



## Avaya Solution & Interoperability Test Lab

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# Application Notes for Configuring @Comm CommView Plus 3.0 with Avaya Aura® Communication Manager Release 8.1.3 – Issue 1.0

### Abstract

These Application Notes describe the configuration steps required for @Comm CommView Plus 3.0 to interoperate with Avaya Aura® Communication Manager 8.1.3.

@Comm CommView Plus 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

These Application Notes describe the configuration steps required for @Comm CommView Plus 3.0 to interoperate with Avaya Aura® Communication Manager 8.1.3. CommView Plus connects to Communication Manager over the local or wide area network using a Call Detail Recording (hereafter referred as CDR) link running on Reliable Session Protocol. Avaya Aura® Communication Manager is configured to send CDR records to CommView Plus using a specific port.

CommView Plus interfaces with Communication Manager to collect and interpret the detailed CDR records for inbound, outbound, tandem, and internal telephone calls. CommView Plus then calculates the appropriate charge for local, long distance 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 the CommView Plus 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 CommView Plus 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 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.

For the testing associated with this Application Note, the interface between Avaya systems and the CommView Plus did not include use of any specific encryption features as requested by @Comm.

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 CommView Plus for call scenarios including internal, inbound PSTN, outbound PSTN, hold, reconnect, transfer, conference, authorization code, account codes and CDR data. The verification included raw CDR data that sent to Avaya Reliable Data Transport Tool (RTTD) application used to compare with CommView Plus reports that were processed and generated from the received CDR data.

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

## **2.2. Test Results**

All executed test cases were verified and passed.

