



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring X2O Media Xpresenter with Avaya Call Management System for Real-time Reporting – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for X2O Media Xpresenter to interoperate with Avaya Call Management System (Avaya CMS) via the RT_Socket interface.

Xpresenter Player software is a broadcast rendering engine for signage and corporate communications. It loads and displays dynamic, data-driven graphical templates, allowing a mix of elements to be displayed including static image files, video files, PowerPoint presentations, and live data from external sources include databases, RSS feeds, Web services, SharePoint servers, etc.

The Xpresenter Avaya CMS Integration Module is an add-on application to the Xpresenter Player that runs on the same PC system as the Player and periodically receives data points from the CMS database. The data are stored on a local file on the Player PC and from there are displayed in a graphical template by the Xpresenter Player Software

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

1. Introduction

These Application Notes describe the configuration steps required for X2O Media Xpresenter to interoperate with Avaya Call Management System (Avaya CMS) via the RT_Socket interface.

Xpresenter Player software is a broadcast rendering engine for signage and corporate communications. It loads and displays dynamic, data-driven graphical templates, allowing a mix of elements to be displayed including static image files, video files, PowerPoint presentations, and live data from external sources include databases, RSS feeds, Web services, SharePoint servers, etc.

The Xpresenter Player, as indicated above, displays graphical templates that may include dynamically updated data from an external source. The data for such sources is specified within the respective template by listing an MDB data file residing on the local computer and a set of variables whose values are specified within that file. The MDB file is read by Xpresenter Player as the requested template is loaded and displayed. This allows the MDB file to be updated asynchronously by a separate application, which takes responsibility for bringing in external data and saving it to the MDB file.

The X2O Media Avaya CMS Integration Module is a stand-alone application that runs in the background to establish the RT_Socket connection with the Avaya CMS system and receive data from it. The configuration file for the Integration Module allows the installer to specify the receiving ports for the RT_Socket connection and the path to the MDB file in which to store the received data. On application startup, the Integration Module will listen on the specified ports, wait for the CMS to establish the RT_Socket connection, and once connected begin saving the data in the MDB file. If at any time the connection or data retrieval fails, the Integration Module will retain the last received data in the MDB file as well as log available error information to indicate the nature of the failure. It will also close its side of the dropped connection(s) and listen for the CMS to reconnect.

2. General Test Approach and Test Results

The interoperability compliance testing included feature and serviceability test cases.

The feature test cases focused on verifying the ability of X2O Media Xpresenter to process and display split/skill and VDN data from Avaya CMS.

The serviceability testing focused on verifying the ability of X2O Media Xpresenter to recover from adverse conditions, such as disconnecting the Ethernet cables to Xpresenter and to Avaya CMS.

2.1. Interoperability Compliance Testing

The feature test cases were performed manually. Incoming calls were made to the measured VDNs, split/skills, and agents to generate measurement data to Avaya CMS. Manual call controls and work mode changes from the agent telephones were exercised as necessary to populate specific fields in the reports.

The serviceability test cases were performed manually by disconnecting and reconnecting the LAN cable to X2O Media Xpresenter and to Avaya CMS.

The verification of all the tests included checking for proper display of the data within the X2O Media Xpresenter Player by comparing it with the real-time reports from the Avaya CMS Terminal Emulator.

In addition to the manual call-by-call steps, data was also generated with a simulated Avaya Communication Manager ACD to verify the ability of X2O Media Xpresenter to handle multiple ACDs and to display a large quantity of data.

2.2. Test Results

All test cases were executed and passed.

2.3. Support

For technical support on the X2O Media Xpresenter Platform, contact X2O Media at:

- Web: <http://support.x2omedia.com/>
- Phone: 888-987-7557 x247

3. Reference Configuration

Figure 1 below shows the configuration used during compliance testing. On Avaya Aura® Communication Manager, relevant VDN and split/skill objects are configured to be “measured” by Avaya CMS. When a call travels through a “measured” object on Communication Manager, the ACD related data are sent to the Avaya CMS. The Avaya CMS periodically updates X20 Media Xpresenter with real-time data for VDNs and split/skills. A VPN connection was used to connect X20 Media Xpresenter system to the test network due to the location of the equipment, but a VPN connection is not a requirement. The frequency of the updates is user configurable. During the compliance testing an Avaya Call Management System (CMS) Terminal Emulator client was utilized for report verification. The reports provided by Xpresenter Player were compared to the following real-time reports generated from the Avaya CMS Terminal Emulator:

- Skill Report
- Skill Call Profile Report
- VDN Report
- Custom Reports (tvi1 and vdnrpt) by Avaya Professional Services that map to the RT_Socket interface

