

Avaya Solution & Interoperability Test Lab

Application Notes for Telecommunication Software SAMwin Attendant Console with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager Interconnection via SIP Trunk – Issue 1.0

Abstract

These Application Notes describe the configuration steps required for Telecommunication Software Attendant Console to interoperate with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager. Telecommunication Software SAMwin attendant console communicates with Avaya Aura[®] Session Manager via a SIP trunk. The SAMwin Attendant Console provides attendant operators with the ability to route incoming calls to the intended recipients.

Information in these Application Notes has been obtained through compliance testing and additional technical discussions. Testing was conducted via the DevConnect Program at the Avaya Solution and Interoperability Test Lab.

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1. Introduction

These Application Notes describe the configuration used to enable the Telecommunication Software SAMwin attendant console to interoperate with Avaya Aura[®] Communication Manager and Avaya Aura[®] Session Manager. The SAMwin server operates together with one or more PC-based clients, each of which acts as an attendant console.

When a call is made to the SAMwin server, it provides music-on-hold to the caller until the call is answered by a SAMwin attendant client. The SAMwin attendant console client is a PC application which shows incoming calls on the client display, and allows the attendant operator to answer and redirect calls to the intended called party. Although the tested configuration contained only one SAMwin client, multiple clients can be connected to a single SAMwin server.

2. General Test Approach and Test Results

The compliance testing between SAMwin and Communication Manager was performed manually. The tests were all functional in nature, and no performance testing was done. The test method employed can be described as follows:

- Avaya Aura[®] Communication Manager was configured to support various local IP telephones, as well as a SIP connection to Session Manager.
- The Session Manager was configured to connect to Communication Manager and the SAMwin server via SIP trunk.
- The SAMwin console was configured to connect to SAMwin server.
- The major SAMwin features and functions were verified using both local SIP and H.323 Avaya telephones and endpoints attached to the public switched telephone network (PSTN).

2.1. Interoperability Compliance Testing

The following tests were performed as part of the compliance testing:

- SAMwin's ability to make inbound and outbound basic calls with both local extensions and PSTN endpoints.
- SAMwin's ability to transfer local and external calls to both local and external destinations via supervised and blind transfer.
- SAMwin's ability to initiate conferences and participate in conferences initiated by other extensions.
- SAMwin's ability to correctly send and receive DTMF signals triggered by keypad input.
- SAMwin's ability to serve as the target of call forwarding and call coverage operations.
- The SAMwin server's robustness was tested by verifying its ability to recover from interruptions between the SAMwin server LAN connection and the network.
- SAMwin's ability to service multiple simultaneous callers and participate on long calls.
- The SAMwin server's robustness was further tested by verifying its ability to recover from power interruptions.

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SPOC x/xx/2011	©2011 Avaya Inc. All Rights Reserved.	SAMwin

2.2. Test Results

The tests performed are shown is **Section 2.1**. The following problems were encountered during testing:

- Calls from SIP extension to SAMwin which are transferred to PSTN endpoints do not result in the SIP endpoint display being updated to show the PSTN number after completion of the transfer.
- For calls made from SAMwin to PSTN endpoints, the calling party number is shown as the prefix without the local extension number assigned to SAMwin.

2.3. Support

Support for Avaya is available at: http://avaya.support.com

Support for Telecommunication Software is available at: http://www.telecomsoftware.com/samwin/Home/ServiceSupport/Support

3. Reference Configuration

The following diagram shows the configuration used for compliance testing.



Figure 1: Telecommunication Software Test Configuration

The SAMwin uses a SIP trunk interface to Session Manager and thus does not register individual SIP endpoints.

The endpoint extension numbers used for testing are shown in the following table.

