



Avaya Solution & Interoperability Test Lab

Application Notes for Calero VeraSMART eCAS with Avaya IP Office Server Edition Solution – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the Calero VeraSMART eCAS call accounting software to successfully interoperate with Avaya IP Office Server Edition Solution.

Calero VeraSMART eCAS is a call accounting software is a reporting solution that uses the Station Message Detail Recording records from Avaya IP Office to track phone calls and produce detailed reports. Call records can be generated for various types of calls.

Readers should pay attention to **Section 2**, in particular the scope of testing as outlined in **Section 2.1** as well as any 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 Calero VeraSMART eCAS to interoperate with Avaya IP Office Server Edition solution release 10.

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

Avaya IP Office Server Edition solution consists of a primary Linux Server and a 500V2 expansion. Both systems are linked by IP Office Small Community Network (SCN) 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 general test approach was to manually place intra-switch calls, inbound trunk and outbound trunk calls, transfer, conference, and verify that Calero VeraSMART eCAS collects the CDR records, and properly classifies and reports the attributes of the call.

For serviceability testing, physical and logical links were disabled/re-enabled, Avaya Servers were reset and VeraSMART eCAS was restarted.

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 the proper parsing and displaying of SMDR data by VeraSMART for call scenarios including internal, voicemail, inbound PSTN, outbound PSTN, hold, reconnect, transfer, conference, park, forward, and account codes. The verification included Chronological Detail and Account Code Detail reports that were generated from the received SMDR data.

2.2. Test Results

All executed test cases passed, except noted below. The following issues were observed.

- VeraSMART generated report on calls across a SCN solution by reporting on each SCN node individually.
- VeraSMART does not report Hunt Group extension for incoming call to Hunt Group extension; instead they report member extension of Hunt Group.
- For tandem calls VeraSMART reports the ANI number in the “Special Code” field.

2.3. Support

Technical support for Calero VeraSMART eCAS can be obtained through the following:

- Phone: [\(866\)-769-5992](tel:(866)-769-5992)
- Email: tech.support@calero.com
- Website: <http://www.calero.com/clm/call-accounting-and-reporting/>

3. Reference Configuration

Figure 1 illustrates the setup used to verify the Calero VeraSMART solution with Avaya IP Office Server Edition solution. VeraSMART application was installed and deployed on a Windows Server 2012 R2 Standard Edition running on VMware machine. Avaya IP Office Server Edition solution consists of a primary Linux Server and a 500V2 expansion. A simulated PSTN was connected to Avaya IP Office 500V2 expansion via ISDN/T1 trunk. Avaya IP deskphones, Communicator softphone, and a digital phone were used to register to both the Server Edition and the 500V2 expansion to make calls between these systems.

