



Avaya Solution & Interoperability Test Lab

Application Notes for Calero VeraSMART eCAS Call Accounting 12.3 with Avaya IP Office Server Edition 11.0 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Calero VeraSMART eCAS Call Accounting 12.3 to interoperate with Avaya IP Office Server Edition 11.0. Calero VeraSMART eCAS Call Accounting is a call accounting and reporting application that uses the Station Message Detail Recording interface from Avaya IP Office Server edition 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 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 Call Accounting (VeraSMART) 12.3 to interoperate with Avaya IP Office Server Edition 11.0. VeraSMART is a call accounting and reporting application that uses the Station Message Detail Recording (SMDR) interface from IP Office Server Edition to track phone calls and produce detailed reports.

The IP Office Server Edition configuration consisted of two IP Office systems, a primary Linux server and an expansion IP500V2 that were connected via Small Community Network (SCN) trunks.

In the compliance testing, one VeraSMART server was deployed with SMDR connectivity to each IP Office system, and with each IP Office system treated and configured as a separate CDR source on VeraSMART.

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 reporting of SMDR records by VeraSMART.

The serviceability test cases were performed manually such as disconnecting/reconnecting the Ethernet connection to the VeraSMART server.

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.

Avaya recommends our customers implement Avaya solutions using appropriate security and encryption capabilities enabled by our products. The testing referenced in these DevConnect Application Notes included the enablement of supported encryption capabilities in the Avaya products. Readers should consult the appropriate Avaya product documentation for further information regarding security and encryption capabilities supported by those Avaya products.

Support for these security and encryption capabilities in any non-Avaya solution component is the responsibility of each individual vendor. Readers should consult the appropriate vendor-supplied product documentation for more information regarding those products.

2.1. Interoperability Compliance Testing

The interoperability compliance test included feature and serviceability testing.

The feature testing focused on verifying the following on VeraSMART:

- Proper parsing of received SMDR records.
- Proper reporting of CDR records for call scenarios involving inbound, outbound, internal, cross-SCN, transfer, conference, voicemail, abandon, hunt group, park/unpark, pickup, forward, mobile twinning, account codes, authorization codes, and long duration.

The feature testing call flows included calls that stayed on each IP Office system, as well as calls that flowed through both IP Office systems.

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

2.2. Test Results

All test cases were executed, and the following were observations on VeraSMART:

- By design, an incoming trunk call that covered to voicemail reported “9999” as Extension Used, and a subset of entries associated with blind and attended conference reported “9998” as Dialed/CLI Number and Dialed Digits.
- Formatting of Dialed/CLI Number and determination of Call Destination did not take the dialing prefix into account. For example, when the dialed number is 99089532103 with “9” as dialing prefix, the reported entry showed “990-895-32103” as Dialed/CLI Number.
- An internal call to *17 for Voicemail Collect, an internal or cross-SCN call that covered to voicemail, as well as incoming trunk call to a primary IP Office user in Do Not Disturb without coverage, did not get reported by VeraSMART.
- Not all entries reported for the conference scenarios have the Conference parameter checked.
- VeraSMART did not take the CDR record continuation mark into account in all cases and reported more entries than expected for the attended transfer, attended conference, and park/unpark call scenarios.

2.3. Support

Technical support on VeraSMART can be obtained through the following:

- **Phone:** +1 (866) 769-5992
- **Email:** tech.support@calero.com
- **Web :** <http://www.calero.com/clm/call-accounting-and-reporting/>

3. Reference Configuration

The configuration used for the compliance testing is shown in **Figure 1**.

