Avaya

Avaya Solution & Interoperability Test Lab

Application Notes for Resource Software International Shadow CMS with Avaya IP Office Server Edition - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Resource Software International Shadow CMS to interoperate with Avaya IP Office Server Edition 10. Resource Software International Shadow CMS is a reporting solution that uses Devlink3 records from Avaya IP Office to track phone calls and produce detailed reports.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as the observations noted in **Section 2.2**, to ensure that their own use cases are adequately covered by this scope and results.

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 Resource Software International (RSI) Shadow CMS to interoperate with Avaya IP Office Server Edition solution release 10.

RSI Shadow CMS is a reporting solution that uses DevLink3 records from Avaya IP Office to track phone calls and produce detailed reports.

Avaya IP Office Server Edition solution consists of a primary Linux-based IP Office Server Edition and an Avaya IP Office 500V2 expansion. Both systems are linked by IP Office Line IP trunks that can enable voice networking across these trunks to form a multi-site network. Each system in the solution automatically learns each other's extension numbers and user names. This allows calls between systems and support for a range of internal call features.

2. General Test Approach and Test Results

The feature test cases were performed manually. Different types of calls were made along with different actions initiated from the user telephones to verify proper parsing and displaying of received Devlink3 data by Shadow CMS.

The serviceability test cases were performed manually by disconnecting and reconnecting the Ethernet connection to Shadow CMS. The test results and observations are listed in **Section 2.2**.

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 interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the proper parsing and displaying of Devlink3 data by Shadow CMS for call scenarios including internal, voicemail, inbound PSTN, outbound PSTN, hold, reconnect, transfer, conference, park, forward, and account codes. The verification included Account Code Detail reports that were generated from the received Devlink3 data.

The serviceability testing focused on verifying the ability of Shadow CMS to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet connection to Shadow CMS.

2.2. Test Results

All test cases were executed and verified.

2.3. Support

Technical support on Shadow CMS can be obtained through the following:
- Phone: (800) 891-6014
- Email: support@telecost.com
- Web: www.telecost.com

3. Reference Configuration

Figure 1 illustrates the setup used to verify the RSI Shadow CMS solution with Avaya IP Office Server Edition solution. The Shadow CMS application is installed and deployed on a Windows Server 2012 R2 Standard running on VMware machine. Avaya IP Office Server Edition solution consists of a primary Linux-based IP Office Server Edition and an IP Office 500V2 expansion. Simulated PSTN was connected to Avaya IP Office 500V2 expansion via ISDN/T1 trunk. Avaya IP deskphones, digital and analogue phones were used to register to both the IP Office Server Edition and the IP Office 500V2 expansion to make calls between these systems.
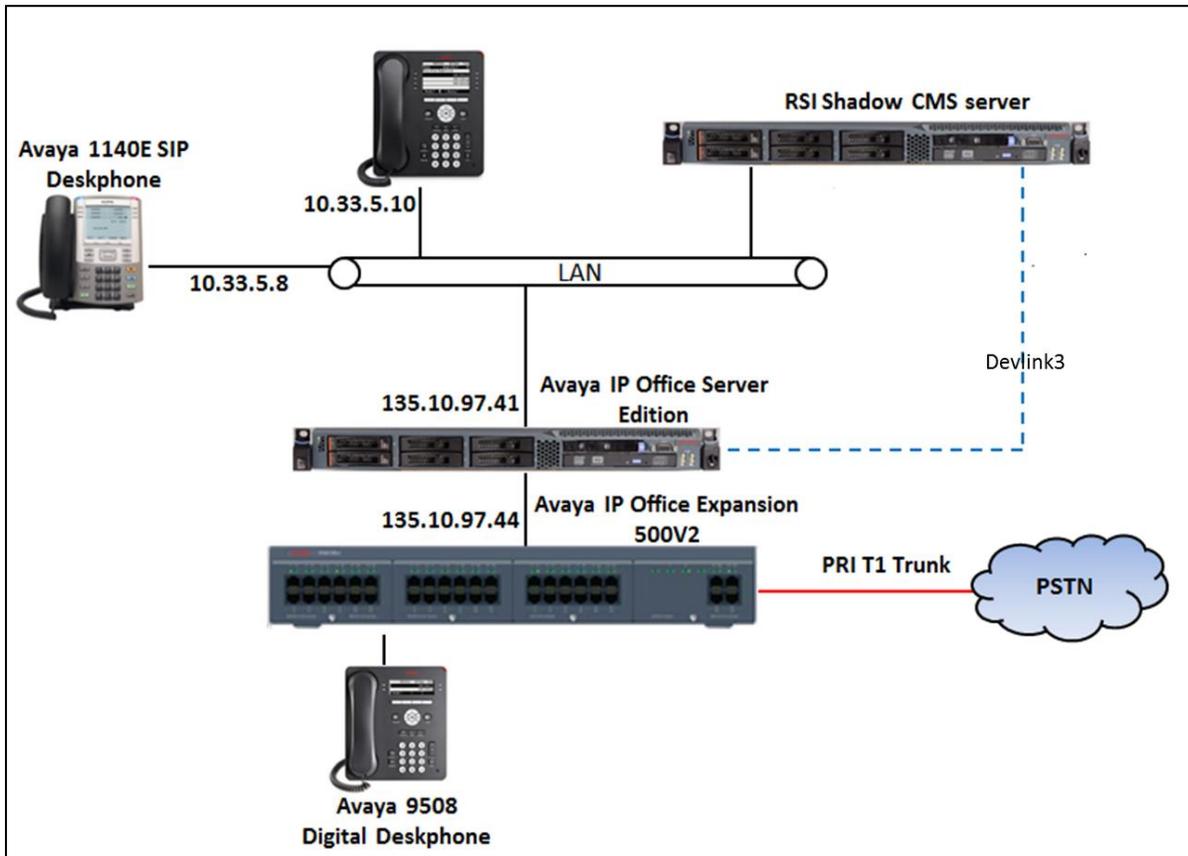
Figure 1: Test Diagram for RSI Shadow CMS application with Avaya IP Office Server Edition

