



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

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# **Application Notes for Resource Software International Revolution Web Call Accounting with Avaya IP Office – Issue 1.0**

### **Abstract**

These Application Notes describe the configuration steps required for Resource Software International Revolution Web Call Accounting to interoperate with Avaya IP Office. Resource Software International Revolution Web Call Accounting is a browser-based call accounting 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) Revolution Web Call Accounting to interoperate with Avaya IP Office. RSI Revolution Web Call Accounting is a browser-based call accounting solution that uses the Station Message Detail Recording (SMDR) records from Avaya IP Office to track phone calls and produce detailed reports.

## 2. General Test Approach and Test Results

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 Revolution Web Call Accounting. The feature test cases were performed manually.

The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet cables on the RSI Revolution Web Call Accounting server.

### 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 SMDR data received from Avaya IP Office by RSI Revolution Web Call Accounting for call scenarios including internal calls, voicemail, inbound PSTN, outbound PSTN, transfer, conference, 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 Revolution Web Call Accounting to recover from adverse conditions, such as disconnecting/reconnecting the Ethernet cable on the RSI Revolution Web Call Accounting server.

### 2.2. Test Results

All test cases were executed and passed.

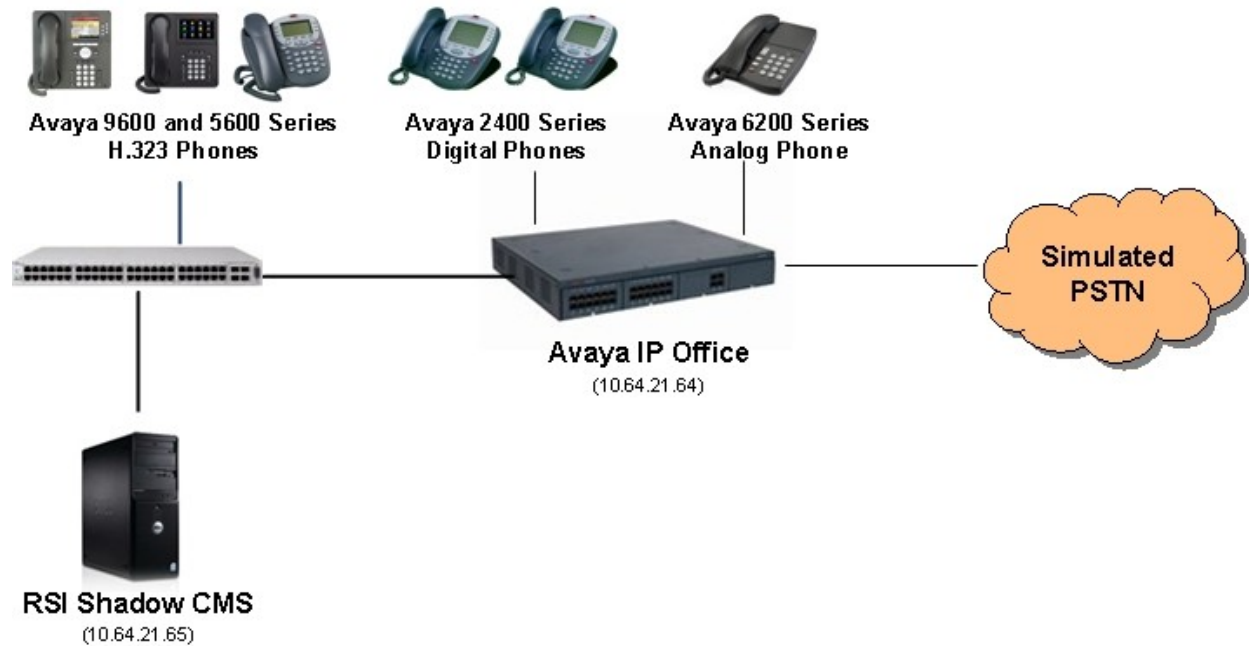
### 2.3. Support

Technical support on RSI Revolution Web Call Accounting can be obtained through the following:

- **Phone:** 905-576-4575
- **Email:** [support@telecost.com](mailto:support@telecost.com)
- **Web:** [www.telecost.com](http://www.telecost.com)

### 3. Reference Configuration

The configuration used for the compliance testing is shown below.



