



Avaya Solution & Interoperability Test Lab

Application Notes for Resource Software International Call Management Software with Avaya Communication Manager - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the Resource Software International (RSI) Call Management Software (CMS) call accounting software to successfully interoperate with Avaya Communication Manager.

RSI CMS is a call accounting software that interoperates with Avaya Communication Manager over the Avaya Reliable Session Protocol (RSP). Call records can be generated for various types of calls. RSI CMS collects, and processes the call records. The serviceability, Local Survivable Process (LSP) mode, and performance tests were conducted to assess the reliability of the solution.

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 the RSI CMS call accounting software can interoperate with Avaya Communication Manager 5.1.2. RSI CMS connects to Avaya Communication Manager over the local or wide area network using a CDR link running on RSP. Avaya Communication Manager is configured to send CDR records to RSI CMS using a specific TCP/IP port. The serviceability, LSP mode, and performance tests were conducted to assess the reliability of the solution.

1.1. Interoperability Compliance Testing

The compliance test included feature, serviceability, performance, and LSP testing. The feature testing evaluated the ability of the CMS to collect and process CDR records for various types of calls. The unformatted format was utilized during the compliance test. The serviceability test introduced failure scenarios to see if the CMS can resume CDR collection after recovery. The performance test utilized bulk call volumes to generate a substantial amount of CDR records. The Avaya LSP solution was tested by removing the CLAN board in the Avaya G650 Media Gateway.

1.2. Support

Technical support for CMS can be obtained by contacting RSI via <http://www.telecost.com/services.htm> or by calling (905)576-4575.

2. Reference Configuration

Figure 1 illustrates a sample configuration that was used for the compliance test. The configuration consists of three Avaya Servers running Avaya Communication Manager. Site A is comprised of Avaya Communication Manager running on Avaya S8720 Servers with an Avaya G650 Media Gateway. Site B is comprised of Avaya Communication Manager running on an Avaya S8300 Server residing in an Avaya G700 Media Gateway. Each Avaya Communication Manager is connected to an IP network comprised of an Extreme Networks Summit 48 layer 3 switch. RSI CMS is running on a Windows 2003 Server was connected to the layer 3 switch, and has a RSP session established to each Avaya Communication Manager to collect CDR records. Each system has trunks and phones to generate calls. Avaya 4600 Series IP Telephones, Avaya 9600 Series IP Telephones, Avaya 6400D Series Digital Telephones, and Avaya IP agent are registered to both Avaya S8720 and S8300 Servers. In addition, there is an H.323 IP trunk established between the two media servers.

Site C is comprised of an Avaya S8300 Server with an Avaya G350 Media Gateway, which has connections to an Avaya 4600 Series IP Telephone and an Avaya 6400D Series Digital Telephone. The Avaya S8300 Server, installed with a Local Survivable Processor (LSP) license, is setup as a LSP to Site A.