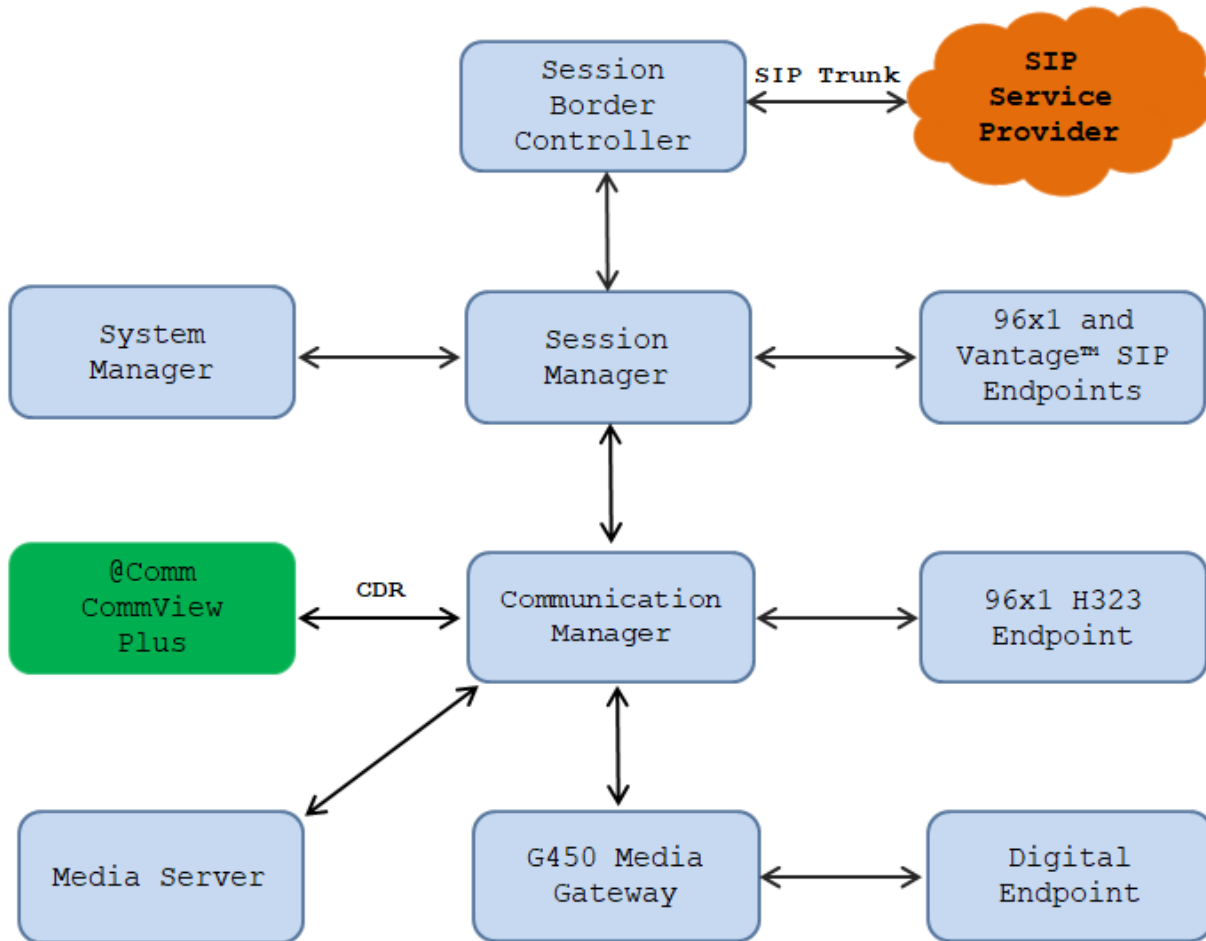
## **2.3. Support**

Technical support on CommView Plus can be obtained through the following:

- Phone: 1 (800) 641-5400
- Web: <https://www.atcomm.com/Support/>

### 3. Reference Configuration

**Figure 1** illustrates a sample configuration consisting of enterprise 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 and @Comm CommView Plus server.



**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 Virtual Environment	8.1.3 (8.1.3.0.0.890.26568)
Avaya G450 Media Gateway	41.34.0
Avaya Aura® Media Server running on Virtual Environment	8.0.1
Avaya Aura® Session Manager running on Virtual Environment	8.1.3 (8.1.3.0.813014)
Avaya Aura® System Manager running on Virtual Environment	8.1.3 (8.1.3.0.1011784)
Avaya Aura® Session Border Controller for Enterprise running on Virtual Environment	8.1.1 (8.1.1.0-26-19214)
Avaya 9611G IP Deskphones (H.323)	6.8304
Avaya J189 IP Deskphone (SIP)	4.0.7.1.5
Avaya 9641G IP Deskphone (SIP)	7.1.9.0.8
Avaya Vantage™ (SIP)	3.0.0.1
@Comm CommView Plus	3.0.0.20286

## **5. Configure Avaya Aura® Communication Manager**

This section describes the procedure for configuring call detail recording (CDR) in Communication Manager. These steps are performed through the System Access Terminal (SAT). Communication Manager will be configured to generate CDR records using RSP over TCP/IP to the IP address of the server running CommView Plus.

## 5.1. Configure Node-Names IP

Use the **change node-names ip** command to create a new node name, for example, **CommView**. This node name is associated with the IP Address of the server running the CommView Plus application. 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.

change node-names ip		Page 1 of 2
IP NODE NAMES		
Name	IP Address	
RDTT	10.10.98.86	
<b>CommView</b>	<b>10.33.100.52</b>	
<b>procr</b>	<b>10.33.1.6</b>	

## 5.2. Configure IP Services

Use the **change ip-services** command to define the CDR link to use the RSP over TCP/IP. 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**
- **Local Port: 0** - The local Port is fixed to 0 because Avaya Communication Manager initiates the CDR link.
- **Remote Node: CommView Plus** - The Remote Node is set to the node name previously defined.
- **Remote Port: 9000** - The Remote Port may be set to a value between 5000 and 64500 inclusive and must match the port configured in the CommView Plus application.

change ip-services						Page 1 of 4
IP SERVICES						
Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port	
AESVCS	y	procr	8765			
<b>CDR1</b>		<b>procr</b>	<b>0</b>	<b>CommView</b>	<b>9000</b>	
CDR2		procr	0	RDTT	9001	

On Page 3 of the ip-services form, enable the Reliable Session Protocol for the primary CDR link that is configured for CommView Plus by setting 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		
<b>CDR1</b>	<b>y</b>	30	3	3	60		
CDR2	y	30	3	3	60		

### 5.3. Configure System Parameters CDR

Enter the **change system-parameters cdr** command from the SAT to set the parameters for the type of calls to track and 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:** “customized”
- **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. See reference [2] for a full explanation of each field. The test configuration used some of the more common fields described below.

