

Avaya Solution & Interoperability Test Lab

Application Notes for TONE Software ReliaTel with Avaya Aura® Communication Manager 6.2 Using SAT – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for TONE Software ReliaTel to interoperate with Avaya Aura® Communication Manager 6.2 using System Administrator Terminal (SAT). ReliaTel is a monitoring and management solution that can monitor and maintain groups of telephone switches, PBX systems, and other devices from a single control point. In the compliance testing, ReliaTel used the SAT interface from Avaya Aura® Communication Manager to provide trunk group performance reporting.

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 TONE Software ReliaTel to interoperate with Avaya Aura® Communication Manager 6.2 using SAT. ReliaTel is a monitoring and management solution that can monitor and maintain groups of telephone switches, PBX systems, and other devices from a single control point.

In the compliance testing, ReliaTel used the SAT interface from Avaya Aura® Communication Manager to obtain performance measurements data on an hourly and daily basis. The obtained data is presented in multiple performance reports via the ReliaTel web interface.

2. General Test Approach and Test Results

The feature test cases were performed manually. Calls were made across different trunk and hunt groups, to generate hourly and daily data for the system. The serviceability test cases were performed manually by disconnecting/reconnecting the Ethernet connection to ReliaTel.

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 test included feature and serviceability testing.

The feature testing focused on verifying the proper collection and reporting of performance measurements data for SAT commands involving: trunk group, outage trunk, lightly used trunk, hunt group, attendant group, attendant position, blockage, call rate, load balance, and occupancy.

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

2.2. Test Results

All test cases were executed and passed.

2.3. Support

Technical support on ReliaTel can be obtained through the following:

- **Phone:** (800) 833-8663
- Email: <u>info@tonesoft.com</u>

3. Reference Configuration

The configuration used for the compliance testing is shown below.

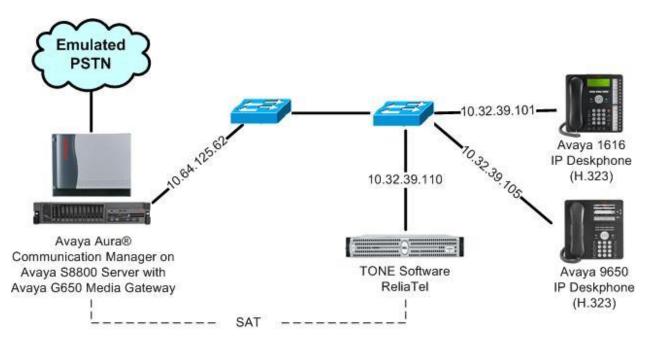


Figure 1: Compliance Testing Configuration

4. Equipment and Software Validated

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

Equipment/Software	Release/Version
Avaya Aura® Communication Manager on Avaya S8800 Server	6.2 SP3 (R016x.02.0.823.0-20001)
 Avaya G650 Media Gateway TN799DP C-LAN Circuit Pack TN2302AP IP Media Processor 	HW01 FW040 HW12 FW121
Avaya 1616 IP Deskphone (H.323)	1.302S
Avaya 9650 IP Deskphone (H.323)	3.105S
TONE Software ReliaTel	4.1

5. Configure Avaya Aura® Communication Manager

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

- Obtain product ID
- Administer measurement selection trunk groups

5.1. Obtain Product ID

From the Linux shell interface of Communication Manager, enter the command "productid". Make a note of the **Product ID**, which will be used later to configure ReliaTel.

```
xxxxx@cm_125_62> productid
Product ID: "1000000000"
```

5.2. Administer Measurement Selection Trunk Groups

From the SAT interface of Communication Manager, enter the command "change meas-selection trunk-group". Enter the desired trunk groups to be measured, as shown below.

change meas-selection	trunk-grou	р			Page	1 of	1
	TRUNK GRO	UP MEASUREM	ENT SELECTIC	DN			
	Tr	unk Group N	umbers				
1: 13	16:	31:	46:	61:			
2: 431	17:	32:	47:	62:			
3:	18:	33:	48:	63:			
4:	19:	34:	49:	64:			
5:	20:	35:	50:	65:			
6:	21:	36:	51:	66:			
7:	22:	37:	52:	67:			
8:	23:	38:	53:	68:			
9:	24:	39:	54:	69:			
10:	25:	40:	55:	70:			
11:	26:	41:	56:	71:			
12:	27:	42:	57:	72:			
13:	28:	43:	58:	73:			
14:	29:	44:	59:	74:			
15:	30:	45:	60 :	75:			

6. Configure TONE Software ReliaTel

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

- Launch web interface
- Administer centers
- Administer DAPs
- Administer entities

The configuration of ReliaTel is typically performed by TONE Software technicians. The procedural steps are presented in these Application Notes for informational purposes.

