



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring Avotus Enhanced Usage Reporting for Unified Communications with Avaya Aura® Communication Manager – Issue 1.0

Abstract

These Application Notes describe the configuration procedures required to allow Avotus Enhanced Usage Reporting for Unified Communications to collect call detail records from Avaya Aura® Communication Manager using Avaya Reliable Session Protocol over TCP/IP. Avotus Enhanced Usage Reporting for Unified Communications collects, stores and processes these call records to provide usage analysis, call costing and billing capabilities.

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 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 describes a compliance-tested call detail recording (CDR) solution comprised of Avaya Aura ® Communication Manager (Communication Manager) and Avotus Enhanced Usage Reporting for Unified communications (Avotus EUR). Avotus EUR is a call accounting software application that uses call detail records from Communication Manager to provide reporting capabilities to business and IT managers to track and manage call usage and telecom expenses.

Communication Manager communicates to Avotus EUR via an Avaya Reliable Session Protocol (RSP) session over the TCP/IP network. The RSP session provides a transport mechanism for reliable delivery of CDR records. Communication Manager generates and sends the call records out in the RSP session while Avotus EUR collects, stores and processes the records at the other end.

Communication Manager can generate call detail records for intra-switch calls, inter-switch calls, inbound trunk calls and outbound trunk calls. In addition, split records can be generated for transferred calls and conferenced calls. Avotus EUR can support any CDR format provided by Communication Manager. However, during the compliance test, the expanded format was utilized.

2. General Test Approach and Test Results

This section describes the compliance testing used to verify interoperability of Avotus EUR application with Communication Manager. This section covers the general test approach and the test results. The testing covered feature and serviceability test cases. The feature testing covered the ability of Avotus EUR to capture and process CDR records.

The CDR records captured and displayed by Avotus EUR were compared for accuracy to the CDR records received by an Avaya Definity Reliable Data Transport Tool (RDTT), a CDR test tool. CDR records for various call types were generated, including internal calls, inbound and outbound trunk calls, PSTN calls, transferred calls, and conferenced calls. Calls were established using Avaya H.323 and SIP telephones.

The serviceability testing focused on the ability of Avotus EUR to recover from adverse conditions such as loss of network connectivity. With the use Avaya RSP, call records that were generated while Avotus EUR was disconnected from the network were not lost.

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 this DevConnect Application Note 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 proper parsing and displaying of expanded CDR data received from Communication Manager by Avotus EUR.

The following is a list of Interoperability tests that were performed:

- Internal calls
- Inbound Inter-Switch calls
- Outbound Inter-Switch calls
- Inbound PSTN calls
- Outbound PSTN calls
- Tandem calls to PSTN
- Hold and Resume
- Blind and Consultative Transfer
- Blind and Consultative Conference
- Call Forward
- Hunt Group calls
- Bridged Appearance
- Account codes
- Authorization codes
- Split CDR Records
- Serviceability

The serviceability testing focused on the ability of Avotus EUR to recover from adverse conditions such as loss of network connectivity, disabling and re-enabling the CDR Link and power cycling. With the use of Avaya RSP, CDR records that were generated while Avotus EUR was disconnected from the network were not lost.

2.2. Test Results

All applicable test cases were executed and passed with the following observations:

- Hold time will not be included in call duration since Avotus EUR does not calculate/process hold time from Communication Manager.
- Even though Call Forward, Bridged Appearances, Hunt Groups and Split CDR are collected by Avotus EUR in their raw format, they are not processed when running the reports. Avotus EUR only processes incoming, outgoing and tandem calls for reporting purposes.
- Even though condition codes “E, G, F and I” are collected by Avotus EUR in their raw format, they are not processed when running the reports.

2.3. Support

Technical support for the Avotus EUR solution can be obtained by contacting Avotus:

- URL – http://www.avotus.com/contact_support.asp
- Phone – (800) 840-2580

3. Reference Configuration

Figure 1 illustrates the configuration used for the compliance test. In the sample configuration two sites, Sites A and B, are connected via a SIP trunk through Session Manager. Avotus EUR only monitors the calls at Site A. Site B is used to generate inter-site traffic across the SIP trunk.

Site A has a VMware virtual machine hosting Communication Manager, Session Manager, System Manager and Media Server. The Communication Manager is connected to an Avaya G450 Media Gateway. Site A also includes Avaya 96x1 Series H.323 and SIP Deskphones. In addition, Site A has connectivity to the PSTN. The configuration at Site B is similar to Site A and also uses the Session Manager at Site A. Avotus EUR connects via the LAN and establishes a CDR link to Communication Manager at Site A. Avotus EUR is also installed and configured on the VMware virtual machine.

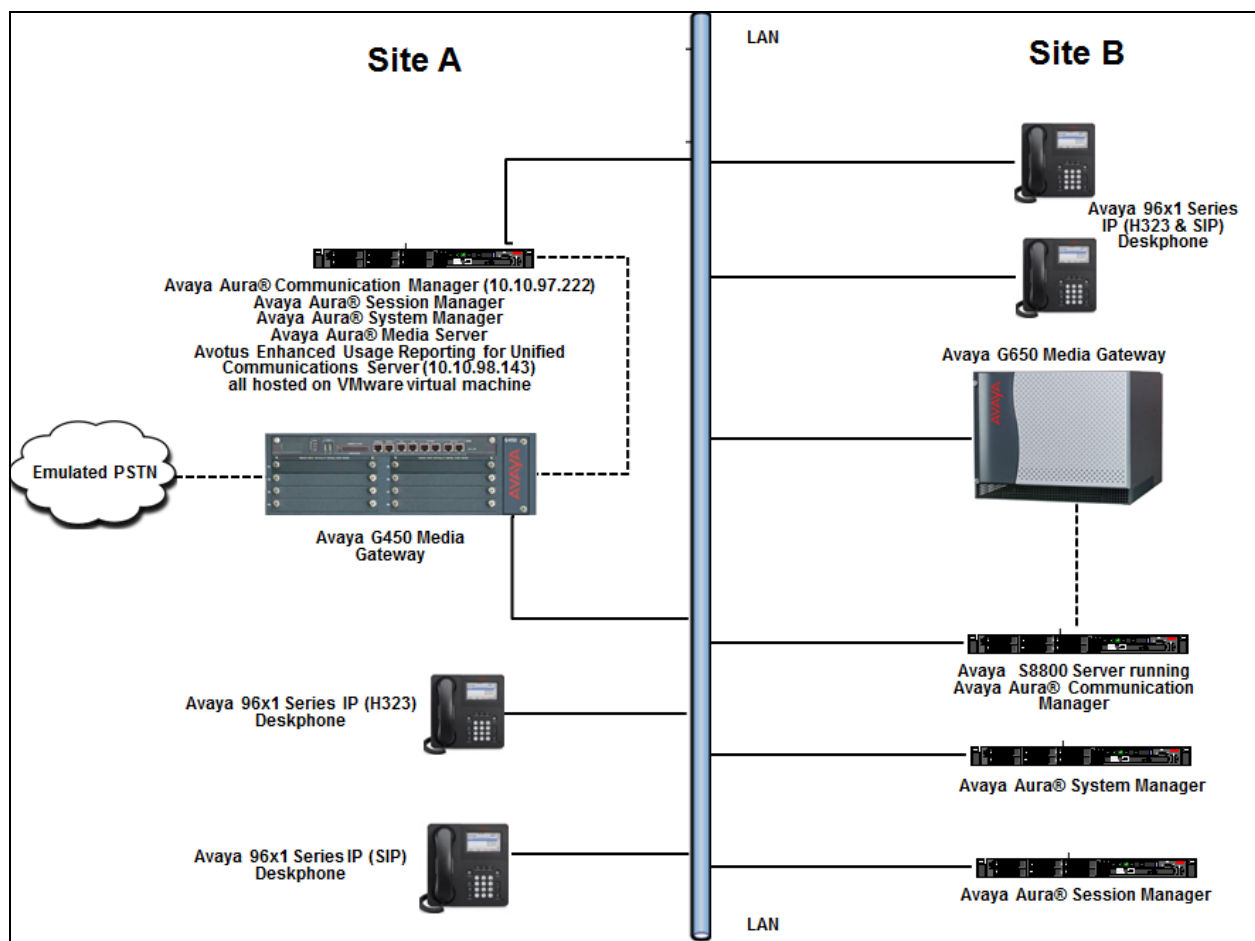


Figure 1: Test configuration for Avotus EUR Compliance Test

4. Equipment and Software Validated

The following equipment and software/firmware were used for the test configuration.

