



## Avaya Solution & Interoperability Test Lab

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# Application Notes for Configuring Microcall Call Accounting with Avaya Aura® Session Manager – Issue 1.0

### Abstract

These Application Notes describe the configuration steps required for Microcall call accounting to interoperate with Avaya Aura® Session Manager.

Microcall call accounting is a reporting solution that uses Avaya Reliable Session Protocol (RSP) to collect and process call detail recording from Avaya endpoints 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

The overall objective of this interoperability compliance testing is to verify that Microcall call accounting software can interoperate with Avaya Aura® Session Manager. Microcall call accounting collects CDR files from Avaya Aura® Session Manager over the local or wide area network using a secure file transfer protocol (SFTP). Avaya Aura® Session Manager is configured to produce CDR records.

Microcall provides traditional call collection, rating, and reporting for any size businesses. Microcall can interface with most telephone systems - in particular, with Avaya Aura® Session Manager - to collect and interpret the detailed records of inbound, outbound, tandem, and internal telephone calls. Microcall then calculates the appropriate charge for local, long distance, international & special calls and allocates them to responsible parties.

During the compliance test, SIP endpoints were included. SIP endpoints registered with Avaya Aura® Session Manager. An assumption is made that Avaya Aura® Session Manager and Avaya Aura® System Manager are already installed and basic configuration have been performed. Only steps relevant to this compliance test will be described in this document.

## 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 Microcall 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 Microcall connection and its server 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.

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.

For the testing associated with these Application Notes, the interface between Avaya systems and the Microcall did not include use of any specific encryption features as requested by Microcall.

Encryption (TLS/SRTP) was used internal to the enterprise between Avaya products.

## **2.1. Interoperability Compliance Testing**

The interoperability compliance testing included features and serviceability tests. The feature testing focused on verifying the proper parsing and displaying of CDR data by Microcall for call scenarios including internal, inbound, and outbound trunk calls.

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

## **2.2. Test Results**

All executed test cases were verified and passed.

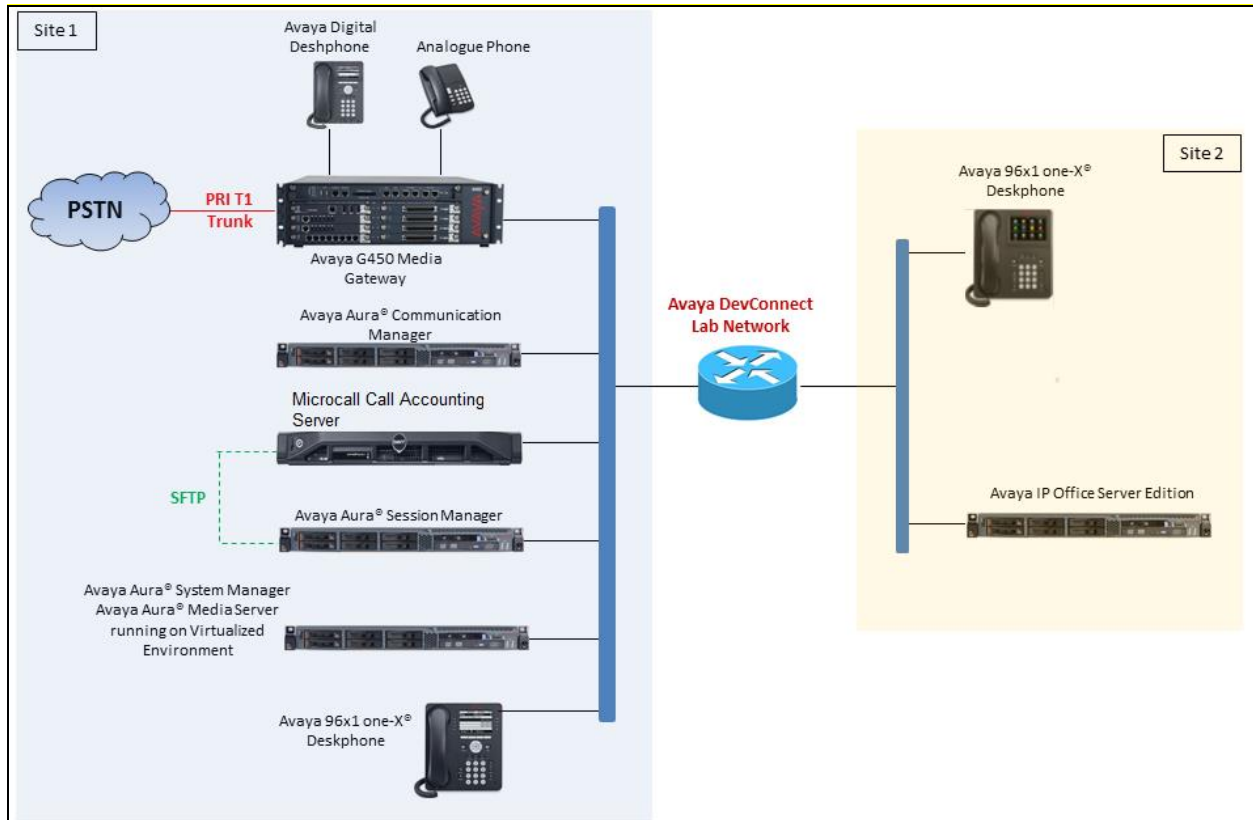
## **2.3. Support**

Technical support on Microcall - Call Accounting Software can be obtained through the following:

- Phone: +1 (800) 622-2285
- Email: [information@microcall.com](mailto:information@microcall.com)
- Web: <https://www.microcall.com>

### 3. Reference Configuration

**Figure 1** illustrates a sample configuration consisting of Site 1 that includes Avaya Aura® System Manager, Avaya Aura® Session Manager, Avaya Aura® Communication Manager, and Avaya Aura® Media Server running on Virtualized Environment, Avaya G450 Media Gateway that has PRI/T1 trunk to PSTN, Microcall Call Accounting server. Avaya IP Office Server Edition running on Virtualized Environment on the Site 2, Session Manager terminates SIP trunks from both sides.



**Figure 1: Test Configuration Diagram**

## 4. Equipment and Software Validated

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

<b>Equipment/Software</b>	<b>Release/Version</b>
Avaya Aura® Communication Manager running on Virtualized Environment	8.0 R018x.00.0.822.0 Patch 24826
Avaya Aura® System Manager running on Virtualized Environment	8.0 Build 8.0.0.0.931077
Avaya Aura® Session Manager running on Virtualized Environment	8.0 Build 8.0.0.0.800035
Avaya Aura® Media Server running on Virtualized Environment	8.0.0.150
Avaya G450 Media Gateway <ul style="list-style-type: none"><li>• MGP</li></ul>	40.10.0
Avaya 96x1 IP Deskphones	H.323 6.6604 SIP 7.1.3
Avaya 1416 Digital Deskphone	FW1
Microcall – Call Accounting Software	6.2

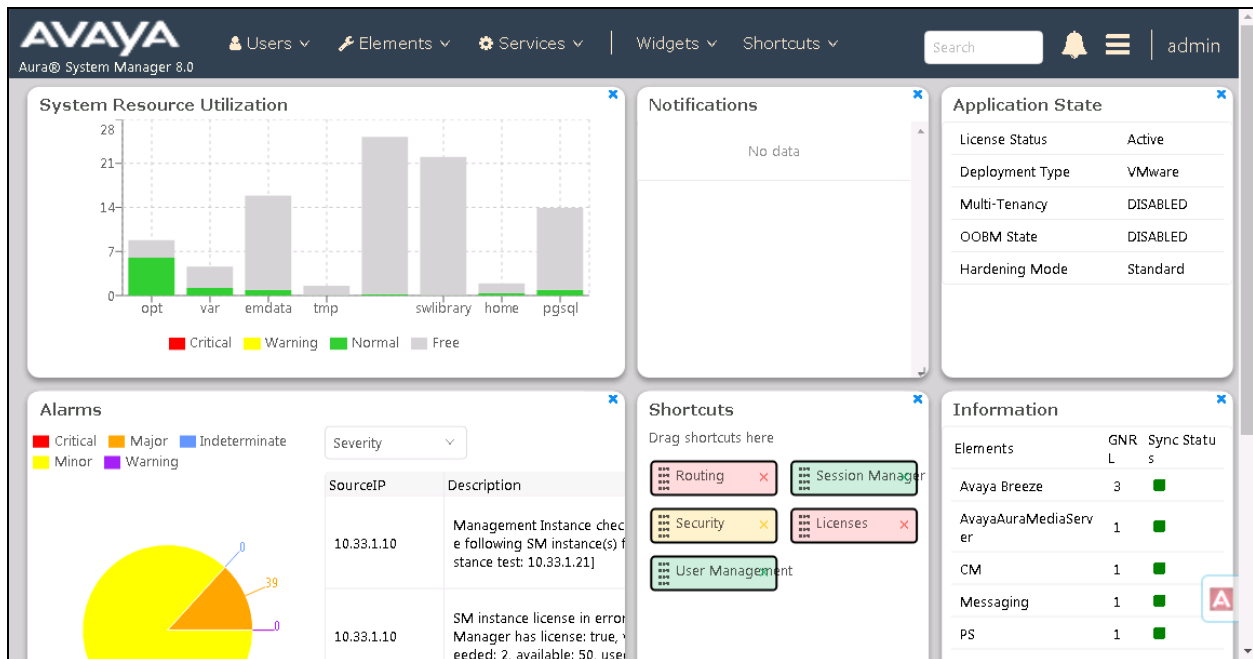
## 5. Configure Avaya Aura® Session Manager

This section provides the procedures for configuring Session Manager. Session Manager is configured by opening a web browser to System Manager. The procedures include the following areas:

- Log in to System Manager
- Administer Call Detail Recording on Session Manager
- Administer Call Detail Recording on SIP Entity