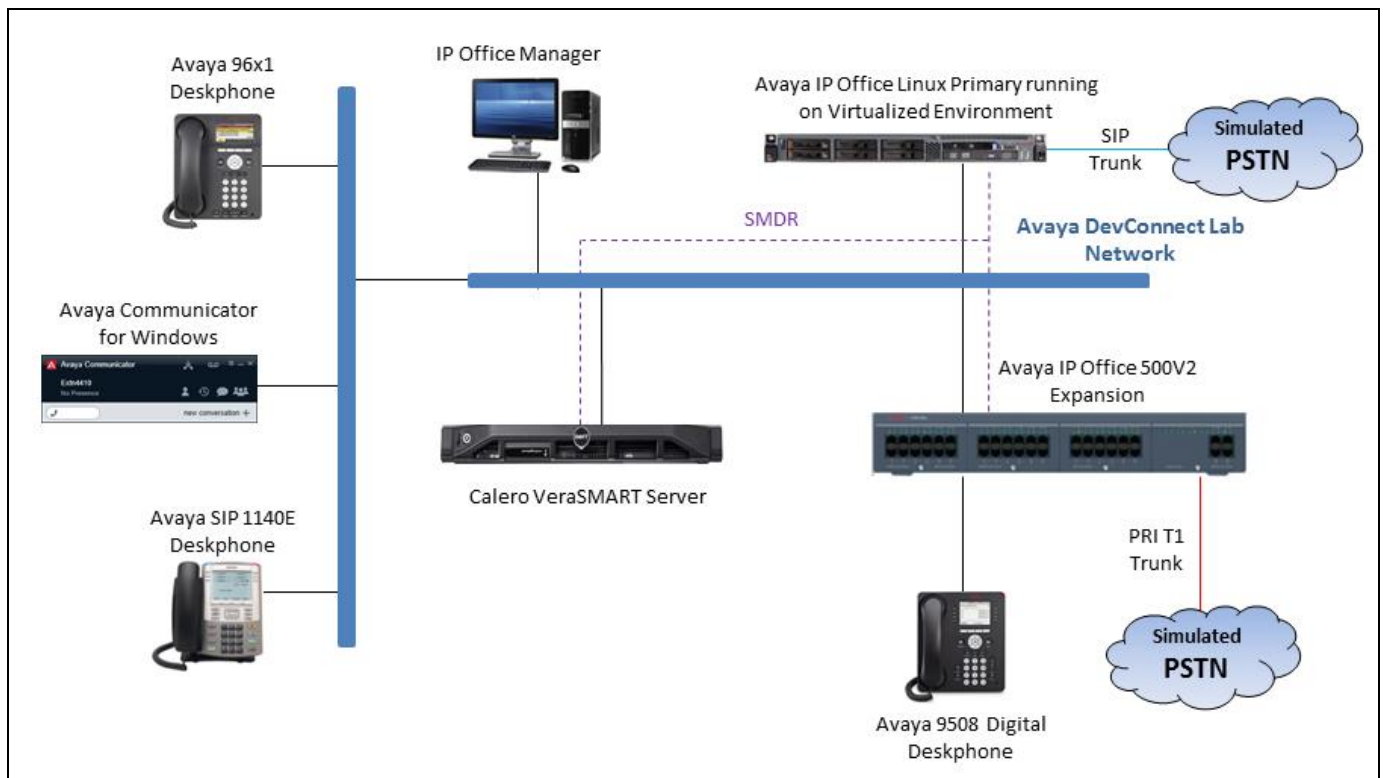


Figure 1: Test Configuration Diagram

4. Equipment and Software Validated

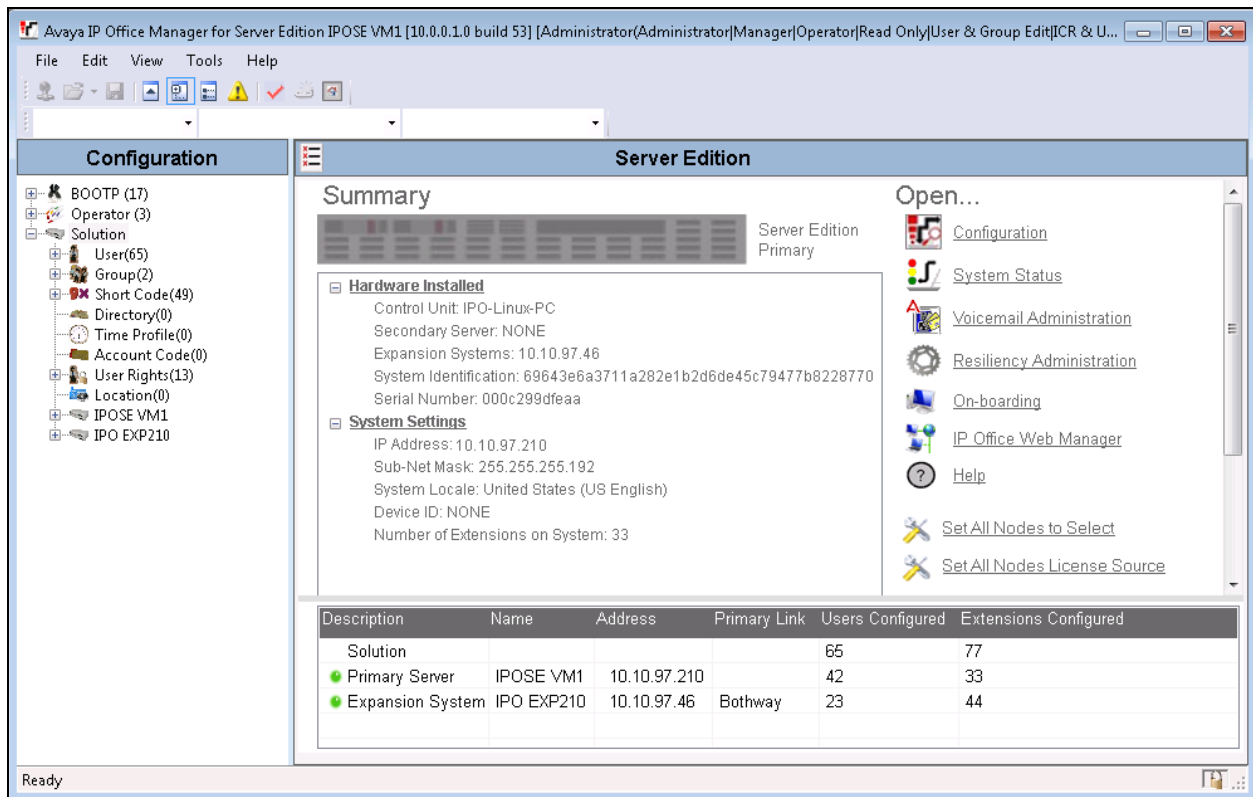
The following equipment and software were used for the sample configuration provided:

Equipment/Software	Release/Version
Avaya IP Office Primary Linux running on Virtualized Environment	10.0.0.1.0 Build 53
Avaya IP Office 500V2 Expansion	10.0.0.1.0 Build 53
Avaya IP Office Manager running on Microsoft Windows 10	10.0.0.1.0 Build 53
Avaya IP 9641 H323 Deskphone	6.629
Avaya IP 1140E SIP Deskphone	04.04.23.00
Avaya Communicator for Windows	2.1.30
Avaya 9508 Digital Telephone	-
Calero VeraSMART eCAS running on Windows Server 2012	11.1 SP3

5. Configure Avaya Aura® Communication Manager

The document assumes that Avaya IP Office Primary Server has been installed and configured to work with a 500V2 expansion. This section only describes the details on how to configure the IP Office Primary server and 500V2 expansion to work with Calero VeraSMART application.