Endpoint	Туре	Extension	PSTN Number
А	Avaya 9640G SIP Phone	2370	+49 111111111 2370
В	Avaya 9640G SIP Phone	2371	+49 111111111 2371
С	Avaya 9640G H.323 Phone	2372	+49 111111111 2372
D	SAMwin Client	2372	+49 111111111 6000
Х	ISDN PSTN Phone		+49 222222 6174
Χ	ISDN PSTN Phone		+49 222222 1234

Table 1: Endpoint Extension Assignment

Some components described within this document use network names defined by a DNS server at address 192.168.200.2 (not shown in above diagram). This server defines the following DNS names used within the "inside" network used within this document:

Item	Hostname	IP
		Addr
System Manager domain0	smgrdom0.aura.dcffm	192.168.150.111
System Manager console	smgrcon.aura.dcffm	192.168.150.112
System Manager server	smgr.aura.dcffm	192.168.150.113
Session Manager server	sm.aura.dcffm	192.168.150.114
Session Manager asset	asset.aura.dcffm	192.168.150.115
Communication Manager domain0	cm1dom0.aura.dcffm	192.168.150.116
Communication Manager console	cm1con.aura.dcffm	192.168.150.117
Communication Manager server	cm1.aura.dcffm	192.168.150.118
G450 Media gateway	cm1gw.aura.dcffm	192.168.150.124
SAMwin Server	samwin.aura.dcffm	192.168.150.131

Table 2: DSN Name Assignment

4. Equipment and Software Validated

Component	Version
Avaya Communication Manager	CM 6.0.1, GA load 510.1,
	00.1.510.1-18857
Avaya Session Manager	SM software 6.1.0.0.610023
Avaya System Manager	System Manager software 6.1.4.0
	Patch 06_01_SP0_r873
Avaya G450 Media Gateway	31.18.1
Avaya MM710AP PRI interface	HW05 / FW021
Avaya 96x0 SIP Phones	2.6.4
Avaya 96x0 SIP Phones	3.1.1
MS Dot Net Framework	3.5.1
Telecommunication Software SAMwin Server	MS Windows Server 2003
Platform	
Telecommunication Software SAMwin Server	5.1.14.3
Telecommunication Software SAMwin Client	MS Windows XP Professional
Platform	
Telecommunication Software SAMwin Client	5.1.14.1

Table 3: Hardware/Software Component Versions

5. Configure Avaya Aura[®] Communication Manager

The configuration and verification operations illustrated in this section were all performed using the Communication Manager System Administration Terminal (SAT).

5.1. Verify system-parameters customer-options

Use the **display system-parameters customer options** command to verify that Communication Manager is configured to meet the minimum requirements to run Telecommunication Software. Those items shown in **bold** indicate required values or minimum capacity requirements. If these are not met in the configuration, please contact an Avaya representative for further assistance.

Parameter	Usage
Maximum Administered SIP Trunks (Page 2)	The number of available licensed SIP trunks must be sufficient to accommodate the number of trunk members assigned to the trunk group used to interface to Session Manager in Figure 8 .

Table 4: System-Parameters Customer-Options Parameters

display system-parameters customer-options		Page	2 of	11
OFIIONAL FEATORES				
IP PORT CAPACITIES		USED		
Maximum Administered H.323 Trunks:	4000	0		
Maximum Concurrently Registered IP Stations:	2400	1		
Maximum Administered Remote Office Trunks:	4000	0		
Maximum Concurrently Registered Remote Office Stations:	2400	0		
Maximum Concurrently Registered IP eCons:	50	0		
Max Concur Registered Unauthenticated H.323 Stations:	100	0		
Maximum Video Capable Stations:	2400	0		
Maximum Video Capable IP Softphones:	0	0		
Maximum Administered SIP Trunks:	4000	10		
Maximum Administered Ad-hoc Video Conferencing Ports:	4000	0		
Maximum Number of DS1 Boards with Echo Cancellation:	80	0		
Maximum TN2501 VAL Boards:	10	0		
Maximum Media Gateway VAL Sources:	50	0		
Maximum TN2602 Boards with 80 VoIP Channels:	128	0		
Maximum TN2602 Boards with 320 VoIP Channels:	128	0		
Maximum Number of Expanded Meet-me Conference Ports:	0			

Figure 2: System-Parameters Customer-Options Screen, Page 2

5.2. Node Names

Use the **change node-names ip** command to configure the node name for the Session Manager SIP trunk.

Parameter	Usage
Name / IP Address	Enter an appropriate name to identify the Session Manager SIP trunk, along with the IP address of the trunk.

