



Avaya Solution & Interoperability Test Lab

Application Notes for ISI Infortel Select with Avaya Aura® Communication Manager - Issue 1.0

Abstract

These Application Notes describe the configuration steps required for the ISI Infortel Select call accounting software to successfully interoperate with Avaya Aura® Communication Manager.

ISI Infortel Select is a call accounting software that interoperates with Avaya Aura® Communication Manager over the Avaya Reliable Session Protocol (RSP). Call records can be generated for various types of calls. ISI Infortel Select collects, and processes the call records.

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 ISI Infortel Select call accounting software can interoperate with Avaya Aura® Communication Manager 6.2. ISI Infortel Select (herein referred to as Infortel Select) connects to Avaya Aura® Communication Manager over a local or wide area network using a CDR link running RSP. Avaya Aura® Communication Manager is configured to send CDR records to Infortel Select using a specific port.

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

During the test, both Avaya H.323 and 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. In these Application Notes, the following topics will be described:

- Avaya Aura® Communication Manager – A SIP trunk configuration between Avaya Aura® Communication Manager and Avaya Aura® Session Manager. A CDR link configuration on Avaya Aura® Communication Manager.
- Avaya Aura® Session Manager – A SIP trunk configuration between Avaya Aura® Communication Manager and Avaya Aura® Session Manager.
- Infortel Select – A CDR link configuration on Infortel Select.

2. General Test Approach and Test Results

The general test approach was to manually place intra-switch calls, inbound trunk calls, and outbound trunk calls for basic call, transfer, and conference scenarios, and verify that Infortel Select 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 Infortel Select 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.

2.1. Interoperability Compliance Testing

The interoperability compliance testing included features and serviceability tests. The focus of the compliance testing was primarily on verifying the interoperability between Infortel Select and Communication Manager.

2.2. Test Results

All executed test cases passed, except noted below. Infortel Select successfully collected the CDR records from 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, Infortel Select was able to resume collection of CDR records after failure recovery including buffered CDR records for calls that were placed during the outages.

Important Notes: *There are some differences in Communication Manager in the call records generated by SIP endpoints compared to Analog, Digital, and H.323 endpoints. As a result in certain scenarios involving SIP endpoints (e.g., two-party call, transfer, or conference), a CDR application may see more or less records, or records with condition codes/calling party other than expected. Avaya is investigating the differences and code changes may be made available in a future release pending the outcome of that investigation.*

2.3. Support

Technical support for Infortel Select can be obtained through the following:

- <http://www.isi-info.com/support/support.htm>
- (800) 326-6183

3. Reference Configuration

Figure 1 illustrates a sample configuration consisting of an Avaya S8300D Server running Communication Manager, an Avaya G450 Media Gateway, a Session Manager, and Infortel Select on one side, and Avaya S8720 Servers running Communication Manager with an Avaya G650 Media Gateway on the other side. Session Manager terminates SIP trunks from both sides. Avaya 9600 Series SIP IP Telephones on the Avaya S8300D Server side have been registered to Session Manager. For completeness, Avaya 9600 Series SIP IP Telephones on the Avaya S8720 Server side have been registered to a SIP Enablement Services server, and are included in **Figure 1** to demonstrate calls between the SIP IP telephones that are going through Session Manager. The solution described herein is also extensible to other Avaya Servers and Media Gateways.

Note1: *SIP Enablement Services is not a part of this compliance test (only the SIP endpoints were utilized). Thus, there will not be any discussion on configuring SIP Enablement Services.*

Note2: *Avaya S8720 Servers with an Avaya G650 Media Gateway was included in the test only to provide an inter-switch scenario. Thus, there will not be any discussion on configuring Avaya S8720 Servers with an Avaya G650 Media Gateway.*

Note3: During the compliance test, a SIP trunk was utilized only for SIP-SIP endpoint calls. For H323-H323 endpoints calls utilized either an IP or PRI trunk between S8300D and S8720 servers.

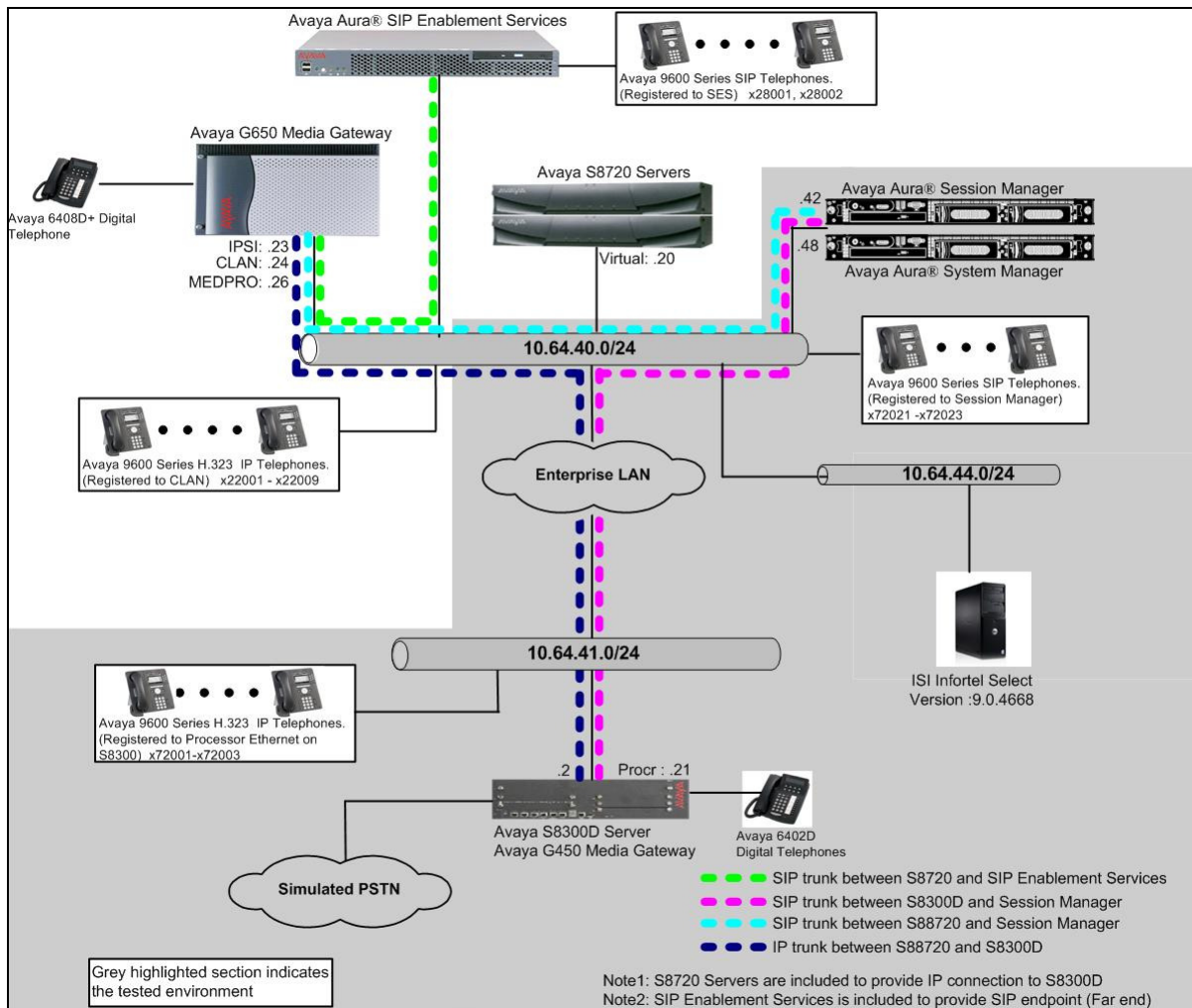


Figure 1. Test configuration of ISI Infortel Select with Avaya Aura® Communication Manager

4. Equipment and Software Validated

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

Equipment		Software
Avaya S8300D Server with Avaya G450 Media Gateway		Avaya Aura® Communication Manager 6.2 (R016x.02.0.823.0) with Patch 02.0.823.0-20001
Avaya Aura® System Manager		6.3.0.8.923
Avaya Aura® Session Manager		6.3.0.0.630039
Avaya S8720 Servers with Avaya G650 Media Gateway		Avaya Aura® Communication Manager 5.2.1 (R015x.02.1.016.4)
Avaya Aura® SIP Enablement Services		5.2.1 (SES-5.2.1.0-016.4) with Service Pack SES-5.2.1.0-016.4-SP3b
Avaya 9600 Series SIP IP Telephone		
	9620	2.6.3
	9630	2.6.3
Avaya 9600 and 96X1 Series H.323 IP Telephone		
	9620	3.1055
	9621G	6.2209
	9650	3.1055
Infotel Select on Windows 2008 Server R2 Standard, 64 bit		9.0.4668

5. Configure Avaya Aura® Communication Manager

This section describes the procedure for configuring call detail recording (CDR) and a SIP trunk in Communication Manager. These steps are performed through the System Access Terminal (SAT). These steps describe the procedure used for the Avaya S8300D Server. All steps are the same for the other Avaya Servers. Communication Manager will be configured to generate CDR records using RSP over TCP/IP to the IP address of the server running Infotel Select. For the Avaya S8300D Server, the RSP link originates at the IP address of the local processor (with node-name - “procr”). For the Avaya S8720 Server, the CDR link terminates at the IP address of the CLAN board.

