



Avaya Solution & Interoperability Test Lab

Application Notes for Resource Software International Shadow CMS with Avaya IP Office – Issue 1.0

Abstract

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

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. RSI Shadow CMS is a telephone reporting solution that uses the Station Message Detail Recording (SMDR) records from Avaya IP Office to track phone calls and produce detailed reports.

1.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the proper parsing and displaying of SMDR data received from Avaya IP Office by RSI Shadow CMS for call scenarios including internal, voicemail, inbound PSTN, outbound PSTN, hold, reconnect, transfer, conference, park, account codes, and authorization codes. The verification also included a sanity check on the report that can be generated from the received SMDR data.

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

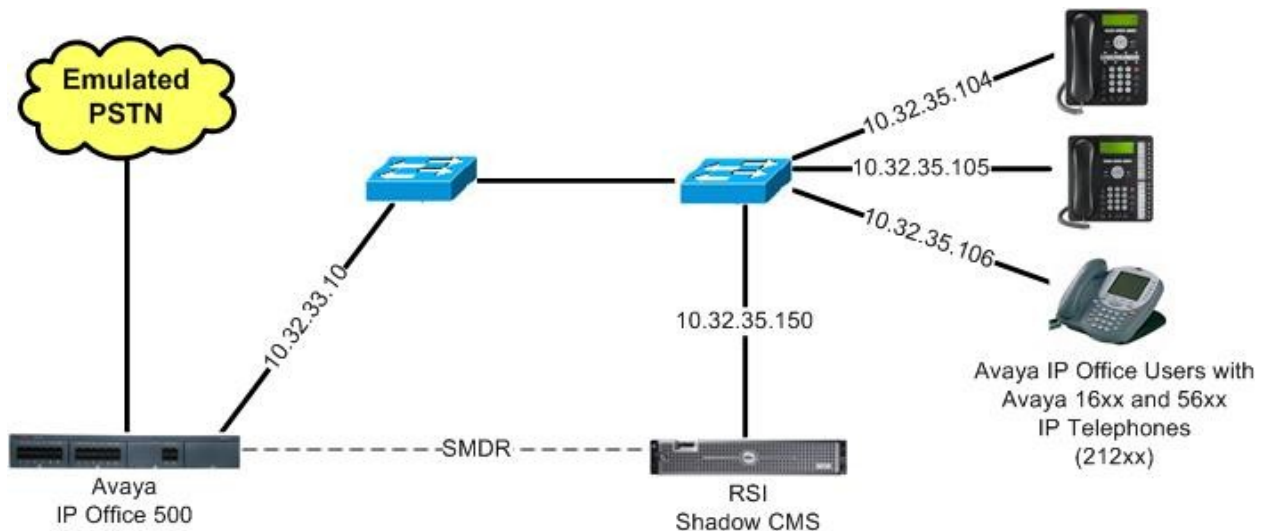
1.2. Support

Technical support on RSI Shadow CMS can be obtained through the following:

- **Phone:** (800) 891-6014
- **Email:** support@telecost.com
- **Web:** www.telecost.com

2. Reference Configuration

The configuration used for the compliance testing is shown below.



3. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office 500	6.0 (8)
Avaya 1608 and 1616 IP Telephone (H.323)	1.21
Avaya 5620SW IP Telephone (H.323)	2.9
RSI Shadow CMS	4.2.0.004