### 4. Equipment and Software Validated

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

Equipment	Software
Avaya IP Office 500 <ul style="list-style-type: none"><li>DIGSTA8/PRIS U</li><li>VCM32</li><li>ANALOG POTS30V2</li></ul>	8.0 (13) <ul style="list-style-type: none"><li>8.0 (13)</li><li>8.0 (13)</li><li>10.0 (13)</li></ul>
Avaya 6200 Series Analog Telephone	—
Avaya 2400 Series Digital Telephones	Release 6
Avaya 5600 Series IP Telephones (H.323)	2.9.1
Avaya 9600 Series IP Telephones (H.323) <ul style="list-style-type: none"><li>96x0</li><li>96x1</li></ul>	3.1 SP2 6.0 SP5
RSI Revolution Web Call Accounting on Windows XP Professional Service Pack 3 PC	2.7 Webserver Version 2.6999 [Kernel Version 2.6.1.97.6]

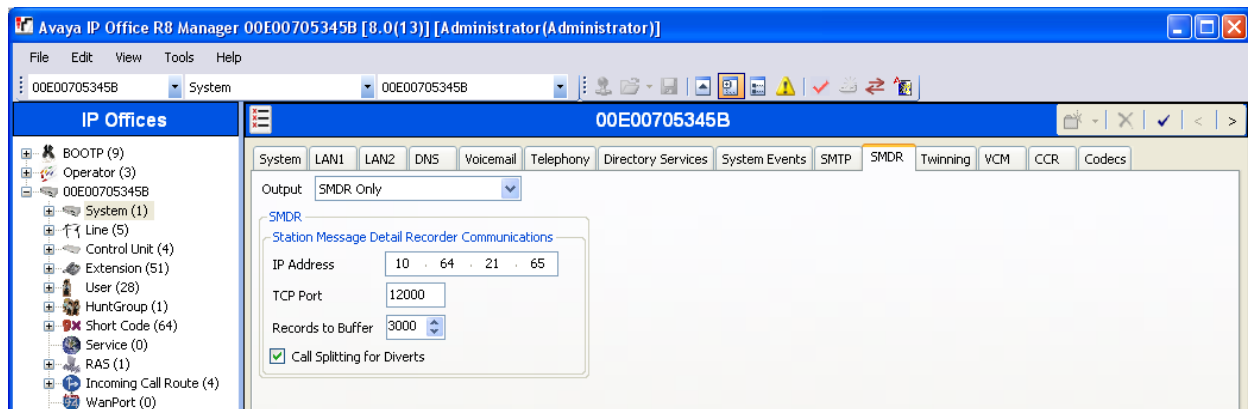
## 5. Configure Avaya IP Office

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 (not shown).

From the configuration tree in the left pane, select the appropriate **System** to display the system screen tabs 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 the RSI Revolution Web Call Accounting server. 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 Revolution Web Call Accounting.



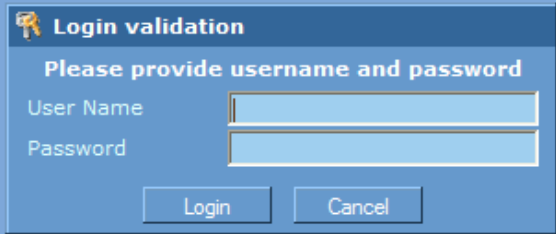
## 6. Configure RSI Revolution Web Call Accounting

This section provides the procedures for configuring RSI Revolution Web Call Accounting. The procedures include the following areas:

- Launch application
- Administer PBX communication

### 6.1. Launch Application

From the Revolution Web Call Accounting server, select **Start > All Programs > RSI > Run Revolution Web Call Accounting** to display the **Login validation** screen in a browser window. Log in using the appropriate credentials.