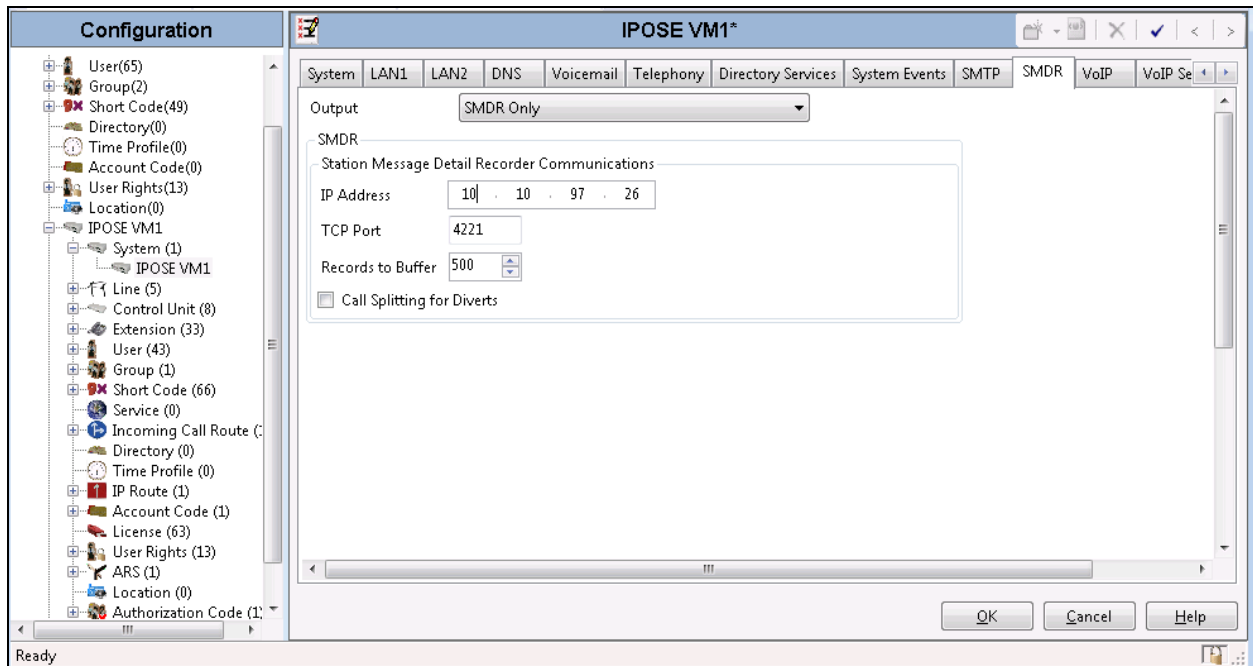
From a PC running the IP Office Manager application, select **Start → Programs → IP Office → Manager** to launch the Manager application. Select the proper IP Office system, and log in using the appropriate credentials. The Avaya IP Office Manager for Server Edition screen is displayed as the screen.



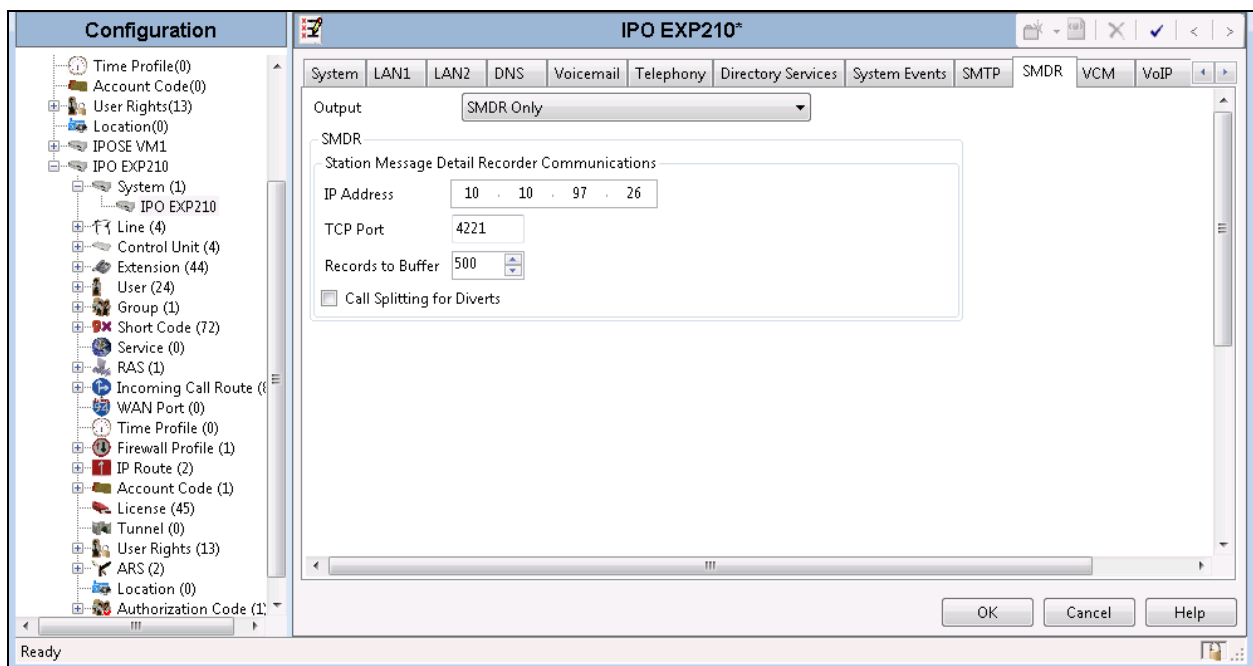
From the configuration tree in the left pane, navigate to **IPOSE VM1 → System → IPOSE VM1** to display the IPOSE VM1 Primary Server system in the right pane. Select the **SMDR** tab. Select “SMDR Only” from the **Output** drop-down list, to display the SMDR sub-section.