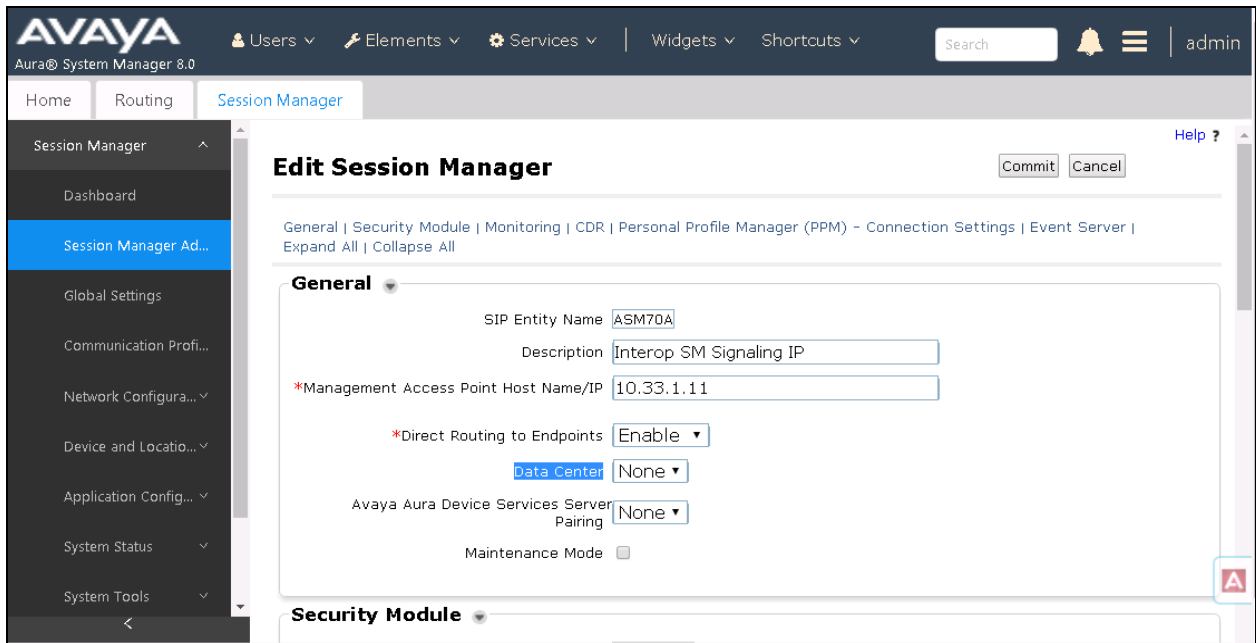
### 5.1. Log in to Avaya Aura® System Manager

Access the System Manager using a web browser and entering **http://<FQDN >/SMGR**, where <FQDN> is the fully qualified domain name of System Manager. Log in using appropriate credentials (not shown) and the **Home** tab will be presented with menu options shown below.



## 5.2. Administer Call Detail Recording on Session Manager

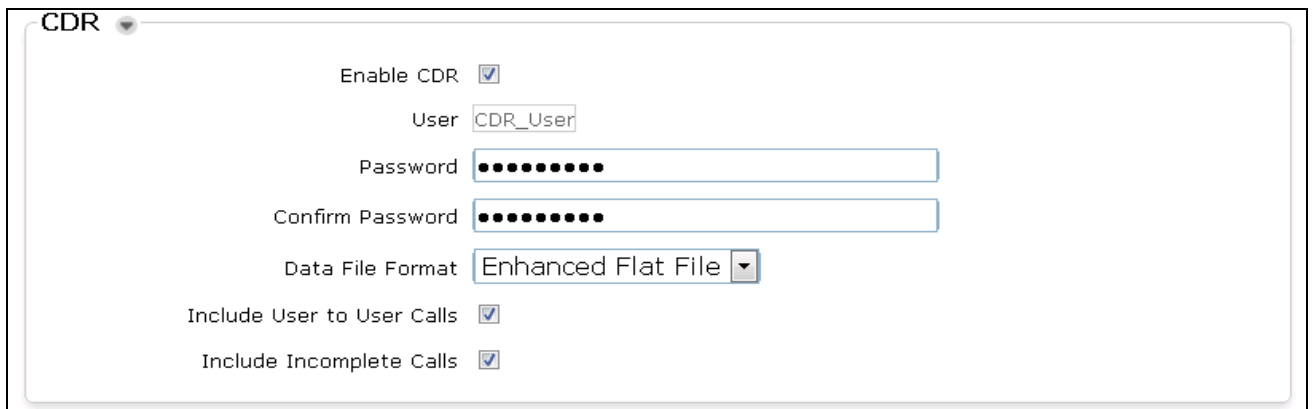
From the homepage of System Manager, navigate to **Elements** → **Session Manager**, the **Session Manager** tab is displayed. Select **Session Manager Administration** from the left pane and select a desired Session Manager entity, for example “ASM70A” from list of Session Manager entity in the right hand side and then select **Edit** button (not shown) to edit. The **Edit Session Manager** is displayed as below.