The screenshot shows a web browser window with a blue background. In the center is a 'Login validation' dialog box. The dialog box has a title bar with a key icon and the text 'Login validation'. Below the title bar, it says 'Please provide username and password'. There are two input fields: 'User Name' and 'Password'. Below the input fields are two buttons: 'Login' and 'Cancel'. At the bottom of the browser window, there is a line of text: 'For technical support and information visit us at [www.webcallaccounting.com](http://www.webcallaccounting.com) Email: [sales@webcallaccounting.com](mailto:sales@webcallaccounting.com) | [What is default Administrator's password?](#) | [Search FAQ](#)'.

## 6.2. Administer PBX Communication

The **Home** screen is displayed. Select **Configuration > PBX Communication** from the left pane.



The **Configuration** screen is displayed next. Select the **Common** tab. Enter a desired **PBX Name** and **Description**, and retain the default value in the remaining field.

The screenshot shows the 'Configuration' screen for 'Revolution Web Call Accounting Version 2.699'. The left sidebar contains a navigation menu with 'Main' (selected), 'Configuration', 'Common Settings', 'PBX Communication', 'Web Config', 'Security Accounts', 'Administration', 'Maintenance', 'Settings', 'Views', 'Reports', 'Support', and 'Log files'. The main content area is titled 'Configuration' and contains a sub-header 'PBX Communication - This page allows you to configure PBX communication.' Below this is a warning message: 'WARNING: Incorrect root folder path and/or script may cause system to be unable to parse calls.' The main form has four tabs: 'Common' (selected), 'Port', 'Driver', and 'Properties'. The 'Common' tab contains three input fields: 'PBX ID' with a dropdown menu showing '<New>', 'PBX Name' with the text 'ipo', and 'Description' with the text 'v8'. Below the form is a message: 'Your PBX type not listed here? Click [here](#) for additional information.' and three buttons: 'Save', 'Delete', and 'Cancel'. At the bottom, there is a footer with technical support information: 'For technical support and information visit us at [www.webcallaccounting.com](http://www.webcallaccounting.com) Email: [sales@webcallaccounting.com](mailto:sales@webcallaccounting.com) | [Learn more about configuring PBX](#) | [Search FAQ](#)'.

Select the **Port** tab. For **Port**, select “TCP” from the drop-down list. For **Port** number, enter the TCP port number from **Section 5**.

The screenshot shows the 'Configuration' section of the 'Revolution Web Call Accounting Version 2.699' interface. On the left is a navigation menu with links: Main, Configuration, Common Settings, PBX Communication, Web Config, Security Accounts, Administration, Maintenance, Settings, Views, Reports, Support, and Log files. The main content area is titled 'PBX Communication - This page allows you to configure PBX communication.' and includes a warning message: 'WARNING: Incorrect root folder path and/or script may cause system to be unable to parse calls.' Below this is a tabbed interface with 'Common', 'Port', 'Driver', and 'Properties' tabs. The 'Port' tab is active, showing a 'Port' dropdown menu set to 'TCP' and an 'IP Parameters' section with a 'Port' text box containing '12000'. At the bottom of the form are 'Save', 'Delete', and 'Cancel' buttons. A footer note provides technical support information: 'For technical support and information visit us at [www.webcallaccounting.com](http://www.webcallaccounting.com) Email: [sales@webcallaccounting.com](mailto:sales@webcallaccounting.com) | [Learn more about configuring PBX](#) | [Search FAQ](#)'.



Select the **Driver** tab. For **PBX driver**, select “Avaya (IP Office 6+)” from the drop-down list. Retain the default values in the remaining fields. Click **Save**.