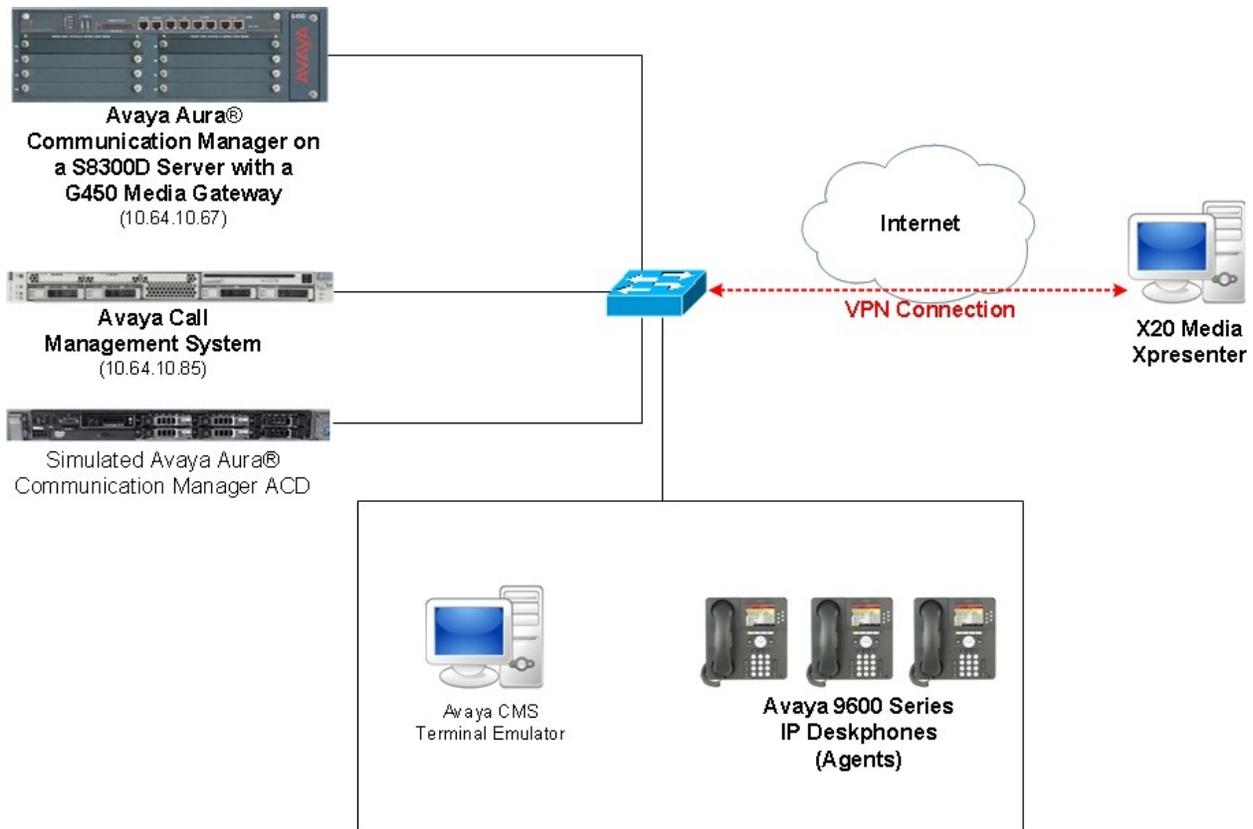


Figure 1: X20 Media Xpresenter with Avaya Call Management System

4. Equipment and Software Validated

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

Equipment	Software
Avaya S8300D Server with a Avaya G450 Media Gateway	Avaya Aura® Communication Manager 6.0.1 SP6,R016x.00.1.510.1, Patch 19350 (Avaya Aura® System Platform: 6.0.3.4.3)
Avaya 9600 Series IP Deskphones (H.323)	Release 3.1 Service Pack 3 (96x0) Release 6 Service Pack 5 (96x1G)
Avaya 9600 Series IP Deskphones (SIP)	Release 2.6 Service Pack 5 (96x0) Release 6 Service Pack 2 (96x1G)
Sun SPARC Enterprise T5120 Server	Avaya Call Management System R16.3 server (with rt_socket provided by the Avaya Professional Services organization)
Windows XP Service Pack 3 PC	Avaya CMS Terminal Emulator 16.3
X2O Media Xpresenter <ul style="list-style-type: none">• Xpresenter Player• Avaya CMS Integration Module	2.5.29 1.0

5. Configure Avaya Aura® Communication Manager

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

In order for the data of a skill or a VDN to be collected and forwarded to CMS, the “measured” field on the corresponding skill and VDN form must be set to “external” or “both”. For administration of the “measured” field for a skill and a VDN, refer to the appropriate documentation listed in **Section 10**.