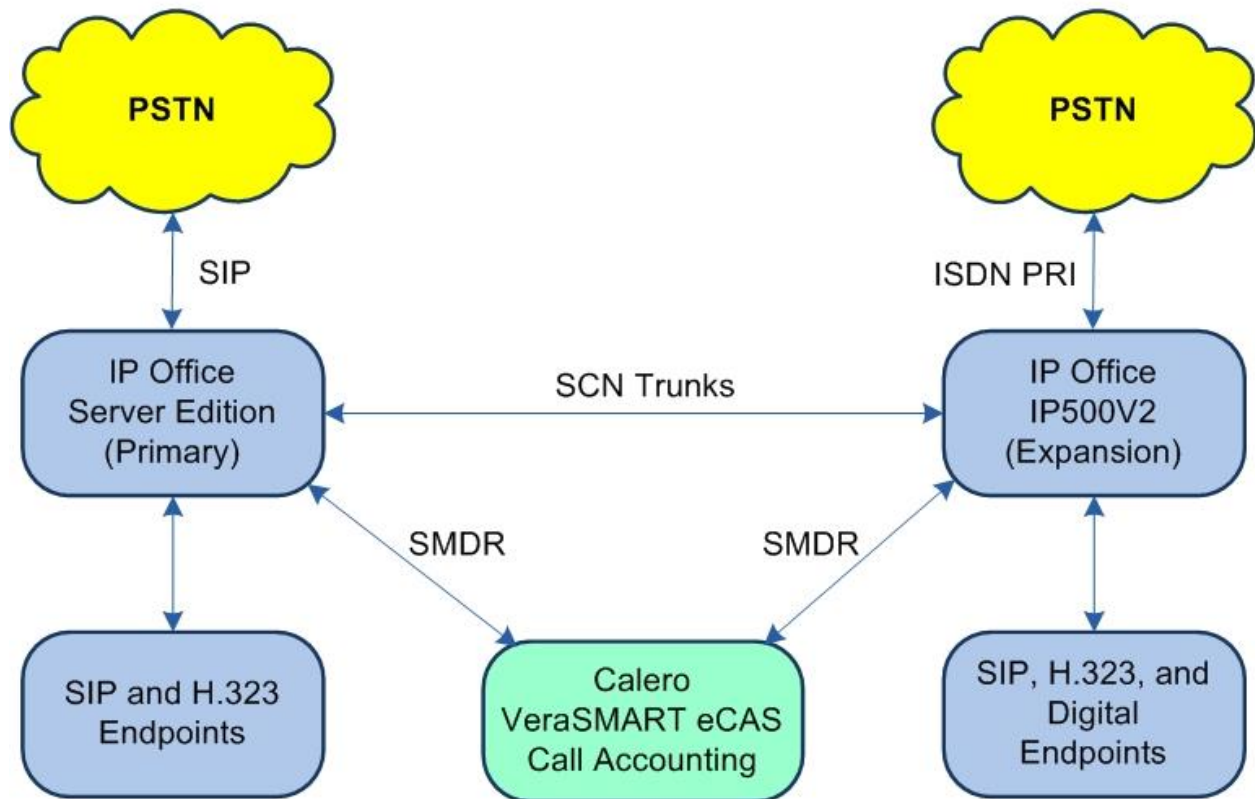


Figure 1: Compliance Testing Configuration

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 (Primary) in Virtual Environment	11.0.4.0.0
Avaya IP Office on IP500V2 (Expansion)	11.0.4.0.0
Avaya 1120E IP Deskphone (SIP)	4.4.23.0
Avaya J129 IP Deskphone (SIP)	4.0.0.0.21
Avaya 1608-I IP Deskphone (H.323)	1.3120
Avaya 9611G IP Deskphone (H.323)	6.6604
Calero VeraSMART on Windows Server 2016	12.3 SP2 Standard

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

This section provides the procedures for configuring IP Office. The procedures include the following areas:

- Launch Manager
- Administer SMDR

5.1. Launch Manager

From a PC running the IP Office Manager application, select **Start → All Programs → IP Office → Manager** to launch the application. Select the primary IP Office system, and log in using the appropriate credentials.

The **Avaya IP Office Manager for Server Edition IPO2-IPOSE** screen is displayed, where **IPO2-IPOSE** is the name of the primary IP Office system.

Avaya IP Office Manager for Server Edition IPO2-IPOSE [11.0.4.0.0 build 74]

File Edit View Tools Help

Configuration

- BOOTP (5)
- Operator (3)
- Solution
 - User(18)
 - Group(12)
 - Short Code(51)
 - Directory(0)
 - Time Profile(0)
 - Account Code(0)
 - User Rights(10)
 - Location(1)
 - IPO2-IPOSE
 - IPO2-IP500V2

Server Edition

Summary

Server Edition Primary

Hardware Installed

- Control Unit: IPO-Linux-PC
- Secondary Server: NONE
- Expansion Systems: 192.168.200.234
- System Identification: 7557b1a592ba208c7cef9f596c7e1a57c653c560

System Settings

- IP Address: 10.64.101.234
- Sub-Net Mask: 255.255.255.0
- System Locale: United States (US English)
- System Location: 2: Thorton
- Device ID: NONE
- Number of Extensions on System: 10

Open...

- Configuration
- System Status
- Voicemail Administration
- Resiliency Administration
- On-boarding
- IP Office Web Manager
- Help
- Set All Nodes to Select
- Set All Nodes License Source

Description	Name	Address	Primary Link	Users Configured	Extensions Configured
Solution				18	41
Primary Server	IPO2-IPOSE	10.64.101.234		9	10
Expansion System	IPO2-IP500V2	192.168.200.234	Bothway	9	31