5.1. Configure CDR

Use the **change node-names ip** command to create a new node name, for example, **isi**. This node name is associated with the IP Address of the server running the Infortel Select 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	
isi	10.64.44.101	
default	0.0.0.0	
procr	10.64.41.21	
procr6	::	
rdtt-1	10.64.40.14	
SM-1	10.64.41.42	

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” [For the Avaya S8720 Servers set the Local Node to the node name of the CLAN board.]
- **Local Port:** “0” [The Local Port is fixed to 0 because Communication Manager initiates the CDR link.]
- **Remote Node:** “isi” [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 Infortel Select.]

change ip-services

Page1 of 4

IP SERVICES

Service Type	Enabled	Local Node	Local Port	Remote Node	Remote Port
AESVCS	y	procr	8765		
CDR1		procr	0	isi	9000
CDR2		procr	0	rdtt-1	9001

On **Page 3** of the ip-services form, 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 Message	Connect Cntr	SPDU Cntr	Connectivity Timer
CDR1	y	30		3	3	60
CDR2	v	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.

- **Use Legacy CDR Formats?:** “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:** “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.]
- **Call Account Code Length:** “6” [The length may be set to a value between 1 and 15. However, during the compliance test, “6” was used.]

change system-parameters cdr		Page 1 of 2
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: unformatted	Secondary Output Endpoint: CDR2	
Use ISDN Layouts? n	Enable CDR Storage on Disk? y	
Use Enhanced Formats? n	Condition Code 'T' For Redirected Calls? n	
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? n	Outg Attd Call Record? n	
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? y	
Record Agent ID on Incoming? y	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: 6	

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 **Assigned Members** field, enter the specific extensions whose usage will be tracked.

***Note4:** To simplify the process of adding multiple extensions in the **Assigned Members** field, the **Intra-switch CDR by COS (SA8202)** feature may be enabled on the **system-parameters special applications** form. To enable this feature, contact an authorized Avaya account representative to obtain the license.*

change intra-switch-cdr		Page 1 of 3	
INTRA-SWITCH CDR			
Extension	Extension	Assigned Members: 9	of 1000 administered
72001		Extension	Extension
72002			
72003			

5.2. Configure IP Network Region

This section describes the steps for administering an IP network region in Communication Manager for communication between Communication Manager and Session Manager. Enter the **change ip-network-region <n>** command, where **<n>** is a number between **1** and **250** inclusive, and configure the following:

- **Authoritative Domain** – Enter the appropriate name for the Authoritative Domain. Set to the appropriate domain. During the compliance test, the authoritative domain is set to “avaya.com”.
- **Codec Set** – Set the codec set number as provisioned in the **IP Codec Set** form. The form can be retrieved and set, using the **change ip-codec-set 1** command.

change ip-network-region 1		Page 1 of 20	
IP NETWORK REGION			
Region: 1			
Location:		Authoritative Domain: avaya.com	
Name:			
MEDIA PARAMETERS		Intra-region IP-IP Direct Audio: yes	
Codec Set: 1		Inter-region IP-IP Direct Audio: yes	
UDP Port Min: 2048		IP Audio Hairpinning? n	
UDP Port Max: 3329			
DIFFSERV/TOS PARAMETERS			
Call Control PHB Value: 46			
Audio PHB Value: 46			
Video PHB Value: 26			
802.1P/Q PARAMETERS			
Call Control 802.1p Priority: 6			
Audio 802.1p Priority: 6			
Video 802.1p Priority: 5			
H.323 IP ENDPOINTS		AUDIO RESOURCE RESERVATION PARAMETERS	
H.323 Link Bounce Recovery? y		RSVP Enabled? n	
Idle Traffic Interval (sec): 20			
Keep-Alive Interval (sec): 5			
Keep-Alive Count: 5			

5.3. Configure IP Node Name

This section describes the steps for setting IP node name for Session Manager in Communication Manager. Enter the **change node-names ip** command, and add a node name for “SM-1” (Session Manager) along with its IP address.

change node-names ip		Page 1 of 2
IP NODE NAMES		
Name	IP Address	
Infortel	10.64.43.249	
default	0.0.0.0	
procr	10.64.41.21	
procr6	::	
rdtt	10.64.40.14	
SM-1	10.64.41.42	

5.4. Configure SIP Signaling

This section describes the steps for administering a signaling group in Communication Manager for signaling between Communication Manager and Session Manager. Enter the **add signaling-group <s>** command, where <s> is an available signaling group and configure the following:

- **Group Type** – Set to “sip”.
- **Transport Method** – Set to “tls”.
- **Near-end Node Name** - Set to “procr” as displayed in **Section 5.3**.
- **Far-end Node Name** - Set to “SM-1” as configured in **Section 5.3**.
- **Far-end Network Region** - Set to the region configured in **Section 5.2**.
- **Far-end Domain** - Set to “avaya.com”. This should match the Domain value in **Section 5.2**.
- **Direct IP-IP-Audio Connections**: Set to “y”

add signaling-group 92		Page 1 of 1
SIGNALING GROUP		
Group Number: 92	Group Type: sip	
IMS Enabled? n	Transport Method: tls	
Q-SIP? n		SIP Enabled LSP? n
IP Video? n		Enforce SIPS URI for SRTP? y
Peer Detection Enabled? y	Peer Server: SM	
Near-end Node Name: procr	Far-end Node Name: SM-1	
Near-end Listen Port: 5061	Far-end Listen Port: 5061	
	Far-end Network Region: 1	
Far-end Domain: avaya.com		
Incoming Dialog Loopbacks: eliminate	Bypass If IP Threshold Exceeded? n	
DTMF over IP: rtp-payload	RFC 3389 Comfort Noise? n	
Session Establishment Timer(min): 3	Direct IP-IP Audio Connections? y	
Enable Layer 3 Test? y	IP Audio Hairpinning? n	
H.323 Station Outgoing Direct Media? n	Initial IP-IP Direct Media? n	
	Alternate Route Timer(sec): 3	

5.5. Configure SIP Trunk

This section describes the steps for administering a trunk group in Communication Manager for trunking between Communication Manager and Session Manager. Enter the **add trunk-group** <t> command, where <t> is an unallocated trunk group and configure the following:

- **Group Type** – Set the Group Type field to “sip”.
- **Group Name** – Enter a descriptive name.
- **TAC (Trunk Access Code)** – Set to any available trunk access code.
- **Signaling Group** – Set to the Group Number field value configured in **Section 5.4**.
- **Number of Members** – Allowed value is between 0 and 255. Set to a value large enough to accommodate the number of SIP telephone extensions being used.

```
add trunk-group 92                                     Page 1 of 21
                                     TRUNK GROUP
Group Number: 92                                     Group Type: sip          CDR Reports: y
Group Name: SM_41_42                                COR: 1                TN: 1          TAC: 1092
Direction: two-way                                Outgoing Display? n
Dial Access? n                                    Night Service:
Queue Length: 0
Service Type: tie                                Auth Code? n
                                                Member Assignment Method: auto
                                                Signaling Group: 92
                                                Number of Members: 10
```

5.6. Configure Uniform Dial Plan

This section describes the steps for administering a uniform dial plan in Communication Manager. Enter **change uniform-dialplan** <u>, where <u> is the uniform-dialplan digit. The following screen shows the Uniform Dial Plan configuration. The 5-digit extension range starting with 2 was used for the Avaya S8720 Servers side telephones, and utilized **aar** (Automatic Alternate Routing) for routing.

```
change uniform-dialplan 2                             Page 1 of 2
                                     UNIFORM DIAL PLAN TABLE
                                     Percent Full: 0

Matching      Len Del      Insert      Net Conv      Node
Pattern                               Digits
2             5   0             aar   n
```

5.7. Configure Automatic Alternate Routing

Enter **change aar analysis <a>**, where <a> is the AAR number. Automatic Alternate Routing (AAR) was used to route calls to the appropriate route pattern. The 5-digit extension range starting with **22** was mapped to route pattern 11. 22xxx extensions are H.323 IP phones in S8720. To call these H.323 IP phones from the S8300D Server, utilizes the route pattern 11 which corresponds to an ISDN/PRI trunk. On the other hand, to call the 5-digit extension range starting with 28 the route pattern 92 was used. 28xxx extensions are SIP IP phones in S8720 registered to SIP Enablement Services. To call these SIP IP phones from S8300D Server, utilizes the route pattern 92 which corresponds to a SIP trunk.

change aar analysis 2							Page 1 of 2
AAR DIGIT ANALYSIS TABLE							
Location: all							Percent Full: 3
Dialed String	Total Min	Total Max	Route Pattern	Call Type	Node Num	ANI Req'd	
20004	5	5	91	unku		n	
22	5	5	11	aar		n	
28	5	5	92	aar		n	
33	5	5	91	unku		n	
415	10	10	92	aar		n	
50000	5	5	92	unku		n	
53005	5	5	91	unku		n	