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya IP Office Server Edition running on HP ProLiant DL360 G7	10.0 SP1
Avaya IP Office 500V2 Expansion	10.0 SP1
Avaya IP 1608 H323 Deskphone	1.360A
Avaya IP 9640 H323 Deskphone	3.230A
Avaya IP 1140E SIP Deskphone	4.4.26
Avaya Digital 9404 Deskphone	Release 18
RSI Shadow CMS installed on Windows Server 2012 R2 Standard on VMware	5.1

Note: Compliance Testing is applicable when the tested solution is deployed with a standalone IP Office 500 V2 and also when deployed with IP Office Server Edition in all configurations.

5. Configure Avaya IP Office

The document assumes that Avaya IP Office Server Edition has been installed and configured to work with an IP Office 500V2 expansion. This section only describes the details on how to configure the IP Office Server Edition solution to work with Shadow CMS application.

- CTI-Pro license.
- Administrative DevLink3.

From a PC running the IP Office Manager application, select **Start → Programs →IP Office → Manager** to launch the Manager application. Select the proper IP Office system, and log in using the appropriate credentials. The Avaya IP Office Manager for Server Edition screen is displayed as shown in the screen below.
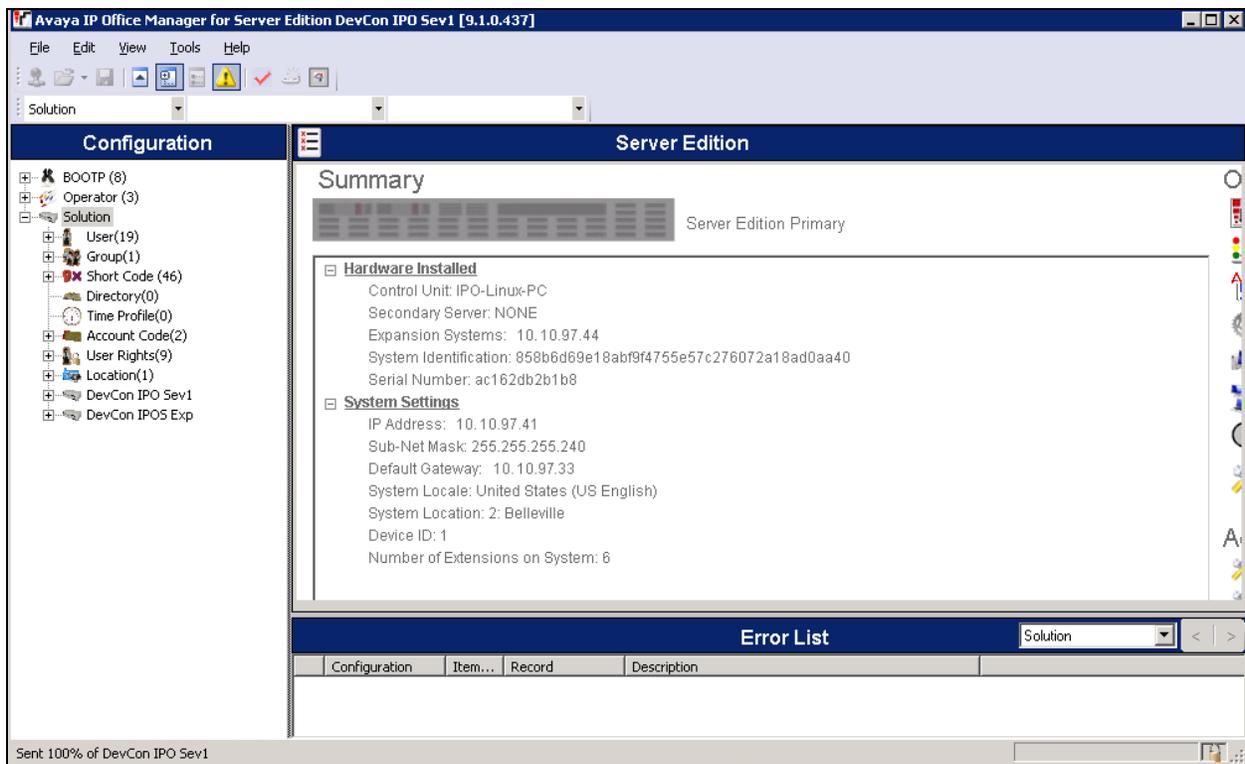
5.1. CTI Link Pro license

From the configuration tree in the left pane, navigate to **DevCon IPOS Sev1 → License** to display list of valid licenses and verify CTI Link Pro license is 2, which means SCN option is allowed on networks <= 5 nodes as displayed below.

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5.2. Devlink3 Transport Options

Devlink3 transport options are configurable on IP Office. Browse to **File → Advanced Security Settings… → System → DevCon IPO Serv1.**

Availability of the TCP service is governed by IP Office security setting: TAPI / DevLink 3 on the **Unsecured Interfaces** tab in System Security as displayed below.

5.3. Administer Devlink3

A combination of username and password is used to authenticate the application.

First, configure a new **Rights Group** and enable the DevLink3 checkbox in the **Telephony APIs** tab as displayed below for the new DevLink3 Rights Group.

Configure a new Service User with username and password and assign it to the DevLink3 rights group.

6. Configure RSI Shadow CMS

This section provides the procedures for configuring Shadow CMS. The procedures include the following areas:
- Launch Shadow CMS page
- Administer CDR driver
- Administer data source
- Administer socket settings

The configuration of Shadow CMS is typically performed by RSI Support Services. The procedural steps are presented in these Application Notes for informational purposes.

6.1. Launch CMS Page

From Internet Explorer, enter http://IPAddress:81 in the URL field, where IP address is the Shadow CMS IP address and navigate to **System Configuration**.