Table 5: Node-Names IP Parameters

change node-names ip Page 1 of 2				2	
	IP	NODE	NAMES		
Name	IP Address				
asset	192.168.150.115				
default	0.0.0.0				
procr	192.168.150.118				

Figure 3: Node-Names IP Form

5.3. Dialplan

Use the **change dialplan analysis** command to configure the dial plan using the parameters shown below.

Dialed String	Usage
2	Make an entry for Avaya terminal extensions.
6	Make an entry for SAMwin.
*8	Make an entry for the Trunk Access Code used in the SIP trunk group defined in Figure 8 .

Table 6: Dialplan Analysis Parameters

change dialplan analysis		Page 1 of 12
	DIAL PLAN ANALYSIS TABLE Location: all	Percent Full: 4
Dialed Total Call String Length Type 2 4 ext 6 4 ext *8 4 dac	Dialed Total Call String Length Type	Dialed Total Call String Length Type

Figure 4: Dialplan Analysis Form

5.4. Codec Set

Use the **change ip-codec-set** command to configure the codec set to be used by Communication Manager and SAMwin. This must be compatible with the codec set assigned to SAMwin in **Figure 32**.

```
change ip-codec-set 1

IP Codec Set

Codec Set: 1

Audio Silence Frames Packet

Codec Suppression Per Pkt Size(ms)

1: G.711A n 2 20

2:

3:

4:

5:

6:

7:
```

Figure 5: ip-codec-set Form

Page 1 of

2

5.5. Configure Network Region

Use the **change ip-network-region** command to assign an appropriate domain name an codec set to be used by Communication Manager. This name is also used in **Figure 19**.

```
change ip-network-region 1
                                                                    1 of 20
                                                               Page
                               IP NETWORK REGION
 Region: 1
Location: 1
                Authoritative Domain: aura.dcffm
   Name: local
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
                                     AUDIO RESOURCE RESERVATION PARAMETERS
H.323 IP ENDPOINTS
                                                        RSVP Enabled? n
 H.323 Link Bounce Recovery? y
 Idle Traffic Interval (sec): 20
  Keep-Alive Interval (sec): 5
            Keep-Alive Count: 5
```

Figure 6: IP Network Region Form

5.6. Configure SIP Interface to Session Manager

Use the **add signaling-group** command to configure the Signaling Group parameters for the SIP trunk group. Assign values for this command as shown in the following table.

Parameter	Usage			
Group Type	Enter the Group Type as "sip".			
Near-end Node Name	Enter "procr" to designate the Processor Ethernet interface.			
Near-end Listen Port	Enter "5060".			
Far-end Node Name	Enter the name assigned to the SIP trunk to Session Manager configured in Figure 3 .			
Far-end Listen Port	Enter "5060".			
Far-end Domain Name	Enter the domain name assigned to the network region in Figure 6 .			
Direct IP-IP Connections	Enter "y" to turn on "shuffling".			

Table 7: Signaling-Group Parameters for SIP Interface

add signaling-group 1	Page 1 of 1
SIGNALING	GROUP
Group Number: 1 Group Type:	sip
IMS Enabled? n Transport Method:	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: asset
Far-end Listen Port: 5060	ar-end Network Region: 1
	,
Far-end Domain: aura.dcffm	
	Bypass If IP Threshold Exceeded? n
Incoming Dialog Loopbacks: eliminate	RFC 3389 Comfort Noise? n
DTMF over IP: rtp-payload	Direct IP-IP Audio Connections? y
Session Establishment Timer(min): 3	IP Audio Hairpinning? n
Enable Layer 3 Test? y	Initial IP-IP Direct Media? n
H.323 Station Outgoing Direct Media? n	Alternate Route Timer(sec): 6

Figure 7: Signaling Group Form

Use the **add trunk-group** command to configure the SIP interface to Session Manager. Assign values for this command as shown in the following table.

