



Avaya Solution & Interoperability Test Lab

Application Notes for VeraSMART eCAS R10.3 with Avaya IP Office R8.1 – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for VeraSMART eCAS R10.3 to interoperate with Avaya IP Office R8.1.

Testing was performed using Avaya IP Office 500 V2 R8.1, but it also applies to Avaya IP Office Server Edition R8.1 (single site configuration only).

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

VeraSMART eCAS is a call accounting solution. It uses the Avaya IP Offices' SMDR (Small Message Detail Record) interface to capture call records.

2. General Test Approach and Test Results

All test cases were manually executed. Different types of calls were made to generate SMDRs.

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 testing included feature and serviceability tests.

The feature tests focused on verifying SMDRs were sent to VeraSMART eCAS and properly parsed. Several calls scenarios, including, inbound and outbound PSTN calls, transfer, conference and call forwards were tested.

2.2. Test Results

All test cases were executed; two failed. Failures were caused due to Avaya IP Office sending SMDR field values mentioned below:

- AuthValid and AuthCode fields data is mismatched. Data for AuthValid shows in AuthCode field and vice-a-versa. An internal ticket was opened and the documentation for IP Office is schedule to address this issue in an upcoming release, 9.0.0.0.

2.3. Support

VeraSMART Technical Support is available 8:00am – 8:00PM Eastern Time at (585) 381-0115. Veramark's Online User Community also contains all product documentation, software downloads, and access to User forums at <https://support.veramark.com>. Customers must know their VeraSMART product serial number when talking with Technical Support or registering at the Online User Community. Product serial number can be found in VeraSMART under Help/About VeraSMART.

3. Reference Configuration

The configuration below shown in **Figure 1** is Avaya IP Office connected to VeraSMART server over a LAN.