Equipment/Software	Release/Version
Avaya Aura® Communication Manager running on a virtual server	7.0.1.2.0-FP1SP2
Avaya Aura® Session Manager running on a virtual server	7.0.1.2.701230
Avaya Aura® System Manager running on a virtual server	7.0.1.2 Service Pack 2
Avaya Aura® Media Server running on a virtual server	7.7.0.375
Avaya G450 Media Gateway	37.41.0/1
Avaya 9611G IP Deskphones (H.323)	6.6229
Avaya 9641GS IP Deskphone (SIP)	7.0.1.1.5
Avotus Enhanced Usage Reporting for Unified Communications running on Windows Server 2008 R2 Standard SP1	9.10

5. Configure Avaya Aura® Communication Manager

This section describes the procedure for configuring CDR on Communication Manager. These steps are performed through the System Access Terminal (SAT). Communication Manager is configured to generate CDR records and send them to the IP address of the server running Avotus EUR using TCP/IP. The procedure covers the following areas:

- Administer IP Node Names
- Configure CDR Link
- Enable CDR for Intra-Switch Calls
- Enable CDR for Trunks Calls
- Configure Off-PBX-Telephone Configuration-Set

5.1. Administer IP Node Names

Use the **change node-names ip** command to create a new node name for the server running Avotus EUR. This node name is associated with the IP address of the server. In the sample configuration **CDR-Collector** was used for the name and **10.10.98.143** was used for the IP address. Also, take note of the node name **procr**. It will be used in the next step. The **procr** entry on this form was previously administered. The **AVAYA-RD TT** was used to setup the collection of CDR on the secondary link.

change node-names ip		Page 1 of 2
IP NODE NAMES		
Name	IP Address	
AVAYA-RD TT	10.10.98.71	
CDR-Collector	10.10.98.143	
DevvmAES	10.10.97.224	
DevvmAMS	10.10.97.232	
GW-G450	10.10.4.25	
Loopback	10.10.97.222	
SM-VM	10.10.97.228	
TFTP-Server	10.10.98.72	
default	0.0.0.0	
procr	10.10.97.222	

5.2. Configure CDR Link

Use the **change ip-services** command to define the CDR link between Communication Manager and Avotus EUR. To define a primary CDR link, provide the following information:

- **Service Type: CDR1** [If needed, a secondary link can be defined by setting Service Type to CDR2.]
- **Local Node: procr** [For Communication Manager used during compliance testing, set the Local Node to the node name of the processor board.]
- **Local Port: 0** [The Local Port is fixed to 0 because Communication Manager initiates the CDR link.]
- **Remote Node: CDR-Collector** [The Remote Node is set to the node name previously defined in **Section 5.1.**]
- **Remote Port: 9000** [The Remote Port may be set to a value between 5000 and 64500 inclusive, and must match the port configured in Avotus EUR.]

change ip-services						Page	1	of	4
IP SERVICES									
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port				
CDR1		procr	0	CDR-Collector	9000				
CDR2		procr	0	AVAYA-RDIT	9001				

For this solution the RSP is used. On **Page 3** of the **ip-services** form, set the **Reliable Protocol** field to **y**.

change ip-services						Page	3	of	4
SESSION LAYER TIMERS									
Service Type	Reliable Protocol	Packet Resp Timer	Session Connect Message Cntr	SPDU Cntr	Connectivity Timer				
CDR1	y	30	3	3	60				
CDR2	y	30	3	3	60				

Enter the **change system-parameters cdr** command to set the parameters for the type of calls to track, and for the format of the CDR data. The example below shows the settings used during the compliance test. Provide the following information:

- **CDR Date Format: month/day**
- **Primary Output Format: expanded**
- **Primary Output Endpoint: CDR1**

The remaining parameters define the type of calls that will be recorded and what data will be included in the record. Refer to documents in **Section 9** for a full explanation of each field. The test configuration used some of the more common fields described below.

- **Use Legacy CDR Formats?: y** [Allows CDR formats to use 3.x CDR formats for “y”. If the field is set to “n”, then CDR formats utilize the 4.x CDR formats.]
- **Intra-switch CDR: y** [Allows call records for internal calls involving specific stations. Those stations must be specified in the intra-switch cdr form.]
- **Record Outgoing Calls Only?: n** [Allows incoming trunk calls to appear in the CDR records along with the outgoing trunk calls.]
- **Outg Trk Call Splitting?: y** [Allows a separate call record for any portion of an outgoing call that is transferred or conferenced.]
- **Inc Trk Call Splitting?: y** [Allows a separate call record for any portion of an incoming call that is transferred or conferenced.]
- **CDR Account Code Length: 4** [The length may be set to a value between 1 and 15. However, during the compliance test, “4” was used.]

```
change system-parameters cdr                                     Page 1 of 1
                                CDR SYSTEM PARAMETERS

Node Number (Local PBX ID):                                     CDR Date Format: month/day
Primary Output Format: expanded Primary Output Endpoint: CDR1
Secondary Output Format: unformatted Secondary Output Endpoint: CDR2
Use ISDN Layouts? n                                           Enable CDR Storage on Disk? n
Use Enhanced Formats? n Condition Code 'T' For Redirected Calls? n
Use Legacy CDR Formats? y Remove # From Called Number? n
Modified Circuit ID Display? n Intra-switch CDR? y
Record Outgoing Calls Only? n Outg Trk Call Splitting? y
Suppress CDR for Ineffective Call Attempts? y Outg Attd Call Record? y
Disconnect Information in Place of FRL? n Interworking Feat-flag? n
Force Entry of Acct Code for Calls Marked on Toll Analysis Form? n
Calls to Hunt Group - Record: member-ext
Record Called Vector Directory Number Instead of Group or Member? n
Record Agent ID on Incoming? n Record Agent ID on Outgoing? y
Inc Trk Call Splitting? y Inc Attd Call Record? n
Record Non-Call-Assoc TSC? n Call Record Handling Option: warning
Record Call-Assoc TSC? n Digits to Record for Outgoing Calls: dialed
Privacy - Digits to Hide: 0 CDR Account Code Length: 4
Remove '+' from SIP Numbers? Y
```

5.3. Enable CDR for Intra-Switch Calls

If the **Intra-switch CDR** field is set to **y** on **Page 1** of the **system-parameters cdr** form, then use the **change intra-switch-cdr** command to define the extensions that will be subject to call detail records. In the **Extension** field, enter the specific extensions whose usage will be tracked.

Note: To simplify the process of adding multiple extensions in the **Assigned Members** field, the **Intra-switch CDR by COS (SA8202)** special feature may be utilized. To utilize this feature, contact an authorized Avaya account representative to obtain the license.

change intra-switch-cdr		Page 1 of 3	
INTRA-SWITCH CDR			
Assigned Members:		8	of 1000 administered
Extension	Extension	Extension	Extension
56103			
56201			

5.4. Enable CDR for Trunk Calls

For each trunk group for which CDR records are desired, verify that CDR reporting is enabled. To do this, use the **change trunk-group n** command, where **n** is the trunk group number, and verify that the **CDR Reports** field is set to **y**. This applies to all trunk group types.