Parameter	Usage
Group Type (page 1)	Specify the Group Type as "sip".
Group Name (page 1)	Select an appropriate name to identify the device.
TAC (page 1)	Specify a trunk access code that can be used to provide dial access to the trunk group.
Service Type (page 1)	Designate the trunk as a "tie" line to a peer system.
Signaling Group (page 1)	Enter the number assigned to the SIP signaling group shown in Figure 7 .
Number of Members	Specify sufficient number of members to support the maximum
(page 1)	simultaneous connections required.
Numbering Format (page 3)	Enter "private".

Table 8: Trunk-Group Parameters for the SIP Interface

add trunk-group 1		Page 1 of 21
	TRUNK GROUP	
Group Number: 1	Group Type: sip	CDR Reports: y
Group Name: Local-to-CM	COR: 1	TN: 1 TAC: *801
Direction: two-way	Outgoing Display? n	
Dial Access? n	Night	Service:
Queue Length: 0		
Service Type: public-ntwrk	Auth Code? n	
	Member As	ssignment Method: auto
		Signaling Group: 1
	Nu	umber of Members: 10

Figure 8: Trunk Group Form, page 1

```
add trunk-group 1

TRUNK FEATURES

ACA Assignment? n

Numbering Format: private

UUI Treatment: service-provider

Replace Restricted Numbers? n

Replace Unavailable Numbers? n

Modify Tandem Calling Number: no

Show ANSWERED BY on Display? y
```

Figure 9: Trunk Group Form, page 3

5.7. Call Routing to SAMwin

Use the **change uniform-dialplan 0** command. Assign values for this command as shown in the following table.

Parameter	Usage
Matching Pattorn	Enter the leading digit of the extensions assigned to the
Matching Pattern	Telecommunication Software terminals.
Lon	Enter the length of the extensions assigned to the Telecommunication
Len	Software terminals.
Net	Enter "aar".

Table 9: Uniform-Dialplen Parameters

change uniform-dialplan 0			Page 1 of 2	
	UNII	OIGI DIAL II		Percent Full: 0
Matching Pattern 6	Len Del 4 O	Insert Digits	Node Net Conv Num aar n	

Figure 10: Uniform-Dialplan Form

Use the change aar analysis 0. Assign values for this command as shown in the following table.

Parameter	Usage
Dialed String	Enter the leading digit of the extensions assigned to the
Dialed String	Telecommunication Software terminals.
Min / Max	Enter the length of the extensions assigned to the Telecommunication
	Software terminals.
Route Pattern	Enter the number of the route pattern described in Figure 12.
Call Type	Enter "aar".

Table 10: AAR Analysis Parameters

change aar analysis O		Page	1 of 2
	AAR DIGIT ANALYSIS	TABLE	
	Location: al	1 Percent	Full: 2
Dialed	Total Route C	all Node ANI	
String	Min Max Pattern T	ype Num Reqd	
6	446 a	ar n	

Figure 11: AAR Analysis Form

Use the **change route-pattern <n>** command, where <n> is the route pattern to route calls for Telecommunication Software terminals from Communication Manager to Session Manager. Assign values for this command as shown in the following table.

Parameter	Usage
Pattern Name	Enter a descriptive name to identify the route pattern.
Grp No	Enter the number of the SIP trunk which connects to Session Manager, which is defined in Figure 8 .

change route-pattern 6		Page 1 of 3
Pattern	Number: 6 Pattern Name: SAMwin	
	SCCAN? n Secure SIP? n	
Grp FRL NPA Pfx Hop Toll	No. Inserted	DCS/ IXC
No Mrk Lmt List	Del Digits	QSIG
	Dgts	Intw
1: 1 0		n user
2:		n user
3:		n user
4:		n user
5:		n user
6:		n user
BCC VALUE TSC CA-TSC	ITC BCIE Service/Feature PARM	No. Numbering LAR
012M4W Request		Dgts Format
	Sub	address
1: yyyyyn n	rest	none
2:уууууп п	rest	none
3:уууууп п	rest	none
4: уууууп п	rest	none
5: уууууп п	rest	none
6: уууууп п	rest	none

Table 11: Route-Pattern Parameters

Figure 12: Route-Pattern Form

Use the **change ars analysis 0** command to select a route pattern for calls to the PSTN, as shown in the following table.