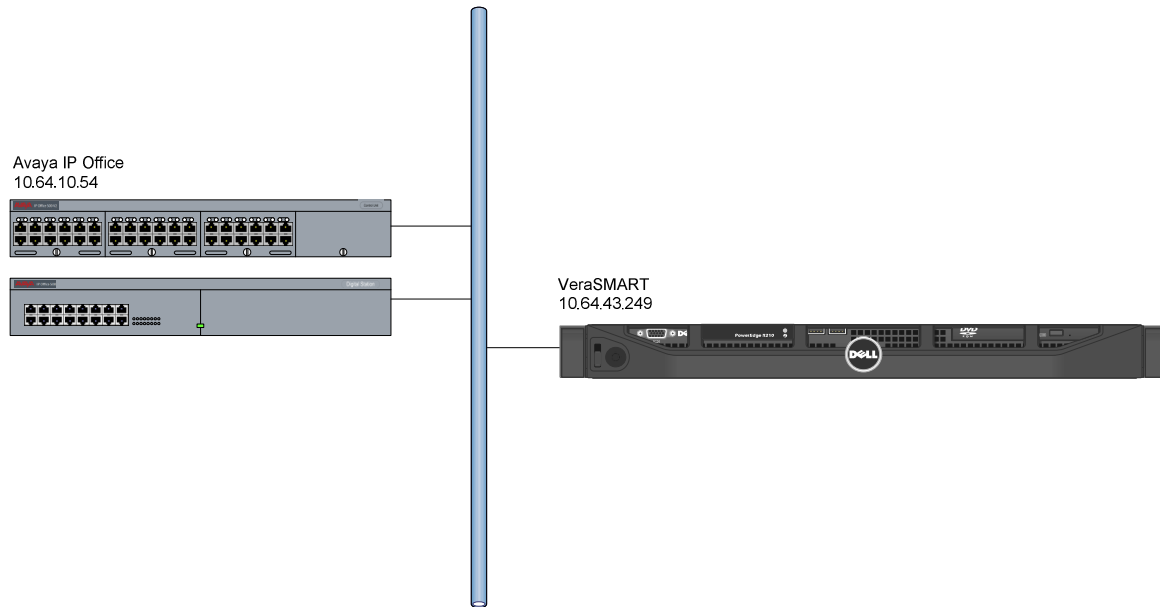


Figure 1: Sample configuration displaying IP Office and VeraSMART

4. Equipment and Software Validated

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

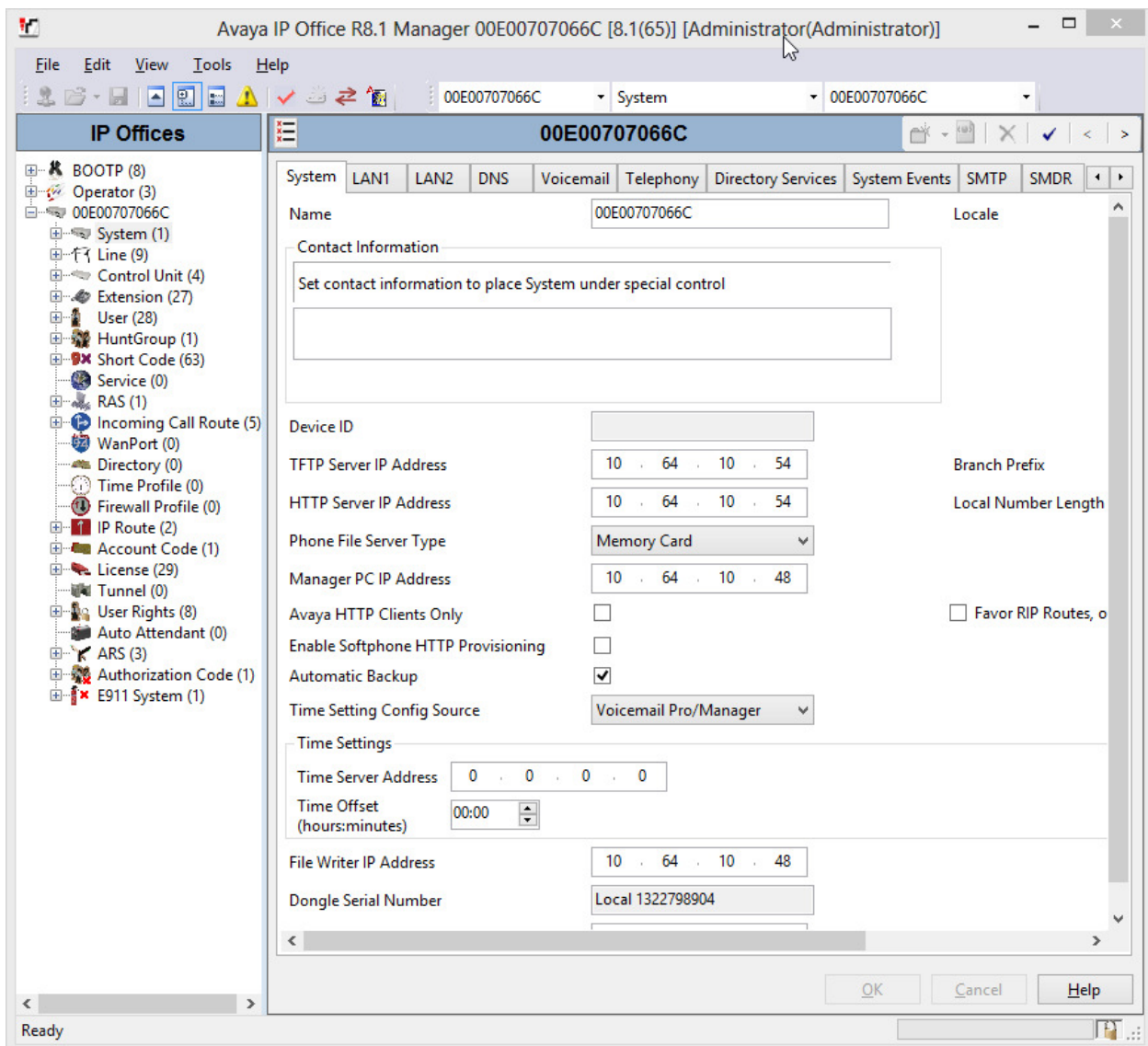
Equipment/Software	Release/Version
Avaya IP Office	R8.1(65)
VeraSMART eCAS	10.3 SP7

5. Configure Avaya IP Office

This section provides the procedures for configuring IP Office.