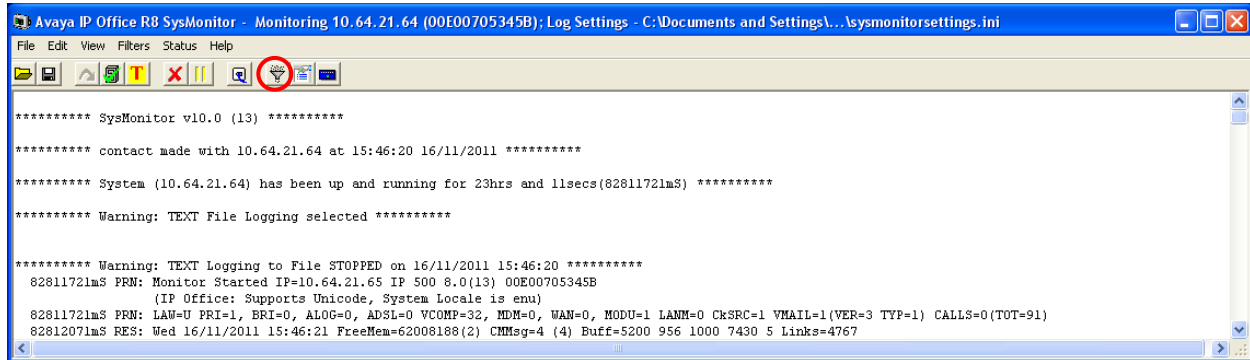
The screenshot shows the 'Configuration' page for 'Revolution Web Call Accounting Version 2.699'. The left sidebar contains navigation links: Main, Configuration, Common Settings, PBX Communication, Web Config, Security Accounts, Administration, Maintenance, Settings, Views, Reports, Support, and Log files. The main content area is titled 'PBX Communication - This page allows you to configure PBX communication.' and includes a warning: 'WARNING: Incorrect root folder path and/or script may cause system to be unable to parse calls.' Below the warning is a tabbed interface with four tabs: 'Common', 'Port', 'Driver', and 'Properties'. The 'Driver' tab is active, showing a form with the following fields: 'PBX driver' (a dropdown menu with 'Avaya (IP Office 6)' selected), 'Driver description' (a text area containing 'Version 1.3. This driver supports outgoing, incoming calls and Account Codes. Last update 6 Feb 2008.'), and 'Duration correction (sec.)' (a text input field with the value '0'). Below the form, there is a message: 'Your PBX type not listed here? Click [here](#) for additional information.' and three buttons: 'Save', 'Delete', and 'Cancel'. At the bottom of the page, there is a footer with technical support information: 'For technical support and information visit us at [www.webcallaccounting.com](http://www.webcallaccounting.com) Email: [sales@webcallaccounting.com](mailto:sales@webcallaccounting.com) | [Learn more about configuring PBX](#) | [Search FAQ](#)'.

## 7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Avaya IP Office and RSI Revolution Web Call Accounting.

### 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 R8 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. Click **OK**.

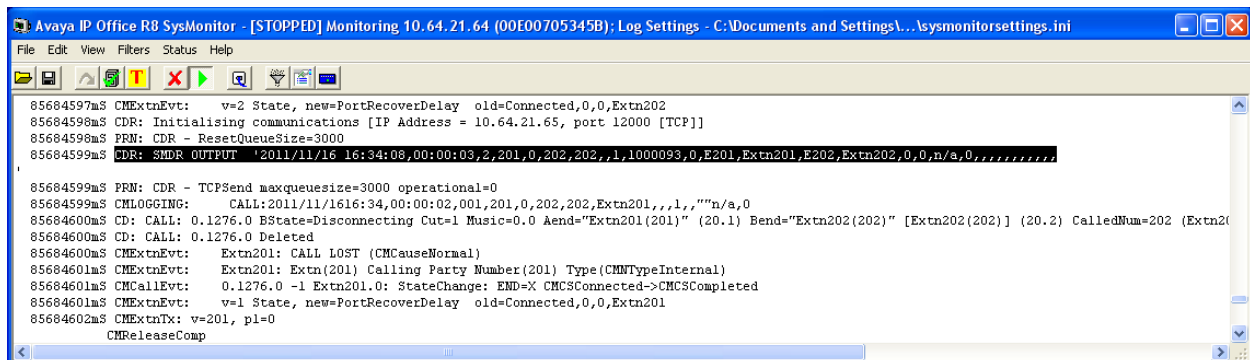
The screenshot shows the 'All Settings' window with the following tabs and settings:

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

<b>Events</b> <input checked="" type="checkbox"/> Call <input checked="" type="checkbox"/> Call Delta <input type="checkbox"/> Call Delta2 <input checked="" type="checkbox"/> Call Logging <input checked="" type="checkbox"/> Extension <input type="checkbox"/> Line <input type="checkbox"/> MonCM <input type="checkbox"/> MonIVR <input checked="" type="checkbox"/> <b>Targeting</b> <input checked="" type="checkbox"/> <b>ARS</b> <input checked="" type="checkbox"/> <b>LRQ</b> <input type="checkbox"/> ACD <input type="checkbox"/> <b>IP Dect</b> <input checked="" type="checkbox"/> Call Detail Records <input checked="" type="checkbox"/> CDR Extra diagnostics  Trace Colour <span style="background-color: black; color: black;"> </span>	<b>Packets</b> <input type="checkbox"/> Call <input checked="" type="checkbox"/> Extension Send <input checked="" type="checkbox"/> Extension Receive <input type="checkbox"/> Extension TxC <input type="checkbox"/> Extension RxC <input checked="" type="checkbox"/> Extension TxP <input checked="" type="checkbox"/> Extension RxP <input checked="" type="checkbox"/> Line Send <input checked="" type="checkbox"/> Line Receive <input type="checkbox"/> Short Code Msgs <input type="checkbox"/> Supplementary services <input type="checkbox"/> <b>IP Dect Msgs</b>	<b>Embedded Voicemail</b> <input type="checkbox"/> Voicemail Client <input type="checkbox"/> Audio Response <input type="checkbox"/> Message Recorder <input type="checkbox"/> Housekeeping <input type="checkbox"/> Flash Storage <input type="checkbox"/> Silence <input type="checkbox"/> Email  <b>PC Voicemail</b> <input type="checkbox"/> Voicemail Events <input type="checkbox"/> Voicemail Messaging
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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 R8 SysMonitor** screen, as shown below.



The screenshot shows the Avaya IP Office R8 SysMonitor application window. The title bar reads "Avaya IP Office R8 SysMonitor - [STOPPED] Monitoring 10.64.21.64 (00E00705345B); Log Settings - C:\Documents and Settings\...\sysmonitorsettings.ini". The window contains a list of log entries with timestamps and event details. A redacted line is visible in the log output.