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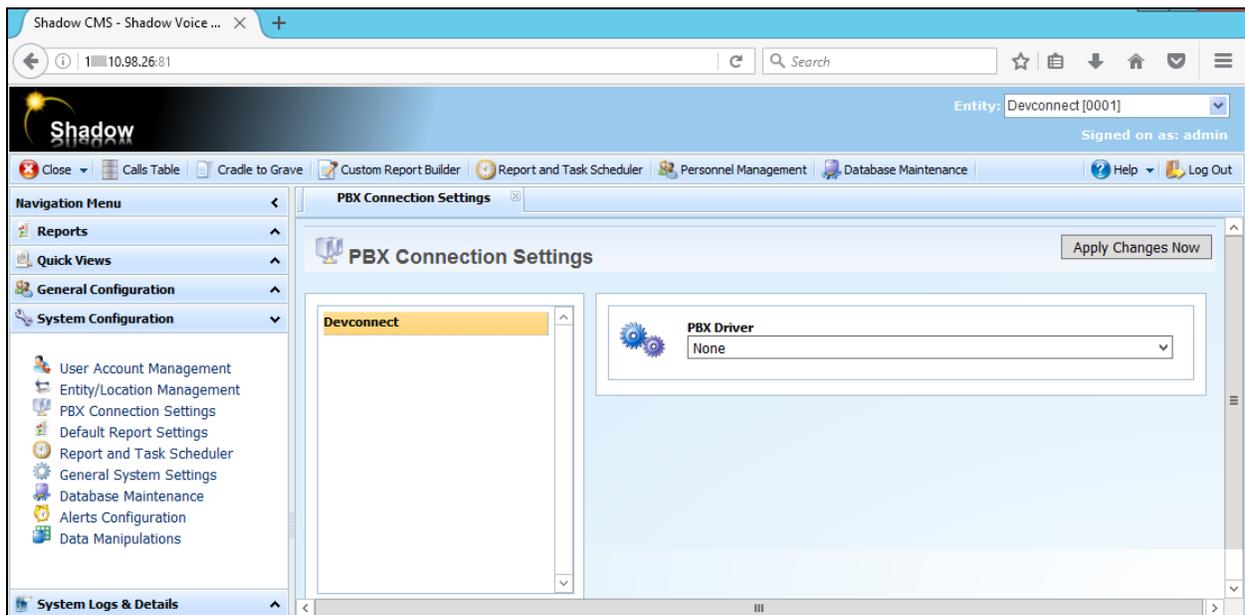
6.2. Administer PBX Connection Setting

From **PBX Connection Settings,** change **PBX Drive** to Avaya IP Office and click **Apply Changes Now**.

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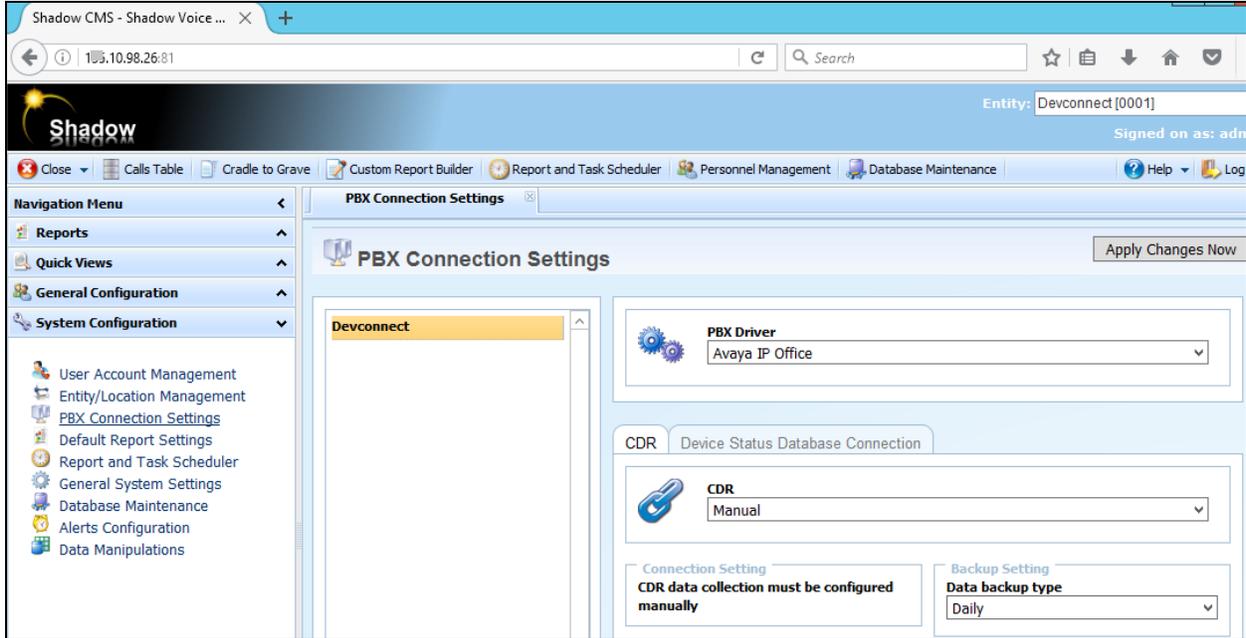
6.3. Administer Data Source