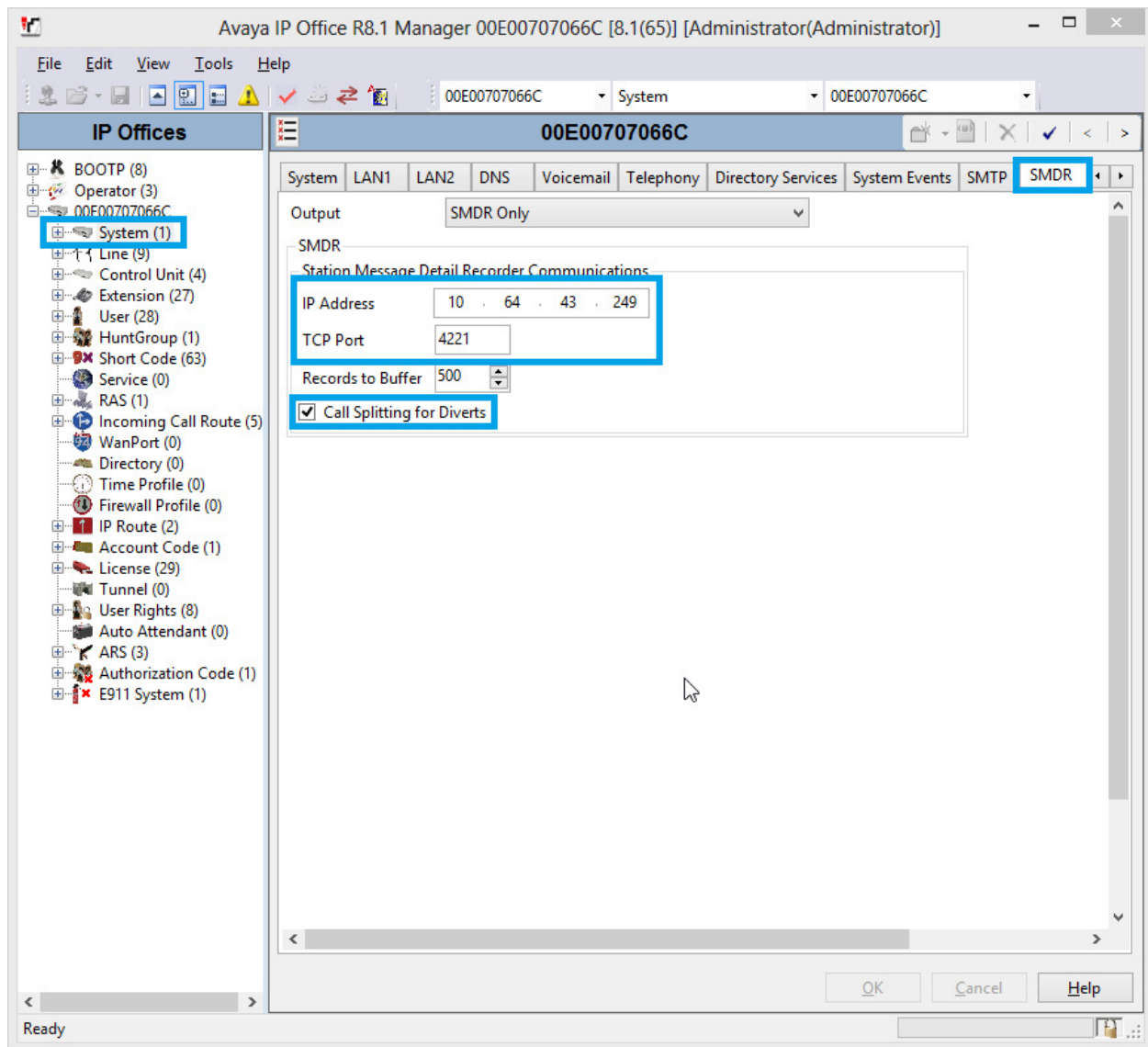
From a PC running the IP Office Manager application, select **Start → Programs → IP Office → Manager** (not shown) to launch the Manager application. Select the proper IP Office system, and log in with the appropriate credentials.