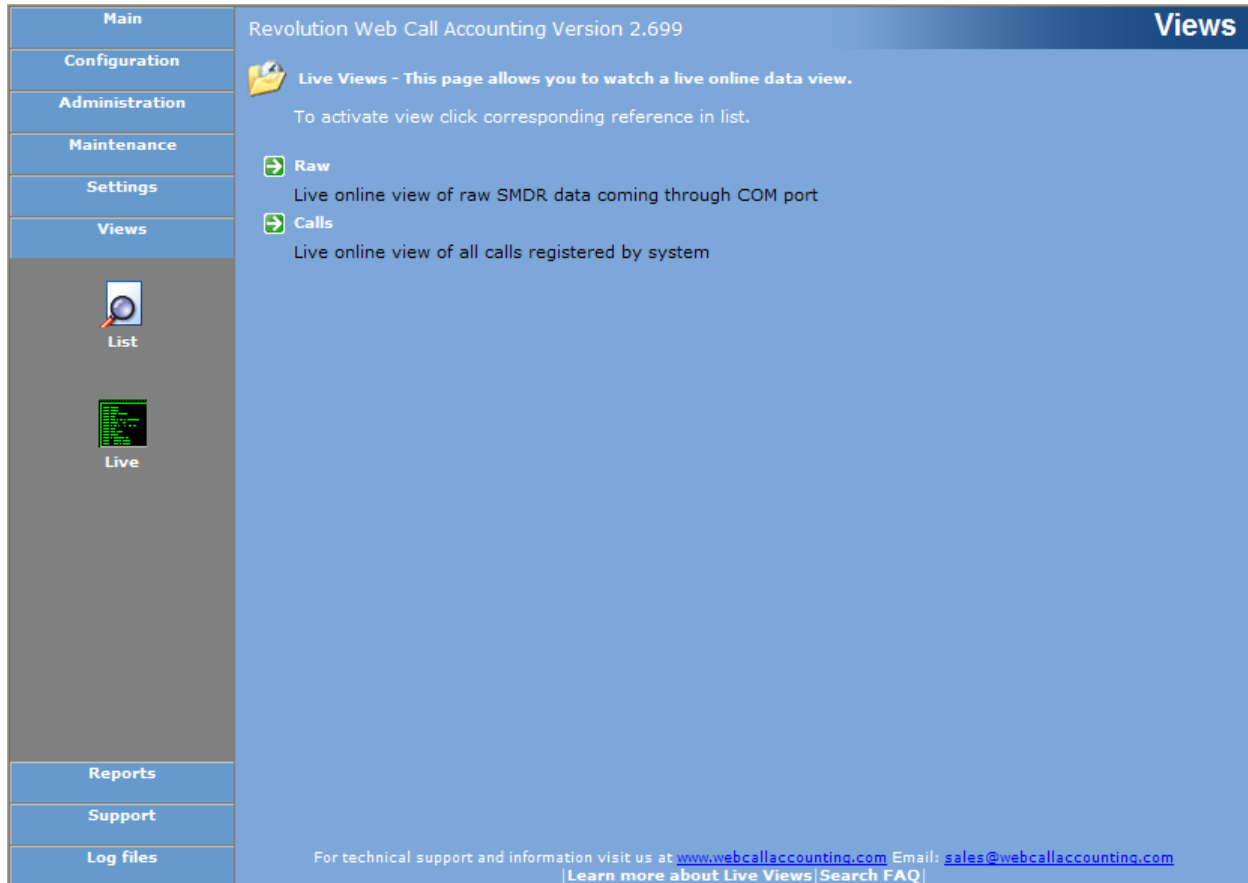
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85684597mS CMExtnEvt: v=2 State, new=PortRecoverDelay old=Connected,0,0,Extn202
85684598mS CDR: Initialising communications [IP Address = 10.64.21.65, port 12000 [TCP]]
85684598mS PFM: CDR - ResetQueueSize=3000
85684599mS CDR: SMDR OUTPUT '2011/11/16 16:34:08,00:00:03,2,201,0,202,202,,1,1000093,0,E201,Extn201,E202,Extn202,0,0,n/a,0,.....'
85684599mS PFM: CDR - TCPSend maxqueueSize=3000 operational=0
85684599mS CMLOGGING: CALL:2011/11/1616:34,00:00:02,001,201,0,202,202,Extn201,,,1,,,"n/a,0
85684600mS CD: CALL: 0.1276.0 BState=Disconnecting Cut=1 Music=0.0 Aend="Extn201(201)" (20.1) Bend="Extn202(202)" [Extn202(202)] (20.2) CalledNum=202 (Extn202)
85684600mS CD: CALL: 0.1276.0 Deleted
85684600mS CMExtnEvt: Extn201: CALL LOST (CMCauseNormal)
85684601mS CMExtnEvt: Extn201: Extn(201) Calling Party Number(201) Type(CMNTTypeInternal)
85684601mS CMCallEvt: 0.1276.0 -1 Extn201.0: StateChange: END=X CMCSConnected->CMCSCompleted
85684601mS CMExtnEvt: v=1 State, new=PortRecoverDelay old=Connected,0,0,Extn201
85684602mS CMExtnTx: v=201, pl=0
CMReleaseComp
  
```






























## 7.2. Verify RSI Revolution Web Call Accounting

Access the Revolution Web Call Accounting web interface by using the URL “https://ip-address:3549” in an Internet browser window, where “ip-address” is the IP address of the Revolution Web Call Accounting server. Log in using the appropriate credentials (not shown).

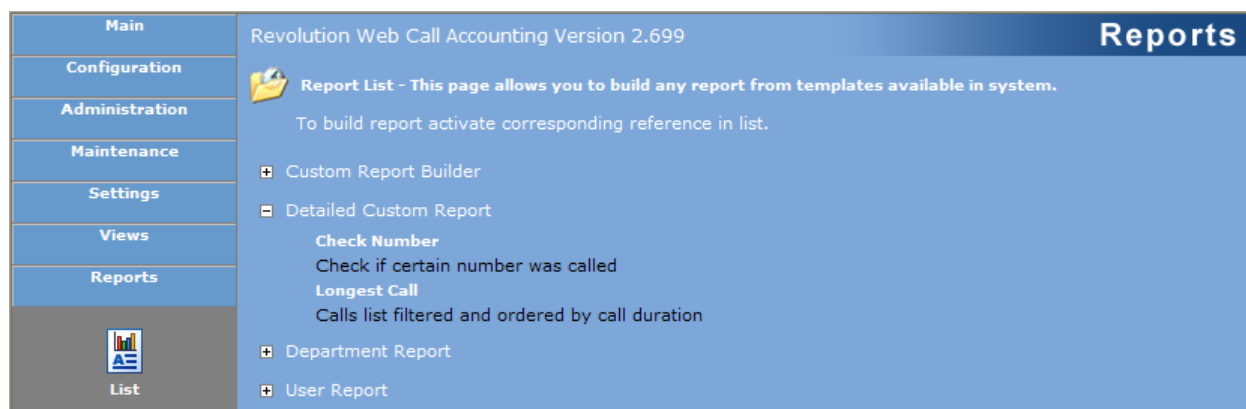
The **Home** screen shown in **Section 6.1** is displayed. Select **Views > Live** from the left pane, to display the **Views** screen shown below. Select **Calls** from the right pane.



The **Live Views** screen is displayed. Verify that an entry is displayed for each SMDR record output from **Section 7.1**.

Main	Revolution Web Call Accounting Version 2.699									Live Views