Launch WinLink Configuration and create a new location and source. Under Connection Type, select **Avaya IP Office – Devlink3**. Enter the IP Office IP address in the **Server IP Address** field. Change the **Data Type** to **DevLink 3 (DevLink2 Formatted).** Change **Username** and **Password** to desired DevLink3 settings configured in **Section 5.3**. Check the boxes **Include Device Data** and **Button Press** Events).

IP Office Devlink events will show in the "Live Data View" window.
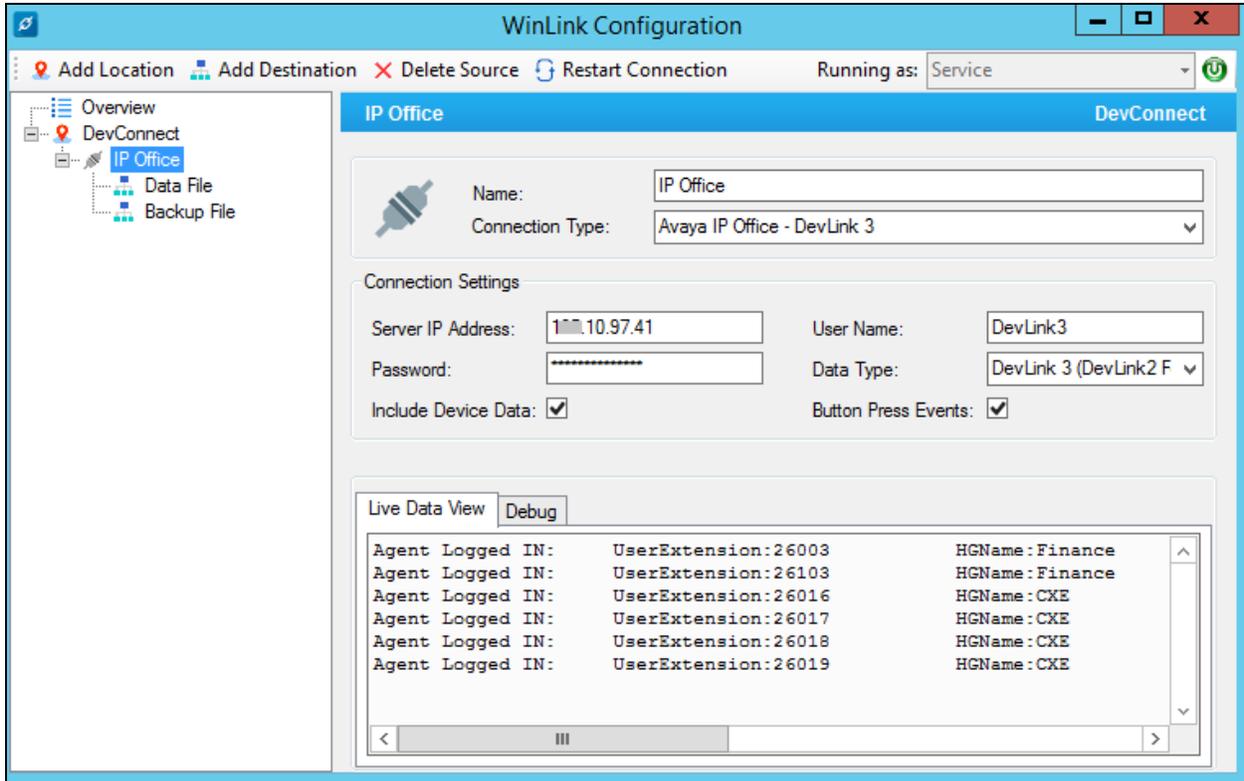
7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of IP Office Server Edition and Shadow CMS.