The Avaya IP Office R8.1 Manager screen is displayed



From the configuration tree in the left pane, select **System** to display the **System** screen in the right pane. Select the **SMDR** tab.

Select **SMDR Only** from the **Output** drop-down list. For **IP Address**, enter the IP address of VeraSMART eCAS server. For **TCP Port**, enter a port, in this case **4221**. 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 case of communication failure with VeraSMART eCAS server.



6. Configure VeraSMART eCAS

Before processing the configuration of VeraSMART eCAS, obtain the assistance of the telecom administrator to set up the interface. Following information will be needed:

- Avaya IP Office Manager IP address
- VeraSMART server IP address

6.1. CDR Collector Setup

Log into the server where VeraSMART is installed and access: **Start → All Programs → VeraSMART → IP Office Configuration** (not shown).

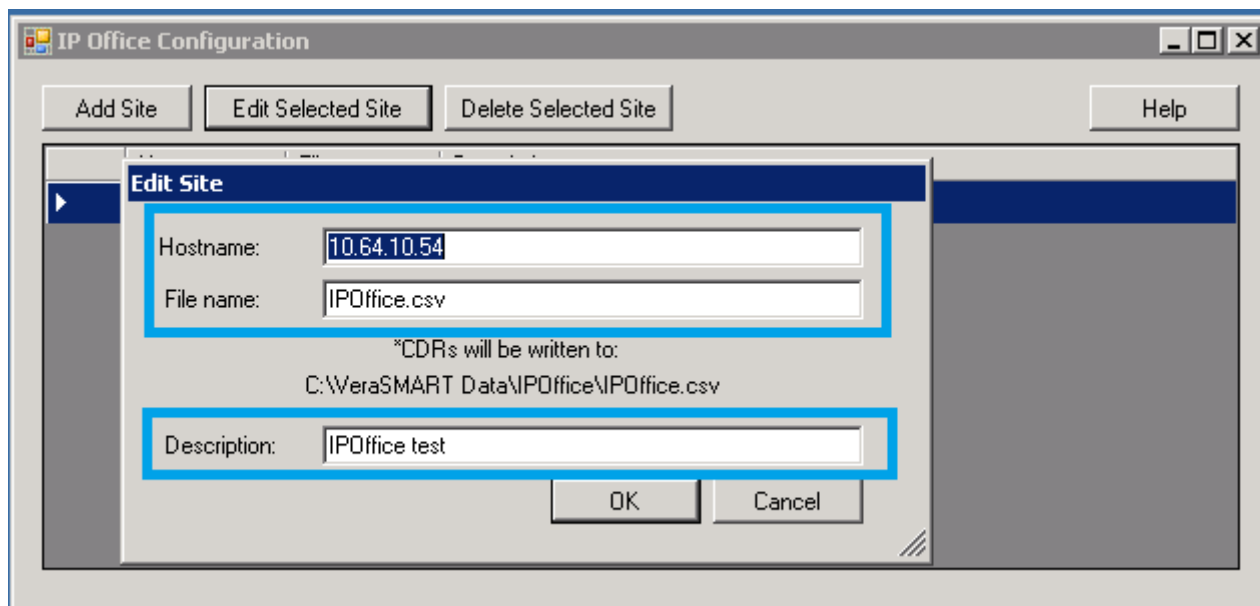
Please note that the **IP Office Configuration** location can be different depending on the Windows Platform it is installed on. For the compliance test, VeraSMART was installed on Windows Server 2003.