Scroll down to the CDR section, and do the following:

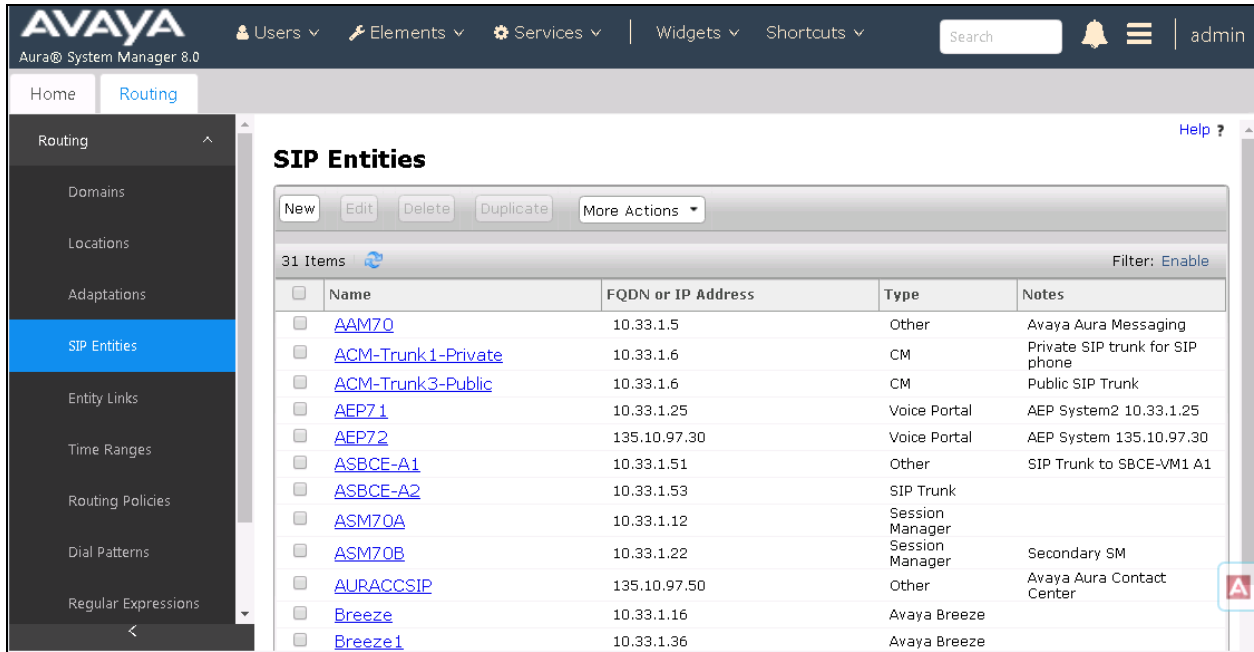
- **Enable CDR:** select the check box to enable CDR feature on Session Manager
- **Password and Confirm Password:** enter a password for user “CDR\_User”
- Keep other fields at default

On the completion, click **Commit** button to save the changes.

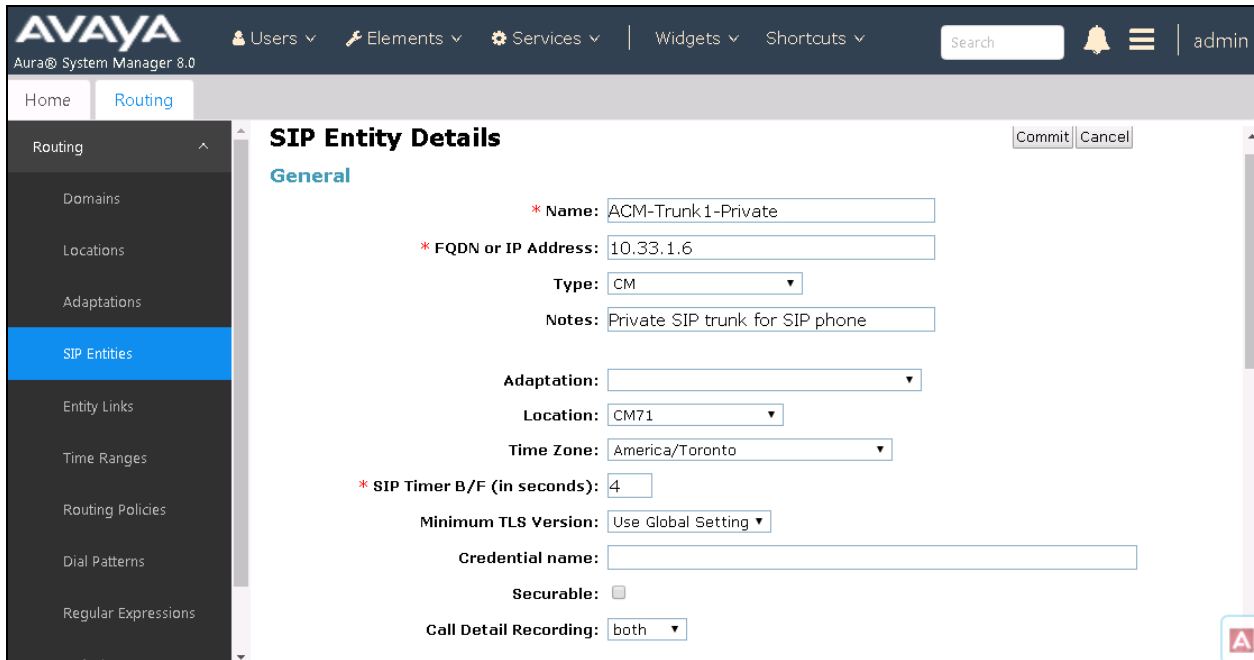


### 5.3. Administer Call Detail Recording on SIP Entity

From the home page of System Manager, navigate to **Elements** → **Routing**. The **Routing** tab is displayed with SIP Entities shown in the right hand side of window.



