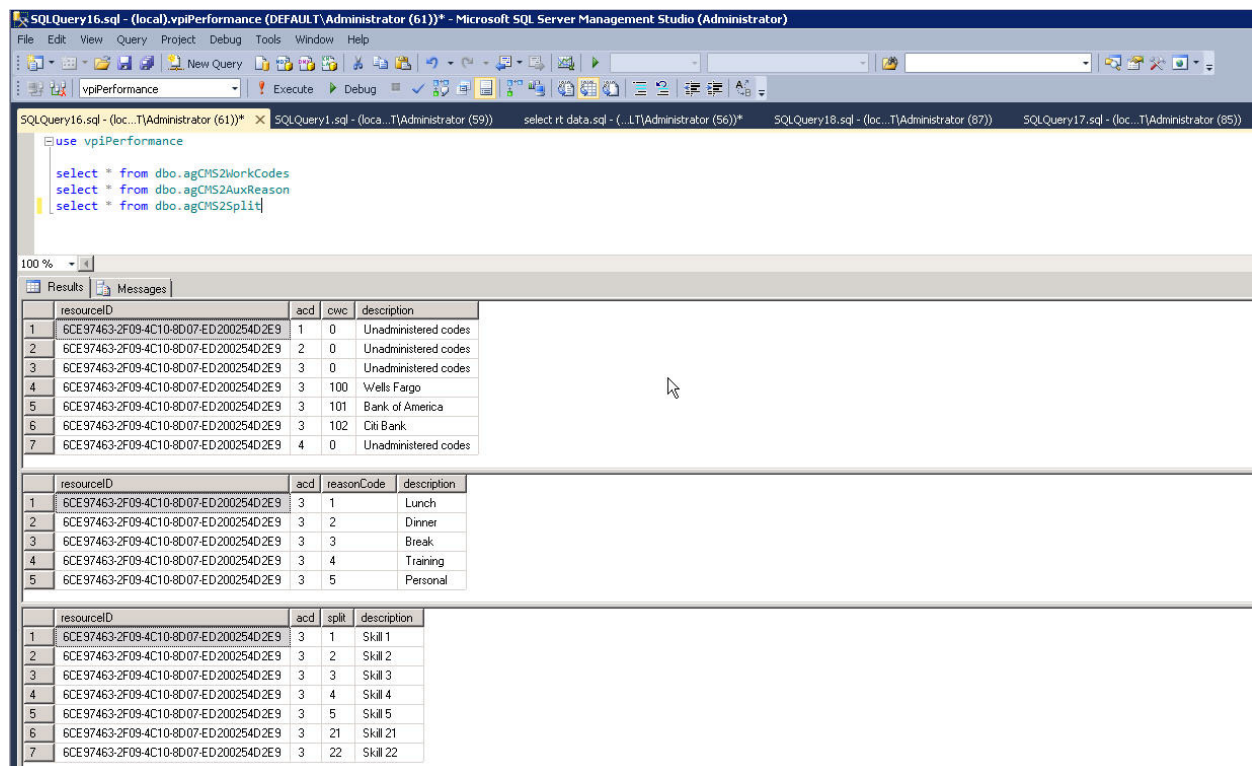
The screenshot shows the SQL Server Management Studio interface with a query window titled 'SQLQuery18.sql - (local).vpiPerformance (DEFAULT\Administrator (87))'. The query is as follows:

```
use vpiPerformance
SELECT td.timeOfDay, cms.calendarID, cms.split, callsOffered, anstime, acdcalls, acdtime, abncalls, noansredir,
       abncalls1, abncalls2, abncalls3, abncalls4, abncalls5, abncalls6, abncalls7, abncalls8, abncalls9,
       acdcalls1, acdcalls2, acdcalls3, acdcalls4, acdcalls5, acdcalls6, acdcalls7, acdcalls8, acdcalls9
FROM dbo.agCMS2SplitInterval cms
JOIN dbo.vpiTimeDimension td ON td.timeID = cms.intervalTimeID
ORDER BY calendarID DESC, intervalTimeID DESC
```

The Results pane displays a table with the following columns: timeOfDay, calendarID, split, callsOffered, anstime, acdcalls, acdtime, abncalls, noansredir, abncalls1, abncalls2, abncalls3, abncalls4, abncalls5, abncalls6, abncalls7, abncalls8, abncalls9, acdcalls1, acdcalls2, acdcalls3, acdcalls4, acdcalls5, acdcalls6, acdcalls7, acdcalls8, acdcalls9. The data shows records for various time intervals and calendar IDs, with values for calls offered and various call statistics.

### 8.3.4. Verify Dictionary Data

Click **Open** → **File** and select a pre-programmed SQL command file (not shown) that displays the dictionary data. Click the **Execute** button in the tool bar. The dictionary records are displayed.



The screenshot shows the SQL Server Management Studio interface with a query window titled 'SQLQuery16.sql - (local).vpiPerformance (DEFAULT\Administrator (61))'. The query is as follows:

```
use vpiPerformance
select * from dbo.agCMS2WorkCodes
select * from dbo.agCMS2AuxReason
select * from dbo.agCMS2Split
```

The Results pane displays three tables. The first table has columns: resourceID, acd, cwc, description. The second table has columns: resourceID, acd, reasonCode, description. The third table has columns: resourceID, acd, split, description.

resourceID	acd	cwc	description
1	6CE97463-2F09-4C10-8D07-ED200254D2E9	1	Unadministered codes
2	6CE97463-2F09-4C10-8D07-ED200254D2E9	2	Unadministered codes
3	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	Unadministered codes
4	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	100 Wells Fargo
5	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	101 Bank of America
6	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	102 Citi Bank
7	6CE97463-2F09-4C10-8D07-ED200254D2E9	4	Unadministered codes

resourceID	acd	reasonCode	description
1	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	1 Lunch
2	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	2 Dinner
3	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	3 Break
4	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	4 Training
5	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	5 Personal

resourceID	acd	split	description
1	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	1 Skill 1
2	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	2 Skill 2
3	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	3 Skill 3
4	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	4 Skill 4
5	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	5 Skill 5
6	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	21 Skill 21
7	6CE97463-2F09-4C10-8D07-ED200254D2E9	3	22 Skill 22

## 9. Conclusion

These Application Notes describe the configuration steps required for VPI EMPOWER Suite Performance Reporting to interoperate with Avaya Call Management System via a customized real-time call measurement data adapter provided by Avaya Professional Services and an ODBC connection. All feature and serviceability test cases were completed with two observations noted in **Section 2.2**.

## 10. Additional References

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

- *Avaya Call Management System Database Items and Calculations*, Release 17.x, March 2013
- *Avaya Call Management System Administration*, Release 17.0, March 2013
- *VPI EMPOWER User Guide VPortal Administration*, September 2013
- *VPI EMPOWER Configuration Guide*, September 2013

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