The example below shows the ISDN-PRI trunk to the PSTN.

```
change trunk-group 4                                     Page 1 of 21
                                     TRUNK GROUP
Group Number: 4                      Group Type: isdn      CDR Reports: y
  Group Name: To-IPO 36_44           COR: 1              TN: 1          TAC: #004
  Direction: two-way                 Outgoing Display? n    Carrier Medium: PRI/BRI
  Dial Access? n                     Busy Threshold: 255  Night Service:
Queue Length: 0
Service Type: tie                     Auth Code? n          TestCall ITC: rest
                                     Far End Test Line No:
TestCall BCC: 4
```

The example below shows the SIP trunk between Sites A and B. This SIP trunk actually terminates to Session Manager, which then routes calls to Site B over another SIP trunk.

```
change trunk-group 1                                     Page 1 of 21
                                     TRUNK GROUP
Group Number: 1                      Group Type: sip      CDR Reports: y
  Group Name: Trunk to SM on VM       COR: 1              TN: 1          TAC: #001
  Direction: two-way                 Outgoing Display? y
  Dial Access? n                     Night Service:
Queue Length: 0
Service Type: tie                     Auth Code? n
                                     Member Assignment Method: auto
                                     Signaling Group: 1
                                     Number of Members: 24
```

5.5. Configure Off-PBX-Telephone Configuration-Set

SIP endpoints and off-pbx-telephone stations will be automatically created in Communication Manager when users (SIP endpoints) are created in Session Manager.

However, the **off-pbx-telephone configuration-set** form needs to be modified. Enter **change off-pbx-telephone configuration-set** and disable the **CDR for Calls to EC500 Destination** field by setting it to **n**. Example below shows **off-pbx-telephone configuration-set 1**. The same will apply to other applicable configuration sets.

```
change off-pbx-telephone configuration-set 1                                Page 1 of 1

                                CONFIGURATION SET: 1

                                Configuration Set Description:
                                  Calling Number Style: network
                                  CDR for Origination: phone-number
                                CDR for Calls to EC500 Destination? n
                                  Fast Connect on Origination? n
                                  Post Connect Dialing Options: dtmf
                                  Cellular Voice Mail Detection: timed (seconds): 4
                                  Barge-in Tone? n
                                  Calling Number Verification? y
                                  Call Appearance Selection for Origination: primary-first
                                  Confirmed Answer? n


                                Use Shared Voice Connections for Second Call Answered? n
                                Use Shared Voice Connections for Second Call Initiated? n
                                  Provide Forced Local Ringback for EC500? n
                                  Apply Ringback upon Receipt of: Call-Proceeding
```

6. Configure Avotus Enhanced Usage Reporting for Unified Communications

This section describes the configuration of Avotus EUR. Avotus installs, configures, and customizes the EUR application for the end customers. Thus, this section only describes the interface configuration, so that Avotus EUR can receive CDR data from Communication Manager. The procedure covers the following areas:

- Login to Avotus EUR
- Configure a site
- Configure script and collection
- Start collection

6.1. Login to Avotus EUR

To configure Avotus EUR, double click on the Avotus EUR icon on desktop, , and provide credentials to gain access into Avotus EUR in the window shown below.



The image shows a login window for Avotus EUR. At the top, it says "Powered By" followed by the Avotus logo and the tagline "Intelligent Communications Management". The login form contains three fields: "Login:" with a text input box, "Password:" with a password input box, and "Language:" with a dropdown menu currently set to "English". Below these fields is a blue "SIGN IN" button. At the bottom of the window, a yellow message states: "Access to this service is restricted to authorized users."

6.2. Configure a Site

From the **Enhanced Usage Reporting** screen shown below, navigate to **Admin** → **Sites** → **Hierarchy** to configure a site.



In the screen shown below, click on **Corporation 1** (created during install time). Click on the top right **Add Site** icon highlighted below to add a site.

The screenshot shows the 'Enhanced Usage Reporting' application. The top navigation bar includes 'Reports', 'Dashboards', and 'Admin'. The left sidebar has 'Sites' and 'Hierarchy' sections. Under 'Hierarchy', 'Corporation 1' is listed with a red box highlighting the 'Add Site' icon (a green circle with a plus sign). The main content area is titled 'Corporation 1' and contains an 'Options' section with a list: 'Contact Information', 'Calendar Configuration', and 'Time Zone'. Below this is a 'Properties' section with a table.

Name	Corporation 1
Creator	
Creation Date	4/13/2017 10:58:21
Node Type	corporation
Last Updated	4/13/2017 10:58:21

In the **Add Site** window shown below, enter an appropriate name for **Site Name** field and click on the **OK** icon highlighted below.

The screenshot shows the 'Add Site' window. The 'Site Name' field contains the text 'Avaya CM'. At the bottom right, there are two circular buttons: a blue one with a white checkmark (OK) and a blue one with a white 'X' (Cancel). The OK button is highlighted with a red box.

To assign the site created above for collection of data; navigate to **Admin** → **Call Accounting** → **Application** as shown in the screen below.



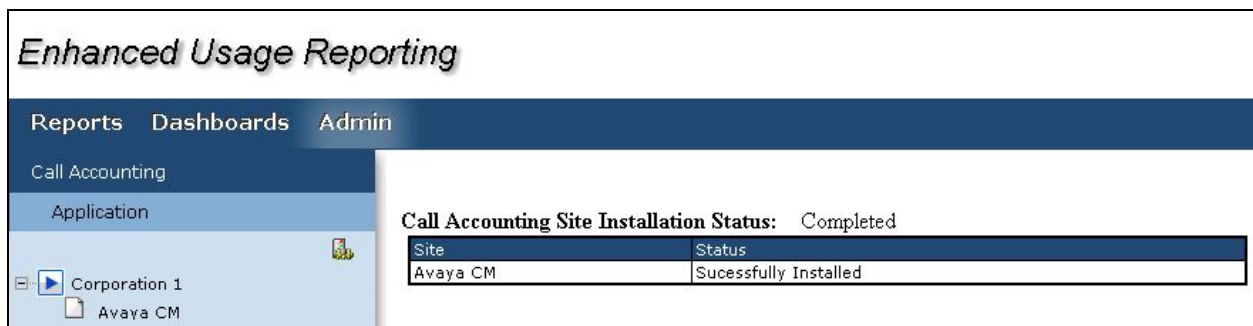
In the **Application** section, start the configuration by clicking on the **Configure** icon as highlighted in the screen below.



In the **Site Assignments** window seen below, select the server name from the drop down menu to assign it to the site. In the example below, “WIN-IB7NT8C7NJP” is the Windows server name and “Avaya CM” is the site created earlier in this section.



Screen below shows the successful assigning of the site for collection.