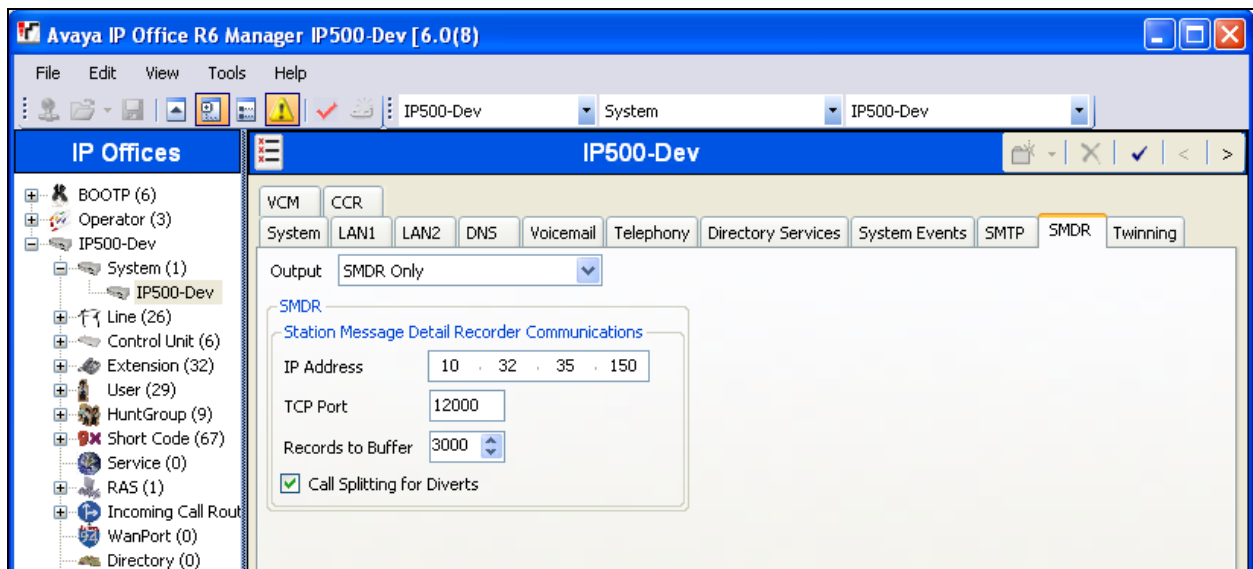
4. Configure Avaya IP Office

This section provides the procedures for configuring Avaya IP Office.

From a PC running the Avaya IP Office Manager application, select **Start > Programs > IP Office > Manager** to launch the Manager application. Select the proper IP Office system, and log in with the appropriate credentials.

From the configuration tree in the left pane, select **System** to display the **IP500-Dev** screen in the right pane. Select the **SMDR** tab. Select “SMDR Only” from the **Output** drop-down list, to display the **SMDR** section.

For **IP Address**, enter the IP address of RSI Shadow CMS. For **TCP Port**, enter a desired port, in this case “12000”. Modify **Records to Buffer** if desired, and check **Call Splitting for Diverts**. The record buffer is used by IP Office to cache SMDR records in the case of a communication failure with RSI Shadow CMS.



5. Configure RSI Shadow CMS

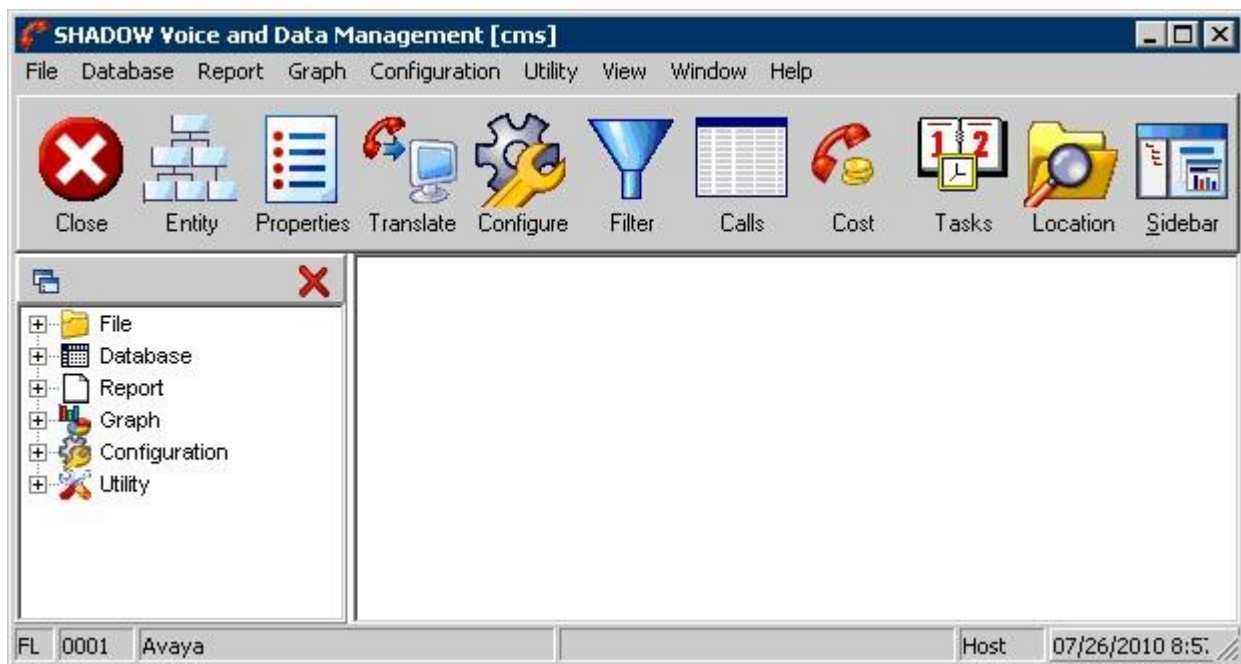
This section provides the procedures for configuring RSI Shadow CMS. The procedures include the following areas:

- Launch application
- Administer data source
- Administer socket settings

5.1. Launch Application

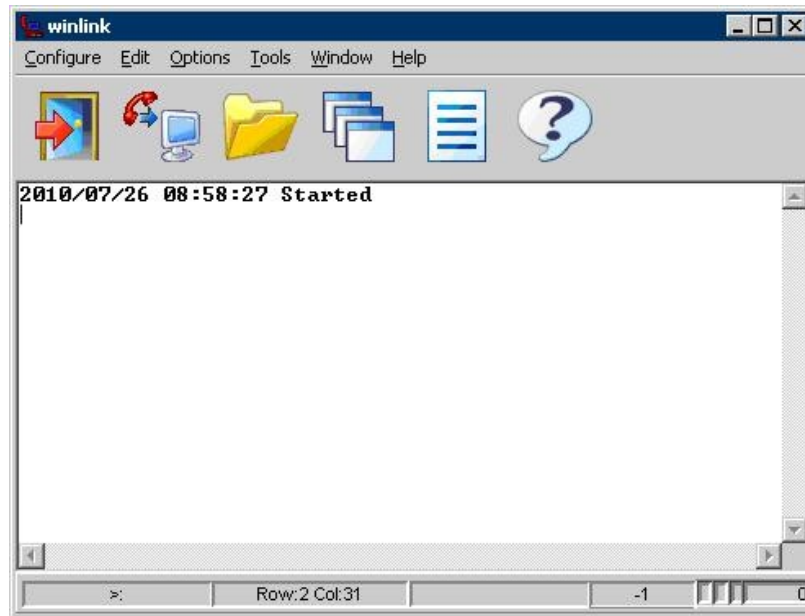
From the Shadow CMS server, select **Start > All Programs > RSI > CMS > CMS** to display the **SHADOW Voice and Data Management** screen.

Select **Utility > Winlink Data Storage** from the top menu.

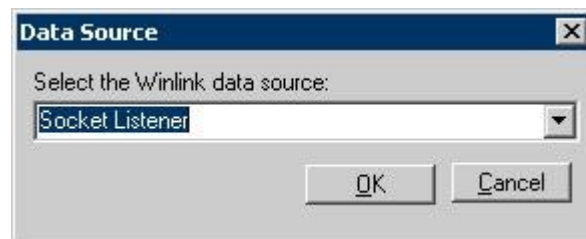


5.2. Administer Data Source

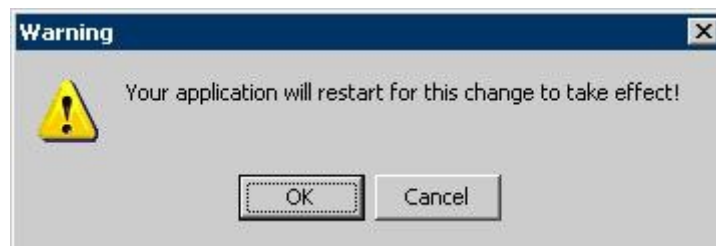
The **winlink** screen is displayed. Select **Configure > Data Source** from the top menu.