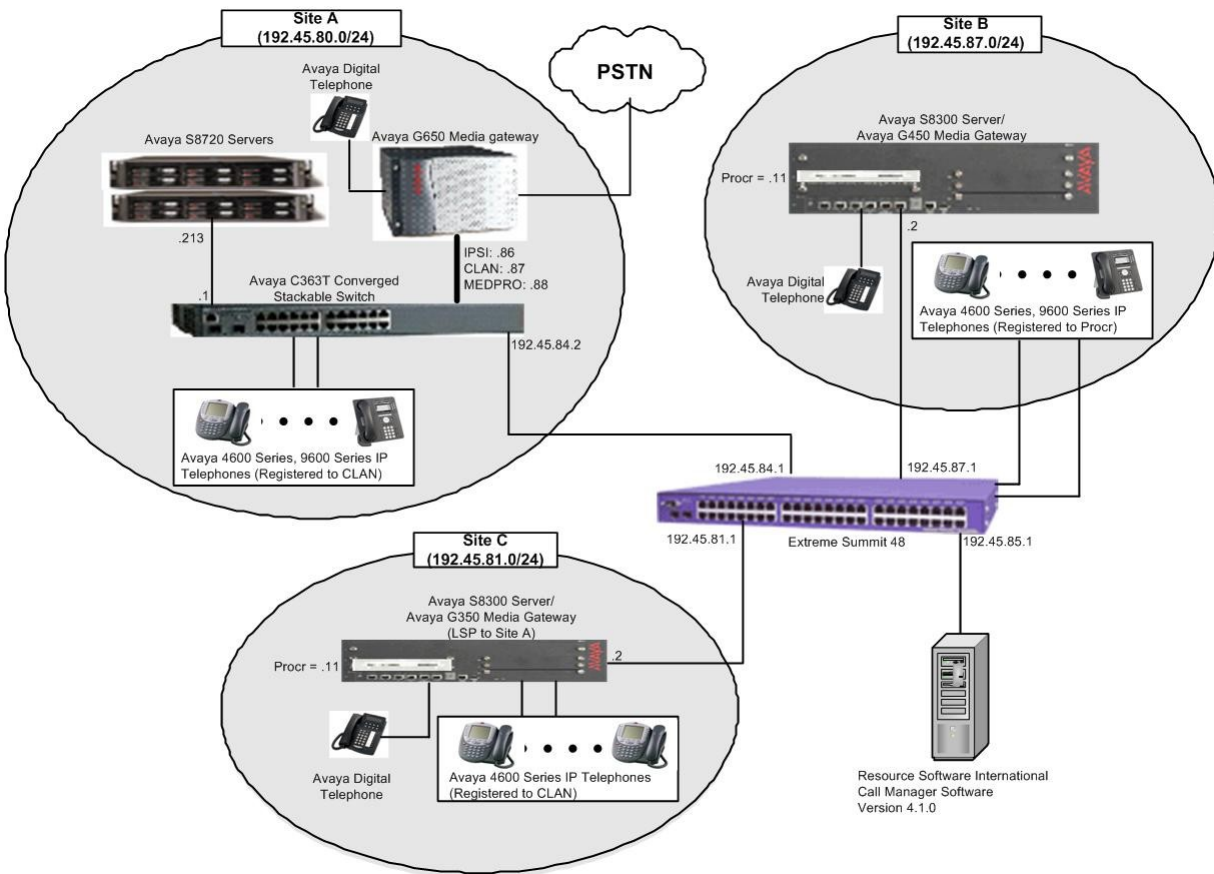


Figure 1. Test configuration of RSI CMS with Avaya Communication Manager

3. Equipment and Software Validated

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

Equipment		Software
Avaya S8720 Servers		Avaya Communication Manager 5.1.2 (R015x.01.2.416.4)
Avaya G650 Media Gateway		
	TN2312BP IPSI TN799DP CLAN TN2302AP MEDPRO	HW11 FW030 HW20 FW017 HW01 FW108
Avaya S8300 Server		Avaya Communication Manager 5.1.2 (R015x.01.2.416.4)
Avaya G700 Media Gateway		28.17
Avaya S8300 Server (with LSP License)		Avaya Communication Manager 5.1.2 (R015x.01.2.416.4)
Avaya G350 Media Gateway		26.31
Avaya 4600 Series IP Telephone		
	4620SW 4625SW	2.9 2.9
Avaya 9600 Series IP Telephone		
	9630 9650	2.0 2.0
Avaya 64xx Series Digital Telephones		
	6408D+ 6402D	- -
Analog Telephone		-
Avaya C363T Converged Stackable Switch (Layer 3)		4.5.14
Extreme Summit 48 Switch (Layer 3)		4.1.21
RSI CMS on Windows XP with Service Pack 3		4.1.0

4. Configure Avaya Communication Manager

This section provides procedures for configuring the CDR feature in Avaya Communication Manager. All configuration changes in Avaya Communication Manager are performed through the System Access Terminal (SAT). These steps describe the procedure used for the Avaya S8720 Server. All steps are the same for the other Avaya Servers unless otherwise noted. Avaya Communication Manager will be configured to generate CDR records and send CDR records to the IP address of RSI CMS, using RSP over TCP/IP. For the Avaya S8720 Server, the CDR link originates at the IP address of the CLAN board, and terminates at the CMS. For the Avaya S8300 Server, the CDR link originates at the IP address of the local server (with node-name – “procr”) and terminates at the CMS. The highlights in the following screens indicate the parameter values used during the compliance test.

Enter the **change node-names ip** command to create a new node name, for example, **RSI-CDR**. This node name is associated with the IP Address of the CMS. The IP address of S8300 is added in the IP NODE NAMES form for the LSP test. The CLAN entry on this form was previously administered.

change node-names ip		Page 1 of 1	
		IP NODE NAMES	
Name	IP Address	Name	IP Address
RSI-CDR	192.45.85.51	.	.
CLAN	192.45.80.87	.	.
MEDPRO	192.45.80.88	.	.
S8300	192.45.81.11	.	.
default	0.0.0.0	.	.
procr	192.45.80.214	.	.

Enter the **change ip-services** command to define the CDR link to use RSP over TCP/IP. The following information should be provided:

- Service Type: CDR1 [If needed, a secondary link can be defined by setting Service Type to CDR2.]
- Local Node: **CLAN** [For Avaya S8720 Server, the Local Node is set to the node name of the CLAN board. If Avaya S8300 Server was utilized, set the Local Node to **procr**.]
- Local Port: 0 [The Local Port is fixed to 0.]
- Remote Node: **RSI-CDR** [The Remote Node is set to the node name defined previously.]
- 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 CMS.]

change ip-services		Page 1 of 4	
		IP SERVICES	
Service Type	Enabled	Local Node	Remote Node
CDR1		CLAN	RSI-CDR
		0	9000

On **Page 3**, enable the Reliable Session Protocol (RSP) for the CDR link 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
CDR1	y	30	3
			3
			60

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: **unformatted**

- 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.