5.8. Configure Route Pattern

Enter **change route-pattern <r>**, where <r> is the route-pattern number. The route pattern 92 routes SIP calls to the trunk group 92, which is the SIP trunk to Session Manager.

change route-pattern 92														Page 1 of 3		
Pattern Number: 210 Pattern Name: SIP-to-SM																
SCCAN? n Secure SIP? n																
Grp	FRL	NPA	Pfx	Hop	Toll	No.	Inserted									DCS/ IXC
No			Mrk	Lmt	List	Del	Digits									QSIG
														Intw		
1: 92 0														n	user	
2:														n	user	
3:														n	user	
BCC VALUE		TSC	CA-TSC		ITC		BCIE	Service/Feature			PARM	No.	Numbering	LAR		
0 1 2 M 4 W			Request									Dgts	Format			
														Subaddress		
1:	y	y	y	y	y	n	n	rest						none		
2:	y	y	y	y	y	n	n	rest						none		
3:	y	y	y	y	y	n	n	rest						none		

5.9. Configure Off-PBX-Telephone Configuration-Set

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

However, the **off-pbx-telephone configuration-set** form needs to be modified. Enter the **change off-pbx-telephone configuration-set** command and set the **CDR for Calls to EC500 Destination?** field to “n”.

```
change off-pbx-telephone configuration-set 2                                     Page 1 of 1
```



```
                                CONFIGURATION SET: 2
```



```
                                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
```

6. Configure Avaya Aura[®] Session Manager

This section provides the procedures for configuring SIP users in Session Manager as provisioned in the reference configuration. All SIP endpoint provisioning for Session Manager is performed through System Manager Web interface and is then downloaded into Session Manager.

It is assumed that Session Manager and System Manager have been installed, network connectivity exists between the two platforms, and following topics are already configured:

- **SIP Domains**
- **Locations**
- **SIP Entities**
- **Entity Links**
- **Time Ranges**
- **Routing Policy**
- **Dial Patterns**
- **Manage Element**
- **Applications**
- **Application Sequence**

This section only discusses the User Management process to add SIP users that will be used during the compliance test.

6.1. Configure SIP Users

Launch a web browser, enter <http://<IP address of System Manager>> in the URL, and log in with the appropriate credentials.

AVAYA Avaya Aura® System Manager 6.3 Last Logged on at May 10, 2013 10:57 AM
Help | About | Change Password | **Log off**
admin

Users	Elements	Services
Administrators Manage Administrative Users	B5800 Branch Gateway Manage B5800 Branch Gateway 6.2 elements	Backup and Restore Backup and restore System Manager database
Directory Synchronization Synchronize users with the enterprise directory	Communication Manager Manage Communication Manager 5.0 and higher elements	Bulk Import and Export Manage Bulk Import and Export of Users, User Global Settings, Roles, Elements and others
Groups & Roles Manage groups, roles and assign roles to users	Communication Server 1000 Manage Communication Server 1000 elements	Configurations Manage system wide configurations
User Management Manage users, shared user resources and provision users	Conferencing Manage Conferencing Multimedia Server objects	Events Manage alarms, view and harvest logs
	Inventory Manage, discover, and navigate to elements, update element software	Geographic Redundancy Manage Geographic Redundancy
	Meeting Exchange Manage Meeting Exchange and Avaya Aura Conferencing 6.0 elements	Licenses View and configure licenses
	Messaging Manage Avaya Aura Messaging, Communication Manager Messaging, and Modular Messaging	Replication Track data replication nodes, repair replication nodes
	Presence Presence	Scheduler Schedule, track, cancel, update and delete jobs
	Routing Session Manager Routing Administration	Security Manage Security Certificates
	Session Manager Session Manager Administration, Status, Maintenance and Performance Management	Shutdown Shutdown System Manager Gracefully
		Templates Manage Templates for Messaging System objects

During the compliance test, no special users were created for this solution. All users were created prior to the compliance test. However, steps to configure a user are included.

When adding a new SIP user, use the option to automatically generate the SIP station in Communication Manager once the user is added.

To add new SIP users, Navigate to **Home → Users → User management → Manage Users**. Click **New** (not shown) and provide the following information:

- Identity section
 - **Last Name** – Enter last name of user.
 - **First Name** – Enter first name of user.

- **Login Name** – Enter “extension number@sip domain”. The sip domain is defined as Authoritative Domain in **Section 5.2**.
- **Authentication Type** – Verify that “Basic” is selected.

AVAYA Avaya Aura® System Manager 6.3 Last Logged on at May 10, 2013 10:57 AM
Help | About | Change Password | [Log off admin](#)

[User Management](#) * [Home](#)

Home / Users / User Management / Manage Users [Help ?](#)

New User Profile [Commit & Continue](#) [Commit](#) [Cancel](#)

Identity * **Communication Profile** * **Membership** **Contacts**

Identity ▼

* **Last Name:** 72021

* **First Name:** 72021

Middle Name:

Description:

* **Login Name:** 72021@avaya.com

* **Authentication Type:** Basic

Password:

Confirm Password:

Localized Display Name: SIP-1

Endpoint Display Name: SIP-1

Title:

Language Preference: English (United States)

Time Zone: (-6:0)Mountain Time (US & C:)

Employee ID:

Department:

Company:

- Communication Profile section
 - **Communication Profile Password** – Enter a numeric value used to logon to SIP telephone.
 - **Confirm Password** – Repeat numeric password
 - Verify that there is a default entry identified as the **Primary** profile for the new SIP user. If an entry does not exist, select **New** and enter values for the following required attributes:
 - **Name** – Enter “Primary”.
 - **Default** – Check the checkbox.

The screenshot displays the Avaya Aura System Manager 6.3 web interface. The top navigation bar includes the Avaya logo, the title 'Avaya Aura® System Manager 6.3', and a user status bar indicating 'Last Logged on at May 10, 2013 10:57 AM' with links for 'Help', 'About', 'Change Password', and 'Log off admin'. The left sidebar shows a 'User Management' menu with options like 'Manage Users', 'Public Contacts', 'Shared Addresses', and 'System Presence ACLs'. The main content area is titled 'New User Profile' and features a breadcrumb trail 'Home / Users / User Management / Manage Users'. The 'Communication Profile' tab is selected, showing fields for 'Communication Profile Password' and 'Confirm Password', both masked with dots. Below these fields are buttons for 'New', 'Delete', 'Done', and 'Cancel'. A table lists the available profiles, with 'Primary' selected. Below the table, the 'Name' field is set to 'Primary' and the 'Default' checkbox is checked.

- Communication Address sub-section

Select **New** to define a **Communication Address** for the new SIP user, and provide the following information.

- **Type** – Select “Avaya SIP” using drop-down menu.
- **Fully Qualified Address** – Enter the same extension number and domain used for **Login Name**, configured previously.

Click the **Add** button to save the Communication Address for the new SIP user.

- Session Manager Profile sub-section

- **Primary Session Manager** – Select one of the Session Managers from the drop down list.
- **Origination Application Sequence** – Select Application Sequence for Communication Manager from the drop down list.
- **Termination Application Sequence** – Select Application Sequence for Communication Manager from the drop down list.
- **Home Location** – Select a location already defined in the **Location** form.

- CM Endpoint Profile sub-section
 - **System** – Select the Managed Element corresponding to Communication Manager, using the drop down menu.
 - **Profile Type** – Select “Endpoint”, using the drop down menu.
 - **Use Existing Endpoints** - Leave unchecked to automatically create a new endpoint when a new user is created. Or else, check the box if endpoint is already defined in Communication Manager.
 - **Extension** - Enter the extension number used in this section.
 - **Template** – Select template for type of SIP phone, using the drop down menu
 - **Security Code** – Enter numeric value used to logon to SIP telephone.
 - **Port** – Verify “IP” is shown for this field.
 - **Voice Mail Number** – Enter **Pilot Number** for the voicemail system if one is installed. Or else, leave field blank. This feature is not used during the compliance test.
 - **Delete Endpoint on Unassign of Endpoint from User or on Delete User** – Check the box to automatically delete the station when Endpoint Profile is unassigned from the user.

☒ **CM Endpoint Profile**

* **System** Element-S8300D

* **Profile Type** Endpoint

Use Existing Endpoints ☐

* **Extension** 72021 Endpoint Editor

* **Template** 9620SIP_DEFAULT_CM_6_2

Set Type 9620SIP

Security Code •••••

Port IP

Voice Mail Number

Preferred Handle (None)

Enhanced Callr-Info display for 1-line phones ☐

Delete Endpoint on Unassign of Endpoint from User or on Delete User ☒

Override Endpoint Name ☒

Click **Commit** (not shown) to save the definition of the new user.

The following screen shows the users created during the compliance test.

AVAYA

Avaya Aura® System Manager 6.3

Last Logged on at May 10, 2013 10:57 AM
[Help](#) | [About](#) | [Change Password](#) | [Log off admin](#)

User Management × Home

User ManagementManage UsersPublic ContactsShared AddressesSystem Presence ACLs

Home / Users / User Management / Manage UsersHelp ?