For IP Address, enter the IP address 10.10.97.26 which was the IP address of VeraSMART server. For TCP Port, enter a desired port, in this case “4221”. Leave other fields at default values.

Click **OK** button to save the configuration.



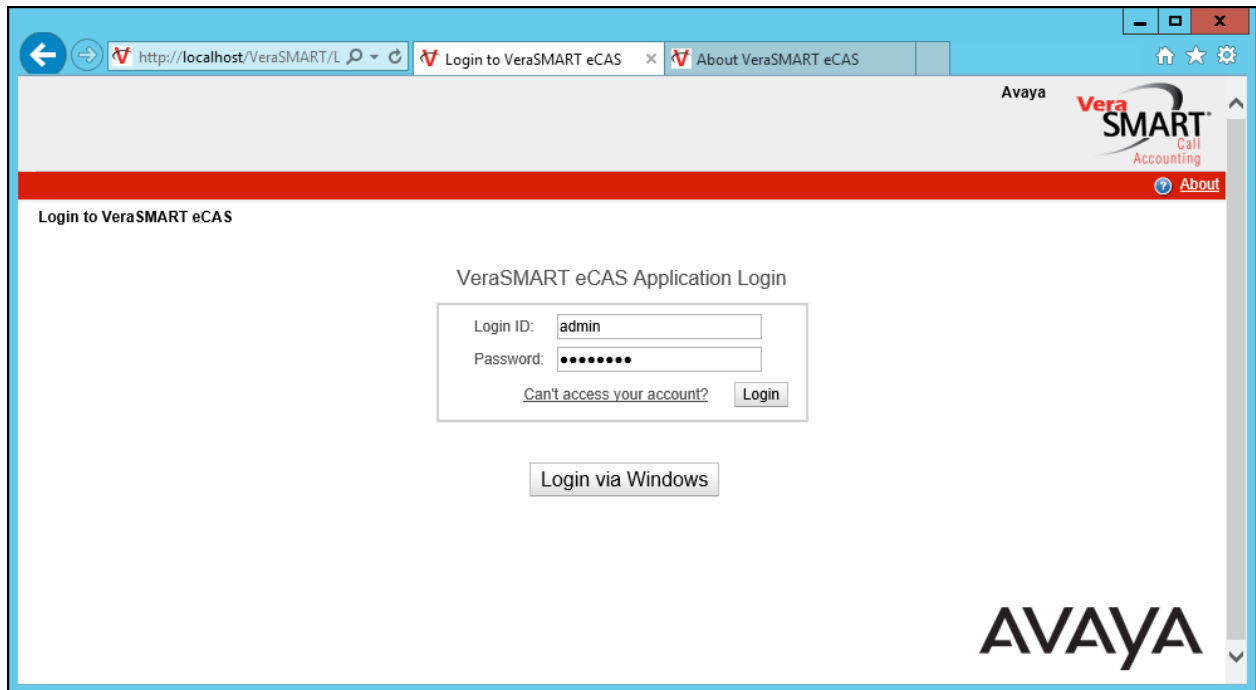
Repeat the above steps for IP Office 500V2 expansion; in this case the system name is IPO EXP210.



Click **Save Configuration File**  button to save changes to the configuration file.

6. Configure Calero VeraSMART eCAS

This section describes the configuration of Calero VeraSMART eCAS to receive CDR data from IP Office. To configure VeraSMART eCAS, launch a web browser, enter <http://<ipaddress of VeraSMART>/VeraSMART/Login.aspx> as URL, and log in with the appropriate credentials.



From the Main menu, navigate to **Call Accounting → Call Collection → CDR Source** link. Click **Add**.

The screenshot shows the 'CDR Source Wizard' window. At the top, there's a navigation bar with 'Call Accounting' selected, and sub-tabs for 'Organization' and 'Administration'. Below this is a red menu bar with links: 'Extensions', 'Call Detail', 'Call Collection', 'Call Rating', 'Tools', 'Reports', and 'Help'. The main content area is titled 'CDR Source Wizard' and contains a 'Welcome' message. The message explains that a CDR Source must be created for each call record source and that the wizard will help configure a new or partially setup CDR Source. It also mentions that specific instructions will be provided in a series of steps, including identifying the Server PC modem or COM port, baud rate, remote modem phone number, and collection file name. A 'Time zone*' dropdown menu is visible at the bottom of the wizard, set to '(UTC-05:00) Eastern Time (US & Canada)'. Navigation buttons 'Back', 'Next', 'Finish', and 'Cancel' are present at the top and bottom of the wizard.