- Enable CDR Storage on Disk?: **y** [Enable the Survivable CDR feature. Default is **n**.]
- Use Legacy CDR Formats?: **n** [Allows CDR formats to use 5.x CDR formats. If the field is set to **y**, then CDR formats utilize the 3.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.]

change system-parameters cdr		Page 1 of 1
CDR SYSTEM PARAMETERS		
Node Number (Local PBX ID): 1	CDR Date Format: month/day	
Primary Output Format: unformatted	Primary Output Endpoint: CDR1	
Secondary Output Format:		
Use ISDN Layouts? n	Enable CDR Storage on Disk? y	
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? 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? n	
Disconnect Information in Place of FRL? y	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? n	
Inc Trk Call Splitting? 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: 6	

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

Note: To simplify the process of adding multiple extensions in the Extension field, the Intra-switch CDR by COS feature may be utilized in the SPECIAL APPLICATIONS form under the system-parameters section. 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: 5 of 5000 administered			
Extension	Extension	Extension	Extension
22001			
22002			
22003			
22007			
22009			
26001			
26007			

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

change trunk-group 80		Page 1 of 20	
TRUNK GROUP			
Group Number: 80	Group Type: isdn	CDR Reports: y	
Group Name: OUTSIDE CALL	COR: 1	TN: 1	TAC: 103
Direction: two-way	Outgoing Display? y	Carrier Medium: PRI/BRI	
Dial Access? y	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			
TRUNK PARAMETERS			
Codeset to Send Display: 6	Codeset to Send National IEs: 6		
Max Message Size to Send: 260	Charge Advice: none		
Supplementary Service Protocol: a	Digit Handling (in/out): enbloc/enbloc		
Trunk Hunt: cyclical			
		Digital Loss Group: 13	
Incoming Calling Number - Delete:	Insert:	Format:	
Bit Rate: 1200	Synchronization: async	Duplex: full	
Disconnect Supervision - In? y	Out? y		
Answer Supervision Timeout: 0			

5. Configure the Avaya LSP Solution

This section describes how to configure the main Avaya Communication Manager and a LSP licensed Avaya Communication Manager to perform an Avaya LSP CDR solution. This section also includes the verification steps.

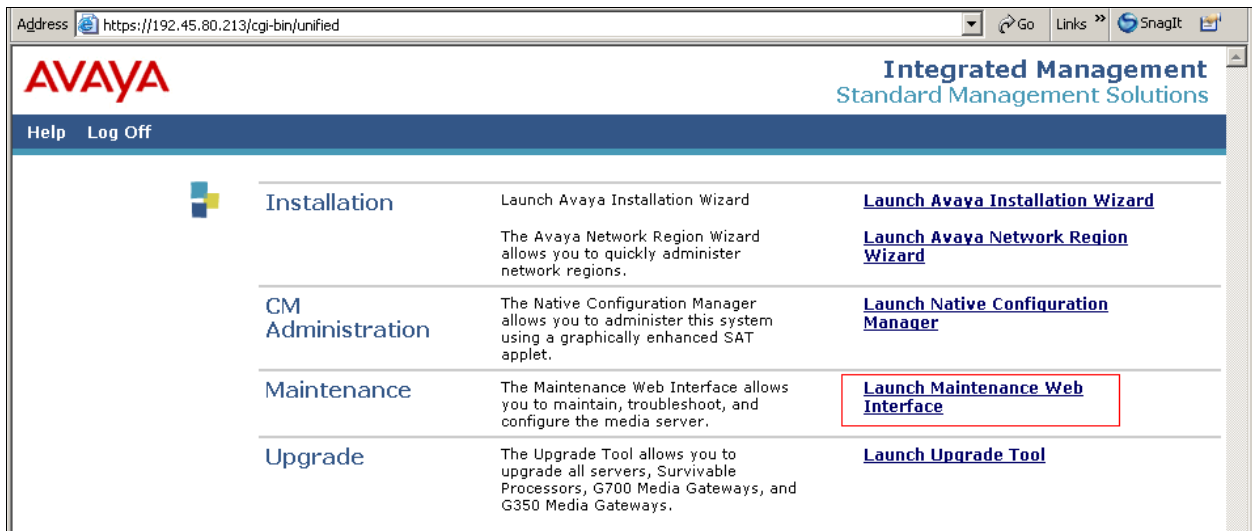
5.1. Configure the S8720 Server with G650 Media Gateway for the Avaya LSP Solution

This section describes how to configure the S8720 Server with a G650 Media Gateway for the Avaya LSP CDR Solution. The following steps must be performed:

- Create member credentials (username/password) for a sftp account
- Change “survivable-processor <assigned Survivable Processor node-name>” form
- Save the translation for LSP

5.1.1. CDR credentials for sftp

To create credentials, enter <https://<IP address of Avaya S8720 Server>> in the URL, and log in with the appropriate credentials for accessing the Integrated Management Standard Management Solutions pages. Select the **Launch Maintenance Web Interface** link.



Select the **Administrator Accounts** link under the Security section.