Parameter	Usage
Dialed String	Enter the leading digit of the extensions assigned for outgoing PSTN calls.
Min / Max	Enter the length PSTN numbers.
Route Pattern	Enter the number of the route pattern described in Figure 12.
Call Type	Enter "pubu".

Table 12: ARS Analysis Parameters

change ars analysis O					Page 1 of	2
	ARS DI	GTT ANALY	STS TABLE	7.		
	11100 01		010 11000	-		
		Location:	all		Percent Full: 0	
Dialed	Total	Route	Call	Node	ANI	
			-		D	
String	Min Max	Pattern	Туре	Num	Reqa	
0	7 18	1	nubu		n	
0	, 10	-	pubu		11	
					n	

Figure 13: ARS Analysis Form

5.8. Call Numbering

Use the **change uniform-dialplan 0** command. Assign values for this command as shown in the following table.

Parameter	Usage
Matching Pattorn	Enter the leading digit of the extensions assigned to the
Matching Pattern	Telecommunication Software terminals.
Lon	Enter the length of the extensions assigned to the Telecommunication
Len	Software terminals.
Net	Enter "aar".

Table 13: Uniform-Dialplen Parameters

change uniform	-dialplan O			Page 1 of 2
	UNIF	'ORM DIAL PL	AN TABLE	Democrat Englise 0
				Percent full: 0
Matching		Insert	Node	
Pattern	Len Del	Digits	Net Conv Num	
6	4 0		aar n	

Figure 14: Uniform-Dialplan Form

6. Configure Avaya Aura[®] Session Manager

This section illustrates relevant aspects of the Avaya Aura[®] Session Manager configuration used in the verification of these Application Notes.

Session Manager is managed via Avaya Aura[®] System Manager. Using a web browser, access "https://<ip-addr of System Manager>/SMGR". In the Log On screen, enter appropriate Username and Password and press the Log On button (not shown).

AVAYA	Avaya Aura™ System Manager 6.1			
Home / Log On				
Log On				
		User ID:		
		Password:		
			Log On Clear	

Figure 15: System Manager Login Screen

Once logged in, a Home Screen is displayed.



Figure 16: System Manager Home Screen

6.1. Routing

When Routing is selected, the right side outlines a series of steps.



Figure 17: System Manager Call Routing Menu

The sub-sections that follow are in the same order as the steps outlined under **Introduction to Network Routing Policy (NRP)** in the abridged screen shown below. In these Application Notes, all these steps are illustrated with the exception of Step 9, since "Regular Expressions" were not used.

Introduction to Network Routing Policy

Network Routing Policy consists of several routing applications like "Domains", "Locations", "SIP Entities", etc.
The recommended order to use the routing applications (that means the overall routing workflow) to configure your network configuration is as follows:
Step 1: Create "Domains" of type SIP (other routing applications are referring domains of type SIP).
Step 2: Create "Locations"
Step 3: Create "Adaptations"
Step 4: Create "SIP Entities"
- SIP Entities that are used as "Outbound Proxies" e.g. a certain "Gateway" or "SIP Trunk"
- Create all "other SIP Entities" (Session Manager, CM, SIP/PSTN Gateways, SIP Trunks)
- Assign the appropriate "Locations", "Adaptations" and "Outbound Proxies"
Step 5: Create the "Entity Links"
- Between Session Managers
- Between Session Managers and "other SIP Entities"
Step 6: Create "Time Ranges"
- Align with the tariff information received from the Service Providers
Step 7: Create "Routing Policies"
- Assign the appropriate "Routing Destination" and "Time Of Day"
(Time Of Day = assign the appropriate "Time Range" and define the "Ranking")
Step 8: Create "Dial Patterns"
- Assign the appropriate "Locations" and "Routing Policies" to the "Dial Patterns"
Step 9: Create "Regular Expressions"
- Assign the appropriate "Routing Policies" to the "Regular Expressions"
Each "Routing Policy" defines the "Routing Destination" (which is a "SIP Entity") as well as the "Time of Day"

and its associated "Ranking".