User Management

Users

[View](#) [Edit](#) [New](#) [Duplicate](#) [Delete](#) [More Actions](#)

[Advanced Search](#)

10 Items Refresh Show ALL Filter: Enable

<input type="checkbox"/>	Last Name	First Name	Display Name	Login Name	E164 Handle	Last Login
<input type="checkbox"/>	admin	admin	Default Administrator	admin		May 15, 2013 9:39:42 AM -06:00
<input type="checkbox"/>	72041	72041	Flare-1	72041@avaya.com		
<input type="checkbox"/>	72042	72042	Flare-2	72042@avaya.com		
<input type="checkbox"/>	72021	72021	SIP-1	72021@avaya.com		
<input type="checkbox"/>	72023	72023	SIP-3	72023@avaya.com		
<input type="checkbox"/>	72027	72027	SIP-7	72027@avaya.com		

Select : All, None

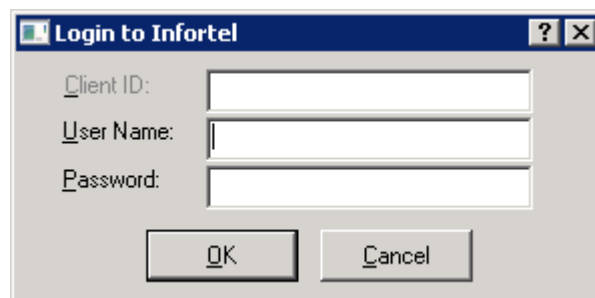
7. Configure Infortel Select

This section describes the operation of Infortel Select to receive CDR data from Communication Manager. In this section, the following topics are discussed:

- Configure ISI Infortel Select
- Start ISI Infortel Select services
- View ISI Infortel Select CDR report

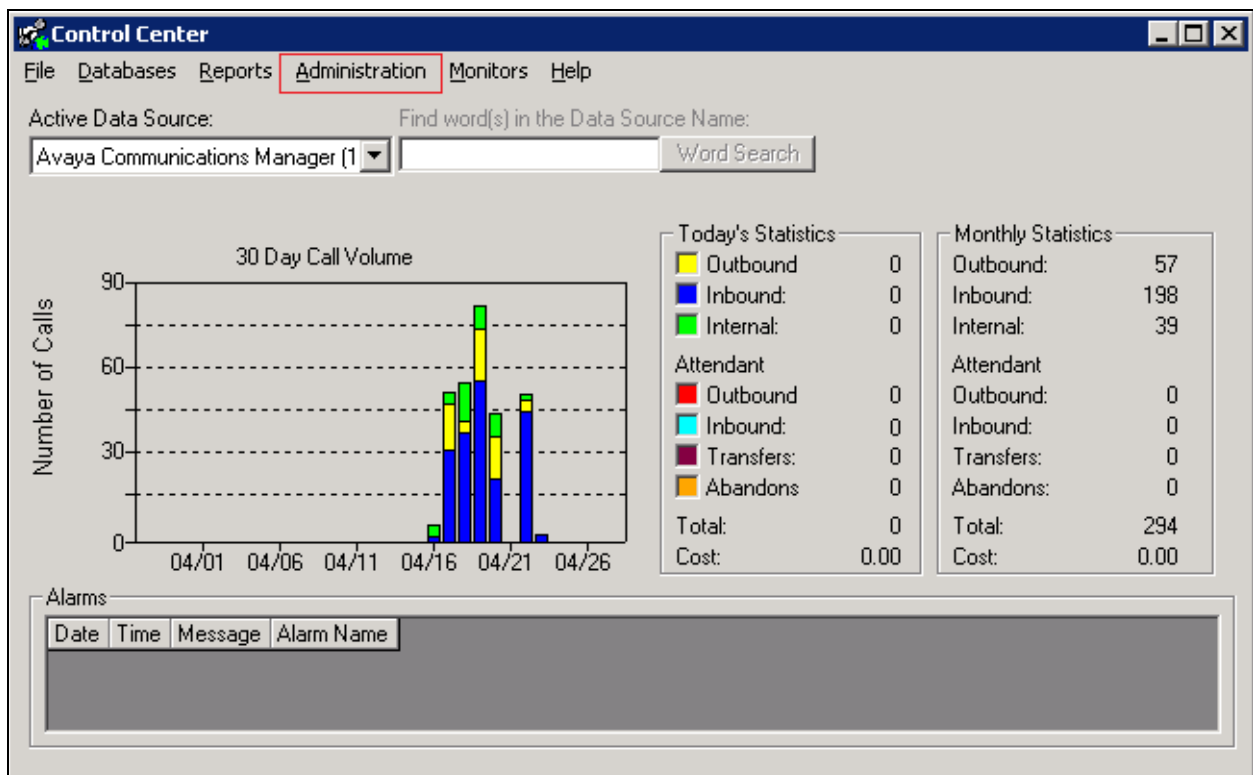
7.1. Configure ISI Infortel Select

To configure Infortel Select to communicate with Communication Manager, navigate to **Start** → **Control Center**, and provide credentials to log into the **Control Center** page.

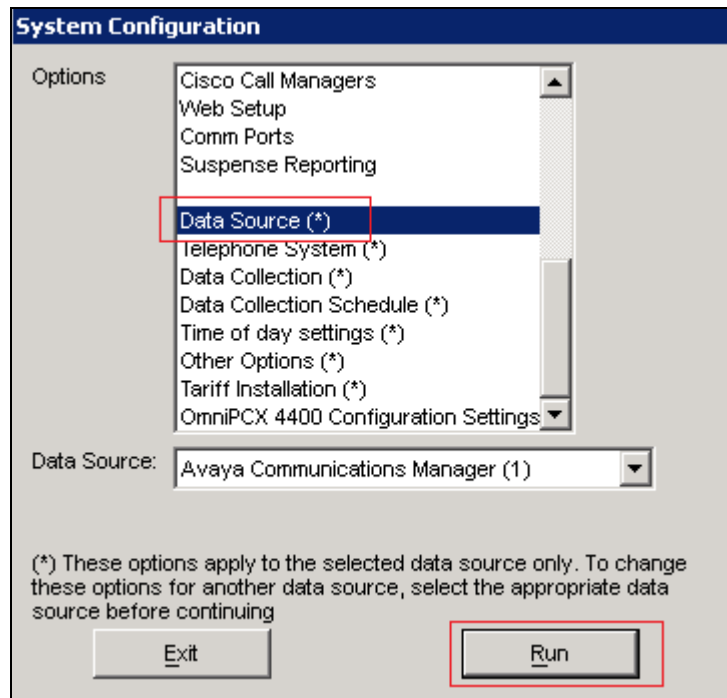


A dialog box titled "Login to Infortel" with a question mark icon and a close button. It contains three input fields: "Client ID:", "User Name:", and "Password:". Below the fields are two buttons: "OK" and "Cancel".

From the **Control Center** page, select **Administration** → **System Configuration Options**.

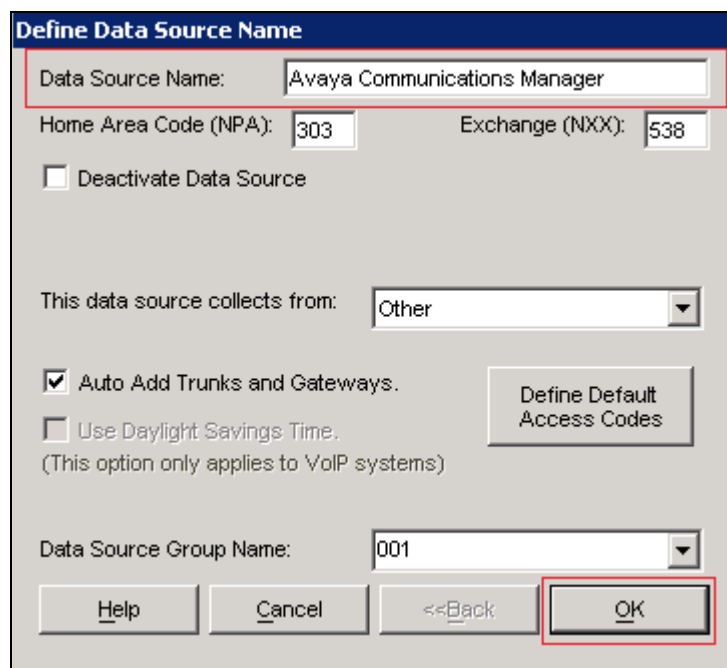


From the **System Configuration** page, scroll down and select **Date Source (*)** and click on the **Run** button.