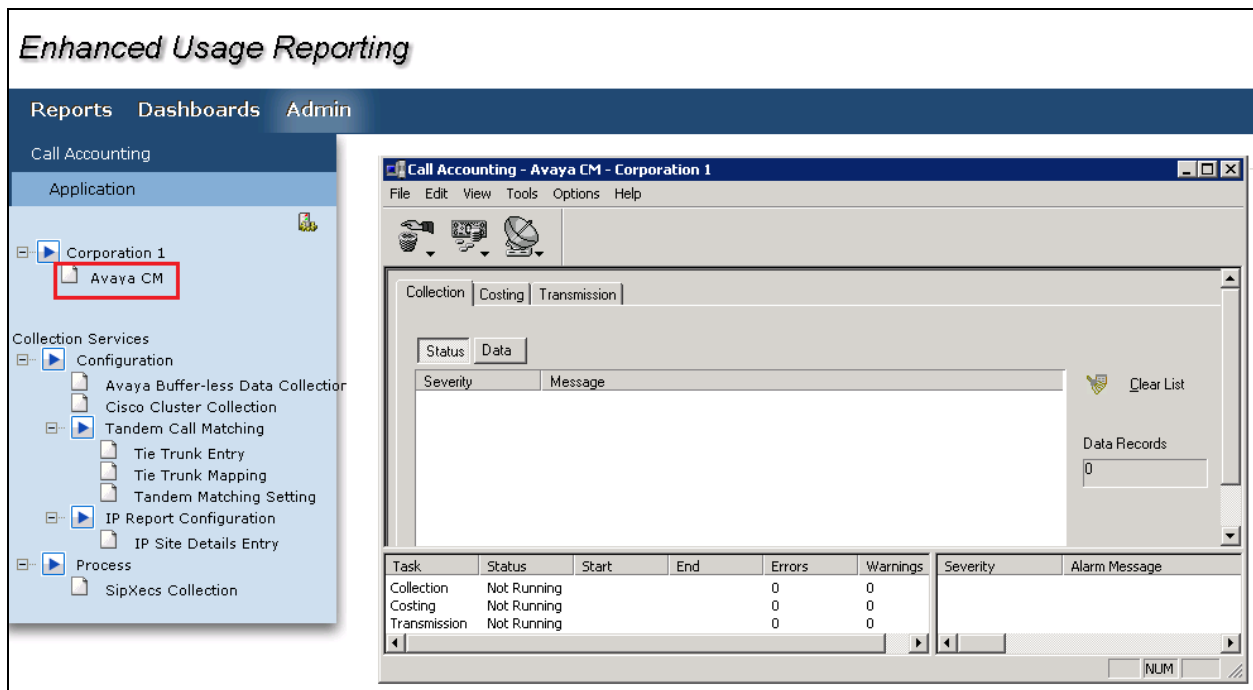


6.3. Configure Script and Collection

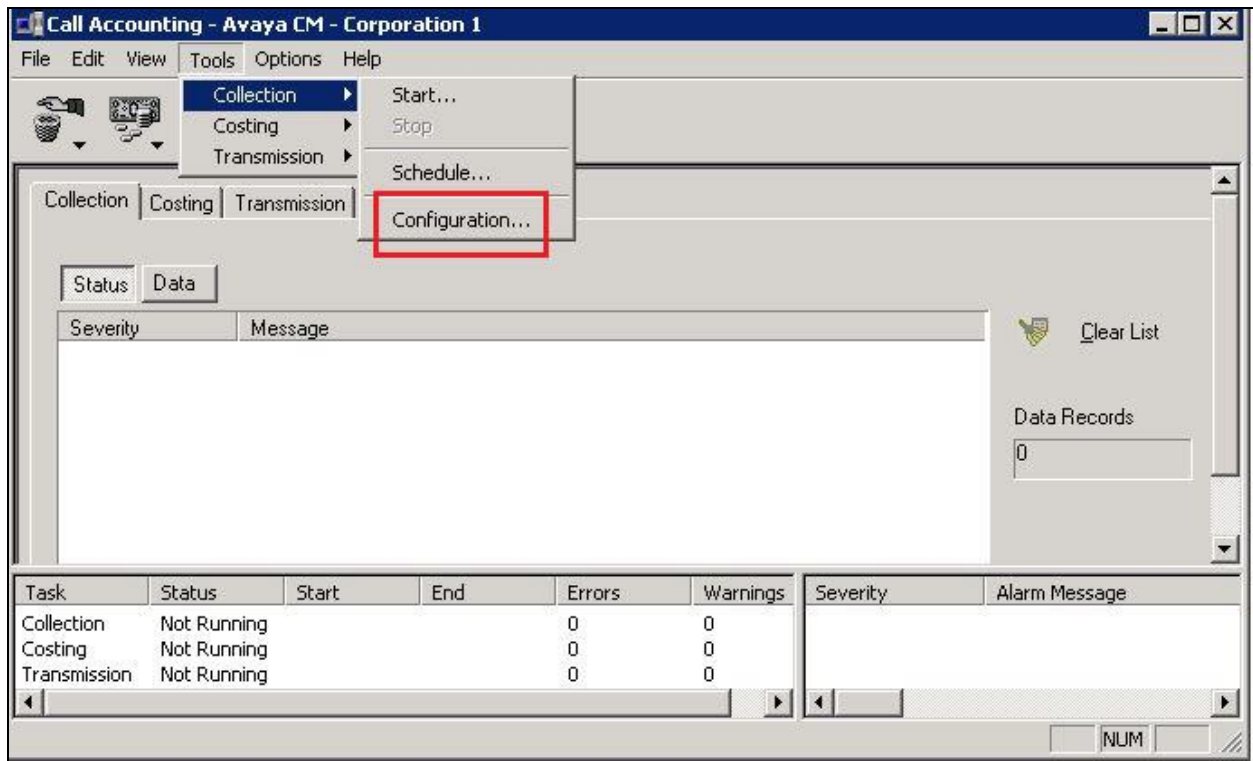
This section explains the configuring of the script and collection of the CDR records by Avotus EUR.

6.3.1. Configuring the Script

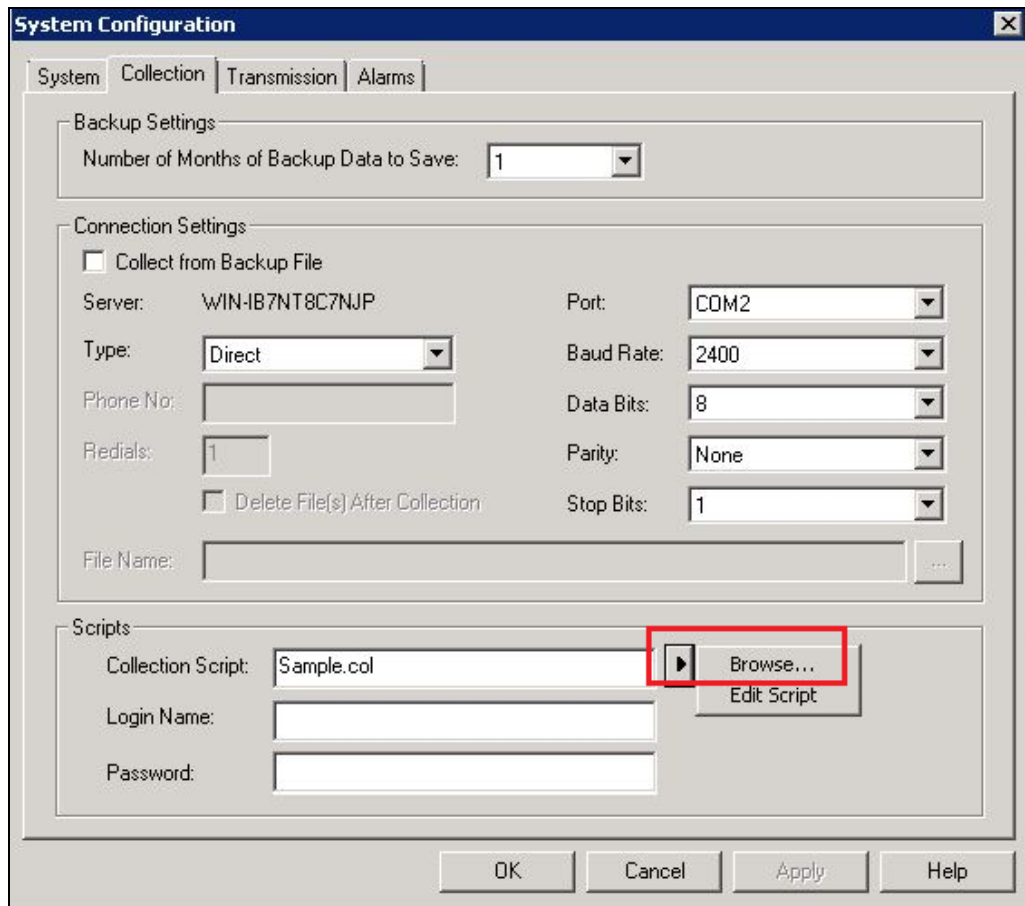
To configure the script for collection of data, navigate to **Admin → Call Accounting → Application → Corporation 1 → Avaya CM**. The **Call Accounting** window is launched on the right side as shown in the screen below.