In the CDR Source Wizard window, provide the Time Zone of the CDR source and click on the **Next** button.

This screenshot shows the same 'CDR Source Wizard' window as the previous one, but with the 'Time zone*' dropdown menu expanded. The dropdown shows '(UTC-05:00) Eastern Time (US & Canada)' as the selected option. The rest of the interface, including the navigation bar and the 'Welcome' message, remains the same.

In the CDR Source Wizard window, provide needed information for **CDR Source name**, **Area Code**, **Local exchange** and keep other values at default and click **Next** button.

Welcome, admin ([Change Password](#) | [Preferences](#) | [Logout](#))

Avaya **VeraSMART**
Call Accounting

Call Accounting Organization Administration

Extensions Call Detail Call Collection Call Rating Tools Reports Help

CDR Source Wizard

[Back](#) [Next](#) [Finish](#) [Cancel](#)

Identify the source of call records.

Create a CDR Source name. Use up to 25 alphanumeric characters for a unique name (this can be anything that makes sense to you to reference this CDR Source - for example: East Coast, New York Office, Main CDR Source).

Enter the CDR Source area code, local exchange, and local rating method (this depends on the rate service used locally - for example: measured, message, flat, etc.).

CDR Source name*:

Area code*:

Local exchange*:

Local rate method:

Do you want to discard the following types of calls for this CDR Source? These choices can be changed later through the 'edit' CDR Source function.

Internal: ☒ Store ☐ Discard Incoming: ☒ Store ☐ Discard

[Back](#) [Next](#) [Finish](#) [Cancel](#)

Select **Avaya** in the **Manufacturer** dropdown menu and click **Next**.

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Extensions Call Detail Call Collection Call Rating Tools Reports Help

CDR Source Wizard

[Back](#) [Next](#) [Finish](#) [Cancel](#)

Select the CDR Source manufacturer.

Every telephone system produces call records in a specific format. The system uses "format" software to interpret call record data.

From the list, select the manufacturer of the CDR Source, or if collecting call records from another call accounting system select "Call Accounting System", then click Next to continue.

Currently assigned Format:

Manufacturer:

[Back](#) [Next](#) [Finish](#) [Cancel](#)

In the **Select the call record format** page, select the format name “IP Office for Small Community” and the format number **1013** and click **Next**.

CDR Source Wizard

Back Next Finish Cancel

Select the call record format.

This page contains a list of CDR Source formats for this manufacturer. Select the call record format used by your CDR Source (if you need help to decide on a specific choice, click its help link). Then click Next to continue.

Displaying 11 to 20 of 24 Page 2 of 3 Items per page: 10

	Format name	Format description	CDR Source software release	Format number	Format revision number
<input type="radio"/>	CM Aura/DEFINITY systems	For customized CDR format; supports standard RSP and legacy CDR output to serial port	G3FD1I2	158	10.191.2
<input type="radio"/>	CM Aura/DEFINITY systems	For standard RSP and legacy CDR output to local file	1.1	175	7.186.34
<input type="radio"/>	CM Aura/DEFINITY systems	For Survivable CDR for media gateway (via SFTP) only	1.0	176	6.186.34
<input type="radio"/>	Avaya Aura Session Manager 6.1, 6.2 FP1	SIP data collection from Avaya Aura Session Manager 6.1, 6.2 FP1 and legacy SM systems.	1.0	200	2.190.14
<input type="radio"/>	IP Office 3.2 to 4.2	CDR output (unformatted), direct over IP - no Delta Server	IP Office 3.1	335	8.186.34
<input type="radio"/>	IP Office 4.2 or later	SMDR output, direct over IP - no Delta Server	IP Office 4.2	338	1.192.14
<input type="radio"/>	Avaya Distributed Office	Unformatted format, uses switch date record, supports Reliable Session protocol	1.1	370	7.186.34
<input type="radio"/>	CM Aura/DEFINITY systems	For reporting internal calls against both parties; supports standard RSP and legacy CDR output to local file	1.1	915	5.186.34
<input type="radio"/>	CM Aura/DEFINITY systems	For reporting calling number of tandem calls as Special Code; supports standard RSP and legacy CDR output to local file	1.1	916	6.186.34
<input checked="" type="radio"/>	IP Office for Small Community Networking	SMDR output, direct over IP - no Delta Server	IP Office 4.2	1013	1.192.14

In the **Call collection method** page, select the “ipopprimary.csv.new” file under C:\VeraSMART Data\IPOffice\ folder in the **Collection file name and path** field.

Click on the **next** button.

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Avaya VeraSMART Call Accounting

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Extensions Call Detail Call Collection Call Rating Tools Reports Help

CDR Source Wizard

Back Next Finish Cancel

Call collection method: Collect From File (Local)

Collection file name and path: IPOffice

31-023 : You must specify a full path

Collect From File (Local) Help

Back Next Finish Cancel

File Explorer: IPOffice

Name	Last Modified	Size
500v2.csv.new	1/1/2017, 5:31:29 PM	170
ipopprimary.csv.new	1/1/2017, 5:31:29 PM	170
MainConfig.xml	12/9/2016, 10:53:29 AM	495

Avaya

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SMART[®]

Call Accounting

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Call Accounting

Organization

Administration

Extensions

Call Detail

Call Collection

Call Rating

Tools

Reports

Help

CDR Source Wizard

Back

Next

Finish

Cancel

Please wait while call records are retrieved...