Figure 18: System Manager Introduction to Routing Policy

6.1.1. Domains

To view or change SIP domains, select **Routing** \rightarrow **Domains**. Click on the checkbox next to the name of the SIP domain and **Edit** to edit an existing domain, or the **New** button to add a domain. Click the **Commit** button after changes are completed. The domain name to be configured should be the same as was configured for the Communication Manager network region in **Figure 6**.

The following screen shows the list of configured SIP domains.

🖉 Domain Management - Windows	Internet Explorer					
💽 🗢 🙋 https://smgr.aura.dcff	m/SMGR/	👻 😵 Certificate Error	47 X	Google		P -
🔶 Favorites 🏾 🏉 Domain Management			· 🟠 •	a · 🗆 🖶	▼ Page ▼ Safety ▼	Tools 🗸 🔞 🗸 👋
AVAYA	Avaya Aura™ S 6.1	ystem Manage	r	Help About	Change Password	d Log off admin Home
Routing	Home / Elements / Routing	/ Domains - Domain Ma	nageme	nt		
Domains						Help ?
Locations	Domain Management					
Adaptations	Edit New Dunlicate Dele	te More Actions	More Actions			
SIP Entities						
Entity Links	1 Item Refresh				Filte	r: Enable
Time Ranges	Name	Туре	Default	Notes		
Routing Policies	aura.dcffm	sip				
Dial Patterns	Select : All, None					
Regular Expressions						
Defaults						

Figure 19: Session Manager Domains

6.1.2. Locations

To view or change locations, select **Routing** \rightarrow **Locations**. The following screen shows an abridged list of configured locations. Click on the checkbox corresponding to the name of a location and **Edit** to edit an existing location, or the **New** button to add a location. Click the **Commit** button after changes are completed. Assigning unique locations can allow Session Manager to perform location-based routing, bandwidth management, and call admission control.

AVAYA	Avaya Aura™ Sys 6.1	Help About Change Password Log off admin Routing * Home			
Routing	Home / Elements / Routing / Lo	cations - Location			
Domains			Help ?		
Locations	Location				
Adaptations	Edit New Dunlicate Delete	More Actions			
SIP Entities					
Entity Links	1 Item Refresh		Filter: Enable		
Time Ranges	Name	Notes			
Routing Policies	Frankfurt				
Dial Patterns	Select : All, None				
Regular Expressions					

Figure 20: Session Manager Locations

6.1.3. SIP Entities

To view or change SIP elements, select **Routing** \rightarrow **SIP Entities**. Click the checkbox corresponding to the name of an element and **Edit** to edit an existing element, or the **New** button to add an element. Assign values for this command as shown in the following table.

Parameter	Usage
Name	Enter an appropriate name to identify the SIP entity.
FQDN or IP Address	Enter the Telecommunication Software Server pair address.
Location	Select the location defined in Figure 20 from the drop-down menu.
Time Zone	Select the proper time zone from the drop-down menu.

Table 14: Route-Pattern Parameters

Click the **Commit** button after changes are completed.

🖉 SIP Entity Details - Windows Inte	ernet Explorer				
💽 🗢 🙋 https://smgr.aura.dcffr	n/SMGR/	💌 😵 Certificate Error 😽	🖌 🔀 Google		P -
🔶 Favorites 🛛 🖶 🖌 🏀 SIP E 🗙 👔	🍯 Avaya A 🛕 Softwar 🌈 Avaya A 🗛 Av	vaya S a 192.168	🕯 • 🗟 • 🖃 🖶 •	Page + Safety + 1	rools 🔹 🔞 🔹 »
× Find: biloxi.com	Previous Next 📝 C	Options 👻			
					^
AVAYA	Avaya Aura™ Syst	em Manager 6.	1 Help About C	Change Password	Log off admin
				Routing *	Home
Routing	Home / Elements / Routing / SIP	Entities - SIP Entity Deta	iils		
Domains					Help ?
Locations	SIP Entity Details			Commit	Cancel
Adaptations	General				
SIP Entities	* Name:	entity-SAMwin			
Entity Links	* FQDN or IP Address:	samwin.aura.dcffm			
Time Ranges	- Tyne:	SIP Trunk			
Routing Policies	Notoci				
Dial Patterns	Notes.				
Regular Expressions	Adaptation	~			
Defaults		Turnel front and			
	Location:	Frankfurt 🞽			
	Time Zone:	Europe/Berlin	*		
	Override Port & Transport with DNS SRV:				
	* SIP Timer B/F (in seconds):	4			~

Figure 21: Session Manager SIP Entity for Telecommunication Software SIP Trunk

6.1.4. Entity Links

To view or change Entity Links, select **Routing** \rightarrow Entity Links. Click on the checkbox corresponding to the name of a link and Edit to edit an existing link, or the New button to add a link. Assign values for this command as shown in the following table.