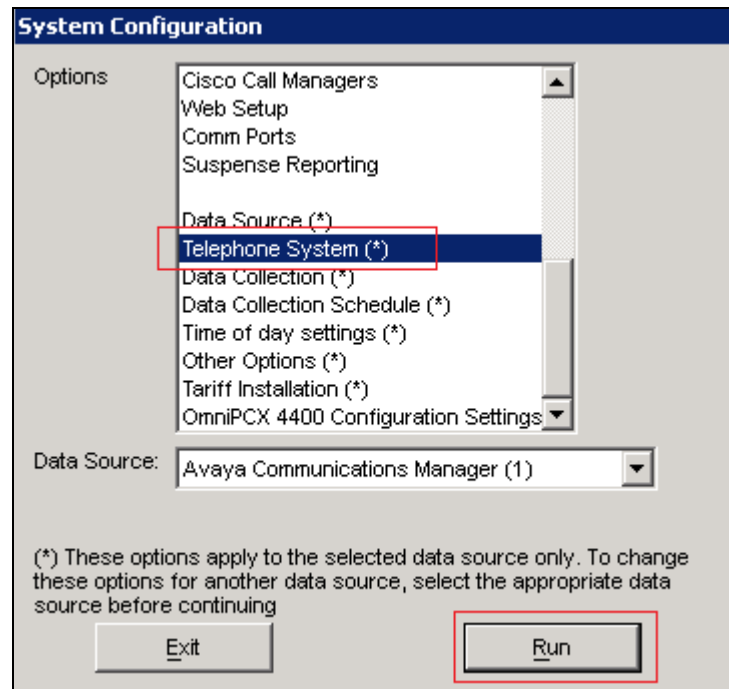
The 'System Configuration' dialog box features a list of options on the right side. The 'Data Source (*)' option is highlighted with a blue background and enclosed in a red rectangular box. Below the list, the 'Data Source:' dropdown menu is set to 'Avaya Communications Manager (1)'. At the bottom, there are two buttons: 'Exit' on the left and 'Run' on the right, with the 'Run' button also enclosed in a red rectangular box. A note at the bottom states: '(*) These options apply to the selected data source only. To change these options for another data source, select the appropriate data source before continuing.'

Enter a descriptive **Data Source Name** and click on **OK**.

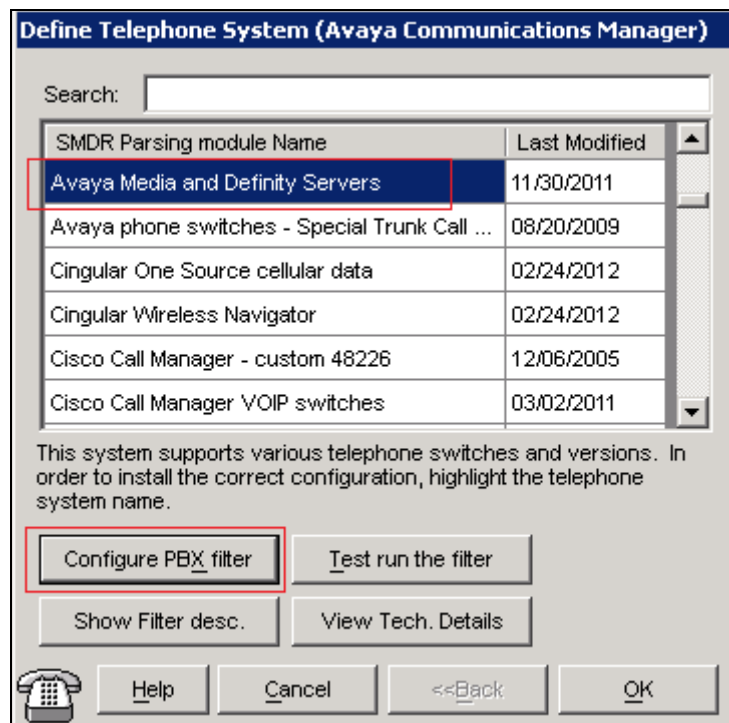


The 'Define Data Source Name' dialog box contains several input fields and checkboxes. The 'Data Source Name:' field is filled with 'Avaya Communications Manager' and is enclosed in a red rectangular box. Below it, 'Home Area Code (NPA):' is set to '303' and 'Exchange (NXX):' is set to '538'. There is an unchecked checkbox for 'Deactivate Data Source'. A dropdown menu for 'This data source collects from:' is set to 'Other'. There are two checked checkboxes: 'Auto Add Trunks and Gateways.' and 'Use Daylight Savings Time.' (with a note that this option only applies to VoIP systems). A 'Define Default Access Codes' button is located to the right of these checkboxes. The 'Data Source Group Name:' dropdown is set to '001'. At the bottom, there are four buttons: 'Help', 'Cancel', '<<Back', and 'OK', with the 'OK' button enclosed in a red rectangular box.

From the **System Configuration** page, scroll down and select **Telephone System (*)**.and click on the **Run** button.



Select **Avaya Media and Definity Servers** under the **SMDR Parsing module Name** page. Click on the **Configure PBX filter** tab to configure the CDR format type.



Select **CDR format** type on the **Avaya Switch Setup** page, and click on the OK button. During the compliance test, **Unformatted V4** was used.

The image shows a screenshot of the 'Avaya Switch Setup' dialog box. The 'CDR Format' section is highlighted with a red box, showing 'Select CDR Format: Unformatted V4' and 'Select Date Format: No Date Stamp in the data record [] (None)'. Below this, there are radio buttons for 'US Date (MM/dd/yyyy)', 'International Date (dd/MM/yyyy)', 'Std. Duration Format (HMMT)', and 'Special Duration Format (SSSSS)'. The 'Processing Options' section contains several checkboxes, with 'Inbound Trunk Group, change the call type from a Trunk To Trunk call to an Outbound call.' checked. The 'Replace Characters' section has a table with columns 'Field Name', 'Search for', 'Replace with', and 'When call type is'. At the bottom, there are 'Add Row' and 'Delete Row' buttons, and a red box around the 'OK' button.

Avaya Switch Setup

CDR Format

Select CDR Format: Unformatted V4

Select Date Format: No Date Stamp in the data record [] (None)

☒ US Date (MM/dd/yyyy) ☐ International Date (dd/MM/yyyy)

☒ Std. Duration Format (HMMT) ☐ Special Duration Format (SSSSS)

Processing Options

☐ Use Feature Flag plus Duration to emulate Answer Supervision.

☒ Trunk to Trunk Calls: When Trunk To Trunk calls have no Inbound Trunk Group, change the call type from a Trunk To Trunk call to an Outbound call.

☐ Support 2007 Daylight Savings Time period change.

☐ Prepend Digits Dialed with Access Code

☐ Strip leading spaces from data record

Specify minimum number of ANI/CallerID digits to store (or leave blank to store all).

Specify maximum number of digits for a valid extension.

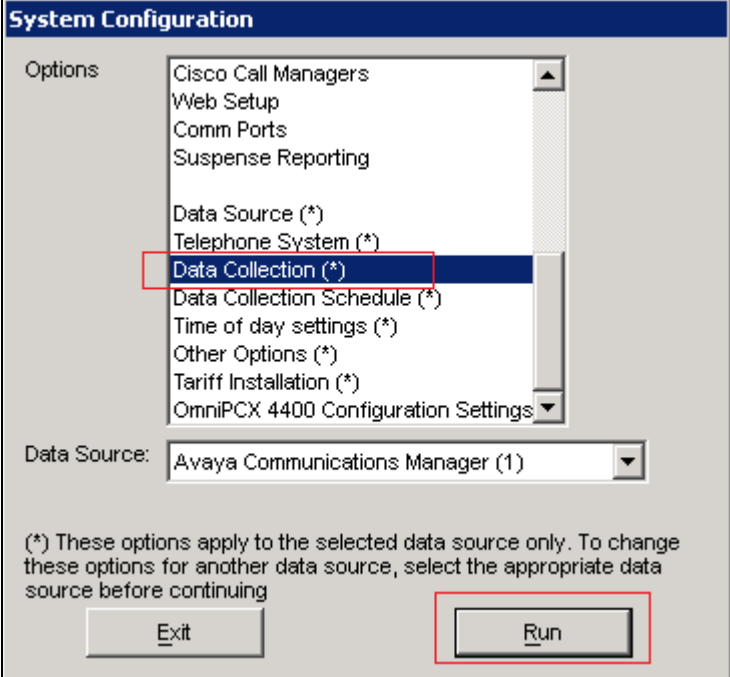
Replace Characters

Field Name	Search for	Replace with	When call type is
------------	------------	--------------	-------------------

Add Row Delete Row

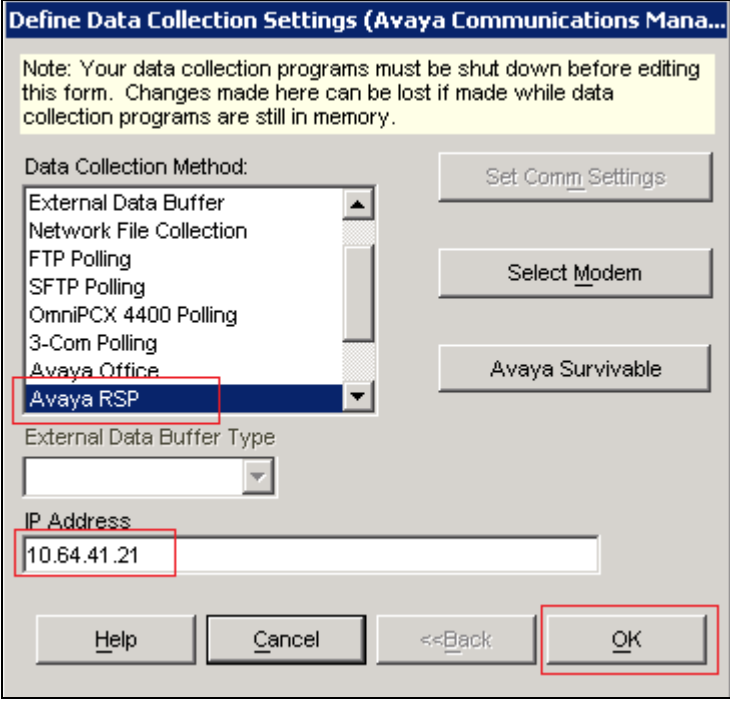
Cancel OK

Select **Data Collection (*)** on the **System Configuration** page, and click on **Run**.