If polling a remote unit, this process may take a few minutes. If the CDR Source is not yet connected, click Cancel to exit (when ready, return here to validate CDR Source configuration).

If no call records are displayed, there may be issues with settings or connectivity. Click the following link for a help page of possible reasons why no calls are displayed.

[No Calls Help](#)

Back

Next

Finish

Cancel

Click **Next** to go to next step.

Welcome, admin ([Change Password](#) | [Preferences](#) | [Logout](#))

Avaya **Vera SMART[™]**
Call Accounting

Call Accounting Organization Administration

Extensions Call Detail Call Collection Call Rating Tools Reports Help

CDR Source Wizard

Back Next Finish Cancel

Raw Call Record Viewer

This page contains a list of 'raw' (unformatted) call records coming from the CDR Source. Check the lines of data under the header row and determine if they look valid, without having to format them.

If valid, click Next to continue. Otherwise, click Back to return to the call collection method page, change the settings, and return to the test viewers again.

[Raw Call Record Viewer Help](#)

										Raw call data									
1	2	3	4	5	6	7	8	9	10	1	2	3	4	5	6	7	8	9	10
12345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901	2345678901

2017/01/01 17:31:51,00:00:05,2,4403,I,4303,4303,,1,1000359,0,E4403,Extn4403,E4303,Extn4303,0,0,0,n/a,,,,,,,,,,,,,																			

Back Next Finish Cancel

Click **Finish** button to complete the configuration for Communication Manager.

Welcome, admin ([Change Password](#) | [Preferences](#) | [Logout](#)) Avaya **VeraSMART** Call Accounting

Call Accounting Organization Administration

Extensions Call Detail Call Collection Call Rating Tools Reports Help

CDR Source Wizard

[Back](#) [Next](#) **Finish** [Cancel](#)

Congratulations! You have successfully performed a basic setup for this CDR Source.

We suggest that you go to these areas of the system for additional configuration.

- [Rate Plans](#) - define rating
- [Organization Menu](#) - configure your organization

When rating and organization setup is complete, go to [Call Processing Status](#) and enable rating for this CDR Source. Until you enable rating, calls are being collected, but not rated.

To exit the wizard, click Finish.

[Back](#) [Next](#) **Finish** [Cancel](#)

Repeat the procedures above to add a CDR source for Avaya IP Office 500V2 Expansion, the screen below shows two CDR Sources: one for IPO primary Server and another for IPO 500V2 expansion.

Extensions Call Detail Call Collection Call Rating Tools Reports Help

CDR Source

[Add](#) [Show Collection Details](#)

Search

CDR Source name starting with:

[Search](#)

Displaying 1 to 6 of 2 Items per page: 50

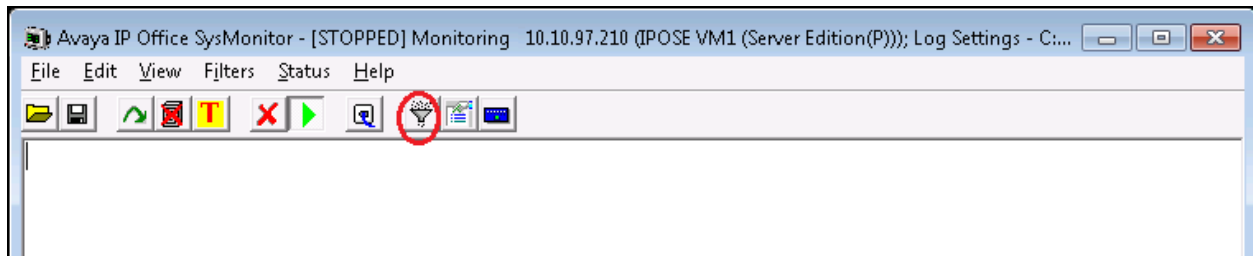
	CDR Source name	CDR Source ID	Short name	Setup status	Area code/local exchange	Format	Format number	Format revision number	Call collection method	Date/Time of last File Processed	Collection status	Rating status	
▼	Avaya CM	102	Ava00102	Complete	613/967	CM Aura/DEFINITY systems	175	7.186.34	Realtime RSP	12/12/2016 1:05:17 PM EST	Disabled	Disabled	Add Ancillary
▼	Avaya CM1	105	Ava00105	Partial	612/968	None			None	10/11/2016 3:05:36 PM EDT	Disabled	Disabled	Add Ancillary
▼	Avaya IPO Office	103	Ava00103	Complete	613/967	IP Office for Small Community Networking	1013	1.192.14	Collect From File (Local)	1/13/2017 3:05:45 PM EST	Enabled	Enabled	Add Ancillary
▼	Avaya IPO Office 500V2	109	Ava00109	Complete	Ancillary to 103	IP Office for Small Community Networking	1013	1.192.14	Collect From File (Local)	1/13/2017 12:29:45 PM EST	Enabled	Not applicable	
▼	IP Office 500V2	106	IP00106	Complete	613/967	IP Office 4.2 or later	338	1.192.14	Collect From File (Local)	1/9/2017 2:20:46 PM EST	Disabled	Disabled	Add Ancillary
▼	Survival CM	104	Sur00104	Complete	Ancillary to 102	CM Aura/DEFINITY systems	176	6.186.34	SFTP	11/11/2016 11:09:36 AM EST	Disabled	Not applicable	