Select the “ACM-Trunk1-Private” SIP entity which is Communication Manager SIP entity and select “both” on the **Call Detail Recording** field. On the completion, click **Commit** button to save the change.





Repeat the procedure above for another SIP entity that wishes Session Manager to log CDR on their SIP entity. The example below is for Avaya IP Office acting like Site 2 as shown up in **Figure 1**.

The screenshot displays the Avaya Aura System Manager 8.0 interface. The top navigation bar includes the Avaya logo, user information (Users), and various menu options (Elements, Services, Widgets, Shortcuts). A search bar and a user profile (admin) are also visible. The main content area is titled "SIP Entity Details" and is currently set to the "General" tab. The configuration form includes the following fields:

- Name:** IPOSE110
- FQDN or IP Address:** 10.10.97.110
- Type:** SIP Trunk
- Notes:** (empty)
- Adaptation:** (empty)
- Location:** IPO110
- Time Zone:** America/New\_York
- SIP Timer B/F (in seconds):** 4
- Minimum TLS Version:** Use Global Setting
- Credential name:** (empty)
- Securable:** (unchecked)
- Call Detail Recording:** both

Buttons for "Commit" and "Cancel" are located at the top right of the form area. A "Help ?" link is also present. The left sidebar shows a navigation menu with "SIP Entities" selected.

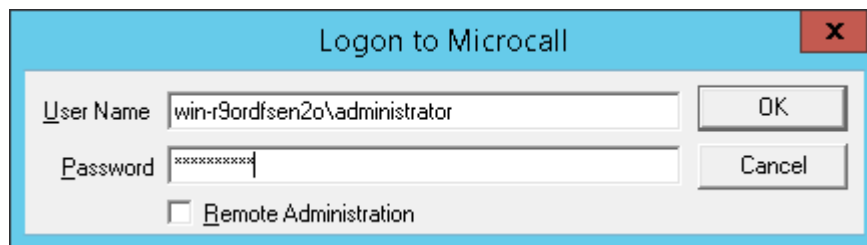
## 6. Configure Microcall – Call Accounting Software

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

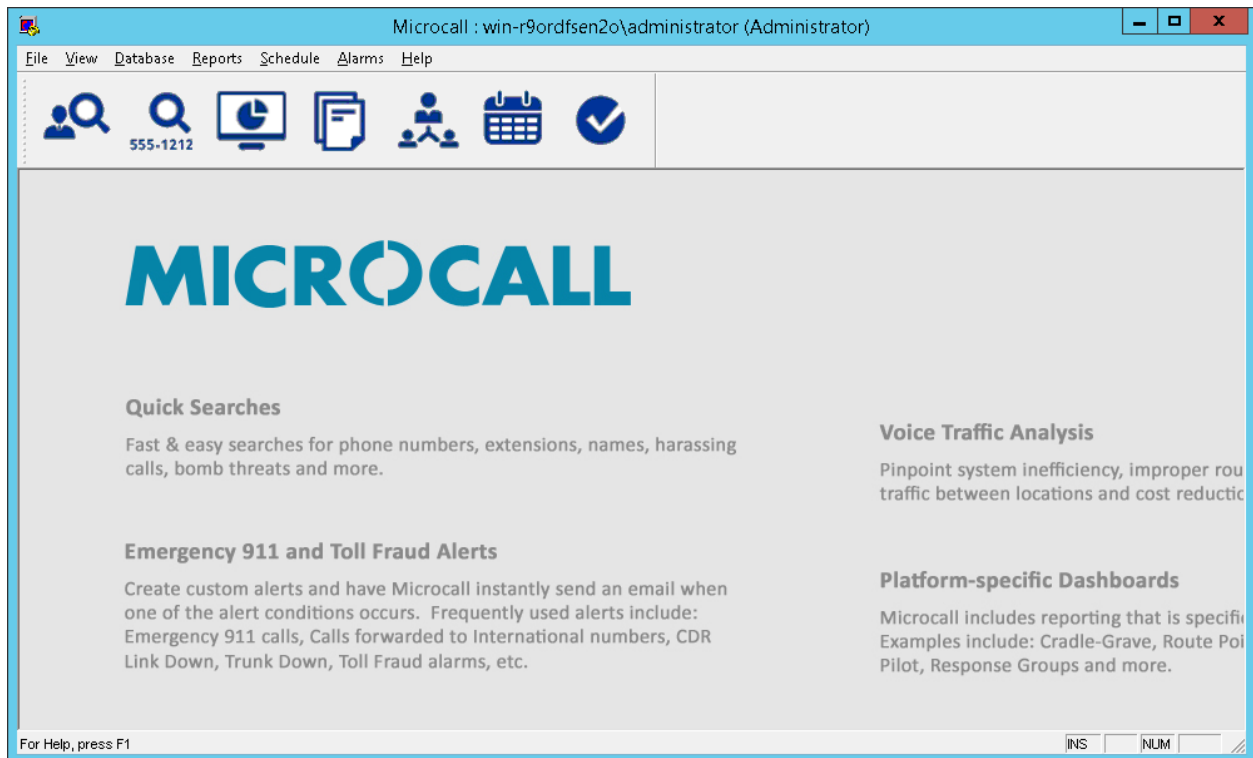
- Configure Data Source
- Verify CDR Data