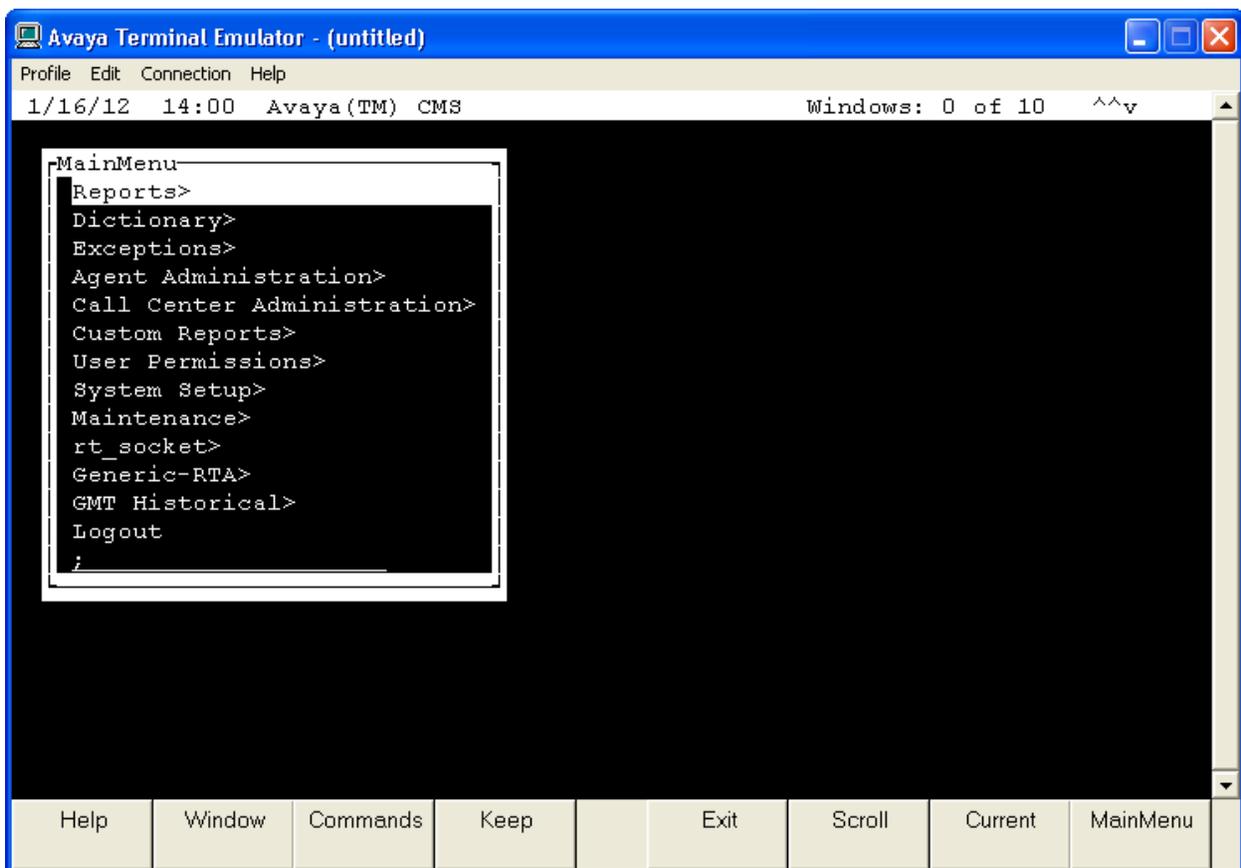
6. Configure Avaya Call Management System

The configuration of the Avaya CMS Terminal Emulator is assumed to be in place and will not be described. In addition, these Application Notes assume a user name has been created with all the relevant permissions, and the intra-hour interval already administered.

This section provides the additional configuration as required for X2O Media Xpresenter, which includes the following areas:

- Administer VDN dictionary names
- Administer splits/skills dictionary names
- Activate RT_Socket interface

Open the Avaya Terminal Emulator and connect to Avaya CMS. The following **MainMenu** screen is displayed.



The screenshot shows the Avaya Terminal Emulator window titled "Avaya Terminal Emulator - (untitled)". The window has a menu bar with "Profile", "Edit", "Connection", and "Help". The status bar shows "1/16/12 14:00 Avaya(TM) CMS" and "Windows: 0 of 10". The main display area shows the "MainMenu" screen with the following text:

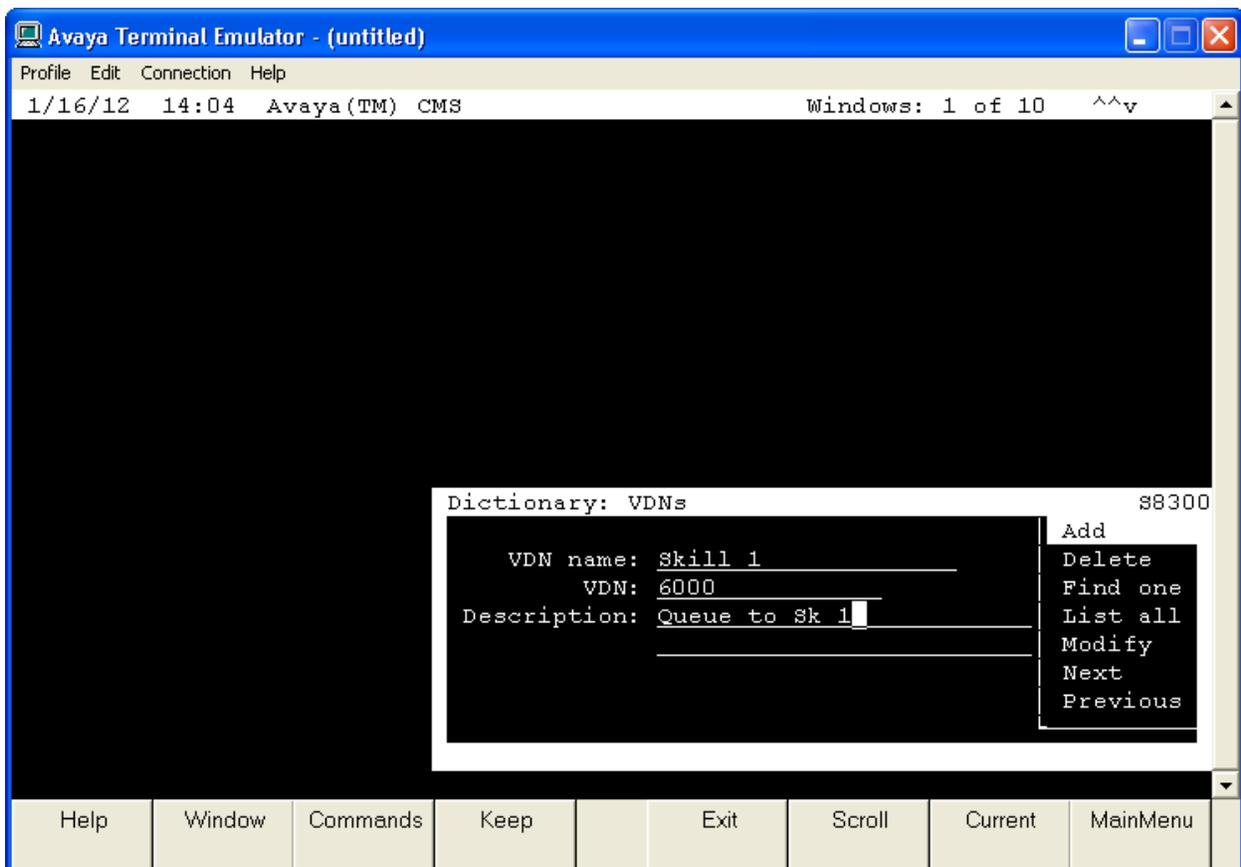
```
MainMenu-
Reports>
Dictionary>
Exceptions>
Agent Administration>
Call Center Administration>
Custom Reports>
User Permissions>
System Setup>
Maintenance>
rt_socket>
Generic-RTA>
GMT Historical>
Logout
;
```

At the bottom of the window, there is a toolbar with buttons for "Help", "Window", "Commands", "Keep", "Exit", "Scroll", "Current", and "MainMenu".

6.1. Administer VDN Dictionary Names

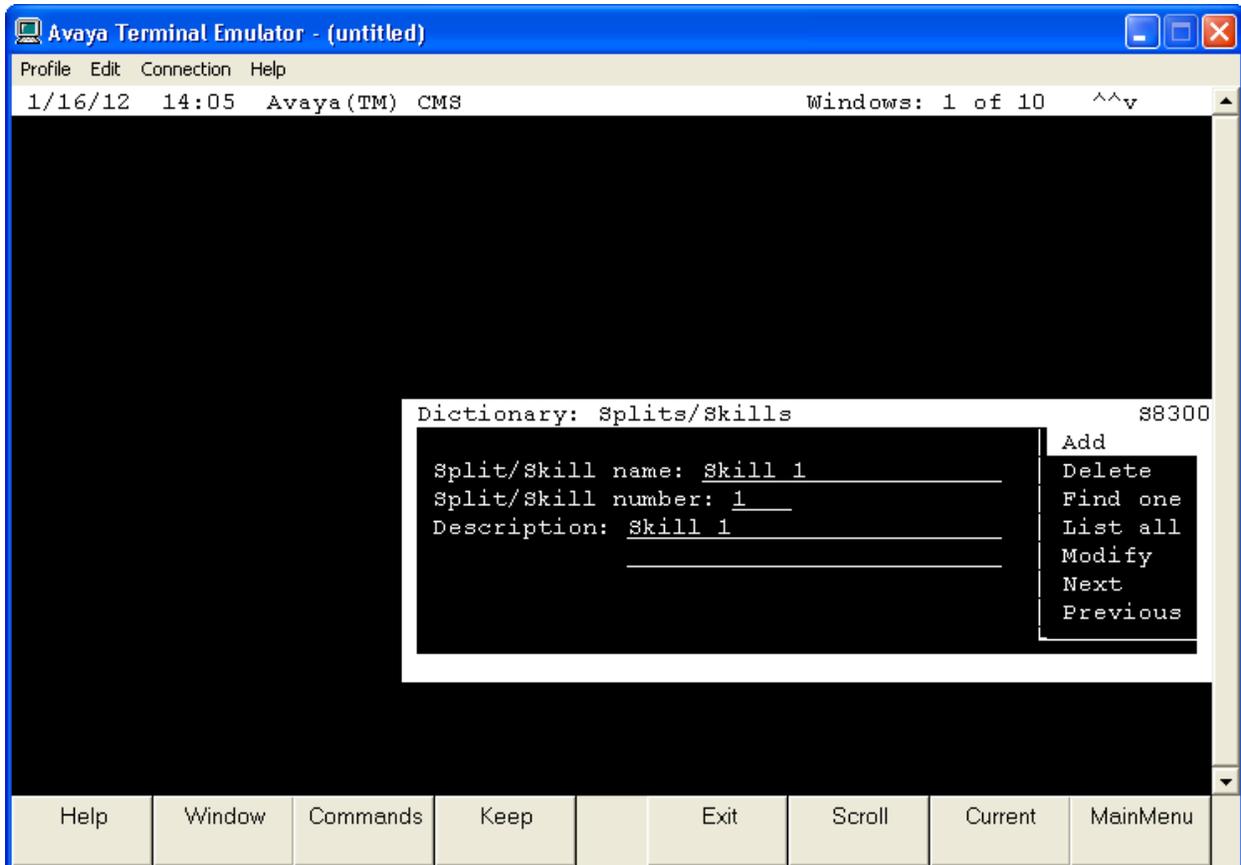
The Dictionary subsystem is used to assign synonyms or names to contact center entities. The names assigned through the Dictionary appear on reports to help users understand them better. The Dictionary also makes it possible for users to create agent groups, change agent splits/skills, and change trunk string values for reporting purposes. The Dictionary also provides a global search function to find any item within it.