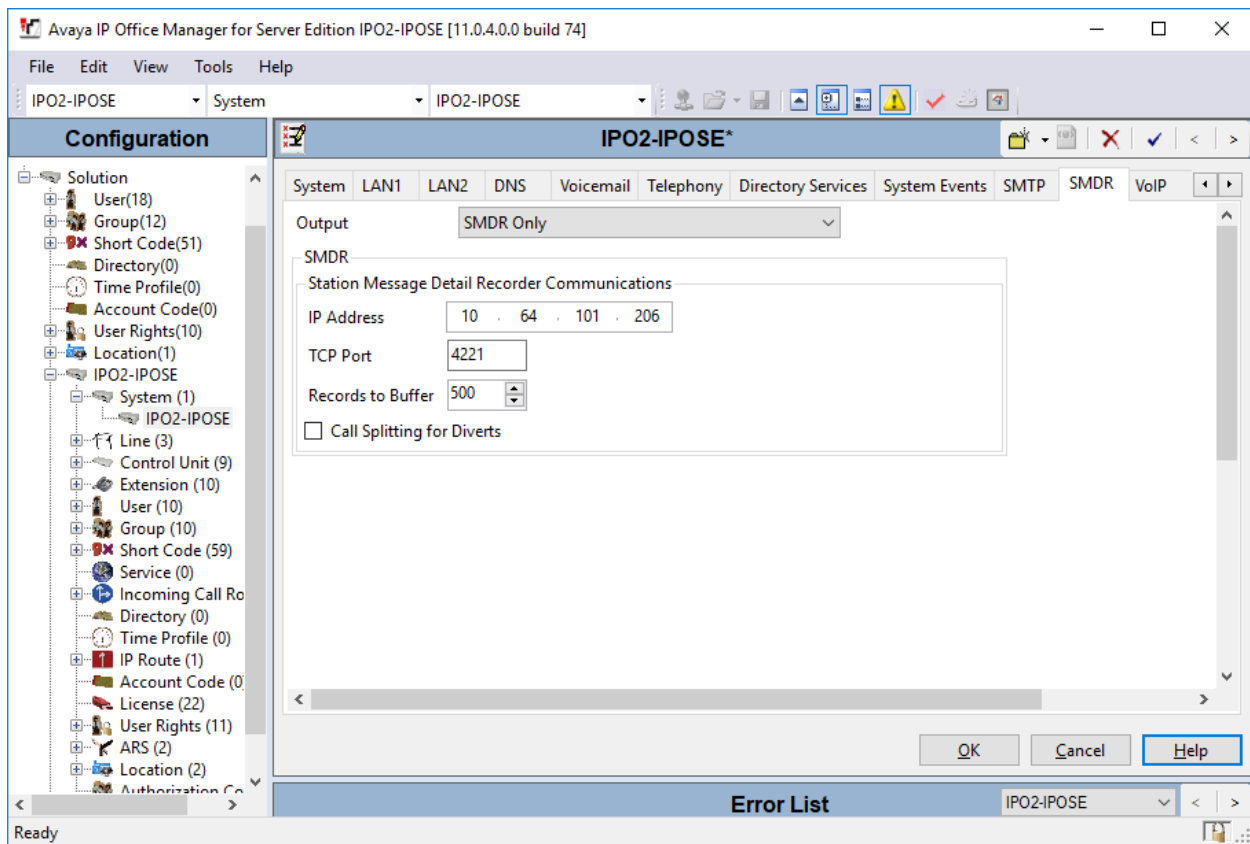
Error List

Ready

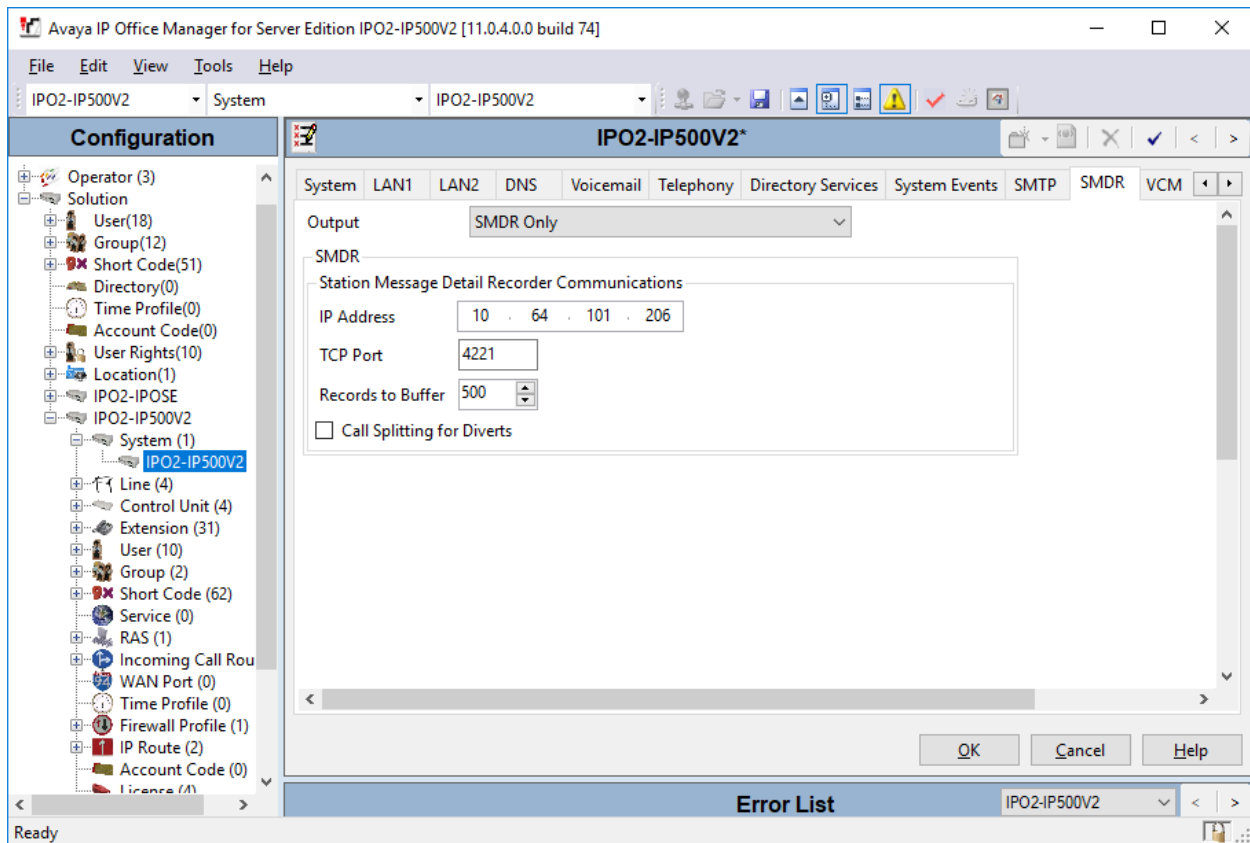
5.2. Administer SMDR

From the configuration tree in the left pane, select the primary IP Office system, in this case **IPO2-IPOSE**, followed by **System** to display **IPO2-IPOSE** in the right pane. Select the **SMDR** tab. Enter the following values for the specified fields and retain the default values for the remaining fields.

- **Output:** “SMDR Only”
- **IP Address:** IP address of the VeraSMART server.
- **TCP Port:** “4221”



Repeat the procedure in this section to enable SMDR for the expansion IP Office system, as shown below.