### 6.1. Configure Data Source

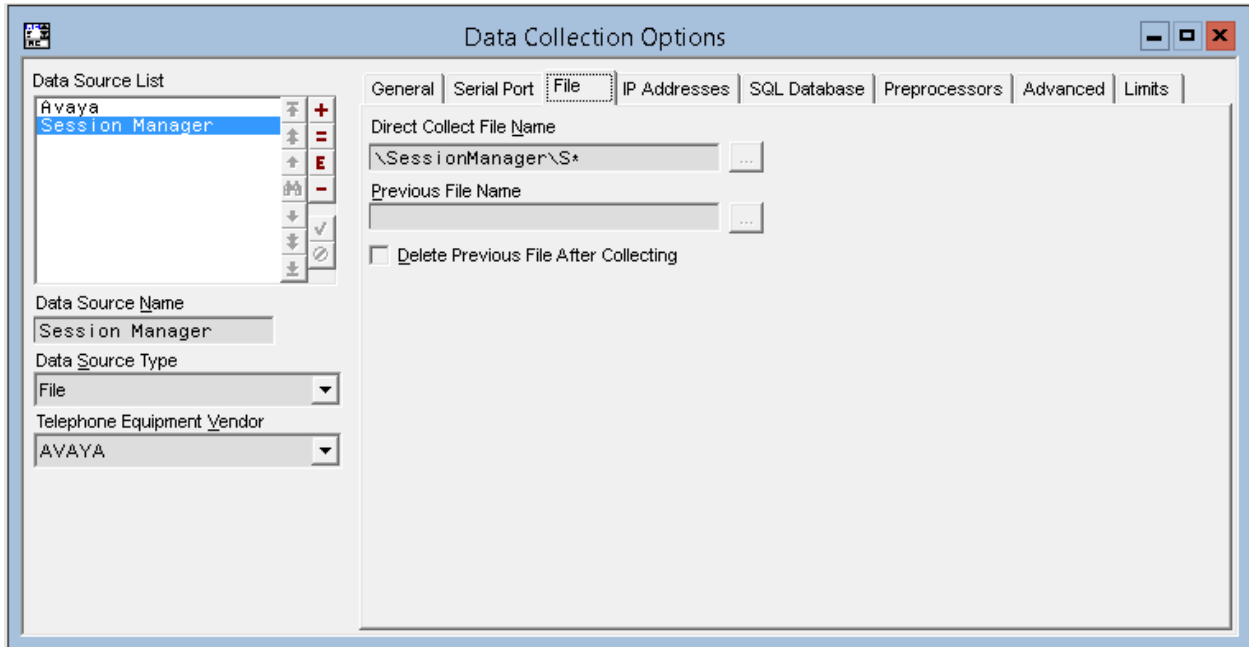
Open the Microcall application by double-click on the Microcall icon on the desktop. The **Logon to Microcall** window is displayed. Enter an appropriate password to log on.



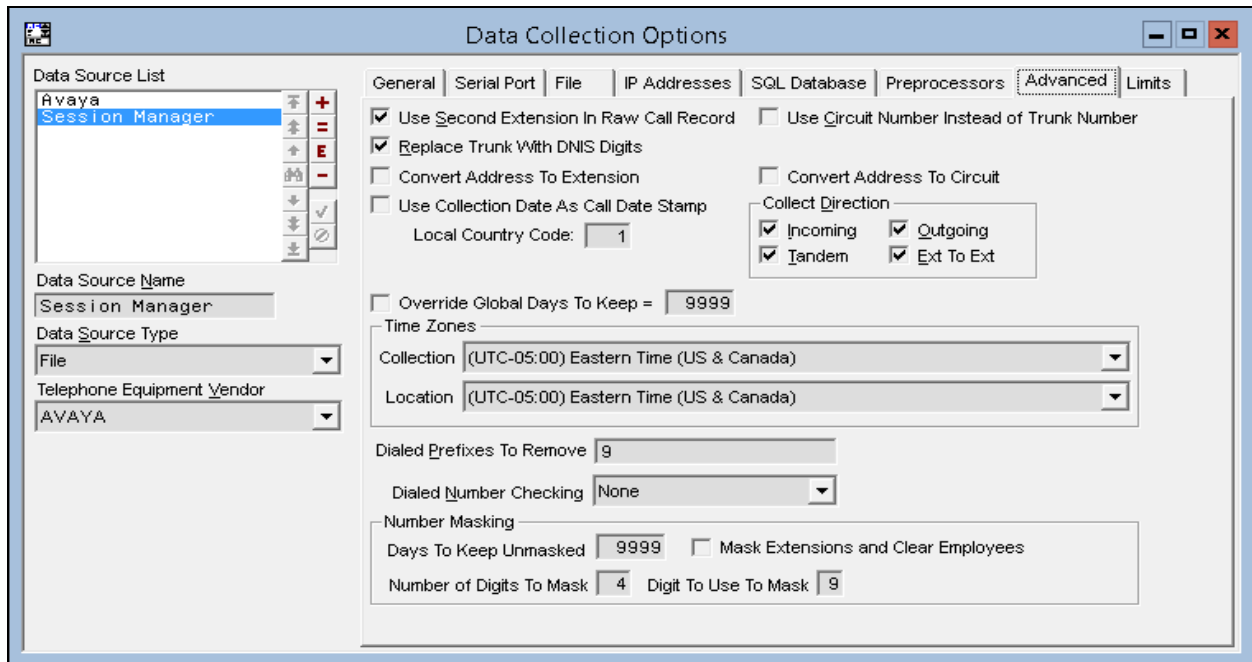
The Microcall window is displayed as shown below.