Click **Add Site** and configure as follows:

- **Hostname:** Type in the IP Address of IP Office
- **File Name:** Type in a file name as shown
- **Description:** Provide description of the site

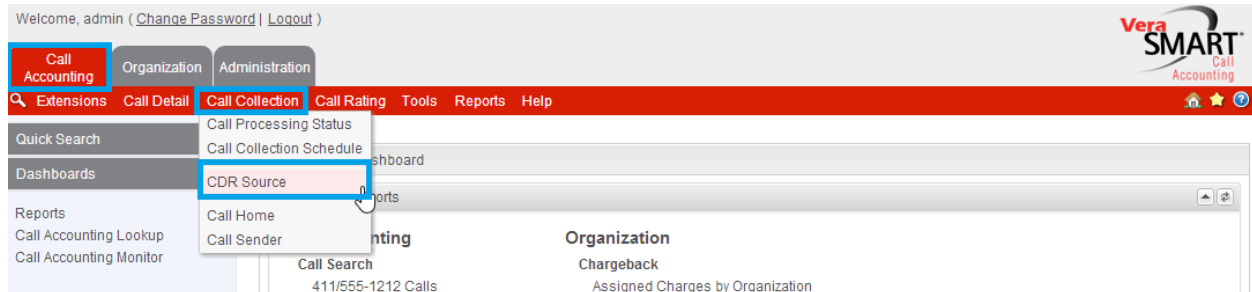
Please note the directory; this will be used for **Call Accounting Server** setup.

Note: Check to make sure this file has been automatically created before proceeding.