The 'System Configuration' dialog box features a list of options on the left. 'Data Collection (*)' is highlighted with a red box. Below the list, the 'Data Source' is set to 'Avaya Communications Manager (1)'. At the bottom, the 'Run' button is highlighted with a red box. A note at the bottom states: '(*) These options apply to the selected data source only. To change these options for another data source, select the appropriate data source before continuing'.

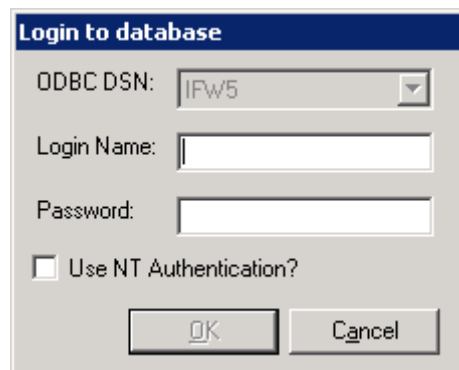
Select **Avaya RSP** under the **Data Collection Method** section, and provide the **IP address** that CDR records are coming from, in this case, the IP address of **procr**. Click on **OK**.



The 'Define Data Collection Settings (Avaya Communications Mana...)' dialog box contains a 'Data Collection Method' list where 'Avaya RSP' is selected and highlighted with a red box. To the right are buttons for 'Set Comm Settings', 'Select Modem', and 'Avaya Survivable'. Below the list is an 'External Data Buffer Type' dropdown. The 'IP Address' field is highlighted with a red box and contains the text '10.64.41.21'. At the bottom, the 'OK' button is highlighted with a red box. A note at the top states: 'Note: Your data collection programs must be shut down before editing this form. Changes made here can be lost if made while data collection programs are still in memory.'

7.2. Start ISI Infortel Select Services

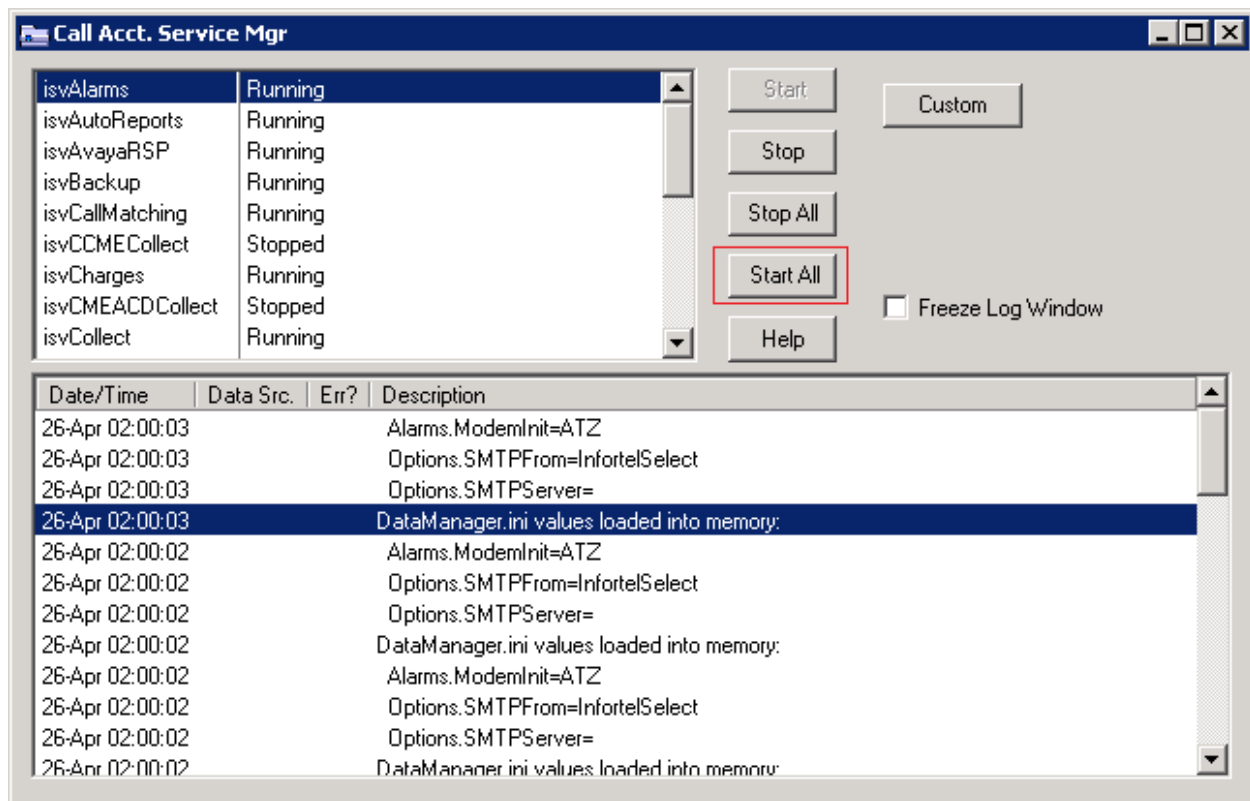
Start the Infortel Select services by navigating to **Start → Manage Background Services**. Provide the same credential, used previously in **Section 7.1**.



A dialog box titled "Login to database" with a blue header bar. It contains the following fields and controls:

- ODBC DSN: A dropdown menu with "IFW5" selected.
- Login Name: A text input field.
- Password: A text input field.
- Use NT Authentication?: A checkbox that is currently unchecked.
- OK and Cancel buttons at the bottom.

Click the **Start All** button on the **Call Acct. Service Mgr** page



A window titled "Call Acct. Service Mgr" with a blue header bar. It contains a list of services and their status, control buttons, and a log window.

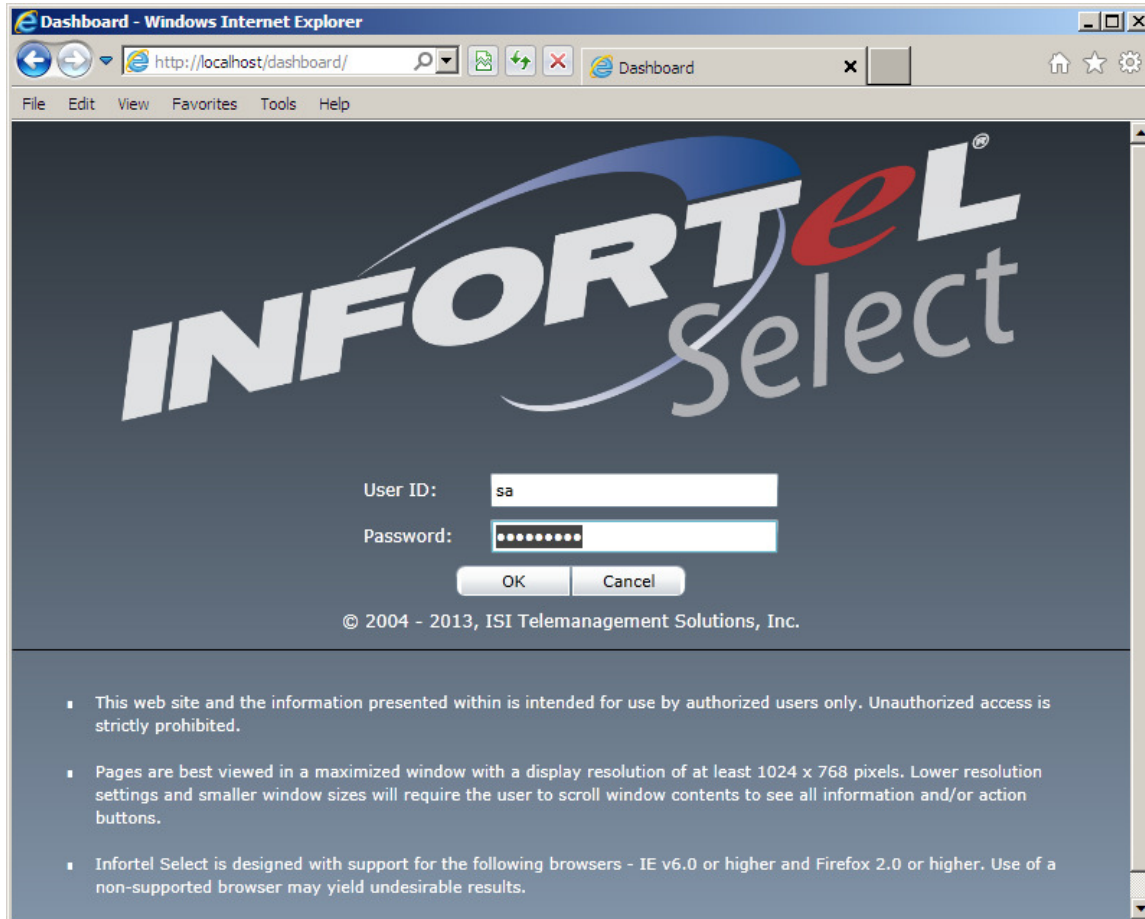
Service	Status
isvAlarms	Running
isvAutoReports	Running
isvAvayaRSP	Running
isvBackup	Running
isvCallMatching	Running
isvCCMECollect	Stopped
isvCharges	Running
isvCMEACDCollect	Stopped
isvCollect	Running

Buttons: Start, Stop, Stop All, **Start All** (highlighted with a red box), Help, Custom, Freeze Log Window (checkbox).