6.1. Launch Web Interface

Access the ReliaTel web interface by using the URL "http://ip-address:8080/ems/app" in an Internet browser window, where "ip-address" is the IP address of the ReliaTel server. Log in using the appropriate credentials.



The **ReliaTel** screen is displayed. Select **Administration** > **General Administration** from the top menu.

() TONE		< Relia T	'el'			н	elp Logout sadm
SUFTWARE	1	Monitor Alarms	Dashboard	Voice Quality	Performance Reporting	Administration 10	0/23/2012 15:42 EDT
Entities & Centers	OACK.	CLR Bele		ed		Active	V O Filters 🔹 🚿
View View AvayaCert production System	Level	Start Date/Time	State Entity		Center	Text	
	14 4 Pag	ge 1of 1 🕨 🕅 🔓	Updated:10/23	/2012 15:42		20 🔽 results per pa	ge No data to display

6.2. Administer Centers

The **ReliaTel** screen is updated as shown below. Select **General** > **Centers** in the left pane to display a list of centers in the right pane. Click **New** to add a new center.

(6) TONE	and the second s	CID ReliaTel' Help Logout								
SUFTWARE		Monitor Alarms	Dashboard	Voice Quality	Performance Reporting	Administration 10	/23/2012 15:46 EDT			
Centers	E Oldean	XDelete, Cop		<u>.</u>			0 Filters 🔹 🚀			
General	Name		Coverage	Full Center Na	ame 🔺	Parent Center				
Centers	product	tion		production						
Classes	system			system						
DAPs	DAP			system.DAP		system				
Entities										
2 Collectors										
📲 RTCP										
🧱 Links	<						>			
🝰 Users		Page 1 of 1 🕨 🕨	🔡 Updated:1	0/23/2012 15:45	20	✓ results per page	Displaying 1 - 4 of 4			
AccessPlus Services 💌										
<	AvayaCe	rt								

In the lower portion of the screen, select the **General** tab. Enter a descriptive **Name**, and retain the default values in the remaining fields.

OTONE		DRelia T	el.			Не	lp Logout sadm
SUTTWARE	M	onitor Alarms	Dashboard	Voice Quality	Performance Reporting	Administration 10/	23/2012 15:48 EDT
		Delete, Copy		_			0 Filters 🔹 🔀
Centers Classes	Name production system		Coverage	Full Center Nam production system	me 🔺	Parent Center	<
 DAPs Initias ✓ Collectors 	K N A Page	i_of1 ▶ ₽	results per page	Displaying 1 - 4 of 4			
🚺 Passive QoS 📲 RTCP 🚸 Avaya CDR	New Center General	References					× +
Links Users AccessPlus Services Notification Coverages Coverage Rules	Name: ID: Parent Center: Coverage:	AvayaCert -Top Level Cent	ter-				

6.3. Administer DAPs

Select **General** > **DAPs** in the left pane to display the pre-configured DAPs. Select the applicable DAP in the upper pane, followed by the **cdata.conf** tab in the lower pane. Click **Edit**.

	CID ReliaTel'	Help Logout sadm
	Monitor Alarms Dashboard Voice Quality Performanc	e Reporting Administration 10/23/2012 15:49 EDT
DAPs General Centers Classes	Delete Copy. Upgrade, Downgrade, Name A Guid Up Build Description basilisk LOCAL 4 Host name: basilisk Network Interfa	0 Fitters
DAPs Entities Collectors	M 4 Page 1 of 1 > > Quedated: 10/23/2012 15:49	20 V results per page Displaying 1 - 1 of 1
🚺 Passive QoS 🚆 RTCP 🐟 Avaya CDR	Seneral Description ctype.conf Cdata.conf link.conf modem pool	8
inks	[myself] chanType = SYSLOG	
AccessPlus Services Notification Coverages	[rdog] chanType = RCLOG [app-ksh]	
Coverage Rules	chanType = APPLICATION chanSystem = application chanEmulator = vt100 ; chanPseudographics = no	
Pager Templates Ar SMS Templates		Edit Cancel Apply

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In the example shown below, "devconnect-sat" can be any desired string to denote Communication Manager. Use the values shown below for **chanType** and **chanEmulator**. For **account**, use the product ID from **Section 5.1**. For **acc_device**, use "<ip-address>:5023", where <ip-address> is the IP address of Communication Manager.