7.1. Verify Avaya IP Office Server Edition

On Shadow CMS Server, open WinLink Configuration application and start DevLink3 connection to IP Office. Verify the DevLink3 is connected successfully on IP Office SysMonitor as displayed below:

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7.2. Verify RSI Shadow CMS

From the Shadow CMS server, the **WinLink Configuration** screen below shows the call record received from IP Office Server Edition.

7.2.1. Delta3 Protocol Records

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7.2.2. Shadow CMS Report

Access the Shadow CMS web-based interface by using the URL "http://ip-address:81" in an Internet browser window, where "ip-address" is the IP address of Shadow CMS. The screen below is displayed. Log in using the appropriate credentials.

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The screen below is displayed.
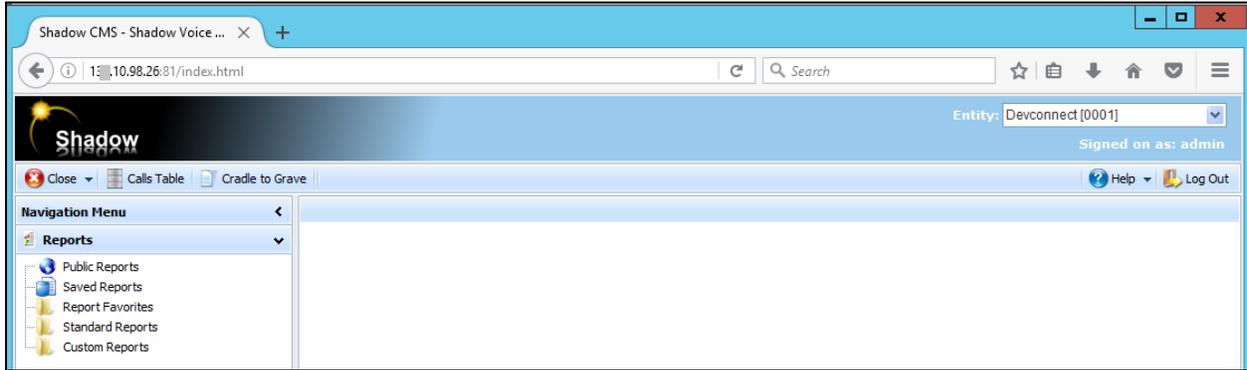
Select **Calls table** from the menu bar, as shown below report for call records of the IPO Server Edition.