Parameter	Usage
Name	Select the SIP entity for Telecommunication Software server pair
Ivanic	created in Figure 21 from the drop-down menu.
SIP Entity 1 / Protocol /	Select the SIP entity for Session Manager, with the appropriate protocol
Port	and port.
SID Entity 2 / Port	Select the SIP entity for the Telecommunication Software server pair,
SIF Entity 27 Folt	with the appropriate port.
Trusted	Check this box.

Table 15: Entity Link Parameters

Click the **Commit** button after changes are completed.

🖉 Entity Links - Windows Internet	Explorer									
🚱 💿 🗢 🙋 https://smgr.aura.dcffi	m/SMGR/		× 😣	Certificate Error	5 ×	🚼 Google				P -
🖕 Favorites 🛛 🖶 👻 🏀 Entity 🗙	🕖 Avaya Au 🛕 Software	🏉 Avaya Au 🗛 Av	aya Su a	192.168	â •	N - D	🖶 🝷 Pa	age 🔹 Safety -	• Tools • 🌘)• »
× Find: biloxi.com	Previo	ous Next 📝 Option	s *							
AVAYA	Avaya Aur	a™ Systen	n Mana	nger 6.1		Help Abo	out Chai	nge Passwo Pouting ×	rd Log of admin	f
								Kouting	Home	
Routing	 Home / Elements / 	Routing / Entity L	inks - Entit	ty Links						
Domains									Help ?	
Locations	Entity Links							Comn	nit Cancel	1
Adaptations										
SIP Entities										
Entity Links	1 Item Refresh							Filt	er: Enable	
Time Ranges	Name	SIP Entity 1	Protocol	Port 5	IP Entity	2		Port	Trusted	
Routing Policies	* elink-SM100-samwin	* entity-SM100 💌	TCP 💌	* 5060 *	entity-SA	Mwin	*	* 5060	~	
Dial Patterns	<								>	
Regular Expressions										-

Figure 22: Session Manager Entity Link for Telecommunication Software SIP Trunk

6.1.5. Time Ranges

To view or change Time Ranges, select **Routing** \rightarrow **Time Ranges**. The Routing Policies shown subsequently will use the "24/7" range since time-based routing was not the focus of these Application Notes.



Figure 23: Session Manager Time Ranges

6.1.6. Routing Policies

To view or change routing policies, select **Routing** \rightarrow **Routing Policies**. Click on the checkbox corresponding to the name of a policy and **Edit** to edit an existing policy, or **New** to add a policy. Enter a descriptive name for the routing policy, and select the Telecommunication Software server pair as the route destination by clicking "Select".

Click the **Commit** button after changes are completed.

🖉 Routing Policy Details - Windows Internet Explorer						
🚱 🔄 💌 👔 https://smgr.aura.dcffm/SMGR/						
🚖 Favorites 🛛 🔡 👻 🌈 Routin 🗙	🏉 Avaya Au 🛕 Software 🌈 Avaya	Au 🗛 Avaya Su 👌 192.168	• 📾 - 🖻 🖶 • 1	Page • Safety • Tools • 🕢 •		
X Find: biloxi.com	Previous Next	📝 Options 👻				
AVAYA	Avaya Aura™ S	ystem Manager 6.1	Help About Cha	ange Password Log off admin Routing × Home		
T Bauting	Home / Elements / Routing	/ Routing Policies - Routing Policy De	etails			
	Thome 7 Elements 7 Routing	Routing Folicies Routing Folicy De	stans			
Domains				Help ?		
Locations	Routing Policy Details			Commit Cancel		
Adaptations						
SIP Entities	General					
Entity Links	*	Name: rp-to-samwin				
Time Ranges	Di	sabled: 🔲				
Routing Policies		Notes:				
Dial Patterns						
Regular Expressions	SIP Entity as Destination					
Defaults						
Select						
	Name	FQDN or IP Address	Туре	Notes		
	entity-SAMwin samwin.aura.dcffm					
				~		