The **Data Source** screen is displayed next. Select “Socket Listener” from the drop-down list, as shown below.

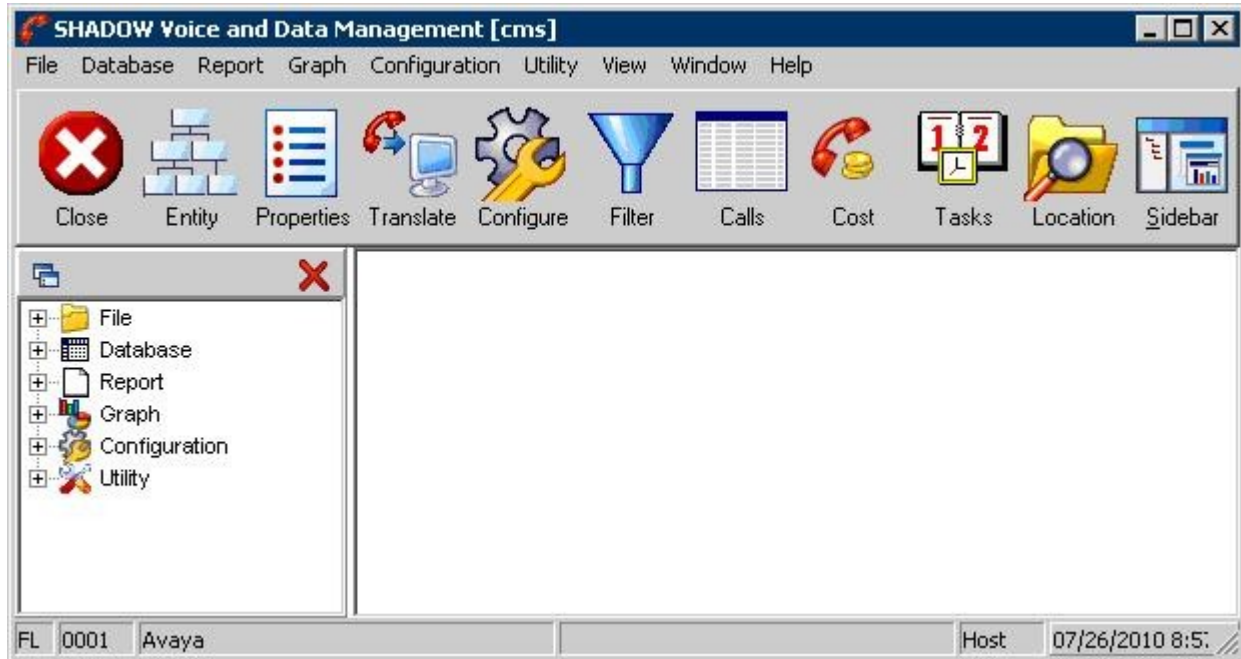


The **Warning** screen is displayed. Select **OK** to restart the application.