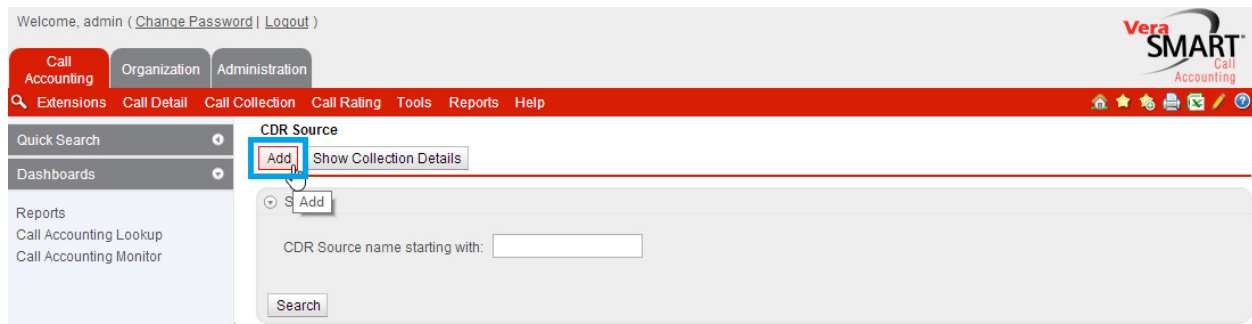


6.2. Call Accounting Server Setup

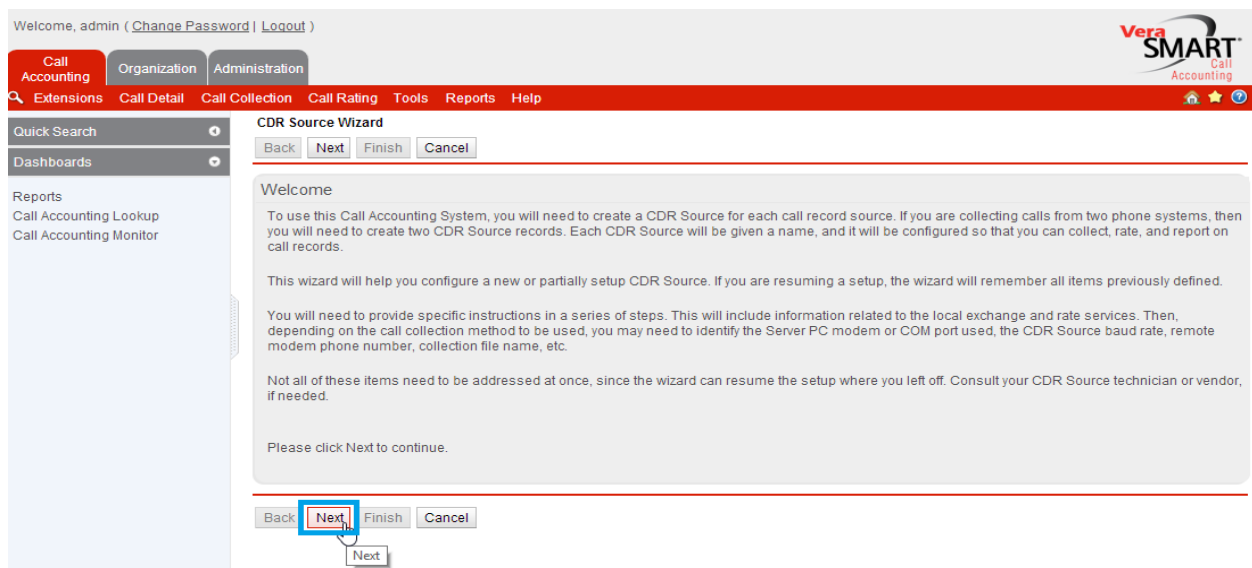
Log onto VeraSMART Call Accounting Application via a web browser; <http://<ip-address>:8080/VeraSMART> where ip-address is the IP Address of VeraSMART server. Navigate to **Call Accounting → Call Collection → CDR Source**



Click **Add** under **CDR Source**



On the **Welcome** screen click **Next**.



On the **Identify the source of call records**. Page, configure as follows:

- **CDR Source Name:** Type in a name for the source
- **Area Code:** Type in the area code
- **Local Exchange:** Type in the local exchange

Click **Next**.

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

VeraSMART
Call Accounting

Call Accounting | Organization | Administration

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

Quick Search | Dashboards

Reports
Call Accounting Lookup
Call Accounting Monitor

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

Next

On the **Select CDR Source manufacturer**, select **Avaya** from the **Manufacturer** drop down menu. Click **Next**.

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

VeraSMART
Call Accounting

Call Accounting | Organization | Administration

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

Quick Search | Dashboards

Reports
Call Accounting Lookup
Call Accounting Monitor

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: None

Manufacturer:

Back Next Finish Cancel

Next

On the **Select the call record format.** page, select **IP Office 4.2 or later** 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 1 to 23 of 23