From the **MainMenu** screen, select **Dictionary > VDNs**. The **Dictionary: VDNs** dialog box is displayed as shown below. Enter a descriptive name in the **VDN name** field, a VDN extension in the **VDN** field, and a desired description. The VDN extension must match one of the VDNs that have been configured in Avaya Aura® Communication Manager for the compliance testing. Tab over to **Add** and press **Enter**. Repeat the procedure for all the VDN's to be used in the compliance test.



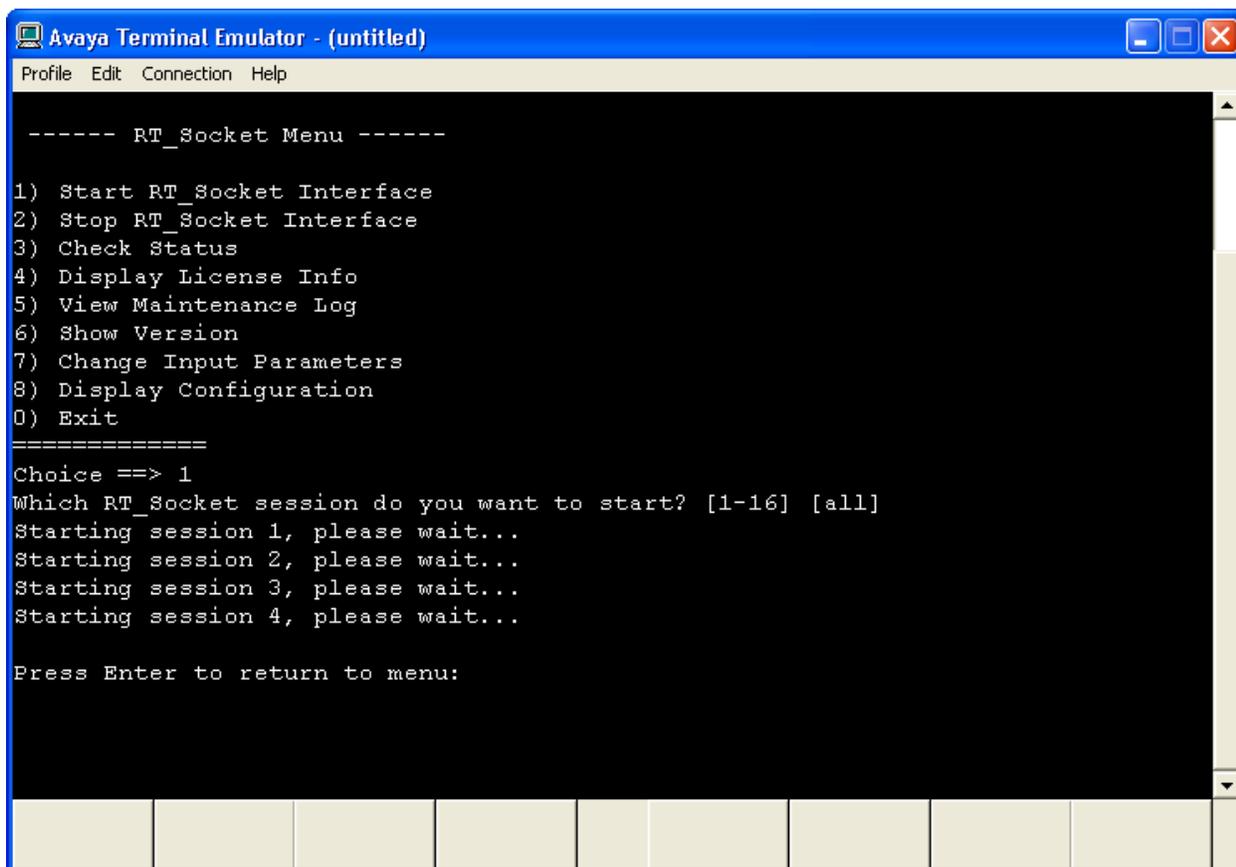
6.2. Administer Split/Skill Dictionary Names

From the **MainMenu** screen, select **Dictionary > Splits/Skills**. The **Dictionary: Splits/Skills** dialog box is displayed, as shown below. Enter a descriptive name for the **Split/Skill name** field, a split/skill number in the **Split/Skill number** field, and a desired description. The split/skill number must match one of the split/skill numbers that have been configured in the Avaya Aura® Communication Manager for the compliance testing. Tab over to **Add** and press **Enter**. Repeat the procedure for all the split/skill's to be used in the compliance test.