		Monitor Ala	rms Das	hboard Vo	ice Quality	Performan	ce Reporting	Administration	10/24/2012 15:15 EDT
	« Eleve		Copy, U	pgrade Do	wngrade,				0 Filters 🔹 🗙
Centers Classes	Name - basilisk	Guid L)escription lost name: ba	asilisk Netw	vork Interfa	Last Registe 10/24/2012		
DAPs Entities Collectors			▶ ▶ 2	Updated:10/24	2012 15:14		20	results per pa	ge Displaying 1 - 1 o
🕪 Passive QoS	General	isk Description	ctype.conf	cdata.conf	link.conf	modem pool			
🗞 Avaya CDR	account	e = DEFINITY = 1000000000							l
Users AccessPlus Services	acc_devi chanEmu	ce = 10.64.12: lator = 4410	5.02.5025						

6.4. Administer Entities

From the **ReliaTel** screen, select **General** > **Entities** in the left pane to display a list of entities in the right pane. Click **New** to add a new entity.

(6) TONE		CID ReliaTel'								
C) SOFTWARE	Monitor	Alarms Dashboard	Voice Quality	Performance Reporting	Administration 10/23/2012 15:54 EDT					
Entities		Сору	_		0 Fitters 🔹					
General	Name -	Description	Center	Class	Coverage					
E Centers	basilisk		system.DAP	DAP	- 1. (72)					
🥖 Classes	DefaultSNMP	DefaultSNMP Catch all SNMP traps		entity						
DAPs.	myself		system	entity						
Entities	rclog		system	entity						
 ✓ Collectors ()) Passive QoS ()) # RTCP 	socketmgr		system	cl-socketmgr						

In the lower portion of the screen, select the **General** tab. Enter a descriptive **Name** for Communication Manager. For **Center**, select the center name from **Section 6.2**, in this case "AvayaCert". For **Class**, select "definity" from the drop-down list, as shown below.

() TONE	uuu -	<1>Relia T	el.					Help) Logout sadm			
SOFTWARE		Monitor Alarms	Dashboard	Voice Quality	Perform	ance Reporting	Admini	stration 10/2	3/2012 15:55 EDT			
Entities	E-OIVEW	KDelete							0 Filters 🔻			
4 General	Name 🔺	Descri	ption	Center	CI	ass	Covera	ge				
Centers	basilisk			system.DAP	DA DA	4P			~			
	DefaultSN	IMP Catch	all SNMP traps	AvayaCert	er	ntity						
DAPs	myself			system	en	itity			~			
Collectors	14 4 Pag	ge <mark>∦o</mark> f1 ▶ ▶	Updated:10	0/23/2012 15:54			20 🔽 resu	lts per page	Displaying 1 - 5 of 5			
()) Passive QoS	📃 New End	New Entity										
a s RTCP	+ Gener	al Logging At	ributes Actions	MA Patterns	Monitors	Scan Patterns	MA Tables	Schedules	Alarm Suppres 🔶			
🗞 Avaya CDR	Name:	Avaya-SAT							^			
n Links	Description:					2						
al Users	Center:	AvayaCert	~	Class: definity	/	×	Coverage	e:				
AccessPlus Services	Timezone:					~			ummerTime Ob 🧹			
* Notification	<					in the second se			>			
Coverages							🛃 Edit	Cancel	Apply			

In the lower portion of the screen, select the **Logging** tab. Check **Log State**. For **Channel**, enter the same string that denotes Communication Manager from **Section 6.3**. For **Log Pattern**, select "l-avayamdsrv" as shown below. Retain the default values in the remaining fields.

SUFTWARE	Monito	r Alarms	Dash	board	Voice Qua	lity	Performance	Reporting	Administ	tration 10/23	5/2012 17:0	8 E
ditoo	Kew XDelete	.) (D .co	Py.	-	_						0 Filters	- ;
eneral 4	Name -	Desc	ription		Center		Class		Coverage			
La Centers	basilisk				system	DAP	DAP					
Classes	DefaultSNMP	Cato	h all SNN	MP traps	AvayaC	ert	entity					
DAPs Entities	4 4 Page 1	of 1 🗼	N 2	Updated:10/	/23/2012 15:	54		20	v results	perpage l	Displaying '	1 - :
Collectors	New Entity											
()) Passive QoS		tributes	Actions	MA Patterr	ns Monit	ors	Scan Patterns	MA Tables	Schedules	Alarm Sup	pression	A
and the store											1	
🗞 Avaya CDR	Log State:											
🛃 Links	Channel:		devconn	nect-sat								
🚭 Users	Log Pattern:		l-avayam	idsrv		~						
AccessPlus Services	Log Age (days):		30									
otification	Message Timeout (seconds):	10									
📰 Coverages												
Coverage Rules												

Select the **Attributes** tab. For **Admin Login Name** and **Current Admin Password**, enter the credentials for the Communication Manager SAT interface.