AVAYA

Integrated Management
Maintenance Web Pages

Help Exit

This Server: [2] S8720BOT Duplicate Server: [1] S8720TOP

Traceroute
Netstat
Modem Test
Network Time Sync
Server
Status Summary
Process Status
Interchange Servers
Busy-out Server
Release Server
Shutdown Server
Server Date/Time
Software Version
Server Configuration
Configure Server
Restore Defaults
Eject CD-ROM
Server Upgrades
Pre Upgrade Step
Manage Software
Make Upgrade Permanent
Boot Partition
Manage Updates
BIOS Upgrade
IPSI Firmware Upgrades
IPSI Version
Download IPSI Firmware
Download Status
Activate IPSI Upgrade
Activation Status
Data Backup/Restore
Backup Now
Backup History
Schedule Backup
Backup Logs
View/Restore Data
Restore History
Format CompactFlash
Security
Administrator Accounts
Login Account Policy

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In the Administrator Accounts page, check the **CDR Access Only** box under the Add Login section.

Select **Submit**

AVAYA Integrated Management Maintenance Web Pages

Help Exit This Server: [2] S8720BOT Duplicate Server: [1] S8720TOP

Administrator Accounts

The Administrator Accounts web pages allow you to add, delete, or change administrator logins and Linux groups.

Select Action:

- ☒ Add Login
 - ☐ Privileged Administrator
 - ☐ Unprivileged Administrator
 - ☐ SAT Access Only
 - ☐ Web Access Only
 - ☐ Modem Access Only
 - ☒ CDR Access Only
 - ☐ CM Messaging Access Only
 - ☐ Business Partner Login (dadmin)
 - ☐ Business Partner Craft Login
 - ☐ Custom Login
- ☐ Change Login
- ☐ Remove Login
- ☐ Lock/Unlock Login
- ☐ Add Group
- ☐ Remove Group

Submit **Help**

Alarms
Current Alarms
Agent Status
SNMP Agents
SNMP Traps
Filters
SNMP Test

Diagnostics
Restarts
System Logs
Temperature/Voltage
Ping
Traceroute
Netstat
Modem Test
Network Time Sync

Server
Status Summary
Process Status
Interchange Servers
Busy-out Server
Release Server
Shutdown Server
Server Date/Time
Software Version

Server Configuration
Configure Server
Restore Defaults
Eject CD-ROM

Server Upgrades
Pre Upgrade Step
Manage Software
Make Upgrade Permanent
Boot Partition
Manage Updates
BIOS Upgrade

IPSI Firmware Upgrades
IPSI Version
Download IPSI Firmware
Download Status
Activate IPSI Upgrade
Activation Status

Data Backup/Restore
Backup Now
Backup History
Schedule Backup

In the Administrator Accounts –Add Login: CDR Access Only page, provide the following information:

- Login name
- Enter password or key
- Re-enter password or key

The above credentials will be utilized to access the LSP licensed Avaya Communication Manager.

Click on **Submit**

AVAYA Integrated Management Maintenance Web Pages

Help Exit This Server: [1] S8720TOP Duplicate Server: [2] S8720BOT

Administrator Accounts -- Add Login: CDR Access Only

This page allows you to create a login that is intended to be used with the survivable CDR feature only.

Login name	RSI_CDR
Primary group	CDR_User
Additional groups (profile)	
Linux shell	/bin/bash
Home directory	/var/home/ftp/CDR
Lock this account	<input type="checkbox"/>
Date after which account is disabled-blank to ignore (YYY-MM-DD)	
Select type of authentication	<input checked="" type="radio"/> Password <input type="radio"/> ASG: enter key <input type="radio"/> ASG: Auto-generate key
Enter password or key	*****
Re-enter password or key	*****
Force password/key change on next login	<input type="radio"/> Yes <input checked="" type="radio"/> No

Submit Cancel Help

5.1.2. Survivable-Processor Form

Enter the **change survivable-processor S8300** command, where **S8300** is an LSP licensed Avaya S8300 Server, configured in **Section 3**. Make sure that the Enabled field is set to **o** (overwrite), and the Store to disk field is to **y**.

change survivable-processor S8300							Page 2 of 3
SURVIVABLE PROCESSOR - IP-SERVICES							
Service	Enabled	Store	Local	Local	Remote	Remote	
Type		to disk	Node	Port	Node	Port	
CDR1	o	y					

After **Section 4.1.1** and **4.1.2** are completed, run either the **save translation all** or **save translation lsp** command from Avaya S8720 Server, so that the translation in Avaya S8720 Server will be pushed to the LSP licensed Avaya S8300 Server.

To confirm whether the translation is pushed to the LSP licensed Avaya Communication Manager, execute the **list survivable-processor** command on both Avaya Communication Managers (S8720 and S8300), and check the last Translations Updated field, and they should match. The following shows a sample screen, resulted from performing the above command.

list survivable-processor							
SURVIVABLE PROCESSORS							
Name	Type	IP Address	Reg LSP	Translations	Net		
			Act	Updated	Rgn		
S8300	LSP	192.45 .81 .11	y n	22:00 4/1/2009	1		

5.2. Verification from the Avaya S8300 Server for the Avaya LSP Solution

This section describes how to verify the Avaya LSP CDR solution from the Avaya S8300 Server. Enter the **display ip-services** command. Notice that the Local Node field is changed to **procr**.

display ip-services							Page 1 of 4
IP SERVICES							
Service	Enabled	Local	Local	Remote	Remote		
Type		Node	Port	Node	Port		
CDR1		procr	0	RSI-CDR	9000		