6. Configure Calero VeraSMART eCAS Call Accounting

This section provides the procedures for configuring VeraSMART. The procedures include the following areas:

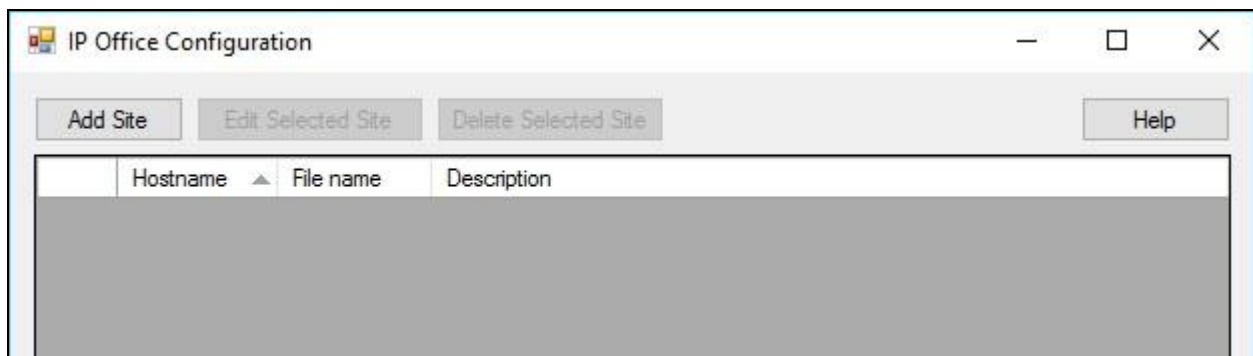
- Administer IP Office Configuration
- Launch Web interface
- Administer CDR source
- Enable rating status

The configuration of VeraSMART is typically performed by Calero implementation analysts. The procedural steps are presented in these Application Notes for information purposes.

Each IP Office system is configured as a separate CDR Source on VeraSMART. Prior to configuration, make and complete a couple of calls on each IP Office system.

6.1. Administer IP Office Configuration

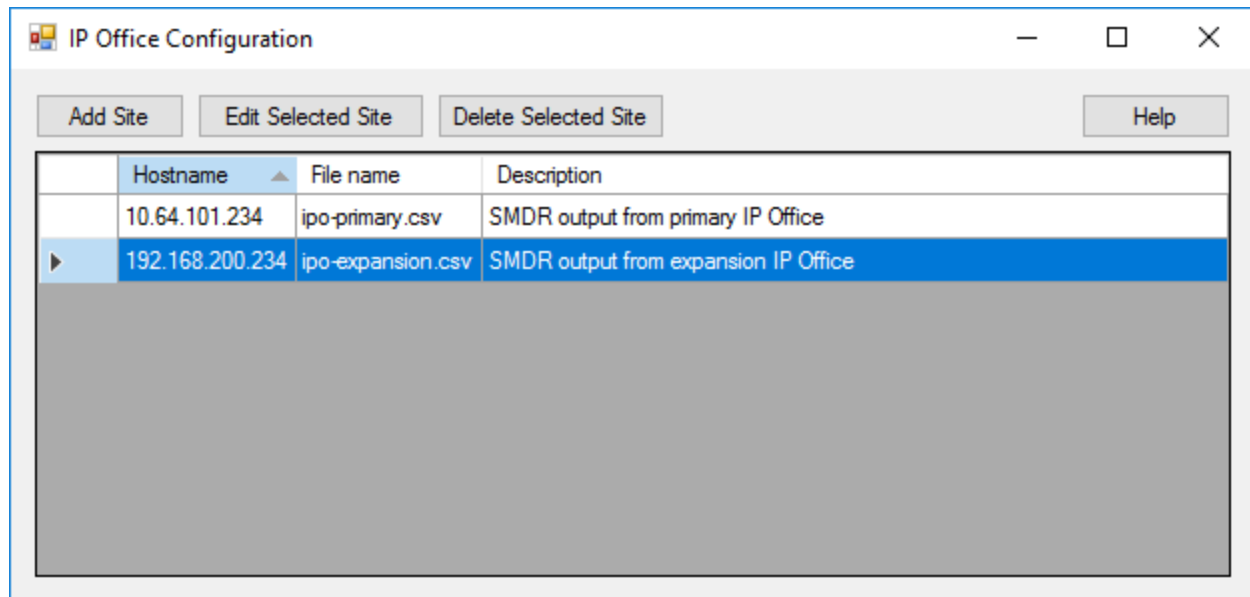
From the VeraSMART server, select **Start → VeraSMART → IP Office Configuration** to display the **IP Office Configuration** screen below. Select **Add Site**.



The **Add Site** pop-up box is displayed. For **Hostname**, enter the IP address of the primary IP Office system. Enter descriptive values for **File name** and **Description**.

A screenshot of a "Add Site" pop-up dialog box. It contains three text input fields. The first field is labeled "Hostname:" and contains the text "10.64.101.234". The second field is labeled "File name:" and contains the text "ipo-primary.csv". Below these fields, there is a line of text that reads "*CDRs will be written to:" followed by the path "C:\VeraSMART Data\IPOffice\ipo-primary.csv". The third field is labeled "Description:" and contains the text "SMDR output from primary IP Office". At the bottom right of the dialog are two buttons: "OK" and "Cancel".

Repeat the procedure in this section to add a site for the expansion IP Office system. The two added sites for the compliance testing are shown below.



6.2. Launch Web Interface

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



6.3. Administer CDR Source

In the subsequent screen, select **Call Accounting** → **Call Collection** → **CDR Source** from the left pane to display the screen below. Click **Add** to add a new CDR source.

CDR Source name starting with:

Search

No items selected for display

Items per page: 50

CDR Source name	CDR Source ID	Short name	Setup status	Area code/local exchange	Format number	Format revision number	Call collection method	Date/Time of last File Processed	Collection status	Rating status
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The CDR Source Wizard is launched and the **Welcome** screen displayed next. Select the pertinent **Time zone** as shown below.

Back Next Finish Cancel

Welcome

To use this Call Accounting System, you will need to create a CDR Source for each call record source. If you are collecting calls from two phone systems, then you will need to create two CDR Source records. Each CDR Source will be given a name, and it will be configured so that you can collect, rate, and report on call records.

This wizard will help you configure a new or partially setup CDR Source. If you are resuming a setup, the wizard will remember all items previously defined.

You will need to provide specific instructions in a series of steps. This will include information related to the local exchange and rate services. Then, depending on the call collection method to be used, you may need to identify the Server PC modem or COM port used, the CDR Source baud rate, remote modem phone number, collection file name, etc.