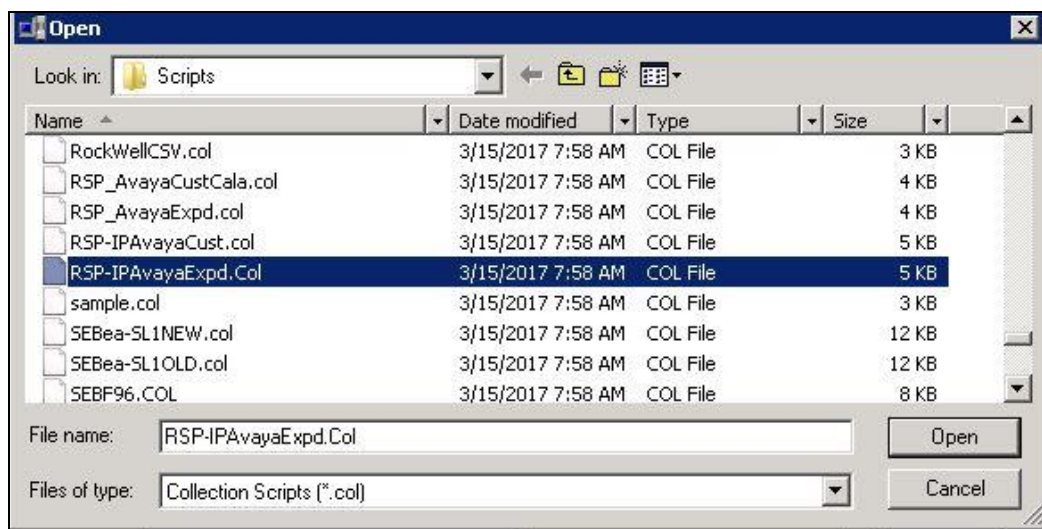
From the **Call Accounting** window navigate to **Tools → Collection → Configuration** as shown below.



From the **System Configuration** window as shown below, navigate to **Collection** tab and under the section **Scripts**, click the **Browse** icon to select a script for **Collection Script**.



From the **Scripts** folder that is launched as shown below, select the **RSP-IPAvayaExpd.Col** script.



Click on the **Configure** button as shown in the screen below after selecting the required script.

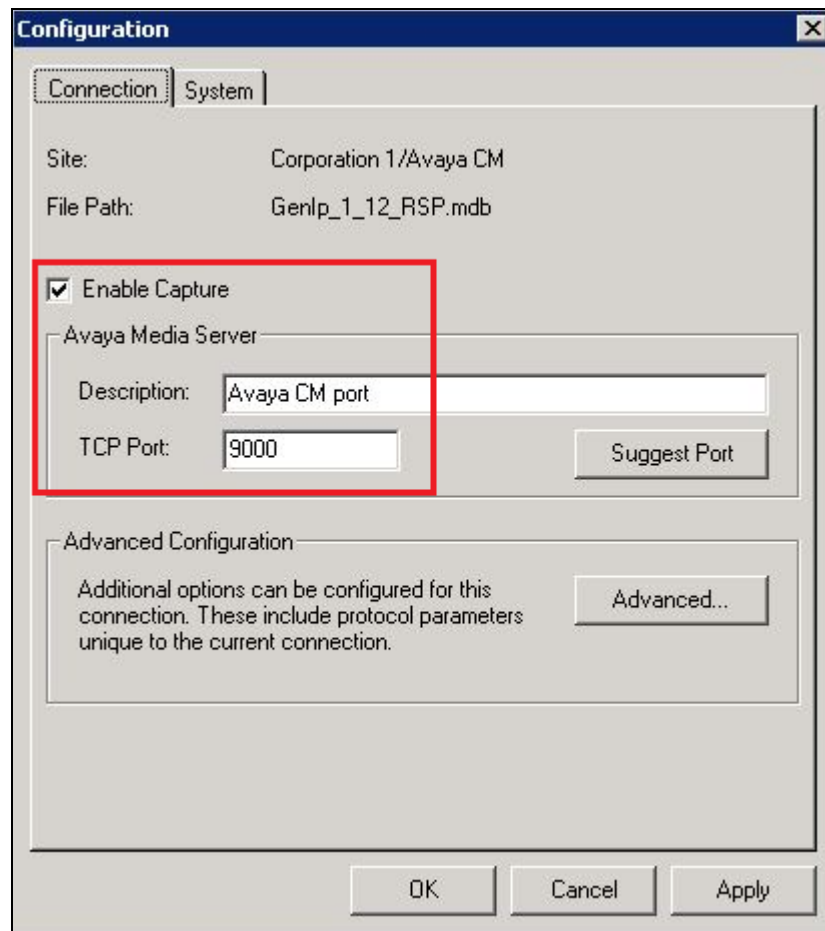
The image shows a 'System Configuration' dialog box with three tabs: 'System', 'Collection', and 'Transmission'. The 'Collection' tab is active. It contains three sections: 'Backup Settings', 'Connection Settings', and 'Scripts'. In the 'Scripts' section, the 'Collection Script' is set to 'RSP-IPAvayaExpd.Col', and the 'Configure' button is highlighted with a red rectangle. The 'Connection Settings' section includes fields for 'Server' (WIN-IB7NT8C7NJP), 'Port' (COM2), 'Type' (Direct), 'Baud Rate' (2400), 'Data Bits' (8), 'Parity' (None), 'Stop Bits' (1), 'Phone No.', 'Redials' (1), and a checkbox for 'Delete File(s) After Collection'. The 'Backup Settings' section has a dropdown for 'Number of Months of Backup Data to Save' set to 1. At the bottom are 'OK', 'Cancel', 'Apply', and 'Help' buttons.

Section	Field/Setting	Value
Backup Settings	Number of Months of Backup Data to Save	1
	Collect from Backup File	<input type="checkbox"/>
Connection Settings	Server	WIN-IB7NT8C7NJP
	Port	COM2
	Type	Direct
	Baud Rate	2400
	Data Bits	8
	Parity	None
	Stop Bits	1
	Phone No.	
	Redials	1
	Delete File(s) After Collection	<input type="checkbox"/>
Scripts	Collection Script	RSP-IPAvayaExpd.Col
	Login Name	
	Password	

In the **Configuration** window as seen below, configure the following under the **Connection** tab,

- Ensure **Enable Capture** is checked.
- **Description:** Provide a detailed description.
- **TCP Port:** Enter “9000” as this is the port configured in Communication Manager in **Section 5.2**.

Click on the **Apply** button.