7. Verification Steps

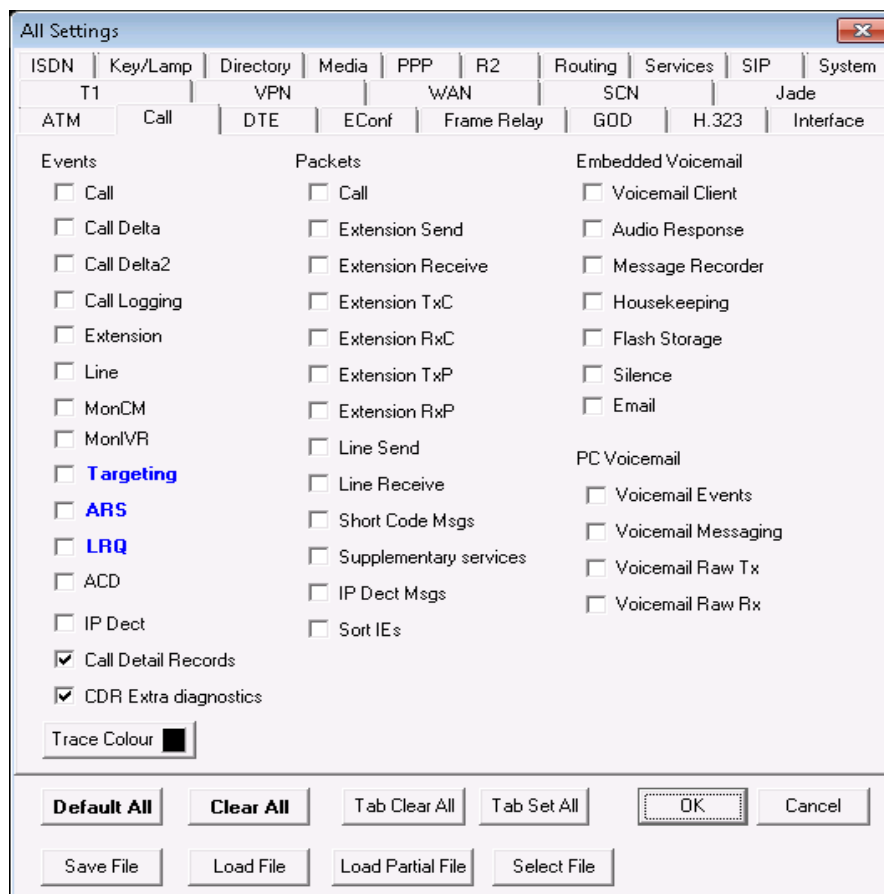
The following steps may be used to verify the configuration:

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 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 button to save the change and close the window.



Make and complete a call, such as outbound trunk call from an extension in the IP Office Primary Server to PSTN. Verify that raw SMDR data is displayed on the **Avaya IP Office SysMonitor** screen; the screen below shows the call record for outbound PSTN call on the IP Office Primary Server.

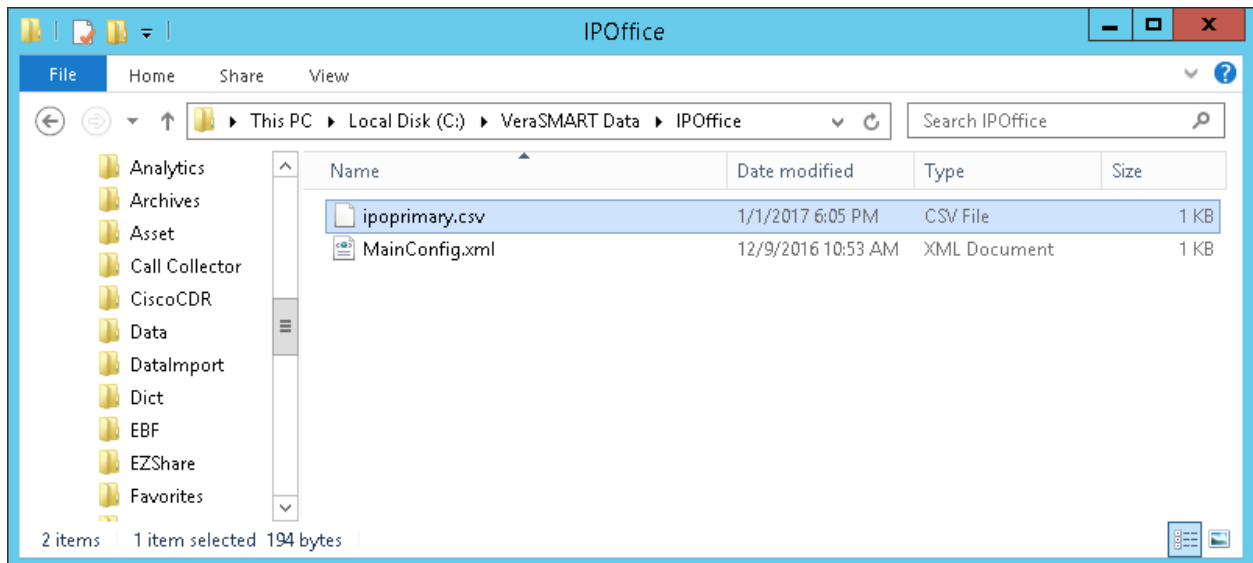
```

a=fmtp:18 annexb=no
a=rtpmap:9 G722/8000
a=rtpmap:101 telephone-event/8000
a=fmtp:101 0-15
a=tcap:1 RTP/SAVP RTP/AVP
a=acap:1 crypto:1 AES_CM_128_HMAC_SHA1_80 inline:1P1AC1RwjVPLsu4eisBSAefQV2CDvzpAA9nuAIJo
a=acap:2 crypto:2 AES_CM_128_HMAC_SHA1_32 inline:uNFtFwvbaUkPo+OKjM+uIL9L9xzbVdwpFpHBI0Yc
a=pcfg:1 t=1 a=1
a=pcfg:2 t=1 a=2
a=pcfg:3 t=2
2092386927ms CDR: SMDR OUTPUT *2017/01/01 18:05:19,00:00:08,2,4303,O,4169663300,84169663300,,0,1000360,0,B430
2092386927ms CDR: Using TCP to send data len 194 to 10.10.97.26 on port 4221