Enter the **display survivable-processor S8300** command, and verify that the survivable-processor S8300 form in Avaya S8720 and S8300 Servers are identical.

display survivable-processor S8300							Page 2 of 3
SURVIVABLE PROCESSOR - IP-SERVICES							
Service	Enabled	Store	Local	Local	Remote	Remote	
Type		to disk	Node	Port	Node	Port	
CDR1	o	y					

5.3. Verification from the Avaya Media Gateway for the Avaya LSP Solution

This section describes how to verify the Avaya LSP CDR solution from the Avaya G350 Media Gateway. Telnet into the media gateway, and run the **show mgc** command. As the following screen showed, the active controller has changed from 192.45.80.87 (prior to LSP) to 192.45.81.11 (post LSP).

```
G350-001(super)# sh mgc

CALL CONTROLLER STATUS
-----
Registered          : YES
Active Controller    : 192.45.81.11
H248 Link Status     : UP
H248 Link Error Code: 0x0

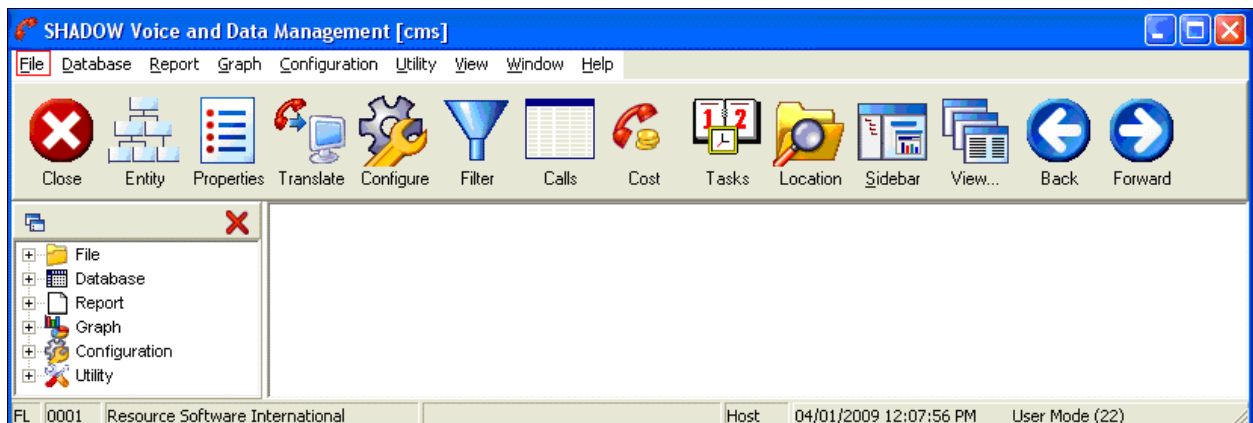
CONFIGURED MGC HOST
-----
192.45.80.87
192.45.81.11
-- Not Available --
-- Not Available --
```

6. Configure Resource Software International Call Management Software

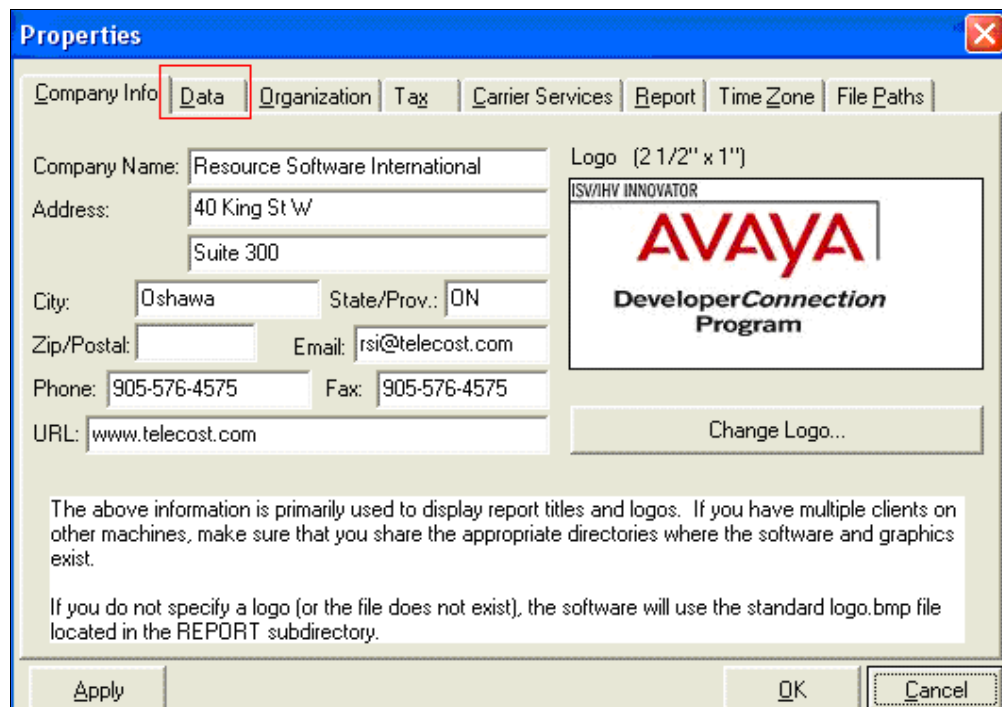
This section describes the operation of RSI CMS. The CMS connects to Avaya Communication Manager via RSP over the TCP/IP port. CDR data is sent from Avaya Communication Manager (CLAN port) into the CMS where the raw data is transformed into call records, which are then immediately available for reporting. RSI installs, configures, and customizes the CMS application for their end customers. The following sections, Section 5.1 and 5.2, describe how to configure the CDR format and RSP, respectively.