Not all of these items need to be addressed at once, since the wizard can resume the setup where you left off. Consult your CDR Source technician or vendor, if needed.

Please click Next to continue.

Time zone*: (UTC-05:00) Eastern Time (US & Canada)

Back Next Finish Cancel

The **Identify the source of call records** screen is displayed. Enter the following values for the specified fields and retain the default values for the remaining fields.

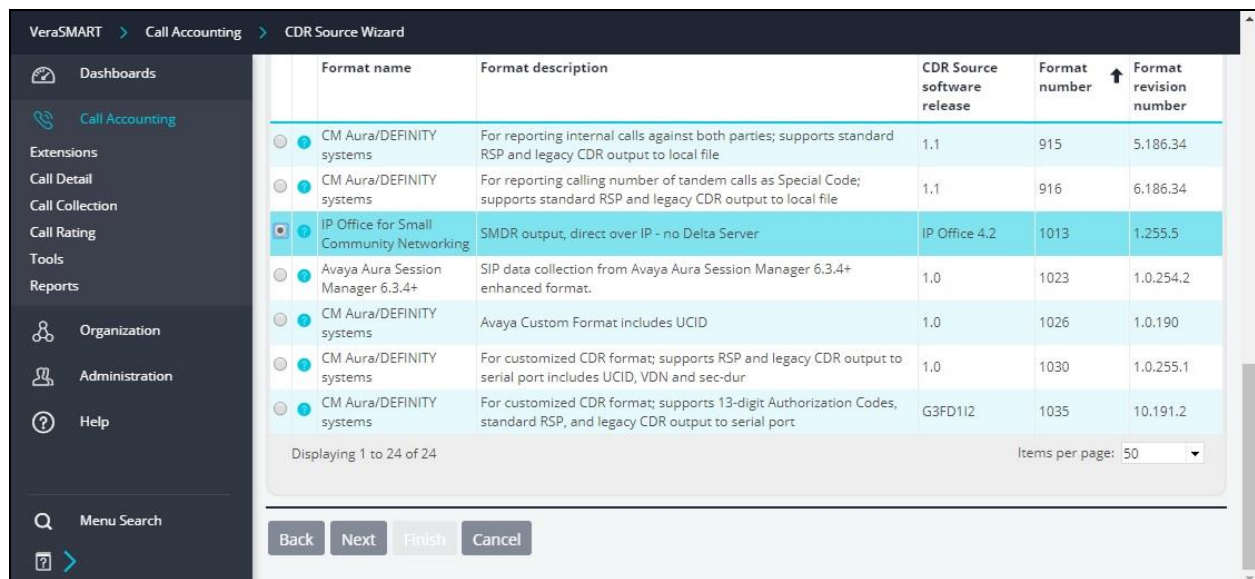
- **CDR Source name:** A descriptive name for the primary IP Office system.
- **Area code:** The pertinent area code.
- **Local exchange:** The pertinent local exchange.
- **Local rate method:** “Flat”

The screenshot shows the 'Identify the source of call records' screen in the CALERO VeraSMART CDR Source Wizard. The left sidebar contains navigation links: Dashboards, Call Accounting (selected), Extensions, Call Detail, Call Collection, Call Rating, Tools, Reports, Organization, Administration, and Help. The main content area has a title bar with 'Back', 'Next', 'Finish', and 'Cancel' buttons. Below the title bar, the instructions state: '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.).' The form fields are: 'CDR Source name*' with the value 'Avaya IP Office Primary', 'Area code*' with '303', 'Local exchange*' with '532', and 'Local rate method' with a dropdown menu set to 'Flat'. There is a checkbox for 'Save call data for sending to another call accounting system:' which is unchecked. At the bottom, there are radio buttons for 'Internal:' (Store selected, Discard) and 'Incoming:' (Store selected, Discard). The bottom of the screen has another set of 'Back', 'Next', 'Finish', and 'Cancel' buttons.

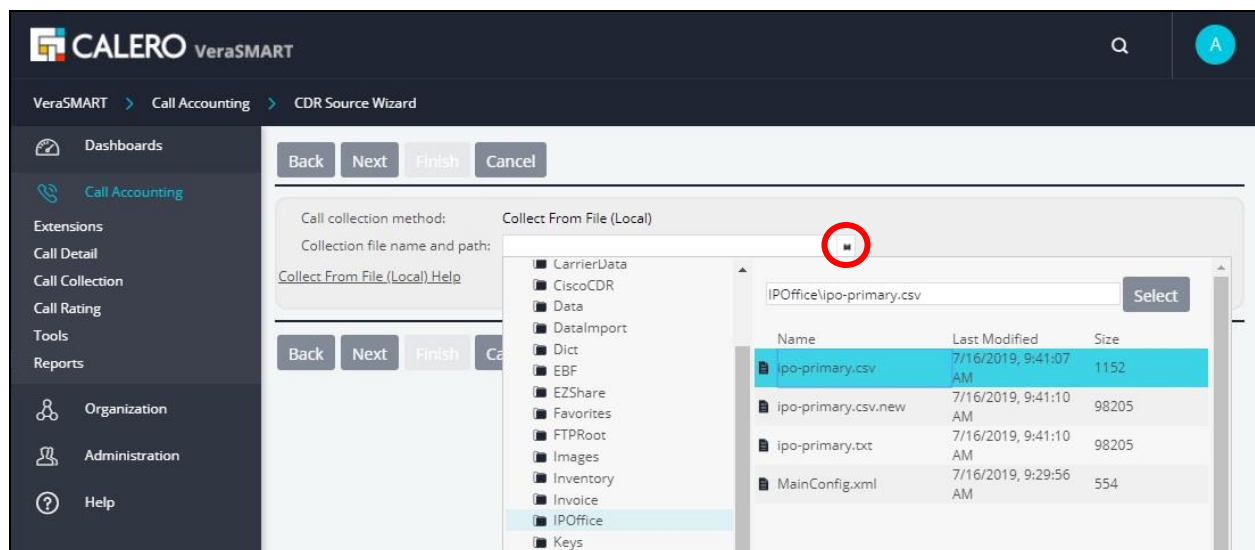
The **Select the CDR Source manufacturer** screen is displayed next. For **Manufacturer**, select “Avaya”.