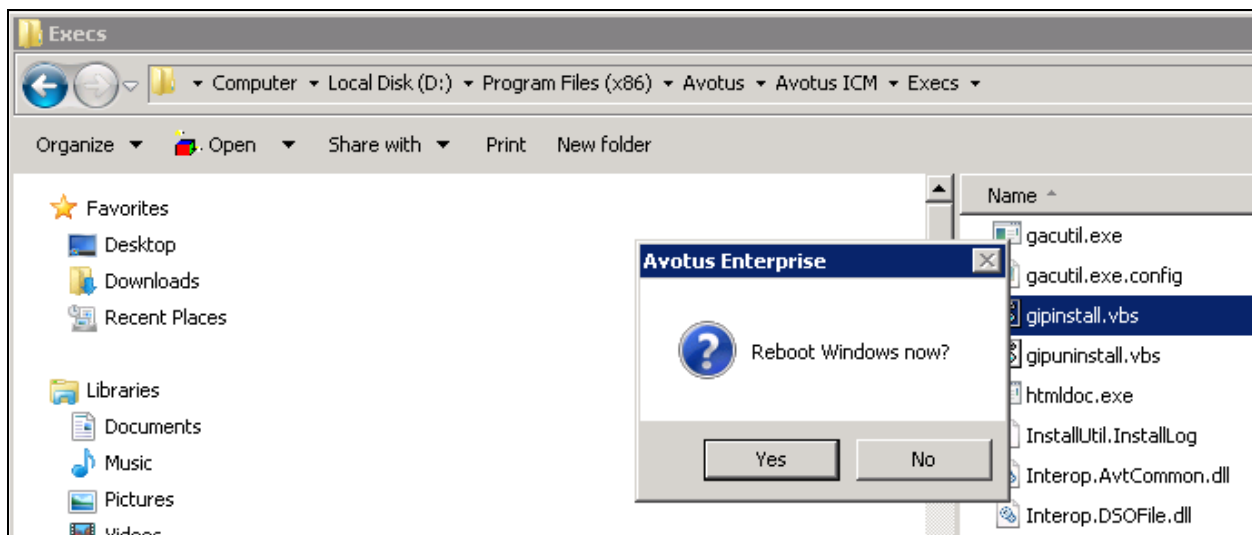
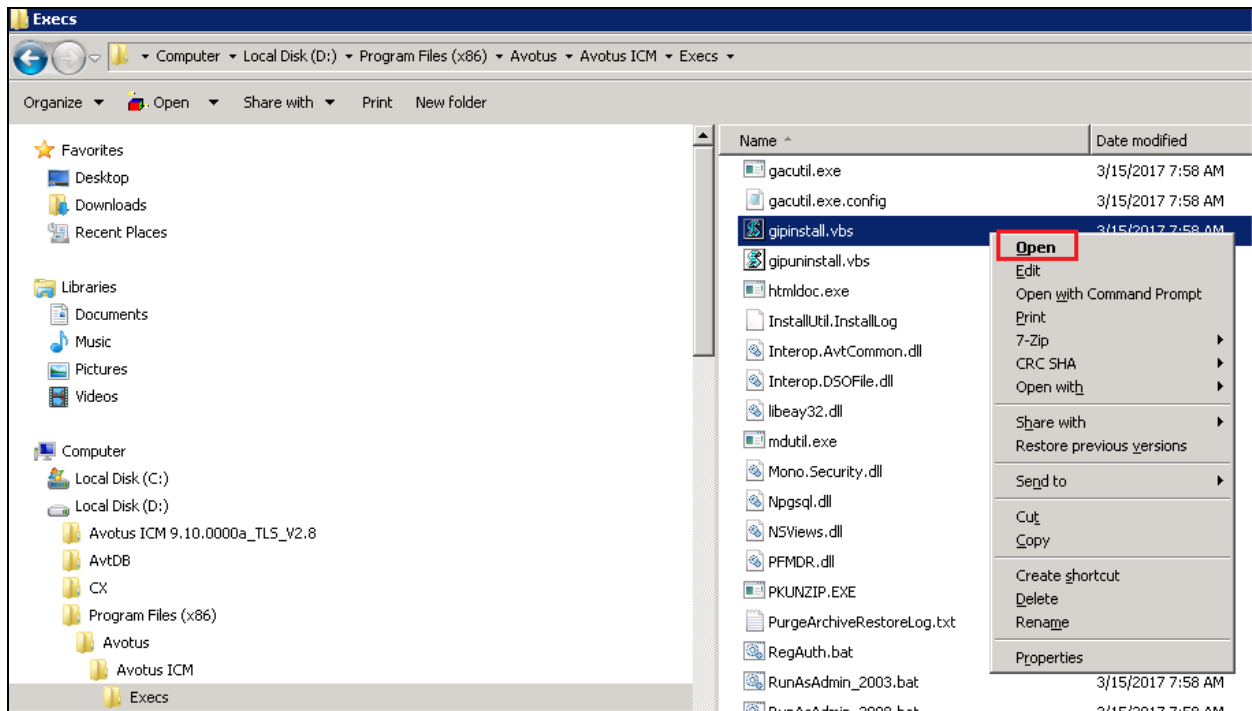


The screenshot shows the 'Configuration' dialog box with the 'Connection' tab selected. The 'Site' is set to 'Corporation 1/Avaya CM' and the 'File Path' is 'Genlp_1_12_RSP.mdb'. The 'Enable Capture' checkbox is checked. The 'Avaya Media Server' section is expanded, showing 'Description' as 'Avaya CM port' and 'TCP Port' as '9000'. A red rectangle highlights the 'Enable Capture' checkbox, the 'Description' text box, and the 'TCP Port' text box. The 'Advanced Configuration' section is also visible, with an 'Advanced...' button. At the bottom are 'OK', 'Cancel', and 'Apply' buttons.

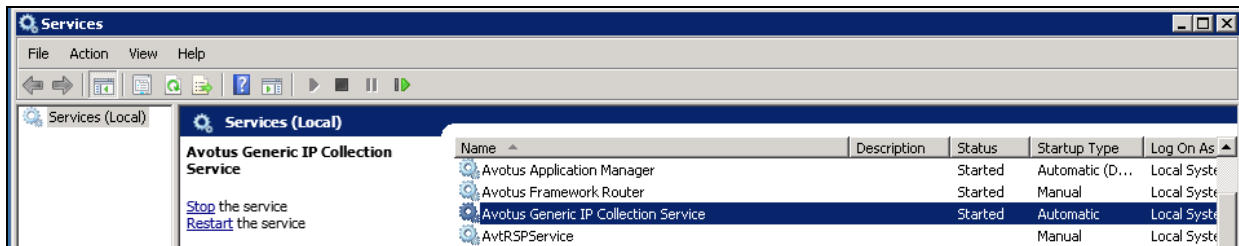
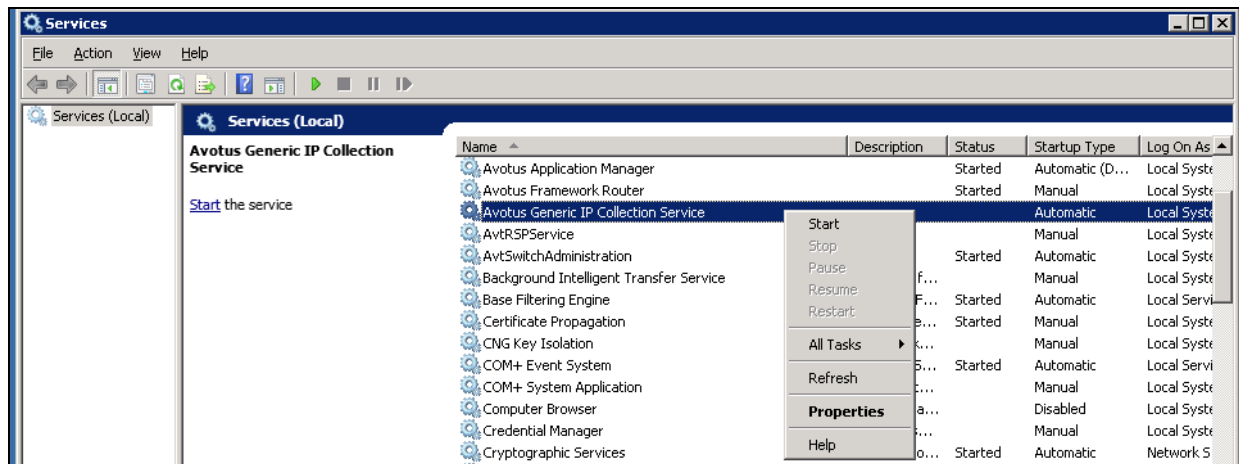
Also retain default values for all other fields in the **System Configuration** window shown earlier in this section and click on the **OK** button.