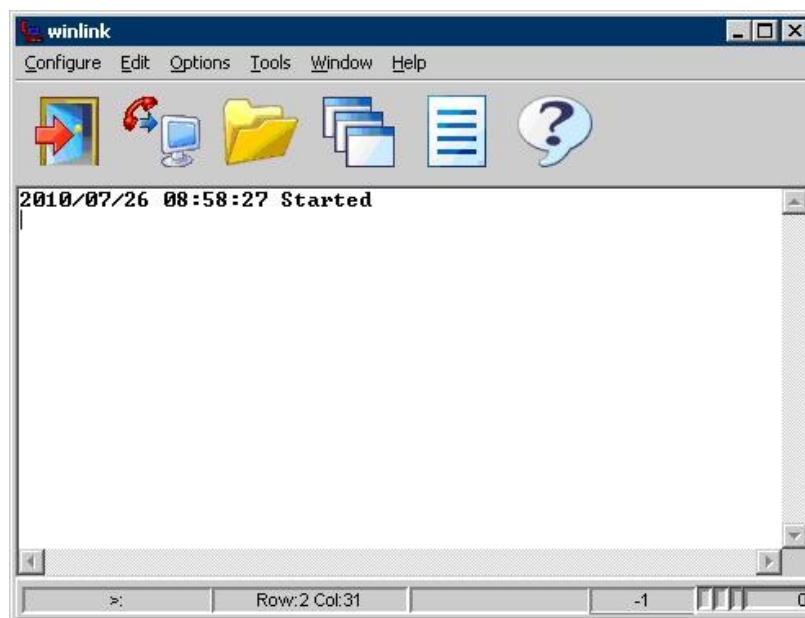


5.3. Administer Socket Settings

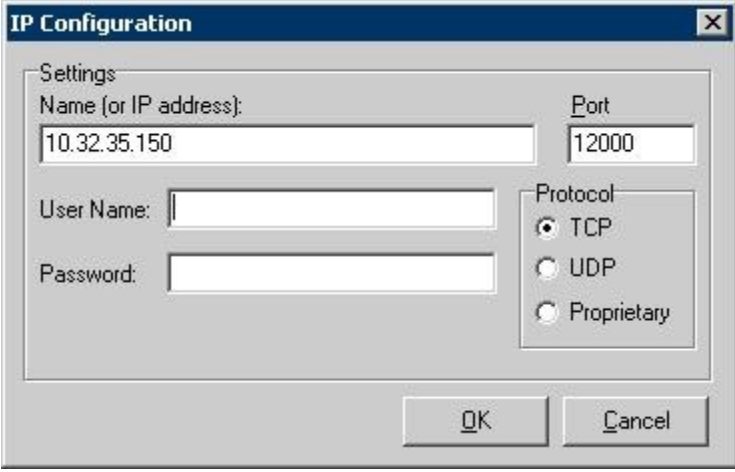
The **SHADOW Voice and Data Management** screen is displayed again. Select **Utility > Winlink Data Storage** from the top menu.



The **winlink** screen is displayed. Select **Configure > Telnet or Socket Settings** from the top menu.



The **IP Configuration** screen is displayed. For **Name (or IP address)**, enter the IP address of the Shadow CMS server. For **Port**, enter the TCP port from **Section 4**. Retain the default values in the remaining fields.