The screenshot shows the 'Select the CDR Source manufacturer' screen in the CALERO VeraSMART CDR Source Wizard. The left sidebar is the same as the previous screen. The main content area has a title bar with 'Back', 'Next', 'Finish', and 'Cancel' buttons. Below the title bar, the instructions state: '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.' The form fields are: 'Currently assigned Format:' with the value 'None' and 'Manufacturer:' with a dropdown menu set to 'Avaya'. The bottom of the screen has another set of 'Back', 'Next', 'Finish', and 'Cancel' buttons.

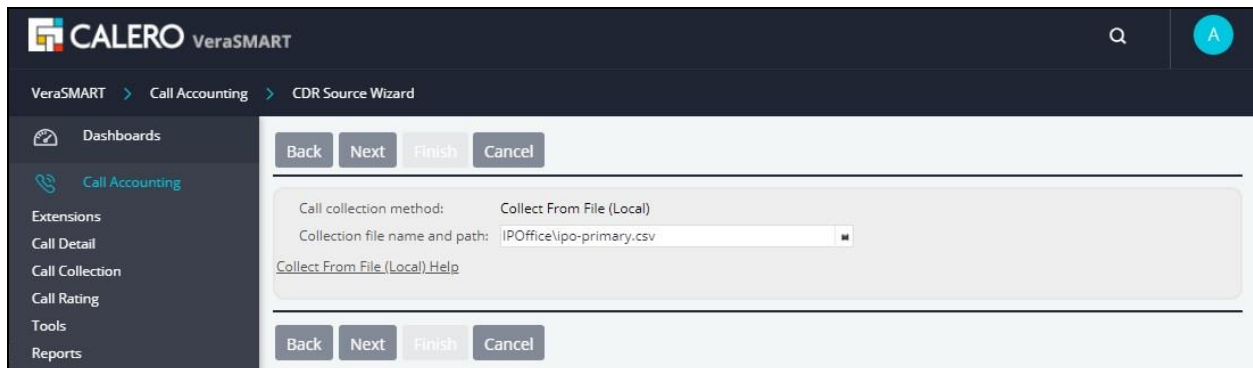
In the subsequent screen, scroll the right pane as necessary to locate and select the entry with **Format name** of “IP Office for Small Community Networking” and **Format number** of “1013”, as shown below.



The screen below is displayed next. For **Collection file name and path**, click on the drop-down icon and select **IPOffice**, followed by the file name corresponding to the primary IP Office system from **Section 6.1**, as shown below.

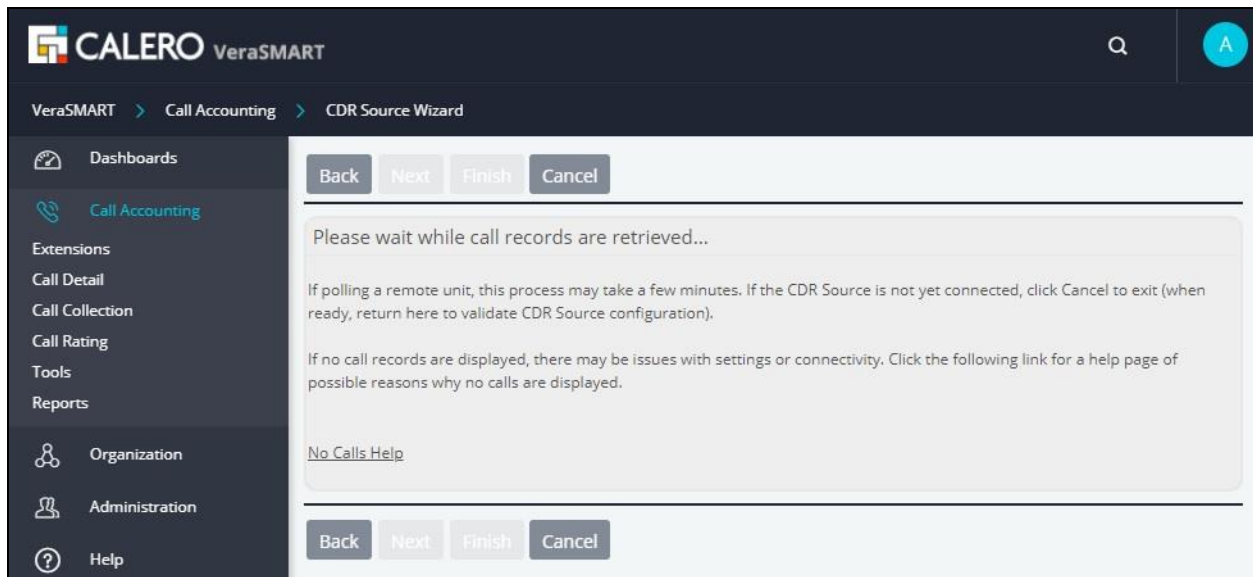


The screen is updated with the file selection, as shown below. Continue with the CDR Source Wizard.



The screenshot shows the CALERO VeraSMART interface. The breadcrumb trail is "VeraSMART > Call Accounting > CDR Source Wizard". The left sidebar contains links for Dashboards, Call Accounting (highlighted), Extensions, Call Detail, Call Collection, Call Rating, Tools, and Reports. The main content area has a top bar with "Back", "Next", "Finish", and "Cancel" buttons. Below this, the "Call collection method:" is set to "Collect From File (Local)". The "Collection file name and path:" field contains "IPOffice\lpo-primary.csv". A link for "Collect From File (Local) Help" is present. At the bottom, there is another set of "Back", "Next", "Finish", and "Cancel" buttons.