- **Use Legacy CDR Formats?** Set to “n” - Allows CDR formats to use 4.x CDR formats. If the field is set to “y”, then CDR formats utilize the 3.x CDR formats.
- **Intra-switch CDR** set to “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?** Set to “n” - Allows incoming trunk calls to appear in the CDR records along with the outgoing trunk calls.
- **Inc Trk Call Splitting?** Set to “y” - Allows a separate call record for any portion of an incoming call that is transferred or conferenced.
- **CDR Account Code Length** Set to “5” - The length may be set to a value between 1 and 15. However, during the compliance test, “5” was used.

```
change system-parameters cdr                               Page 1 of 2
                                CDR SYSTEM PARAMETERS
Node Number (Local PBX ID):                               CDR Date Format: month/day
  Primary Output Format: customized   Primary Output Endpoint: CDR1
Secondary Output Format: customized   Secondary Output Endpoint: CDR2
  CDR Retention (days): 20
  Use ISDN Layouts? n                Enable CDR Storage on Disk? n
  Use Enhanced Formats? n           Condition Code 'T' For Redirected Calls? y
  Use Legacy CDR Formats? n         Remove # From Called Number? n
Modified Circuit ID Display? y      Intra-switch CDR? y
  Record Outgoing Calls Only? n     Outg Trk Call Splitting? y
  Suppress CDR for Ineffective Call Attempts? n   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: group-ext
Record Called Vector Directory Number Instead of Group or Member? y
Record Agent ID on Incoming? n       Record Agent ID on Outgoing? y
  Inc Trk Call Splitting? y          Inc Attd Call Record? y
  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: 5
Remove '+' from SIP Numbers? y
```



On the page 2, define the CDR system parameters as shown in the screenshot below.

change system-parameters cdr			Page 2 of 2		
CDR SYSTEM PARAMETERS					
Data Item	-	Length	Data Item	-	Length
1:	time	- 4	17:	auth-code	- 7
2:	space	- 1	18:	space	- 4
3:	duration	- 4	19:	frl	- 1
4:	space	- 1	20:	space	- 1
5:	cond-code	- 1	21:	in-crt-id	- 3
6:	space	- 1	22:	space	- 1
7:	code-dial	- 4	23:	out-crt-id	- 3
8:	space	- 1	24:	space	- 1
9:	code-used	- 4	25:	feat-flag	- 1
10:	space	- 1	26:	space	- 1
11:	dialed-num	- 15	27:	attd-console	- 2
12:	space	- 1	28:	space	- 1
13:	clg-num/in-tac	- 15	29:	in-trk-code	- 4
14:	space	- 1	30:	space	- 1
15:	acct-code	- 10	31:	node-num	- 2
16:	space	- 1	32:	space	- 1
			33:	date	- 6
			34:	space	- 1
			35:	sec-dur	- 5
			36:	space	- 1
			37:	end-time	- 6
			38:	space	- 1
			39:	vdn	- 13
			40:	space	- 1
			41:	seq-num	- 10
			42:	space	- 1
			43:	ucid	- 20
			44:	return	- 1
			45:	line-feed	- 1
			46:		-
			47:		-
			48:		-

## 5.4. Configure Intra-Switch CDR

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.

```
change intra-switch-cdr                                     Page 1 of 3
                                     INTRA-SWITCH CDR
                                     Assigned Members: 15 of 5000 administered
Extension      Extension      Extension      Extension
3301
3302
3303
3401
3402
Use 'list intra-switch-cdr' to see all members, 'add intra-switch-cdr' to add
new members and 'change intra-switch-cdr <ext>' to change/remove other members
```