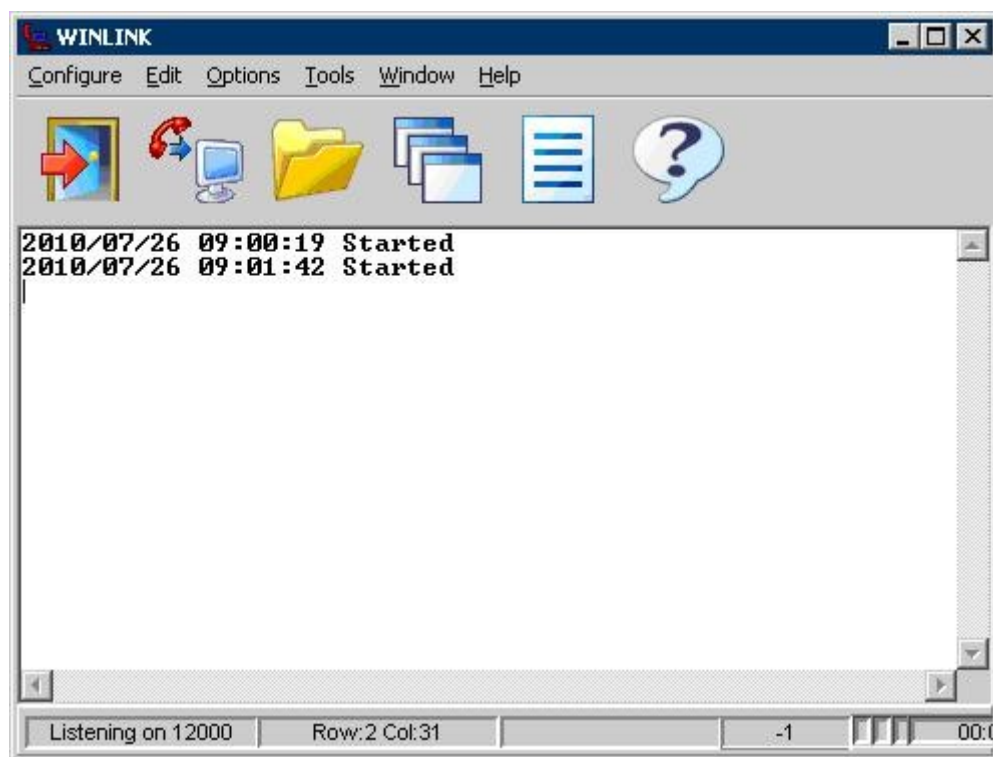


The IP Configuration dialog box is shown with the following fields and options:

- Name (or IP address):** 10.32.35.150
- Port:** 12000
- User Name:** (empty field)
- Password:** (empty field)
- Protocol:**
 - ☒ TCP
 - ☐ UDP
 - ☐ Proprietary

Buttons: OK, Cancel

The **WINLINK** screen is displayed next. In the lower left portion of the screen, verify that the application is listening on the proper TCP port, as shown below.



6. 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 SMDR data by RSI Shadow CMS.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cables on the RSI Shadow CMS server.

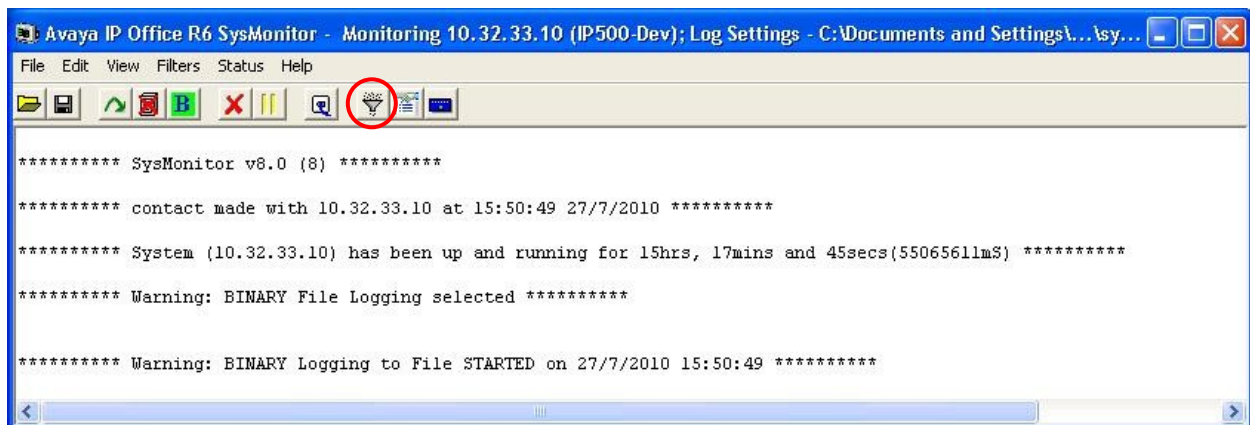
All test cases were executed and passed.

7. Verification Steps

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

7.1. Verify Avaya IP Office

From a PC running the Avaya IP Office Monitor application, select **Start > Programs > IP Office > Monitor** to launch the application. The **Avaya IP Office R6 SysMonitor** screen is displayed, as shown below. Click on the **Filter** icon.



The **All Settings** screen is displayed. Check **Call Detail Records** and **CDR Extra diagnostics**, as shown below.

All Settings

ISDN	Key/Lamp	Directory	Media	PPP	R2	Routing	Services	SIP	System
T1		VPN		WAN		SCN			
ATM	Call	DTE	EConf	Frame Relay	GDD	H.323	Interface		

Events

- ☐ Call
- ☐ Call Delta
- ☐ Call Delta2
- ☐ Call Logging
- ☐ Extension
- ☐ Line
- ☐ MonCM
- ☐ MonIVR
- ☐ Targeting
- ☐ ARS
- ☐ LRQ
- ☐ ACD
- ☐ IP Dect
- ☒ Call Detail Records
- ☒ CDR Extra diagnostics