The **Please wait while call records are retrieved** screen is displayed next, with VermaSMART establishing connectivity with the primary IP Office system and retrieving SMDR records.



The screenshot shows the same CALERO VeraSMART interface. The breadcrumb trail remains "VeraSMART > Call Accounting > CDR Source Wizard". The left sidebar now includes additional links: Organization, Administration, and Help. The main content area's top bar still has "Back", "Next", "Finish", and "Cancel" buttons. The central message reads "Please wait while call records are retrieved...". Below this, it states: "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).". It then adds: "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." A link for "No Calls Help" is provided. At the bottom, there is another set of "Back", "Next", "Finish", and "Cancel" buttons.

Upon successful connection with the primary IP Office system, the **Raw Call Record Viewer** screen is displayed along with a list of collected SMDR records for the day, as shown below.

Continue to complete the CDR Source Wizard.

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. 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	11	12	13
2019/07/24	11:56:39,00:00:01,2,21031,0,21041,21041,,1,1000101,0,E21031,H323	Primary,E21041,SIP	Primary,13,0,,,									

Repeat the procedures in this section to add a CDR source for the expansion IP Office system. The two CDR sources added for the compliance testing are shown below.

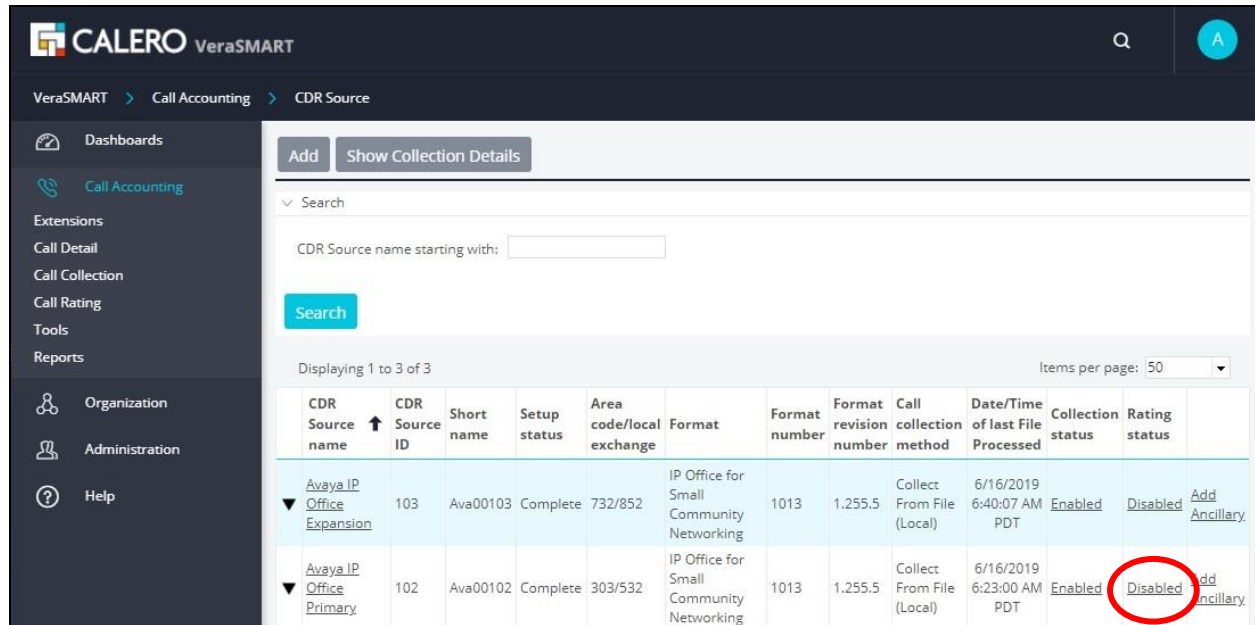
CDR Source

Displaying 1 to 3 of 3

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 IP Office Expansion	103	Ava00103	Complete	732/852	IP Office for Small Community Networking	1013	1.255.5	Collect From File (Local)	6/16/2019 6:40:07 AM PDT	Enabled	Disabled	Add Ancillary
Avaya IP Office Primary	102	Ava00102	Complete	303/532	IP Office for Small Community Networking	1013	1.255.5	Collect From File (Local)	6/16/2019 6:23:00 AM PDT	Enabled	Disabled	Add Ancillary

6.4. Enable Rating Status

After adding the two CDR sources, the screen below is displayed showing the newly created entries. Click on the **Rating status** associated with the entry for the primary IP Office system.