6.3. Activate RT_Socket Interface

To activate the RT_Socket interface, from the **MainMenu** screen, select the **rt_socket** menu item. Enter **2** then **all** to stop all the sessions. Once all the sessions are stopped, enter **1** then **all** to start all the sessions. The screen capture below shows that all the sessions are starting.



```
Avaya Terminal Emulator - (untitled)
Profile Edit Connection Help

----- 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? [1-16] [all]
Starting session 1, please wait...
Starting session 2, please wait...
Starting session 3, please wait...
Starting session 4, please wait...

Press Enter to return to menu:
```

7. Configure X2O Media Xpresenter

On the X2O Media Xpresenter Player PC, navigate to the *config.ini* file for the Avaya CMS Integration Module. This file resides in the same folder as the Avaya CMS Integration Module executable (*C:\Program Files\X2OMedia\AvayaCMS*). Edit the file to specify the receiving ports for the RT_Socket connections and the path to the MDB file in which to store the received data. The example below shows the values used during compliance testing.

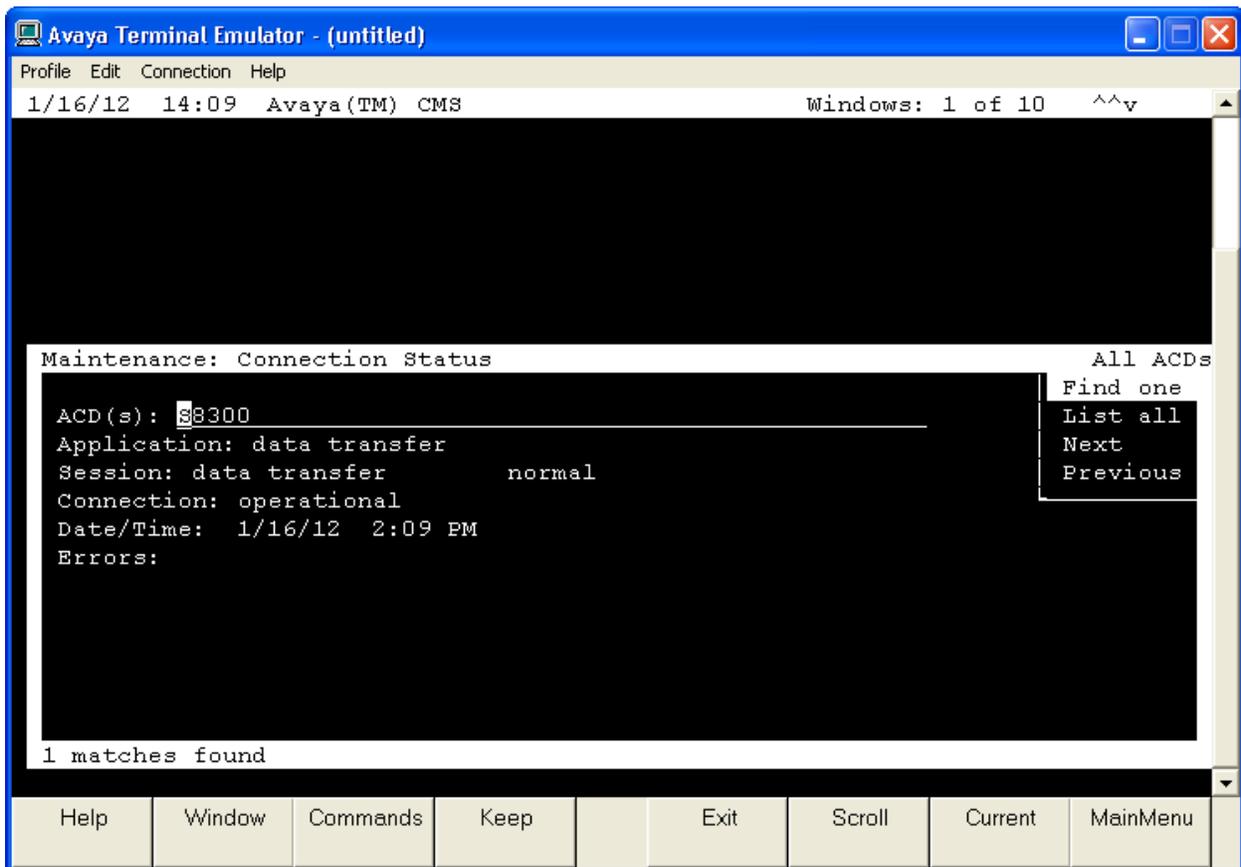
```
[General]
Datafile=C:\AvayaCMS.MDB
Csplitport=4001
Vdnport=4002
```

8. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya Call Management System and X2O Media Xpresenter.