Configuration	 Calls - This page allows you to view calls as they are processed by the system.									
Administration		Date	CO	User/Ext	Duration	Region	Number	Cost	Type	Source
Maintenance		11/16/2011 16:34:08		Unknown/201	00:00:03		202		INT	10.64.21.64
Settings		11/16/2011 15:21:18		Unknown/201	00:00:01		202		INT	10.64.21.64
Views		11/16/2011 14:46:20	9001	Unknown/9001	00:00:06		53005		O	10.64.21.64
		11/16/2011 14:46:13	9001	Unknown/201	00:00:14		53002		I	10.64.21.64
		11/16/2011 14:46:20	9001	Unknown/204	00:00:00		53005		OX	10.64.21.64
		11/16/2011 14:45:39	9543	Unknown/201	00:00:07		17		INTV	10.64.21.64
		11/16/2011 14:45:36	9511	Unknown/202	00:00:00		17		INTV	10.64.21.64
		11/16/2011 14:45:21	9542	Unknown/202	00:00:14		17		INTV	10.64.21.64
		11/16/2011 14:44:43	11002	Unknown/201	00:00:11		202		INTC	10.64.21.64
		11/16/2011 14:44:33	11003	Unknown/203	00:00:00				INTC	10.64.21.64
		11/16/2011 14:44:38	11001	Unknown/202	00:00:11				INTC	10.64.21.64
		11/16/2011 14:44:33		Unknown/201	00:00:09		203		INTX	10.64.21.64
		11/16/2011 14:44:38		Unknown/201	00:00:02		202		INTX	10.64.21.64
		11/16/2011 14:41:55		Unknown/201	00:00:02		202		INT	10.64.21.64
		11/16/2011 14:40:17	9001	Unknown/201	00:01:13		53002		I	10.64.21.64
		11/16/2011 14:38:37	9542	Unknown/201	00:00:13		202		INTV	10.64.21.64
		11/16/2011 14:37:55		Unknown/202	00:00:00		201		INT	10.64.21.64
		11/16/2011 14:34:55		Unknown/201	00:00:00				O	10.64.21.64
		11/16/2011 14:33:40	9001	Unknown/204	00:00:03		53002		O	10.64.21.64
		11/16/2011 14:30:31	9001	Unknown/201	00:00:00		53002		O	10.64.21.64
		11/16/2011 14:20:11	9001	Unknown/203	00:00:00		53002		O	10.64.21.64
		11/16/2011 14:18:19	9001	Unknown/201	00:00:10		53002		I	10.64.21.64
		11/16/2011 14:17:19		Unknown/202	00:00:04		200		INT	10.64.21.64
		11/16/2011 14:14:42		Unknown/201	00:00:08		381		INT	10.64.21.64
		11/16/2011 14:14:42		Unknown/202	00:00:31				INTX	10.64.21.64
		11/16/2011 14:13:27		Unknown/201	00:00:18		202		INT	10.64.21.64