6.3.2. Installing the Avotus Generic IP Collection Service

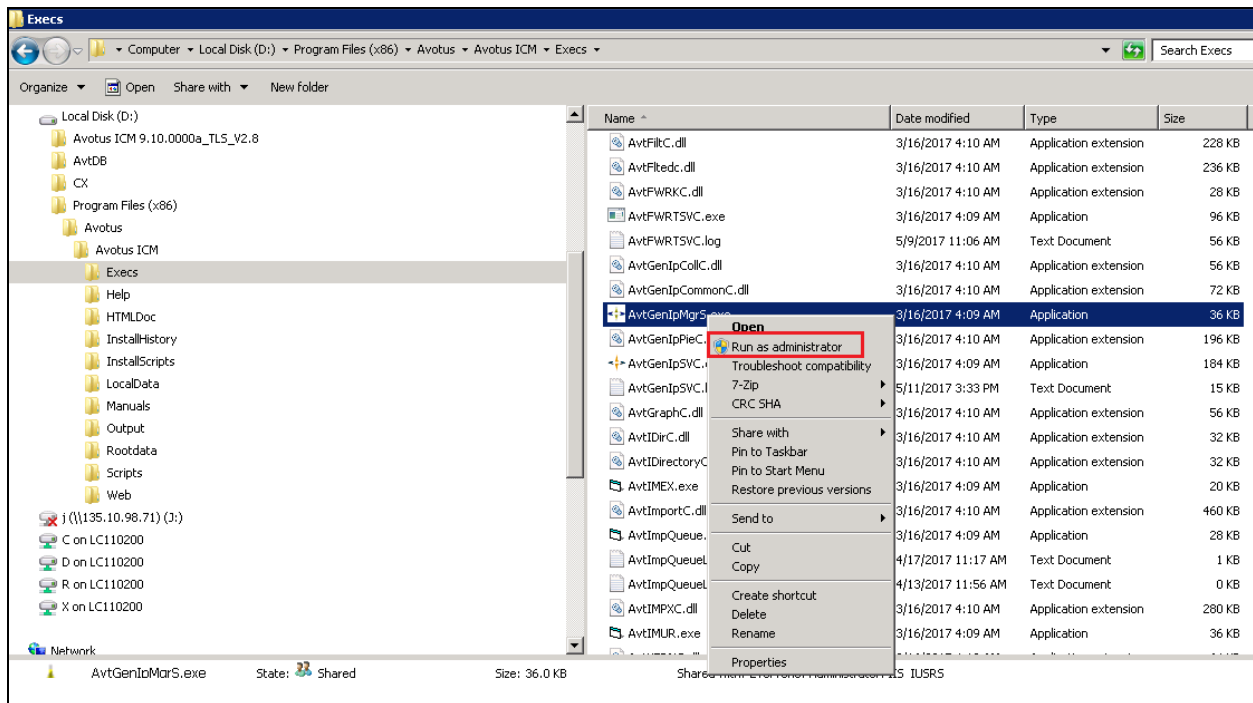
To install the Avotus Generic IP Collection Service, navigate to “<Avotus install folder>\Avotus ICM\Execs\” folder and run the script **gipinstall.vbs** as shown in the screens below.



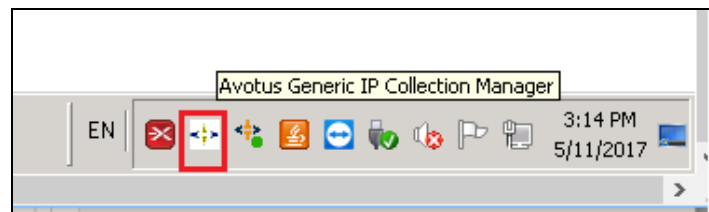
Once the rebooting of the system is completed, the **Avotus Generic IP Collection Service** will be installed under Windows Services as shown in the screen below. Start this service and ensure it is running.



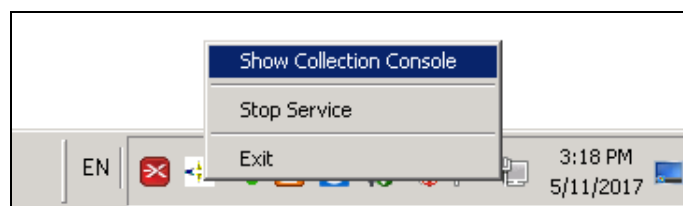
To view the status of Avotus EUR connection with Avaya RSP session, navigate to “<Avotus install folder>\Avotus ICM\Execs” and run the **AvtGenIpMgrS.exe** as shown in the screen below.



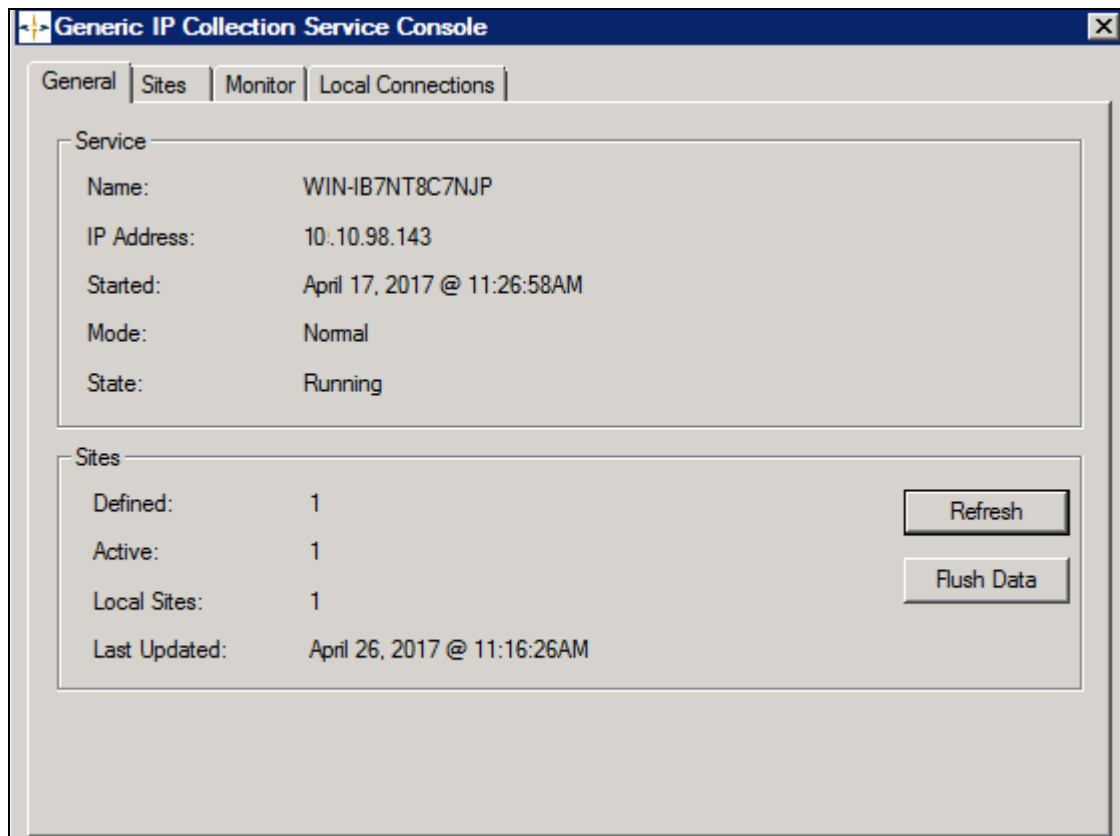
An icon will appear in the task bar / System tray of Windows by the name of **Avotus Generic IP Collection Manager** as shown in the screen below.



Right click on this icon and click on **Show Collection Console** option as shown below.