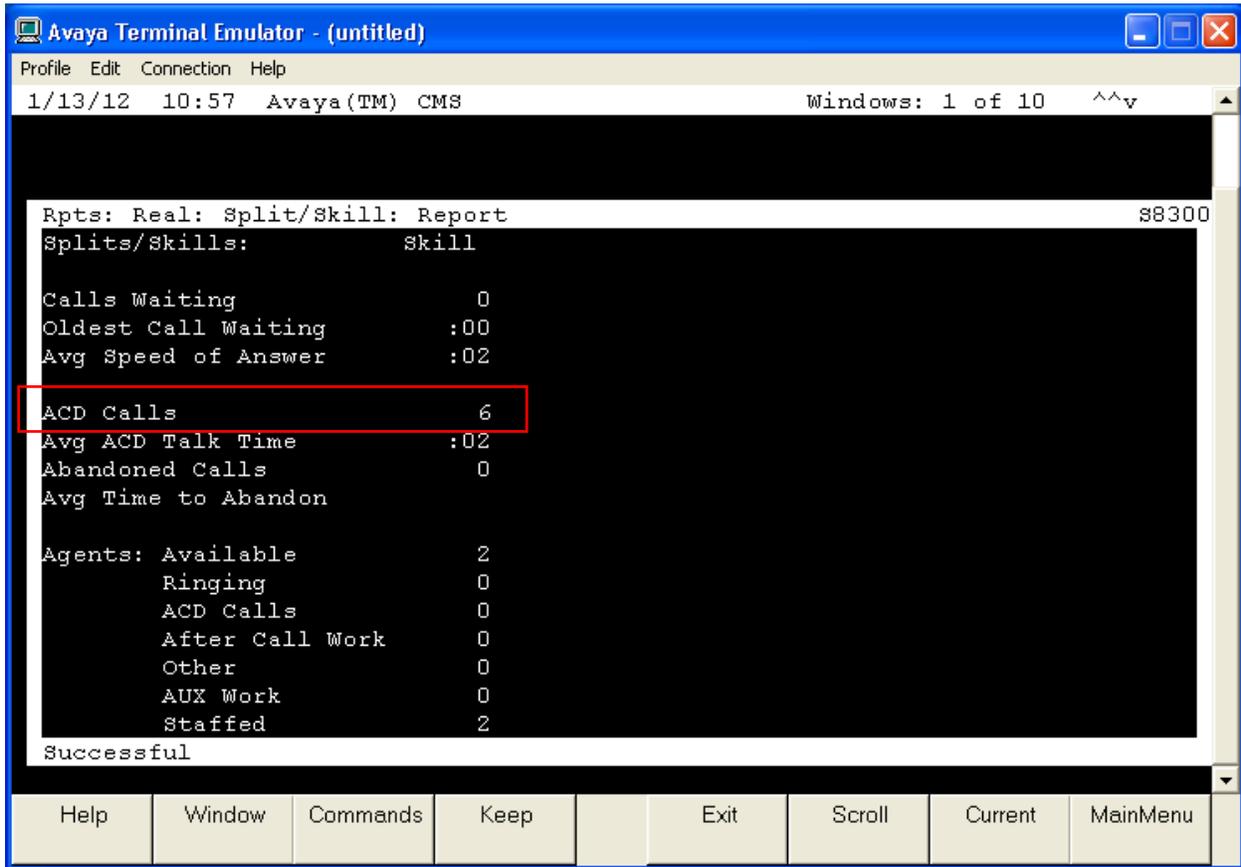
8.1. Verify Avaya Call Management System connection to Avaya Aura® Communication Manager

Follow the procedures in **Section 6** to display the **MainMenu** within the Avaya Terminal Emulator. Verify the status of the connection to Communication Manager by selecting **Maintenance > Connection Status**, as shown below. In the **Maintenance: Connection Status** dialog box, enter the corresponding **ACD(s)** number. For compliance testing, the corresponding switch connection is ACD system “2”. Tab over to **Find one** and press **Enter**. The **Maintenance: Connection Status** dialog box is updated with status information. Verify that the **Session** status is **data transfer** and **normal**, and that the **Connection** status is **operational**, as shown below.



8.2. Verify X2O Media Xpresenter

In order to verify X2O Media Xpresenter, make the necessary calls to the measured objects on Avaya Communication Manager, to enable measurement data to be sent and populated on Avaya CMS. Use the Avaya Terminal Emulator to display the desired data (e.g. navigate to **Reports** → **Real-time** → **Split/Skill** → **Report** to view **ACD Calls**) as shown below.



The screenshot shows the Avaya Terminal Emulator window titled "Avaya Terminal Emulator - (untitled)". The window contains a terminal window with the following text:

```
Profile Edit Connection Help
1/13/12 10:57 Avaya(TM) CMS Windows: 1 of 10 ^^v
Rpts: Real: Split/Skill: Report s8300
Splits/Skills: Skill
Calls Waiting 0
Oldest Call Waiting :00
Avg Speed of Answer :02
ACD Calls 6
Avg ACD Talk Time :02
Abandoned Calls 0
Avg Time to Abandon
Agents: Available 2
Ringing 0
ACD Calls 0
After Call Work 0
Other 0
AUX Work 0
Staffed 2
Successful
```

The "ACD Calls 6" line is highlighted with a red box. At the bottom of the terminal window, there is a menu bar with the following items: Help, Window, Commands, Keep, Exit, Scroll, Current, and MainMenu.