```

7.2. Verify Calero VeraSMART

From the VeraSMART server, open the **C:\VeraSMART Data\IPOffice** folder where a new call record was saved to the “ipopprimary.csv” file.



To show call records for individual node in the IP Office SCN, from VeraSMART's web management page navigate to **Call Accounting → Call Detail → View Call Records** select "Current Month including Today" in the **Start Date** dropdown menu and "Primary IPO (Avaya IPOffice)" in **Trunk Group** field and select **Search** button.

Welcome, admin ([Change Password](#) | [Preferences](#) | [Logout](#))

Avaya **VeraSMART** Call Accounting

Call Accounting | Organization | Administration

Extensions | Call Detail | Call Collection | Call Rating | Tools | Reports | Help

View Call Records

Search

Personnel: Extension Used: Dialed/CLI number:

Inventory ID: Call direction: All

Start date: Current Month including Today From 1/1/2017 12:00:00 AM To 1/16/2017 11:59:59 PM

CDR Source: Trunk Group: Primary IPO (Avaya IPOffice)

Search

All call records in the IP Office Primary including records made from another node through SCN to the IP Office Primary were displayed in the below section of the **View Call Records** window.

Welcome, admin ([Change Password](#) | [Preferences](#) | [Logout](#))

Avaya **VeraSMART** Call Accounting

Call Accounting | Organization | Administration

Extensions | Call Detail | Call Collection | Call Rating | Tools | Reports | Help

View Call Records

Search

Personnel: Extension Used: Dialed/CLI number:

Inventory ID: Call direction: All

Start date: Current Month including Today From 1/1/2017 12:00:00 AM To 1/16/2017 11:59:59 PM

CDR Source: Trunk Group: Primary IPO (Avaya IPOffice)

Search

Displaying 1 to 42 of 42 Items per page: 50

Start date	Duration	Extension Used	Dialed/CLI number	Call destination	Call direction	Call type	Trunk	Tandem Trunk	Cost	Ring Time	CDR Source	Special Code	Account Code	Authorization Code
1/10/2017 10:25:05 AM	00:00:06	4303	4606@bvwdev.com		INCOMING	Incoming	103T9010		\$0.00	8	Avaya IPOffice			
1/11/2017 12:32:56 PM	00:00:13	4303	4606@bvwdev.com		INCOMING	Incoming	103T9010		\$0.00	2	Avaya IPOffice			
1/11/2017 2:08:47 PM	00:00:10	4401	3300		OUTGOING	Unknown	103T9010		\$0.00	2	Avaya IPOffice			
1/11/2017 2:09:51 PM	00:00:49	4303	417-967-3300	HOUSTON, MO	INCOMING	Incoming	103T9001		\$0.00	2	Avaya IPOffice			
1/11/2017 2:33:55 PM	00:00:10	4303	4234684603@bvwdev.com		INCOMING	Incoming	103T9010		\$0.00	2	Avaya IPOffice	6139654303		
1/12/2017 11:01:28 AM	00:00:12	4401	416-966-3300	TORONTO, ON	OUTGOING	In-State	103T9010		\$0.01	2	Avaya IPOffice			
1/12/2017 4:00:19 PM	00:00:34	4310	4901		OUTGOING	Unknown	103T9010		\$0.00	0	Avaya IPOffice			

8. Conclusion

These Application Notes describe the procedures for configuring Calero VeraSMART eCAS call accounting with Avaya IP Office Server Edition Solution. Testing was successful with some observations noted in Test Result section; refer to **Section 2.2** for details.

9. Additional References

This section references the Avaya and Calero VeraSMART documentation that are relevant to these Application Notes.

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

[1] *Administering Avaya IP Office with Manager*, Release 10.0, September 2016

[2] *Administering Avaya IP Office with Web Manager*, Release 10.0, September 2016.

The VeraSMART Solution and Product information is available from Veramark. Visit <http://www.veramark.com/Call-Accounting/eCAS/>

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