Date/Time	Data Src.	Err?	Description
26-Apr 02:00:03			Alarms.ModemInit=ATZ
26-Apr 02:00:03			Options.SMTPFrom=InfortelSelect
26-Apr 02:00:03			Options.SMTPServer=
26-Apr 02:00:03			DataManager.ini values loaded into memory:
26-Apr 02:00:02			Alarms.ModemInit=ATZ
26-Apr 02:00:02			Options.SMTPFrom=InfortelSelect
26-Apr 02:00:02			Options.SMTPServer=
26-Apr 02:00:02			DataManager.ini values loaded into memory:
26-Apr 02:00:02			Alarms.ModemInit=ATZ
26-Apr 02:00:02			Options.SMTPFrom=InfortelSelect
26-Apr 02:00:02			Options.SMTPServer=
26-Apr 02:00:02			DataManager.ini values loaded into memory:

7.3. View ISI Infortel Select Report

To view the CDR report, launch a web browser. Enter <http://<IP address of ISI Infortel Select>/dashboard> in the URL, and log in with appropriate credentials.



The screenshot shows a Windows Internet Explorer browser window titled "Dashboard - Windows Internet Explorer". The address bar displays "http://localhost/dashboard/". The main content area features the "INFORTel Select" logo, with "INFORTel" in a large, bold, white font and "Select" in a smaller, grey font. Below the logo, there are two input fields: "User ID:" with the text "sa" entered, and "Password:" with a masked password represented by dots. Below these fields are "OK" and "Cancel" buttons. At the bottom of the page, there is a copyright notice: "© 2004 - 2013, ISI Telemanagement Solutions, Inc." and a list of three bullet points providing additional information about the website's intended use, recommended display resolution, and supported browsers.

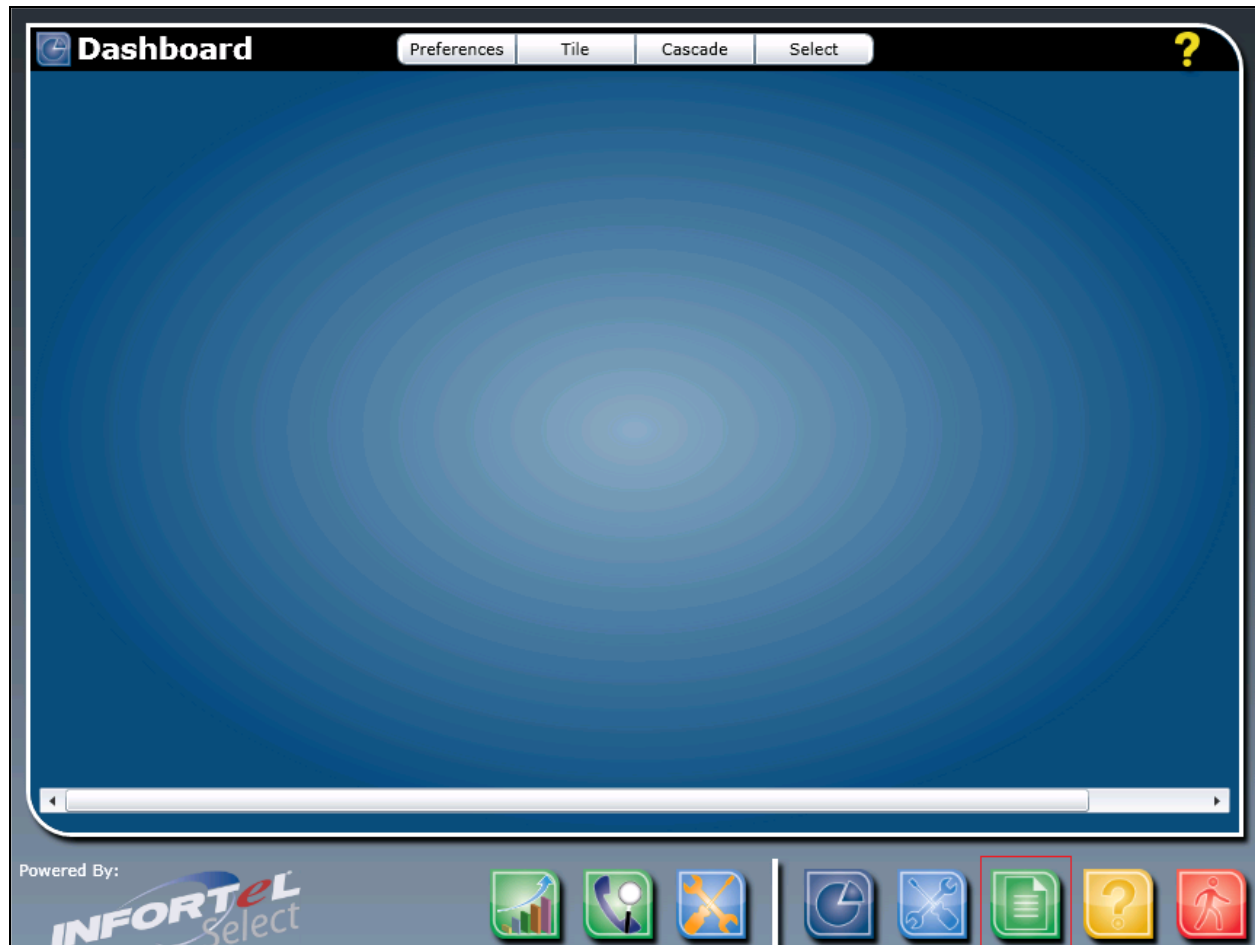
User ID:

Password:

© 2004 - 2013, ISI Telemanagement Solutions, Inc.

- This web site and the information presented within is intended for use by authorized users only. Unauthorized access is strictly prohibited.
- Pages are best viewed in a maximized window with a display resolution of at least 1024 x 768 pixels. Lower resolution settings and smaller window sizes will require the user to scroll window contents to see all information and/or action buttons.
- Infortel Select is designed with support for the following browsers - IE v6.0 or higher and Firefox 2.0 or higher. Use of a non-supported browser may yield undesirable results.

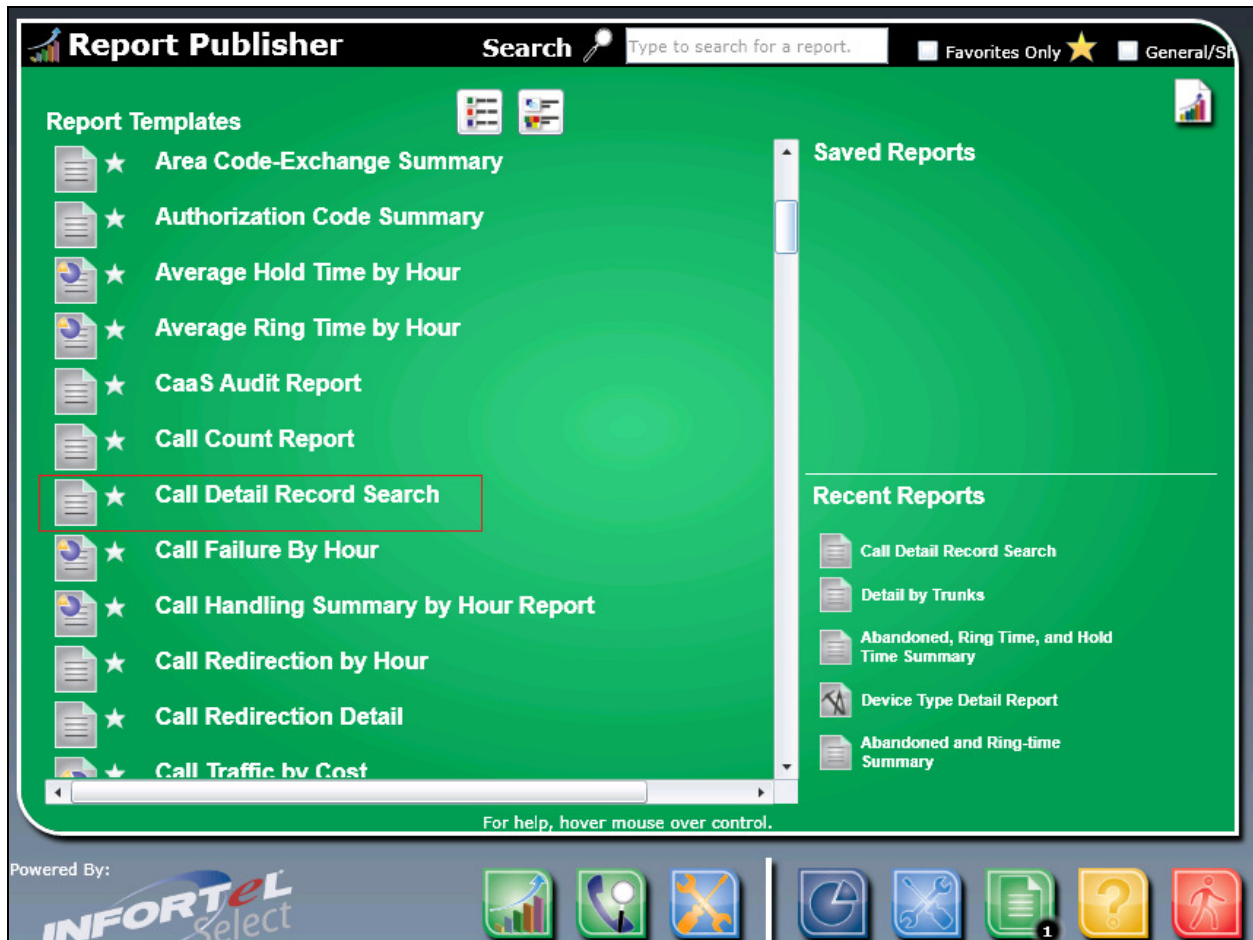
From the **Dashboard** page, select **Report/Exports** icon at the bottom of the screen.