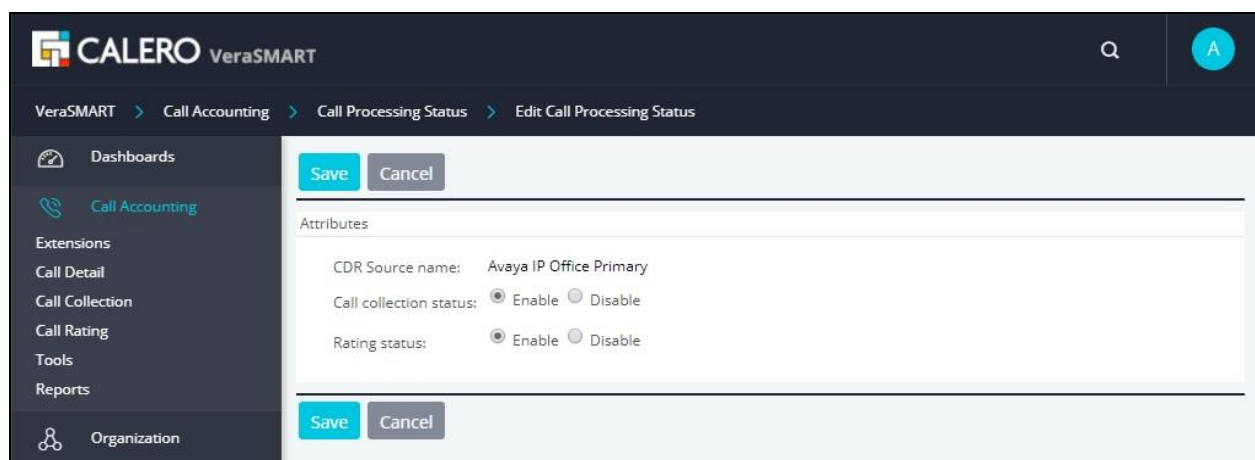


The screenshot shows the CALERO VeraSMART interface. The left sidebar contains navigation links: Dashboards, Call Accounting, Extensions, Call Detail, Call Collection, Call Rating, Tools, Reports, Organization, Administration, and Help. The main content area is titled 'CDR Source' and includes a search bar and a table of CDR sources. The table has columns for 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, and an 'Add Ancillary' link. Two entries are listed: 'Avaya IP Office Expansion' and 'Avaya IP Office Primary'. The 'Rating status' for the 'Avaya IP Office Primary' entry is circled in red.

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	Add Ancillary
Avaya IP Office Expansion	103	Ava00103	Complete	732/852	IP Office for Small Community Networking	1013	1,255.5	Collect From File (Local)	6/16/2019 6:40:07 AM PDT	Enabled	Disabled	Add Ancillary
Avaya IP Office Primary	102	Ava00102	Complete	303/532	IP Office for Small Community Networking	1013	1,255.5	Collect From File (Local)	6/16/2019 6:23:00 AM PDT	Enabled	Disabled	Add Ancillary

The **Attributes** screen is displayed next. For **Rating status**, select **Enable** as shown below.

Repeat the procedure in this section to enable rating status for the entry associated with the expansion IP Office system.



The screenshot shows the CALERO VeraSMART interface for editing call processing status. The left sidebar is the same as the previous screenshot. The main content area is titled 'Edit Call Processing Status' and includes a 'Save' button and a 'Cancel' button. Below these buttons is a form with the following fields: 'CDR Source name' (Avaya IP Office Primary), 'Call collection status' (radio buttons for Enable and Disable, with 'Enable' selected), and 'Rating status' (radio buttons for Enable and Disable, with 'Enable' selected). At the bottom of the form are 'Save' and 'Cancel' buttons.

Attributes
CDR Source name: Avaya IP Office Primary
Call collection status: <input checked="" type="radio"/> Enable <input type="radio"/> Disable
Rating status: <input checked="" type="radio"/> Enable <input type="radio"/> Disable

7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of IP Office and VeraSMART.

Make and complete a few calls, including internal, inbound, and outbound for both IP Office systems.

From the VeraSMART web interface, select **Call Accounting** → **Call Detail** → **View Call Records** (not shown), and verify proper reported entries against each **CDR Source** as shown below.

View Call Records

Search

Personnel:

Extension Used:

Dialed/CLI number:

Inventory ID:

Call direction:

All

Start date:

Today

From

7/17/2019 12:00:00 AM

To

7/17/2019 11:59:59 PM

Search

Displaying 1 to 8 of 8

	Start date	Duration	Extension Used	Dialed/CLI number	Call destination	Call direction	Call type	Reporting Call Type	Dialed Digits	Inventory ID	Trunk	Origination ID	Destination ID	Ring Time	CDR Source
▼	7/17/2019 7:33:24 AM	00:01:05	22021	21031		INTERNAL	Internal	Internal	21031	22021		Digital Expansi	H323 Primary	3	Avaya IP Office Primary
▼	7/17/2019 7:35:59 AM	00:00:30	21031	21041		INTERNAL	Internal	Internal	21041	21031		H323 Primary	SIP Primary	2	Avaya IP Office Primary
▼	7/17/2019 7:36:44 AM	00:07:56	21031	1-9089532103@dr220.com		INCOMING	Incoming	Incoming	19089532103@dr220.com	21031	102T9008	H323 Primary	Line 8.1	3	Avaya IP Office Primary
▼	7/17/2019 7:36:59 AM	00:07:52	21041	973-288-83737	HOPATCONG, NJ	OUTGOING	National	Long Distance	97328883737	21041	102T9008	SIP Primary	Line 8.2	0	Avaya IP Office Primary
▼	7/17/2019 8:14:42 AM	00:01:42	22021	22031		INTERNAL	Internal	Internal	22031	22021		Digital Expansi	H323 Expansion	2	Avaya IP Office Expansion
▼	7/17/2019 8:16:47 AM	00:01:28	22031	1-908-953-2103	BERNARDSVL, NJ	INCOMING	Incoming	Incoming	19089532103	22031	103T9009	H323 Expansion	Line 9.8	3	Avaya IP Office Expansion
▼	7/17/2019 8:17:16 AM	00:01:53	22021	973-288-83737	HOPATCONG, NJ	OUTGOING	In-LATA1	Long Distance	97328883737	22021	103T9018	Digital Expansi	Line 18.1	0	Avaya IP Office Expansion
▼	7/17/2019 8:33:20 AM	00:01:05	22021	21031		INTERNAL	Internal	Internal	21031	22021		Digital Expansi	H323 Primary	3	Avaya IP Office Expansion

Displaying 1 to 8 of 8

8. Conclusion

These Application Notes describe the configuration steps required for Calero VeraSMART eCAS Call Accounting 12.3 to successfully interoperate with Avaya IP Office Server Edition 11.0. All feature and serviceability test cases were completed with observations noted in **Section 2.2**.

9. Additional References

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

1. *Administering Avaya IP Office™ Platform with Manager*, Release 11.0, August 2018, available at <http://support.avaya.com>.
2. *Avaya IP Office SCN Interface Setup*, available upon request to Calero implementation team.

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