6.1. Configure the CDR format

Navigate to **All Programs → RSI → CMS**, and launch the CMS icon. From the SHADOW Voice and Data Management [cms] screen, navigate to **File → Properties**.



From the Properties screen, click the **Data** tab.



The Properties dialog box is shown with the 'Data' tab selected. The 'Company Info' tab is also visible. The 'Data' tab contains fields for Company Name, Address, City, State/Prov., Zip/Postal, Email, Phone, Fax, and URL. The 'Logo' section shows a preview of the AVAYA DeveloperConnection Program logo. A 'Change Logo...' button is present. A note at the bottom states: 'The above information is primarily used to display report titles and logos. If you have multiple clients on other machines, make sure that you share the appropriate directories where the software and graphics exist. If you do not specify a logo (or the file does not exist), the software will use the standard logo.bmp file located in the REPORT subdirectory.'

Company Name: Resource Software International
Address: 40 King St W
Suite 300
City: Oshawa State/Prov.: ON
Zip/Postal: Email: rsi@telecost.com
Phone: 905-576-4575 Fax: 905-576-4575
URL: www.telecost.com

Logo (2 1/2" x 1")
ISV/IHV INNOVATOR
AVAYA
DeveloperConnection Program

Change Logo...

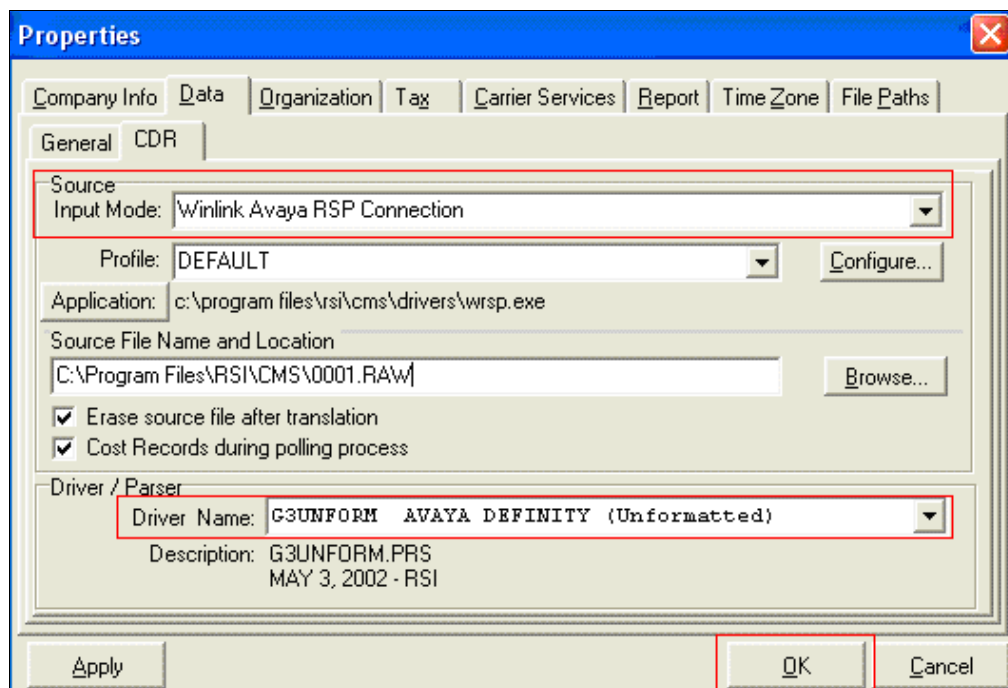
The above information is primarily used to display report titles and logos. If you have multiple clients on other machines, make sure that you share the appropriate directories where the software and graphics exist.

If you do not specify a logo (or the file does not exist), the software will use the standard logo.bmp file located in the REPORT subdirectory.

Apply OK Cancel

Using the drop-down menu, select the **Winlink Avaya RSP Connection** for the Source Input Mode field and **G3UNFORM AVAYA DEFINITY (Unformatted)** for the Driver Name field.

Click the **OK** button to save.



The Properties dialog box is shown with the 'CDR' tab selected. The 'General' tab is also visible. The 'CDR' tab contains fields for Source Input Mode, Profile, Application, Source File Name and Location, and Driver / Parser. The 'Source Input Mode' field is set to 'Winlink Avaya RSP Connection'. The 'Profile' field is set to 'DEFAULT'. The 'Application' field is set to 'c:\program files\rsi\cms\drivers\wrsp.exe'. The 'Source File Name and Location' field is set to 'C:\Program Files\RSI\CMS\0001.RAW'. The 'Driver / Parser' field is set to 'G3UNFORM AVAYA DEFINITY (Unformatted)'. The 'Description' field is set to 'G3UNFORM.PRS MAY 3, 2002 - RSI'. The 'Erase source file after translation' and 'Cost Records during polling process' checkboxes are checked.