From the Microcall window above, navigate to **File → Data Collection Options → Data Source** (not shown). The **Data Collection Options** window is displayed. In the compliance test, the Data Source Name “Session Manager” was created and uses **Data Source Type** as “File” and browse to the directory where the CDR files stored in the **Direct Collection File Name** of **File** tab shown in the right hand of the window.



In the **Advanced** tab, select all directions in the **Collection Direction** section.



## 6.2. Verify CDR Data

The raw CDR data can be verified by selecting **Call Records** from the **Database** menu, the **Call Records** window displays all CDR records that Microcall receives and processes from the CDR files of Session Manager.

The screenshot shows the 'Call Records' application window. At the top, it displays 'Calls On File: 482' and 'Call Dates: 10/29/18 01:40:24 To 12/01/18 01:46:28'. Below this is a 'Call List' table with columns for Date Time, From Extension, Extension, To Extension, Phone Number, and Dir. The record for 12/01/18 01:46:28 is selected and highlighted in blue. Below the list, there are fields for Date/Time, Extension, Phone Number, Ex #s, and Direction. The 'Call General' tab is active, showing various call details such as Duration, Circuit, Trunk Group, City/Country, State, Call Type, Data Source, Category, Ring Time, Account Code, Authorization Code, Location, Source, Source Description, Division, Sequence, Destination, Destination Description, Department, Call ID, Employee, and EMail. There is also a checkbox for 'Log Call Processing Events'.

Date Time	From Extension	Extension	To Extension	Phone Number	Dir.
11/26/18 11:34:31		5200		- - -5400	TANC
11/26/18 12:21:14		5400		-614-967-4410	TANC
11/27/18 08:20:53		3401		- - -3303	TANC
11/27/18 08:22:17		3403		- - -3401	TANC
11/27/18 10:12:25		3303		- -480-0000	TANC
11/27/18 10:20:40	4089665200			-614-967-4410	TANC
12/01/18 01:44:40		4303		- - -3303	TANC
12/01/18 01:46:19		3303		- -480-0000	TANC
12/01/18 01:46:28		3401		- -480-0000	TANC

Selected Call Details:


Date/Time	Extension	Phone Number	Ex #s	Direction
12/01/18 01:46:28	3401	- -480-0000		TAND

Call General Tab:

Duration	Circuit	Trunk Group	City/Country	State	Call Type
00:00:32	99999999	99999999	BELLEVILLE	ON	LOCAL
Data Source	Category	Ring Time			
Session Manager	THIS STATE SAME LATA	00:00:00			
Account Code	Authorization Code	Location			
1	0	UNASSIGNED			
Source	Source Description	Division	Sequence		
99999999		UNASSIGNED	1303		
Destination	Destination Description	Department			
480-0000	BELLEVILLE ON	UNASSIGNED			
Call ID	Employee				
179F12B1	UNASSIGNED				
<input type="checkbox"/> Log Call Processing Events		E-Mail			

## 7. Verification Steps

The following steps may be used to verify the configuration:

- Make several different types of calls such as between local stations, outgoing call via SIP trunk, and incoming call via PSTN and verify that call records were collected from Microcall and shown up in the report as shown below.
- The real-time report can be launched from the main menu by selecting the screen icon  (View information in real-time and launch reports in a browser), the internet browser is opened, select **Real-Time Gadgets** → **All Call**.