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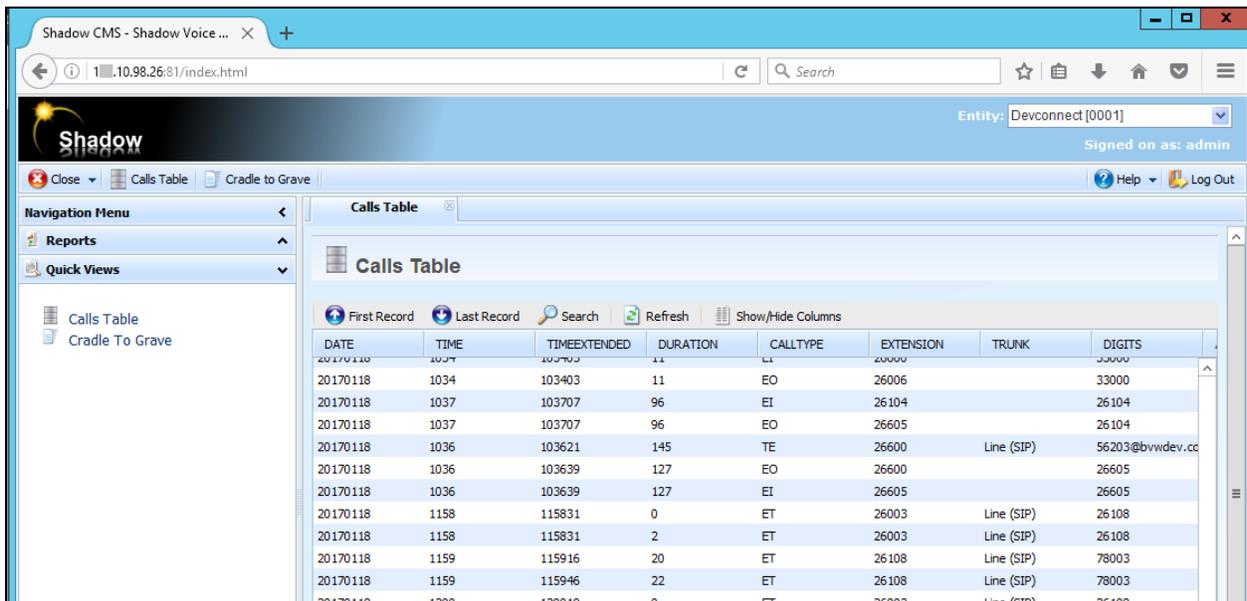
Click on **Cradle to Grave** from menu bar, the **Cradle to Grave** report is displayed. Verify that there is a reported entry makes sense to the Devlink3 data from Live data View from **Section 6.3**.
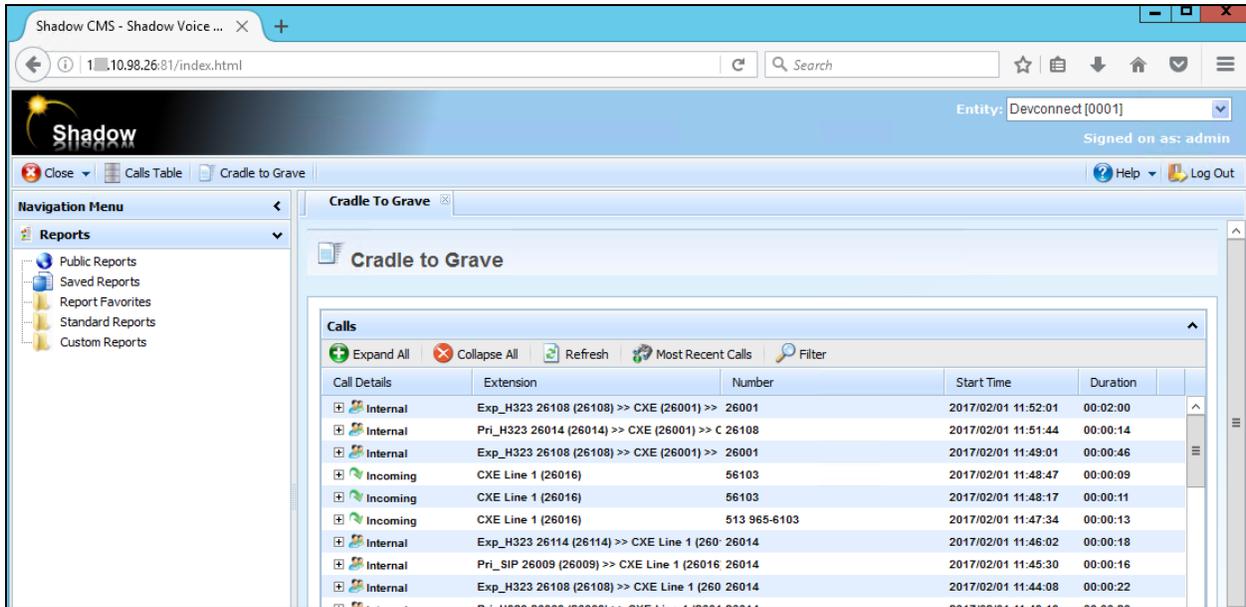
8. Conclusion

These Application Notes describe the configuration steps required for RSI Shadow CMS to successfully interoperate with Avaya IP Office Server Edition Release 10. All feature and serviceability test cases were completed successfully.

9. Additional References

This section references product documentation relevant to these Application Notes.

Documentation for Avaya products can be found at http://support.avaya.com.

[1] *IP Office 10 Administering Avaya IP Office Platform with Manager*, Release 10, September 2016.
[2] *Avaya IP Office DevLink3 Tutorial,* Issue 1.0, 2016.
[3] *Devlink3 API,* Introduced Issue 0.3, 2016.

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