## 5.5. Configure Off-PBX-Telephone Configuration Set

SIP endpoints and off-pbx-telephone stations will be automatically created in Communication manager when SIP endpoints are created in Session Manager. However, the off-pbx-telephone configuration-set form needs to be modified in order for call records of SIP endpoint to be generated correctly. Enter **change off-pbx-telephone configuration-set 1** and set **CDR for Origination** to “none” and set the **CDR for Calls to EC500 Destination** to “n”.

```
change off-pbx-telephone configuration-set 1               Page 1 of 1
                                     CONFIGURATION SET: 1
                                     Configuration Set Description:
                                     Calling Number Style: network
                                     CDR for Origination: none
                                     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
Location to Route Incoming Overlap Calls: station-location-if-set
```

## 5.6. Enable CDR in Trunk Group

Enter the command **change trunk-group <id>** which the <id> is the trunk number that needs to be modified. Set **CDR Report** field to “y” to enable call record for calls going in and out from this trunk group. Note that this field is set to “y” by default.

<b>change trunk-group 1</b>				<b>Page 1 of 21</b>
	TRUNK GROUP			
Group Number: 1	Group Type: sip	<b>CDR Reports: y</b>		
Group Name: For-Private	COR: 1	TN: 1	TAC: #01	
Direction: two-way	Outgoing Display? n	Night Service:		
Dial Access? n				
Queue Length: 0				
Service Type: tie	Auth Code? n	Member Assignment Method: auto		
		Signaling Group: 1		
		Number of Members: 14		

## 6. Configure @Comm CommView Plus

The configuration of CommView Plus application is done by a CommView Plus technical person and is out of scope of the application note. For more detail of how to configure the CommView Plus product, please contact support of CommView Plus.

## 7. Verification Steps

The following steps may be used to verify the configuration:

- Check the CDR status, by running the **status cdr-link** command in Communication Manager. The status should be **up** for the primary CDR.

```

status cdr-link
                                CDR LINK STATUS
                                Primary                Secondary
Link State: up                    up
Date & Time: 2018/10/10 12:10:56    2018/10/12 02:23:11
Forward Seq. No: 0                  62
Backward Seq. No: 0                 0
CDR Buffer % Full: 0.00              0.08
Reason Code: OK                     OK
  
```

- 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 CommView Plus and shown up in the report.

Billing ID	Date	Time	DAC	Dialed Number	Location	Count	Minutes	Cost
<b>Extension 3301 H323 3301 IP Extension</b>								
3301	04/29/21	09:34 am	0	3400			00:00:11	\$0.00
3301	04/29/21	09:51 am	71	613-967-5085	BELLEVILLE, ON		00:01:16	\$0.04
3301	04/29/21	09:59 am	9	Incoming	>4234689369		00:00:32	\$0.00
3301	04/29/21	10:32 am	1	Incoming	>6139675085		00:00:00	\$0.00
<b>Totals Default 4/29/2021</b>						4	00:01:59	\$0.04
<b>Totals Extension 3301 H323 3301 IP Extension</b>								
						4	00:01:59	\$0.04
<b>Extension 3400</b>								
3400	04/29/21	09:34 am	0	Incoming	>3301		00:00:11	\$0.00
<b>Totals Default 4/29/2021</b>						1	00:00:11	\$0.00
<b>Totals Extension 3400</b>								
						1	00:00:11	\$0.00
<b>Extension 3401</b>								
3401	04/29/21	09:51 am	0	3402			00:01:29	\$0.00

## 8. Conclusion

These Application Notes describe the procedures for configuring @Comm CommView Plus to interoperate with Avaya Aura® Communication Manager. Testing was successful.

## 9. Additional References

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

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

[2] *Avaya Aura® Communication Manager Feature Description and Implementation*, Document 555-245-205, Issue 9.0, Release 8.0, August 2018

The CommView Plus is available from @Comm CommView Plus website. Visit <https://www.atcomm.com/commview-plus/>

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