Packets

- ☐ Call
- ☐ Extension Send
- ☐ Extension Receive
- ☐ Extension TxC
- ☐ Extension RxC
- ☐ Extension TxP
- ☐ Extension RxP
- ☐ Line Send
- ☐ Line Receive
- ☐ Short Code Msgs
- ☐ Supplementary services
- ☐ IP Dect Msgs

Embedded Voicemail

- ☐ Voicemail Client
- ☐ Audio Response
- ☐ Message Recorder
- ☐ Housekeeping
- ☐ Flash Storage
- ☐ Silence
- ☐ Email

PC Voicemail

- ☒ Voicemail Event

Trace Colour █

Default All Clear All Tab Clear All Tab Set All OK Cancel

Save File Load File Select File

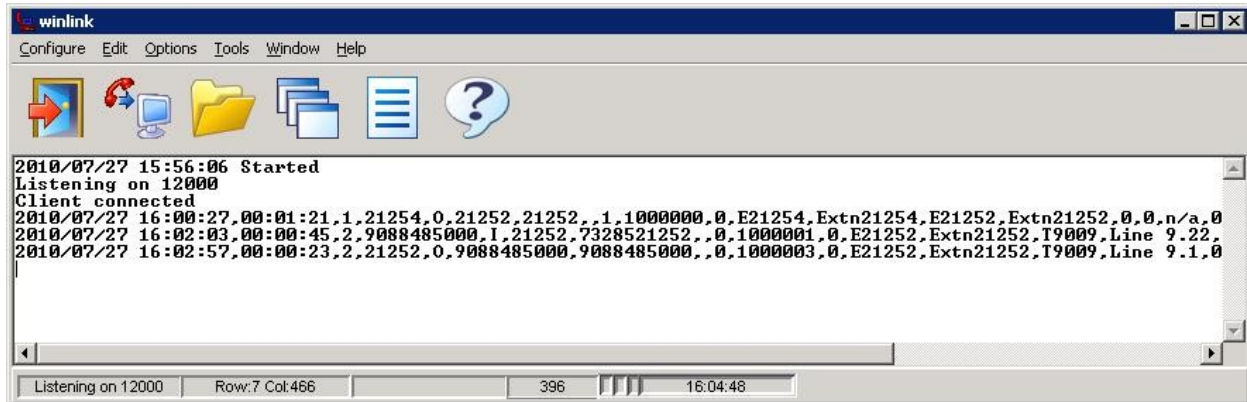
Make and complete a few phone calls, including internal, inbound from the PSTN, and outbound to the PSTN. Verify that raw SMDR data is displayed on the **Avaya IP Office R6 SysMonitor** screen, as shown below.

```

***** SysMonitor v8.0 (8) [connected to 10.32.33.10 (IP500-Dev)] *****
55807358mS CDR: SMDRInfo Trigger bck to file, c_time=15:59:53, nxt_save_time=00:00:00, last_save
55924229mS CDR: Initialising communications [IP Address = 10.32.35.150, port 12000 [TCP]]
55924230mS CDR: SMDR OUTPUT '2010/07/27 16:00:27,00:01:21,1,21254,0,21252,21252,,1,1000000,0,E21254,Extn21254,E21
55924242mS CDR: TCP Session is operational
55924242mS CDR: Established TCP communications - framecount=1
55924242mS CDR: Using TCP to send data to 10.32.35.150 on port 12000
55983430mS CDR: SMDR OUTPUT '2010/07/27 16:02:03,00:00:45,2,9088485000,I,21252,7328521252,,0,1000001,0,E21252,Ext
55983431mS CDR: Using TCP to send data to 10.32.35.150 on port 12000
56033107mS CDR: SMDR OUTPUT '2010/07/27 16:02:57,00:00:23,2,21252,0,9088485000,9088485000,,0,1000003,0,E21252,Ext
56033108mS CDR: Using TCP to send data to 10.32.35.150 on port 12000
  