On the Xpresenter Avaya CMS Integration Module screen, verify the data value matches the same value shown in the Avaya Terminal Emulator.

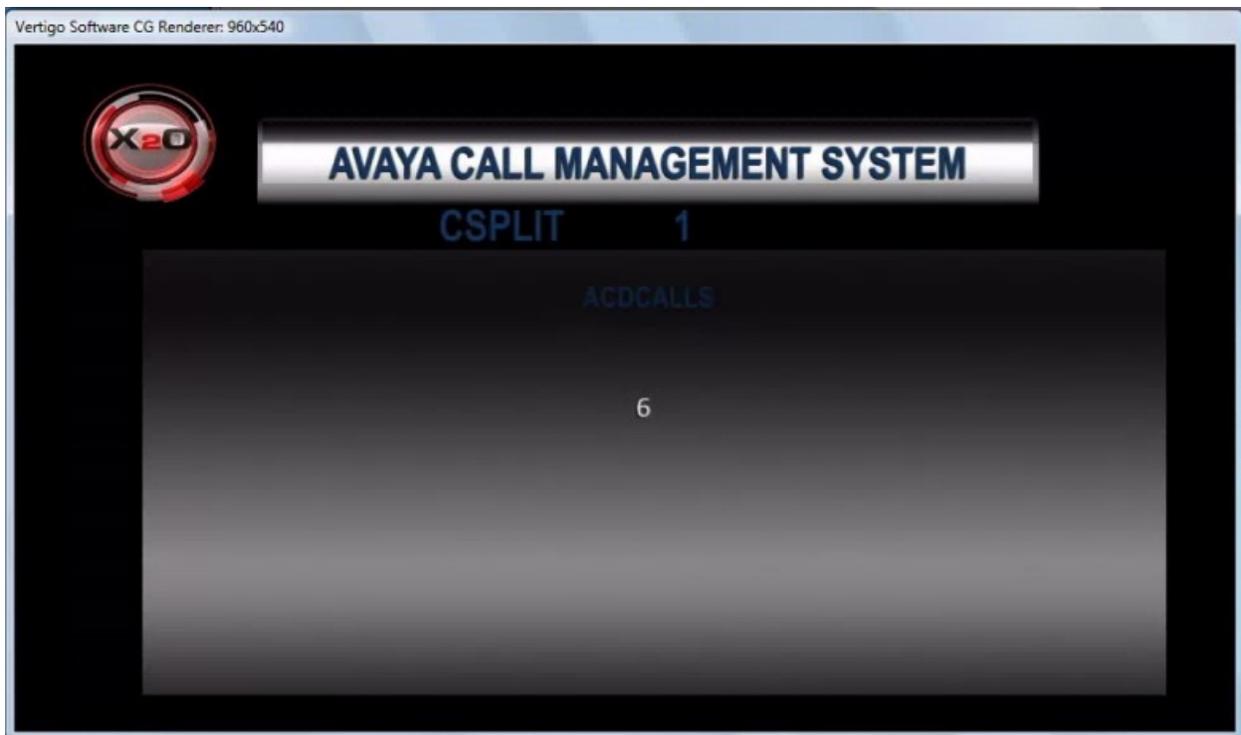
CSPLIT Status: Connected on port 4001 to 10.64.10.85:47722

Unit	Label	Value	Time Received
1	OLDESTCALL	.00	2012-01-13 12:44:04
1	ACDCALLS	6	2012-01-13 12:44:04
1	ACDTIME/ACDCALLS	.02	2012-01-13 12:44:04
1	ABNTIME/ABNCALLS		2012-01-13 12:44:04
1	AGINBING	0	2012-01-13 12:44:04

VDN Status: Connected on port 4002 to 10.64.10.85:47721

Unit	Label	Value	Time Received
6516	VDNSYNONYM	6516	2012-01-13 12:43:33
6516	INPROGRESS+ATAGENT	0	2012-01-13 12:43:33
6516	OLDESTCALL	.00	2012-01-13 12:43:33
6516	AVG_ANSWER_SPEED		2012-01-13 12:43:33
6516	ABNCALLS	0	2012-01-13 12:43:33

On the Xpresenter Player screen shown below, again verify the data value matches the same value shown in the Avaya Terminal Emulator.



9. Conclusion

These Application Notes describe the configuration steps required for X2O Media Xpresenter to interoperate with Avaya Call Management System via the RT_Socket interface. All feature and serviceability test cases were completed successfully.

10. Additional References

This section provides references to the product documentation relevant to these Application Notes. Avaya product documentation may be found at <http://support.avaya.com>.

- [1] *Administering Avaya Aura® Communication Manager*, Doc ID: 03-300509, August 2010
- [2] *Avaya Call Management System Switch Connections, Administration, and Troubleshooting*, December 2011
- [3] *Avaya Call Management System Software Installation, Maintenance, and Troubleshooting*, December 2011

X2O Media Xpresenter documentation can be obtained from X2O Media by using the contact information provided in **Section 2.3**.

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