Select **Report Publisher** on the **Report/Exports** page.



Select **Call Detail Record Search** on the **Report Publisher** page.



On the **Execute/Define Reports** page, enter the specific date or dates to list call detail data. Click the **Run Now** button at the top and select the review type, either **Preview PDF** or **Preview HTML**.

The screenshot shows the 'Execute/Define Reports' web interface. At the top, there's a title bar with 'Execute/Define Reports' and buttons for 'Run Now' and 'Save Settings'. Below this, a dropdown menu is open, showing 'Preview PDF' and 'Preview HTML' options. The main content area is titled 'Report Template: Call Detail Record Search' and has tabs for 'Required Constraints', 'Additional Constraints', 'Options', 'Layout', 'Email', 'Export', and 'Schedule'. The 'Required Constraints' tab is active, showing a section for 'Data available from 4/16/2013 to 4/23/2013'. Under the 'Date' section, the 'Specific' radio button is selected, with 'From' and 'To' date pickers both set to 4/17/2013. There is also an 'Exclude Weekends' checkbox. Under the 'Time' section, the 'Continuous' radio button is selected, with 'Start time on first day' set to 12:00 AM and 'End time on last day' set to 11:59 PM. A description box states: 'Description: Individual call records sorted by phone number, date/time, call type, duration or cost.' At the bottom, there's a footer with the ISI logo and a row of icons for various functions like charts, phone, tools, calendar, and help.

The following screen shows the final report that was generated on a specific date.

Avaya Test								
Call Detail Search								
From 04/17/2013 through 04/17/2013								
Call Source	Ext	Date	Time	Duration	Call Cost Type	Facility	Phone Number Location	Account/Master
Avaya Comm (T)	72002	04/17/2013	09:38	0:00:12	0:00 INT	DEFAULT	72003 INTERNAL	
Avaya Comm (T)	72002	04/17/2013	09:39	0:00:12	0:00 INT	DEFAULT	72021 INTERNAL	
Avaya Comm (T)	72002	04/17/2013	09:39	0:00:12	0:00 INB	DEFAULT	72021 INTERNAL	
Avaya Comm (T)	72022	04/17/2013	09:39	0:00:12	0:00 INB	DEFAULT	72021 INTERNAL	
Avaya Comm (T)	72002	04/17/2013	09:52	0:00:12	0:00 LCL	DEFAULT	22002 DENVER, CO	
Avaya Comm (T)	72002	04/17/2013	09:52	0:00:12	0:00 LCL	DEFAULT	28001 DENVER, CO	
Avaya Comm (T)	72021	04/17/2013	09:53	0:00:12	0:00 LCL	DEFAULT	22002 DENVER, CO	88888
Avaya Comm (T)	1011	04/17/2013	09:53	0:00:12	0:00 INB	DEFAULT	72021 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	09:53	0:00:12	0:00 LCL	DEFAULT	28001 DENVER, CO	88888
Avaya Comm (T)	1092	04/17/2013	09:53	0:00:12	0:00 INB	DEFAULT	72021 INTERNAL	
Avaya Comm (T)	72002	04/17/2013	10:55	0:00:12	0:00 INB	DEFAULT	22002 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	10:56	0:00:12	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72002	04/17/2013	10:56	0:00:12	0:00 INB	DEFAULT	28001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	10:57	0:00:12	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72002	04/17/2013	11:04	0:00:12	0:00 INB	DEFAULT	22001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	11:04	0:00:06	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72002	04/17/2013	11:04	0:00:06	0:00 INB	DEFAULT	28001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	11:05	0:00:06	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72002	04/17/2013	12:25	0:00:06	0:00 INB	DEFAULT	22001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	12:25	0:00:06	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72002	04/17/2013	12:25	0:00:06	0:00 INB	DEFAULT	28001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	12:25	0:00:06	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72002	04/17/2013	12:31	0:00:12	0:00 INB	DEFAULT	22001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	12:31	0:00:06	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72002	04/17/2013	12:32	0:00:06	0:00 INB	DEFAULT	28001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	12:32	0:00:06	0:00 INB	DEFAULT	INBOUND	
Avaya Comm (T)	72021	04/17/2013	12:40	0:00:06	0:00 INB	DEFAULT	22001 INTERNAL	
Avaya Comm (T)	72021	04/17/2013	12:42	0:00:06	0:00 INB	DEFAULT	28001 INTERNAL	
Avaya Comm (T)	72002	04/17/2013	12:45	0:00:12	0:00 LCL	DEFAULT	1-303-536-2324 B ROOMFIELD, CO	
Avaya Comm (T)	72022	04/17/2013	12:45	0:00:12	0:00 LCL	DEFAULT	1-303-536-2324 B ROOMFIELD, CO	88888
Avaya Comm (T)	1080	04/17/2013	12:45	0:00:12	0:00 INB	DEFAULT	72022 INTERNAL	
Avaya Comm (T)	72002	04/17/2013	13:11	0:00:12	0:00 LCL	DEFAULT	22002 DENVER, CO	
Avaya Comm (T)	72002	04/17/2013	13:20	0:00:12	0:00 LCL	DEFAULT	913035362324 ENGLEWOOD, CO	
Avaya Comm (T)	1080	04/17/2013	13:21	0:00:12	0:00 INB	DEFAULT	72022 INTERNAL	
Avaya Comm (T)	1080	04/17/2013	13:24	0:00:12	0:00 INB	DEFAULT	72022 INTERNAL	
Avaya Comm (T)	72022	04/17/2013	13:30	0:00:06	0:00 LCL	DEFAULT	1-303-536-2324 B ROOMFIELD, CO	88888
Avaya Comm (T)	1080	04/17/2013	13:30	0:00:06	0:00 INB	DEFAULT	72022 INTERNAL	
Avaya Comm (T)	72002	04/17/2013	13:38	0:00:06	0:00 LCL	DEFAULT	1-303-536-2324 B ROOMFIELD, CO	
04/25/2013 at 09:34					1		ISI - www.isi-hk.com	

8. Verification Steps

The following steps may be used to verify the configuration:

- Check the CDR status, by running the **status cdr** command in Communication Manager, and verify that the **Link State** is “up” and **Reason Code** is “OK”.

```
status cdr-link
```

CDR LINK STATUS	
Primary	Secondary
Link State: up	down
Number of Retries: 566	
Date & Time: 2013/05/10 15:17:26	2013/05/10 10:46:08
Forward Seq. No: 82	0
Backward Seq. No: 0	0
CDR Buffer % Full: 0.00	0.01
Reason Code: OK	CDR connection is closed

- Make several SIP calls between two Communication Managers, and verify that call records were collected from Infortel Select.

9. Conclusion

These Application Notes describe the procedures for configuring Infortel Select to collect call detail records from Communication Manager. Testing was successful except for the issues noted in **Section 2.2**.

10. References

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

[1] *Administering Avaya Aura® Communication Manager*, Document 03-300509, Issue 7 Release 6.2, December 2012, available at <http://support.avaya.com>.

[2] *Avaya Aura® Communication Manager Feature Description and Implementation*, Document 555-245-205, Release 6.2, December 2012, available at <http://support.avaya.com>.

The Infortel Solution and Product information is available from ISI. Visit <http://www.isi-info.com/solutions/call-accounting-and-reporting/infortel-select>

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