Reports		11/16/2011 14:12:05		Unknown/201	00:00:04		202		INT	10.64.21.64
Support		11/16/2011 13:29:07		Unknown/201	00:00:03		202		INT	10.64.21.64
Log files	28 rows generated in 0.29 sec.									
	For technical support and information visit us at <a href="http://www.webcallaccounting.com">www.webcallaccounting.com</a> Email: <a href="mailto:sales@webcallaccounting.com">sales@webcallaccounting.com</a>   <a href="#">Learn more about Live Views</a>   <a href="#">Search FAQ</a>									

Select **Reports > List** in the left pane, to display the **Reports** screen. Select **Detailed Custom Report > Check Number** in the right pane, and retain the default values in the next screen (not shown below).



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

Check Number						
Wed Nov 16 2011 16:37:58						
Call Time	CO	User/Ext	Duration	Region	Number	Cost Type
11/16/2011 16:34:08		Unknown/201	00:00:03		202	INT
11/16/2011 15:21:18		Unknown/201	00:00:01		202	INT
11/16/2011 14:46:20	9001	Unknown/204	00:00:00		53005	OX
11/16/2011 14:46:20	9001	Unknown/9001	00:00:06		53005	O
11/16/2011 14:46:13	9001	Unknown/201	00:00:14		53002	I
11/16/2011 14:45:39	9543	Unknown/201	00:00:07		17	IN...
11/16/2011 14:45:36	9511	Unknown/202	00:00:00		17	IN...
11/16/2011 14:45:21	9542	Unknown/202	00:00:14		17	IN...

## 8. Conclusion

These Application Notes describe the configuration steps required for RSI Revolution Web Call Accounting to successfully interoperate with Avaya IP Office. All feature and serviceability test cases were executed and passed.

## 9. Additional References

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

- [1] *IP Office 8.0, IP Office Installation*, November 2011, available at <http://support.avaya.com>.
- [2] *IP Office Manager 10.0*, November 2011, available at <http://support.avaya.com>.
- [3] *Resource Software International Ltd. Avaya IP Office RSI Revolution Web Integration Guide*, available from RSI Support.



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