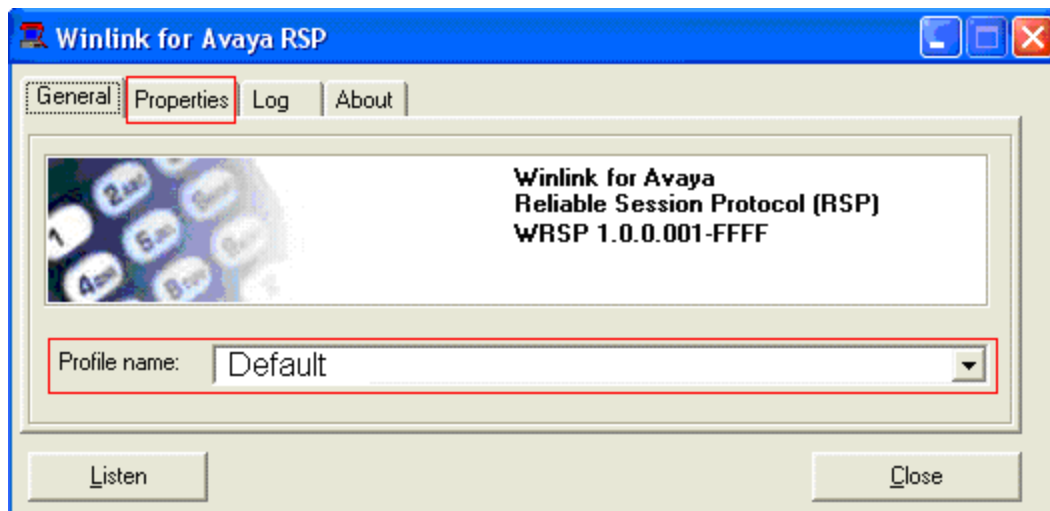
Source Input Mode: Winlink Avaya RSP Connection
Profile: DEFAULT
Application: c:\program files\rsi\cms\drivers\wrsp.exe
Source File Name and Location: C:\Program Files\RSI\CMS\0001.RAW
Erase source file after translation
Cost Records during polling process
Driver / Parser: G3UNFORM AVAYA DEFINITY (Unformatted)
Description: G3UNFORM.PRS MAY 3, 2002 - RSI

Apply OK Cancel

6.2. Configure the RSP

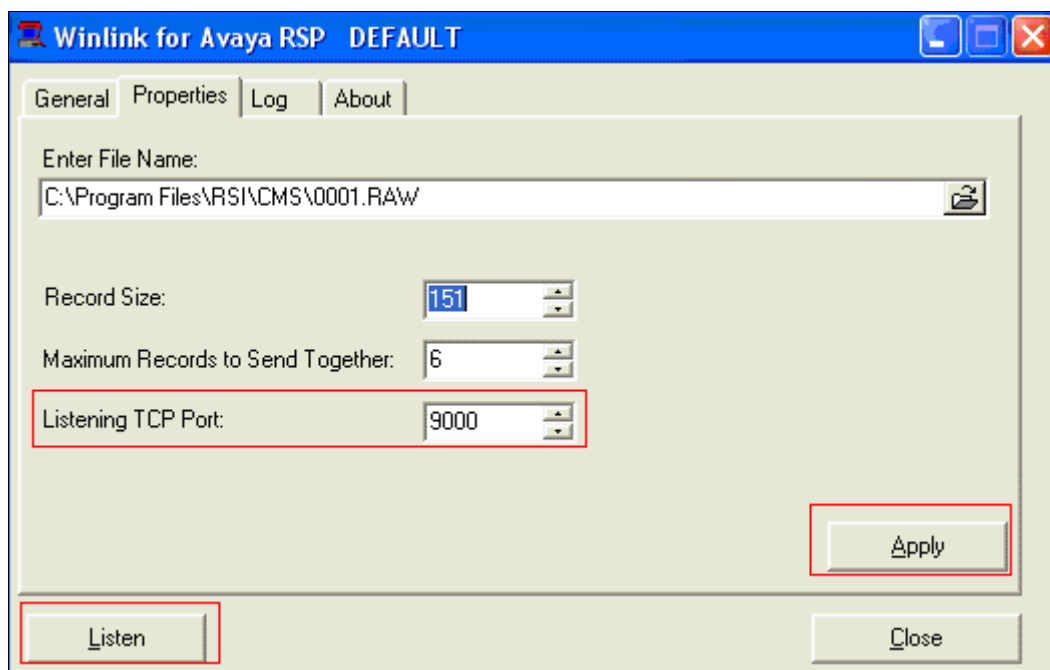
Navigate to **All Programs → RSI → CMS**, and launch the WRSP icon.
Under the General tab, enter a descriptive name for the Profile Name field.