	Monitor	r Alarms	Dashboar	d Void	ce Quality Pe	erformance	Reporting	Administration 10	23/2012 17:11 EE
ntities			ipy _n						0 Filters 🔹 🗙
General	Name 🔺	Des	cription	Ce	enter	Class		Coverage	
Centers	basilisk			sy	stem.DAP	DAP			
Classes	DefaultSNMP	Cat	ch all SNMP to	raps Av	ayaCert	entity			
DAPs	Page 1 o	of 1 🗼 🕨	🕅 😂 Upda	ated:10/23/2	012 15:54		20	▼ results per page	Displaying 1 - 5
4 Collectors	💷 New Entity								
()) Passive QoS	+ Attributes	Actions	MA Patterns	Monitors	Scan Patterns	MA Tables	Schedules	Alarm Suppression	AccessPlus
RTCP	Admin Login Name	[Default Defa	ult Value = (null)	
🗞 Avaya CDR	Avaya Documentati	ion					Override		
Links	CM License					~	Override		
Services							oromoo		
Notification Coverages									
Coverage Rules						2			
Action Templates	CM Version	-					Override		
Email Templates	Contact Name	1				-	Override		
Pager Templates	Contact Phone						Override		
A SMS Templates	Current Admin Pass	sword							

Select the **Schedules** tab. Select the desired schedules from the **Available Schedules** section, and use the arrow icons to move to the **Selected Schedules** section. In the compliance testing, the selection shown below enabled measurements hourly data to be polled on the hour, and the daily data polled at 10:15.

		CIID Relia Tel Help Logout sadn								
	Monitor	Alarms Dashboard	Voice Quality	Performance Reporting	Administration 10/23/2012 17:59 EDT					
Entities	🖉 🗔 New 🗙 Delete				0 Filters 🔻					
* General	Name 🔺	Description	Center	Class	Coverage					
A Centers	avaya_audit_mg	ir .	system	avaya-audit						
🦪 Classes 🥋 DAPs	A Page 1 c	of 1 🕨 🕅 🥏 Updated:	10/23/2012 17:59	20	results per page Displaying 1 - 10 of 1					
Entities	Avaya-SAT				8					
△ Collectors (III) Passive QoS	+ ites Actions	MA Patterns Monitors	Scan Patterns MA	Tables Schedules Ala	arm Suppression AccessPlus Referen					
Avaya CDR Links Cosess AccessPlus Services Notification	Available Schedules s-0000 s-0015 s-0030 s-0045 s-0100 s-0115	s sete	cted Schedules							

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7. Verification Steps

This section provides the tests that can be performed to verify proper configuration of Communication Manager and ReliaTel.

Prior to verification, generate measurements data on Communication Manager, and wait until the daily poll had taken place.

From the **ReliaTel** screen, select **Performance Reporting** from the top menu. Select **Avaya Reports > Trunk Reports** in the left pane, followed by **Trunk Group Summary Hourly Report** in the right pane.

	iaTel'			Help Logout s
Monitor Alar	ms Dashboard	Voice Quality	Performance Reporting	Administration 10/25/2012 13:07
	Entities	<u> </u>		
Attendant Reports Attendant Reports Blockage Study Reports Call Detail Records Call Detail Records Call Rate Reports Hunt Group Reports IP DSP Utilization Reports PN Load Balance Reports Processor Occupancy Reports RTCP VoIP Quality of Service Reports Trunk Reports Cisco Unified Communications Manager / Call Lucent SESS Reports Microsoft Lync Reports Passive VoIP QoS Reports Passive VoIP QoS Reports		for each trunk ge traffic with the g Trunks Capacity Shows trends in of the selected y Trunk Group Bus Displays trunk g the date range. Trunk Group Bus Displays trunk g the date range. Trunks Out Of St Lists the numbe within the specif at least one out report returns n Trunk Group Hou Provides the dat Group Summary Trunk Group Hou Displays trunk g date.	ues: 'Average Holding Tin roup. Estimates number of iven value of 'GOS'. <u>Planning</u> trunk utilization for each year. <u>By Hour Report</u> neasurements summary fange. <u>By Hour Chart</u> roup measurements for the <u>ervice</u> r of trunks out of service - fied date range. Only thos -of-service trunk are inclu o data then no out-of-ser <u>urly Report</u> a necessary to validate to Report and to size the true <u>urly Chart</u> roup measurements for e <u>numary Hourly Report</u> summary hourly measure	he busy hour of each day in for the specified devices se trunk groups that have ided into the report. If the rvice trunks were found. he information in the Trunk unk groups.