```

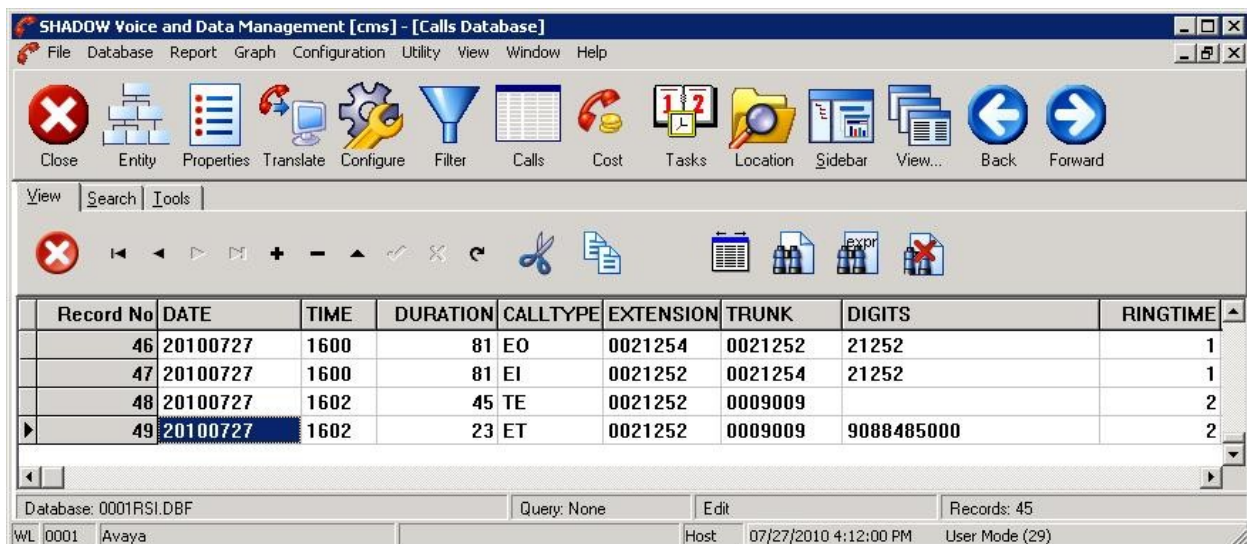
7.2. Verify RSI Shadow CMS

From the RSI Shadow CMS server, follow the navigation in **Section 5.1** to display the **winlink** screen. Verify that an entry is displayed for each SMDR record output from **Section 7.1**.



Follow the navigation in **Section 5.1** to display the **SHADOW Voice and Data Management** screen. Click on the **Calls** icon, followed by **Translate** to display the translated SMDR records. Verify that the appropriate number of entries is created for the SMDR records from **Section 7.1**, and note that two translated records are created by Shadow CMS for a call between two internal parties.

Select **Report > Chronological > Chronological Detail** from the top menu, and click **OK** in the Report Generator screen (not shown below).



The **Chronological Detail** report is displayed, as shown below. Verify that the report entries match to the entries from **Section 7.1**.

SHADOW Voice and Data Management [cms] - [Chronological Detail]

File Database Report Graph Configuration Utility View Window Help

Close Entity Properties Translate Configure Filter Calls Cost Tasks Location Sidebar View... Back Forward

1 of 1 100% Total: 32 100% 32 of 49

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Chronological Detail

Avaya
Testing Labs Basking Ridge NJ

Report Date: All Print Date: 2010-07-27

Date	Time	Dir	From	To	Location	Digits	Duration	Cost	Route	Comment
2010.07.27	16:02	In	T0009009	E0021252	Incoming	9088485000	00:00:45	0.00	INC	
2010.07.27	16:02	Out	E0021252	T0009009	BERNARDSVINJ	908 848-5000	00:00:23	0.00	LOCAL	
2010.07.27	16:00	Int	E0021254	E0021252	Internal	21252	00:01:21	0.00	Local-to-Local	

Read: 49 Found: 32

WL 0001 Avaya Host 07/27/2010 4:17:46 PM User Mode (29)

8. Conclusion

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

9. Additional References

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

1. *IP Office 6.0 Documentation CD*, February 2010, available at <http://support.avaya.com>.
2. *Resource Software International Ltd. Avaya IP Office RSI CMS Integration Guide*, available from RSI Support.

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