Click on the **Properties** tab.

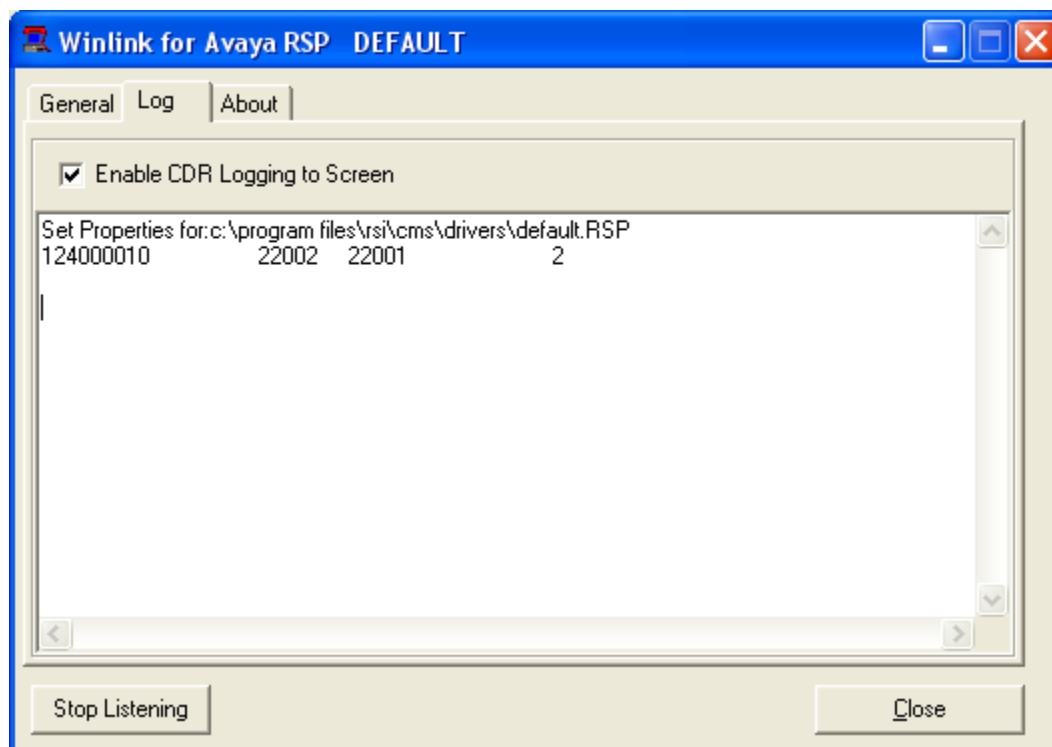


The following screen shows the default RSP port 9000. The Listening TCP Port field can be changed to any value that matches the Avaya Communication Manager.
Click **Apply** to save any changes to this screen.

Click the **Listen** button to start the WRSP listening for a RSP connection



Click the checkbox, **Enable CDR Logging to Screen**, in order to view the incoming CDR in real time.



7. General Test Approach

The general test approach was to manually place intra-switch and inter-switch calls, inbound trunk and outbound trunk calls to and from telephones attached to the Avaya Servers, and verified that the CMS collected the CDR records and properly classified and reported the attributes of the call. For serviceability testing, physical and logical links were disabled/re-enabled, Avaya Servers were reset and the CMS was restarted. The LSP test was performed from the CMS using the sftp command to Avaya S8300 Server (LSP) to collect the CDR records. For performance testing, a call generator was used to place calls over an extended period of time.

7.1. Test Results

All executed test cases passed. RSI CMS successfully collected the CDR records from Avaya Communication Manager via a RSP connection for all types of calls generated including intra-switch calls, inbound/outbound PSTN trunk calls, inbound/outbound private IP trunk calls, transferred calls, and conference calls. For serviceability testing, RSI CMS was able to resume collection of CDR records after failure recovery including buffered CDR records for calls that were placed during the outages. RSI CMS also successfully collected the CDR records from the Avaya S8300 Server using the sftp command. Performance tests verified that RSI CMS could collect call records during a sustained, high volume of calls.

8. Verification Steps

The following steps may be used to verify the configuration:

- On the SAT of the Avaya S8720 Server, enter the **status cdr-link** command and verify that the CDR link state is up.
- Place a call and verify that RSI CMS received CDR records for the call. Compare the values of the data fields in the CDR record with the expected values, and verify that they match.
- Place internal, inbound trunk, and outbound trunk calls to and from various telephones, generate an appropriate report in RSI CMS, and verify the report's accuracy.

9. Conclusion

These Application Notes describe the procedures for configuring RSI CMS to collect call detail records from Avaya Communication Manager running on Avaya Servers. RSI CMS successfully passed all compliance testing.

10. References

This section references the Avaya and RSI documentation that are relevant to these Application Notes.

The following Avaya product documentation can be found at <http://support.avaya.com>.

[1] *Administrator Guide for Avaya Communication Manager*, Issue 4, January 2008, Document Number 03-300509.

[2] *Feature Description and Implementation For Avaya Communication Manager*, Issue 6, January 2008, Document Number 555-245-205

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