In the subsequent screen, select the desired **Date Range**. For **Switch Name**, select the Communication Manager name from **Section 6.4**. Click **Run Report**.

SOFTWARE	< Relia T	A 1367				Help Logout sad
	Monitor Alarms	Dashboard Vo	ice Quality Perfo	rmance Reporting	Administration	10/25/2012 13:08 EE
ERFORMANCE REPORTING	Reports	intities				
runk Group Summary Hourly	Report					
Provides traffic summary hou measurements for the specifi and date range.		*Date Range	 Relative Ran Exact Range 			
Customize this report			Include Time	3		
		*Switch Name	- All Switches - Avaya-SAT			
		Trunk Group(s)			Specify one or more	e switches.
			Required fields are m	arked with (*)		

The **Trunk Group Summary Hourly Report** is displayed, as shown below. Verify that the reported data matches the trunk group measurements data from the Communication Manager SAT interface.

Tri	ınk G	rou	n Su	ımma	rv F	lourl		nort						
From: To:			Th Th	nu Oct 25 0 nu Oct 25 2 /aya-SAT	0:00:00	EDT 2012	2	port	3					
Switc	h: Avaya	Cert Avay	/a-SAT											
	·····,													
Gro		: 431 TAC		roup Type:	sip Group	Name: Tl	_T SIP to (G430						
Gro	up Number	: 431 TAC		roup Type: : Total Usage	sip Group Total Seize	Name: Tl	T SIP to Grp Ovf	G430 Que Size	Calls Qued	Que Ovf	Que Abd	Out Srv	% ATB	% Out Bl
Gro	up Number)ate: 25-Oct	: 431 TAC -12 Thu Grp Size	: 1044 G	Total	Total	7	2	°		Que Ovf 0	Que Abd	Out Srv 10	% ATB 100.00	19630932033
Gro D Hour	up Number Date: 25-Oct Grp Type	: 431 TAC -12 Thu Grp Size 10	: 1044 G Dir	Total Usage	Total Seize	Inc Seize	Grp Ovf	Que Size	Qued	Ginericki	1. Three 1. The	0.00072-03	SOM THE	% Out BI
Gro D Hour 09:00 10:00 Date	up Number Date: 25-Oct Grp Type sip	: 431 TAC -12 Thu Grp Size 10	: 1044 G Dir two	Total Usage 0	Total Seize	Inc Seize O	Grp Ovf 0	Que Size 0	Qued 0	0	0	10	100.00	0.0
Gro D Hour 09:00 10:00 Date Total Date	up Number Date: 25-Oct Grp Type sip	: 431 TAC -12 Thu Grp Size 10	: 1044 G Dir two	Total Usage 0 3	Total Seize 0	Inc Seize 0 6	Grp Ovf 0	Que Size 0	Qued 0 0	0	0	10 0	100.00	0.0
Gro D Hour	up Number Date: 25-Oct Grp Type sip	r: 431 TAC -12 Thu Grp Size 10 10	: 1044 G Dir two	Total Usage 0 3 3	Total Seize 0 10	Inc Seize 0 6	Grp Ovf 0 0	Que Size 0 0	Qued 0 0	0	0	10 0 10	100.00 1.00	0.0

8. Conclusion

These Application Notes describe the configuration steps required TONE Software ReliaTel to successfully interoperate with Avaya Aura® Communication Manager 6.2 using SAT. All feature and serviceability test cases were completed.

9. Additional References

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

- **1.** *Administering Avaya Aura*® *Communication Manager*, Document 03-300509, Issue 7.0, Release 6.2, July 2012, available at <u>http://support.avaya.com</u>.
- 2. *ReliaTel Operator Guide*, Release 4.1, Guide Version 1.0, October 2012, contact ReliaTel support at <u>info@tonesoft.com</u>.

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