Items per page: 50

	Format name	Format description	CDR Source software release	Format number	Format revision number
<input type="radio"/>	(101)MERLIN Legend	Standard ISDN	3.0	101	1.184.0
<input type="radio"/>	(102)System 25	Standard format		102	1.184.0
<input type="radio"/>	(103) Partner/ACS	4 lines/12 extensions		103	1.184.0
<input type="radio"/>	(105)PARTNER II	Supports 15/24-digit numbers, ring time		105	1.184.0
<input type="radio"/>	(106)MERLIN Legend RingTime	Reports ring/talk time	6.1,7.0	106	1.184.0
<input type="radio"/>	(108)MERLIN MAGIX	Standard ISDN		108	1.184.0
<input type="radio"/>	(110)MERLIN MAGIX RingTime	Reports ring/talk time		110	1.184.0
<input type="radio"/>	(120)System 75	Teleseer Format	R1V2,V3,V4	120	1.184.0
<input type="radio"/>	Legacy DEFINITY systems	For serial CDR output only, ring time not reported	G3FD1I2	146	7.186.34
<input type="radio"/>	Legacy DEFINITY systems	For serial CDR output only	G3FD1I2	149	1.184.1
<input type="radio"/>	CM Aura/DEFINITY systems	For Expanded Meet-me Conferencing; supports standard RSP protocol and legacy CDR output to serial port or local file	G3FD1I2	154	5.186.34
<input type="radio"/>	CM Aura/DEFINITY systems	For customized CDR format; supports standard RSP and legacy CDR output to serial port	G3FD1I2	158	6.186.34
<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	SIP data collection from Avaya Aura Session Manager 6.1 and legacy SM systems.	1.0	200	1.186.0
<input type="radio"/>	IP Office (Legacy)	SMDR output using Delta Server or Call Logger; stores Voice Mail calls	IP Office 3.0	331	5.186.36
<input type="radio"/>	IP Office (Legacy)	SMDR output using Delta Server or Call Logger; discards Voice Mail calls	IP Office 3.0	334	4.186.36
<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 checked="" type="radio"/>	IP Office 4.2 or later	SMDR output, direct over IP - no Delta Server	IP Office 5.0	338	7.186.37
<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"/>	one-X Quick Edition	Avaya one-X Quick Edition	3.2.1	702	1.184.0
<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

Displaying 1 to 23 of 23

Items per page: 50

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

For **Collection file name and path**, type in the full path from **Section 6.1** and click **Next**.

The screenshot shows the 'CDR Source Wizard' configuration screen in the VeraSMART Call Accounting application. The interface includes a top navigation bar with 'Call Accounting', 'Organization', and 'Administration' tabs. Below this is a red navigation bar with links for 'Extensions', 'Call Detail', 'Call Collection', 'Call Rating', 'Tools', 'Reports', and 'Help'. A left sidebar contains 'Quick Search', 'Dashboards', and 'Reports' sections. The main content area is titled 'CDR Source Wizard' and contains the following elements:

- Buttons: 'Back', 'Next', 'Finish', and 'Cancel' at the top.
- Form fields:
 - 'Call collection method:' set to 'Collect From File (Local)'.
 - 'Collection file name and path:' with the text 'C:\VeraSMART Data\IPOffice\IPOffice.csv'.
- Help link: 'Collect From File (Local) Help'.
- Bottom buttons: 'Back', 'Next', 'Finish', and 'Cancel'. A mouse cursor is clicking the 'Next' button.

Wait for the call records to be retrieved and click **Next**. Finally Congratulations page will be displayed (not shown) to confirm successful addition of Call Accounting Server.

The screenshot shows the 'CDR Source Wizard' status screen. The interface is similar to the previous one, but the main content area displays the following information:

- Buttons: 'Back', 'Next', 'Finish', and 'Cancel' at the top.
- Status message: 'Please wait while call records are retrieved...'.
- Instructions: '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.'
- Help link: 'No Calls Help'.
- Bottom buttons: 'Back', 'Next', 'Finish', and 'Cancel'.

The **Call Records Format** that will be displayed is according to the table below:

Avaya IP Office 4.2 and Later					
Source, destination & routing information	Values set as...	Incoming Call	Internal Call	Outgoing Call	Tandem Call
	Source	Dialed/CLI Number (calling number)	Extension Used (calling number)	Extension Used (calling number)	Special Code (ANI: calling number)
	Routed In	Trunk (device name)	--	--	Tandem trunk (device name)
	Routed Out	--	--	Trunk (device name)	Trunk (device name)
	Destination	Extension Used (dialed or 9999*)	Dialed/CLI Number (dialed or 9999*)	Dialed/CLI Number (dialed number)	Dialed/CLI Number (dialed number)
** VeraSMART uses extension '9999' as destination of calls that end in a user's voice mail "inbox" and assigns the call to the user's extension.					
Dialed codes	Account codes and authorization codes are provided if dialed				
Special codes	<ul style="list-style-type: none"> ■ ANI: calling number (provided for Tandem calls) ■ VM (Voice Mail calls) ■ Auto Forward (auto-forwarded calls) 				
Flags	<ul style="list-style-type: none"> ■ Conference (these calls will generate multiple CDRs, each record will raise this flag) ■ Transfer (these calls will generate multiple CDRs, one for each leg of the call. Each record will include the same value for the 'Transfer ID' field) 				
	<p>NOTE: VeraSMART 10.4 provides a view named 'View Call Records and Transfers' that includes Transfer IDs which can drill down to the list of all legs in a Transfer call.</p>				
Other CDR Data Provided	<ul style="list-style-type: none"> ■ Unanswered (this type of flag is raised for both, Unanswered and Abandoned calls) ■ Voice Mail (these calls are assigned to the voice mail user's extension, destination = extension 9999, and have the Special Code 'VM') 				
	<ul style="list-style-type: none"> ■ Hunt Group/DNIS -- If DNIS is used, the incoming 800 or 900 number that the caller dialed to reach the premises is provided. The answering extension in the hunt group will be reported as destination. 				
	<p>NOTE: Hunt Groups/DNIS numbers can also be pre-configured within VeraSMART as Inventory Items with Inventory Type = "Hunt Group".</p>				
	<ul style="list-style-type: none"> ■ Redirect Number -- set to the next-to-last extension number that was used from a series of continued CDR records. In most cases this is the last extension that transferred the call ■ Origination & Destination ID -- from the 'Party1Name' and 'Party2Name' fields, respectively ■ Ring & Queue times-- Incoming calls report ring time. Queue time is not provided 				

7. Verification Steps

7.1. Avaya IP Office

To verify that the Avaya IP Office is sending SMDRs successfully, open Avaya IP Office R6.1 SysMonitor. Select **Filter** → **Trace Options** (not shown). Select **Call** tab, and check box for **Call Detail Records** and **CDR Extra diagnostics**.

All Settings

ISDN | Key/Lamp | Directory | Media | PPP | R2 | Routing | Services | SIP | System
T1 | VPN | WAN | SCN | Jade
ATM | Call | DTE | EConf | Frame Relay | GOD | 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 Events
- ☐ Voicemail Messaging

Trace Colour █

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

Save File Load File Select File

Start tracing by selecting **View → Log To Screen** (not shown). If the TCP connection is successful to VeraSMART eCAS, results should be similar to the following lines.

```
445081676ms CDR: Initialising communications [IP Address = 10.64.43.249, port 4221
[TCP]]
445081676ms PRN: CDR - ResetQueueSize=500
445081677ms CDR: SMDR OUTPUT '2012/06/24
13:45:54,00:00:02,2,25202,0,25201,25201,,1,1000002,0,E25202,IPO Digital 2,E25201,IPO
Digital 1,0,0,n/a,0,,,,,,,,,
'
```

7.2. VeraSMART eCAS

Completing the configuration in **Section 6** will verify that data is being captured as part of the CDR Source configuration. Alternatively to accepting that as verification, once VeraSMART eCAS configuration has been completed the following can be done:

1. Verify Call Collection and Call Rating is enabled by navigating to **Call Accounting → Call Collection → Call Processing Status** (not shown).
2. View call detail for the current day, or a date range by navigating to **Call Accounting → Call Detail → View Call Records** (not shown).

These simple steps will verify that data is set to be collected and processed by VeraSMART eCAS, as well as viewing call detail records that have been captured since completing the IP Office and VeraSMART eCAS configuration.

8. Conclusion

VeraSMART eCAS successfully interoperated with Avaya IP Office except for the failure that is mentioned in **Section 2.2**.

9. Additional References

Product documentation for Avaya products may be found at <http://support.avaya.com>.

[1] *Avaya IP Office 8.1 Installation, 15-601042 Issue 26i – (23 August 2012)*

[2] *Avaya IP Office R8.1 Manager, 10.115-601011 Issue 29o – (03 August 2012)*

Product documentation for VeraSMART can be found at <https://support.veramark.com>.

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