MICROCALL													
Real-Time Gadgets   Reports   Directory Lookup   Settings													
win-r9ordfsen2o\administrator Log Off 6.20.314.0													
Extension Detail													
Range: 11/16/18 - 12/01/18													
Extension	Date/Time	Duration	Trunk	Phone Number	Place Called	St	Call Type	Dir	Cost\$	Call ID	Cond Code	Extension	
3303	11/27/2018 00:05:35	0:01:25	99999999	4300			ALL OTHERS	T TAND	0.00	10FA6BF6	9	3303	
3303	11/27/2018 10:12:25	0:00:35	99999999	480-0000	BELLEVILLE	ON	LOCAL	T TAND	0.00	179F12B6	9	3303	
3303	12/01/2018 01:46:19	0:00:41	99999999	480-0000	BELLEVILLE	ON	LOCAL	T TAND	0.00	179F12B0	9	3303	
3315	11/16/2018 11:56:36	0:08:24	99999999	5200			ALL OTHERS	T TAND	0.00	109BE7C4	9	3315	
3315	11/25/2018 10:07:36	0:08:24	99999999	5400			ALL OTHERS	T TAND	0.00	10FA6C2C	9	3315	
3315	11/25/2018 10:18:41	0:00:19	99999999	5400			ALL OTHERS	T TAND	0.00	10FA6C2D	9	3315	
3315	11/25/2018 10:20:36	0:00:24	99999999	4300			ALL OTHERS	T TAND	0.00	10FA6C2F	9	3315	
3401	11/27/2018 08:20:53	0:01:07	99999999	3303			ALL OTHERS	T TAND	0.00	179F1283	9	3401	
3401	12/01/2018 01:46:28	0:00:32	99999999	480-0000	BELLEVILLE	ON	LOCAL	T TAND	0.00	179F12B1	A	3401	
3402	11/21/2018 09:19:04	0:01:56	99999999	3303			ALL OTHERS	T TAND	0.00	10FA6C00	9	3402	
3403	11/21/2018 09:18:59	0:02:01	99999999	3401			ALL OTHERS	T TAND	0.00	10FA6BFF	A	3403	
3403	11/27/2018 08:22:17	0:00:43	99999999	3401			ALL OTHERS	T TAND	0.00	179F1284	A	3403	
4300	11/21/2018 09:04:33	0:04:27	99999999	614-967-4303	COLUMBUS	OH	LOCAL	T TAND	0.00	10FA6BFD	9	4300	
4300	11/21/2018 10:23:32	0:00:28	99999999	3401			ALL OTHERS	T TAND	0.00	10FA6C05	A	4300	
4300	11/21/2018 17:02:38	8:53:21	99999999	3303			ALL OTHERS	T TAND	0.00	10FA6C07	9	4300	
4300	11/25/2018 08:04:57	0:00:03	99999999	647-967-3303	TORONTO	ON	CANADA	T TAND	0.01	10FA6C20	9	4300	
4303	11/21/2018 08:35:32	0:00:28	99999999	3303			ALL OTHERS	T TAND	0.00	10FA6BFA	A	4303	
4303	11/21/2018 17:02:46	8:53:13	99999999	3401			ALL OTHERS	T TAND	0.00	10FA6C08	A	4303	
4303	12/01/2018 01:44:40	0:00:20	99999999	3303			ALL OTHERS	T TAND	0.00	179F12AE	9	4303	
5200	11/21/2018 09:12:36	0:08:24	99999999	614-967-4410	COLUMBUS	OH	LOCAL	T TAND	0.00	10FA6C01	9	5200	
5200	11/23/2018 11:33:57	0:00:03	99999999	3315			ALL OTHERS	T TAND	0.00	10FA6C0C	9	5200	
5200	11/25/2018 08:07:23	0:00:37	99999999	647-967-3315	TORONTO	ON	CANADA	T TAND	0.10	10FA6C21	9	5200	
5200	11/25/2018 08:13:22	0:00:38	99999999	647-967-3315	TORONTO	ON	CANADA	T TAND	0.10	10FA6C23	9	5200	
5200	11/25/2018 08:19:41	0:00:19	99999999	647-967-3315	TORONTO	ON	CANADA	T TAND	0.06	10FA6C25	9	5200	
5200	11/25/2018 10:38:16	0:03:44	99999999	5400			ALL OTHERS	T TAND	0.00	10FA6C31	9	5200	
5200	11/25/2018 10:43:18	0:05:42	99999999	5400			ALL OTHERS	T TAND	0.00	10FA6C33	9	5200	
5200	11/26/2018 11:10:48	0:01:12	99999999	5400			ALL OTHERS	T TAND	0.00	10FA6C3E	9	5200	
5200	11/26/2018 11:13:53	0:05:07	99999999	5400			ALL OTHERS	T TAND	0.00	10FA6C40	9	5200	
Extension Detail													
Calls    Duration    Cost\$													
Totals    35    19:02:57    0.33													

## 8. Conclusion

These Application Notes describe the procedures for configuring Microcall – Call Accounting Software with Avaya Aura® Session Manager. Testing was successful with some observations noted in the test result section; refer to **Section 2.2** for details.

## 9. Additional References

This section references the Avaya and Microcall documentation that are relevant to these Application Notes. Product documentation for Avaya Aura® Session Manager, including the following, is available at: <http://support.avaya.com/>

[1] *Administering Avaya Aura® Session Manager*, Document 03-300509, Issue 10, Release 8.0, August 2018

[2] *Administering Avaya Aura® System Manager*, Issue 9.0, Release 8.0, August 2018

The Microcall – Call Accounting Software is available from Microcall website. Visit <https://www.microcall.com/>

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