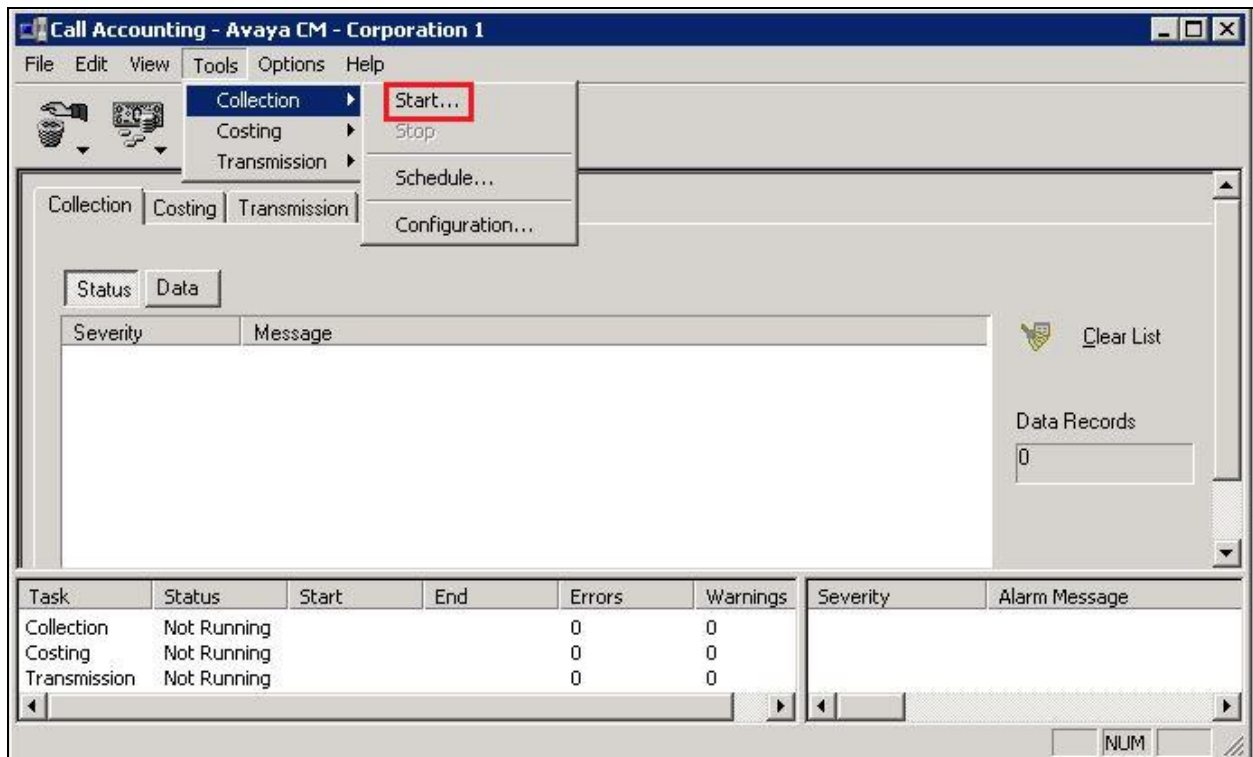


The **Generic IP Collection Service Console** will appear as shown below. User can click on the different tabs to view the status.

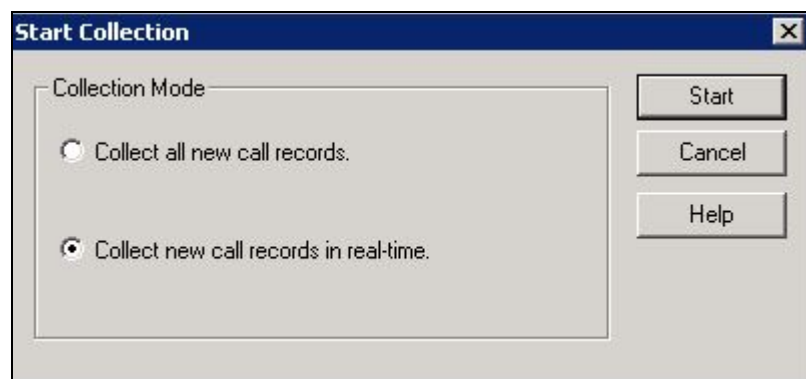


6.4. Start Collection

To start collection of CDR data, from the **Call Accounting** window navigate to **Tools → Collection → Start** as shown in the screen below. This window is invoked as shown in **Section 6.3.1**.



In the **Start Collection** window as shown below, select the **Collect new call records in real-time** option and click on the **Start** button.



The collected raw CDR data can be found in the “CallAccountingBackup” folder, which is under the “/Rootdata/<Corporation number>/<Site number>” folder (not shown).

7. Verification Steps

The following steps may be used to verify the configuration:

On the SAT of Communication Manager, enter the **status cdr-link** command and verify that the CDR link state is up as shown below.

status cdr-link	
CDR LINK STATUS	
Primary	Secondary
Link State: up	up
Date & Time: 2017/05/01 11:34:05	2017/05/01 15:48:43
Forward Seq. No: 22	224
Backward Seq. No: 0	0
CDR Buffer % Full: 0.00	0.00
Reason Code: OK	OK

Place internal, inbound trunk and outbound trunk calls to and from various telephones and verify that Avotus EUR received the CDR record for the call. Compare the values of data fields in the CDR record with the expected values and verify that the values match. Screen below shows the raw CDR data collected by Avotus EUR which was then compared with the CDR data collected by the Avaya RDTT.

CDR_9_20170501_000055.TXT - Notepad									
File Edit Format View Help									
05 01									
1110	0002	9	56104	53010	1	001	0	#001	0 0 0
1110	0001	9	56103	53010	1	001	0	#001	0 0 0
1113	0003	9	56204	53010	1	001	0	#001	0 0 0
1113	0002	9	56104	53010	1	001	0	#001	0 0 0
1116	0001	7	6 #004	15149626003	56103	1	015 4	0	0 0 0
1116	0002	7	6 #004	15149626003	56104	1	015 4	0	0 0 0
1116	0007	0	56103	56104					
1121	0001	9	#004	5139656201	8888	1	002	0	#001 0 0 0
1121	0001	7	6 #004	15149626003	56201	8888	1	002 016 4	0 0 0
1121	0001	7	6 #004	15149626003	56204	8888	1	002 016 4	0 0 0
1121	0007	9	56201	56204	8888	1	001	0	#001 0 0 0
1125	0006	C	#001	53010	56104	1	004 4	0	0 0 0
1125	0005	C		56103	56104				
1125	0001	C	#001	53010	56103	1	004 4	0	0 0 0
1131	0001	0	56103	56104					
1131	0002	0	56204	56103					
1132	0001	7	#001	53010	56104	1	006 4	0	0 0 0
1132	0001	9	56103	53010		1	001	0	#001 0 0 0
1133	0003	7	6 #004	15149626003	56104	1	017 4	0	0 0 0

8. Conclusion

These Application Notes describe the steps required to configure Avotus Enhanced Usage Reporting for Unified Communications to interoperate with Avaya Aura® Communication Manager, including establishing a CDR link with Avaya RSP enabled and capturing/processing call records. All feature and serviceability test cases described in **Section 2.1** were passed with the observations pointed in **Section 2.2**.

9. Additional References

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

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

1. *Administering Avaya Aura® Session Manager*, Release 7.0.1 Issue 2, May 2016.
2. *Deploying Avaya Aura® System Manager*, Release 7.0.1 Issue 2, August 2016.
3. *Administering Avaya Aura® System Manager for Release 7.0.1*, Release 7.0.1 Issue 3, January 2017.
4. *Administering Avaya Aura® Communication Manager*, Release 7.0.1, 03-300509, Issue 2.1, August 2016.
5. *Avaya Aura® Communication Manager Feature Description and Implementation*, Release 7.0.1, 555-245-205, Issue 3, October 2016.

Product documentation for Avotus products may be found at, <http://avotus.com/telecom-enhanced-usage-reporting.asp>

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