Figure 24: Session Manager Routing Policy for Calls to SAMwin Endpoints

6.1.7. Dial Patterns

To view or change dial patterns, select **Routing** \rightarrow **Dial Patterns**. Click on the checkbox corresponding to the name of a pattern and **Edit** to edit an existing pattern, or **New** to add a pattern. Assign values for this command as shown in the following table.

Parameter	Usage
Pattern	Enter the leading digits of the SAMwin endpoint extensions.
Min	Enter the length of the SAMwin endpoint extensions.
Max	Enter the length of the SAMwin endpoint extensions.
SIP Domain	Select "aura.dcffm" from the drop-down menu.

Table 16: Dial Pattern Parameters

Click the "Add" button, select the originating location of "All", and the routing policy defined in **Figure 24**, and click the **Commit** button.

🧷 Dial Pattern Details - Windows I	nternet Explorer
💽 🗢 🙋 https://smgr.aura.dcff	m SMGR/
🚖 Favorites 🛛 🖶 🖌 🏀 Dial P 🗙	🍘 Avaya Au 🗛 Software 🍘 Avaya Au 🗛 Avaya Su a 192.168 👘 🔹 🗟 🔹 🖃 🖶 💌 Page 🗸 Safety 🗸 Tools 🗸 🕑 💙
× Find: biloxi.com	Previous Next 💋 Options -
AVAYA	Avaya Aura [™] System Manager 6.1 Help About Change Password Log off admin Routing × Home
Routing	Home / Elements / Routing / Dial Patterns - Dial Pattern Details
Domains Locations	Help ? Dial Pattern Details Commit Cancel
SIP Entities	General
Entity Links	* Pattern: 6
Time Ranges	* Min: 4
Routing Policies	* Max: 4
Didi Patteriis Bogular Expressions	Emergency Call: 📃
Defaults	SIP Domain: aura.dcffm 💌
Deruuits	Notes:
	Originating Locations and Routing Policies Add Filter: Enable 1 Item Refresh Filter: Enable Originating Location Name 1 Originating Location Name 1 Routing Policy Name Routing Policy Disabled Routing Policy Disabled Routing Policy Notes
	-ALL- Any Locations TP-to- Samwin entity-SAMwin

Figure 25: Session Manager Dial Pattern for Calls to SAMwin Clients

7. Configure Telecommunication Software Server

After installing the SAMwin client and server, browse to the following address: http://<SAMwin IP address>/samwinmanager. Enter the appropriate credentials and click "Logon".

sam	contact center suite MANAGER				
User: Password:	Administrator				
Provide your samwin credentials to get access to the samwin management console.					
	Logon				

Figure 26: SAMwin Server Web Login

On the left frame of the screen, open the "Telephony Gateways" and "SIP Gateways" menu items, and click "SIP Gateway.



Figure 27: SAMwin SIP Gateway Selection

Section	Parameter	Usage		
General Settings	Name	Enter an appropriate name to Session Manager		
SIP Settings	Registration Type	Enter "Gateway".		
	Domain	Enter the domain name assigned in Figure 19.		
	Remote IP-address	Enter the IP address of Session Manager.		
	Remote Port	Enter 5060.		
Local network settings	IP-address	Enter the IP address of the SAMwin server.		
	port	Enter 5060.		
	Connection type	Enter "TCP".		

For the "General Settings" tab, enter the parameters show in the following table.

Table 17: SAMwin SIP Gateway Configuration Parameters

contact center suite						
🗉 😒 General	🥡 General Settings	强 Address Translation	🔧 Extended settings			
 Wew Server System Settings Network Parameters 	Gateway					
	General settings					
🕀 🔣 Routing	Name		SIP Gateway			
🖻 🛄 Telephony Parameters	SIP settings					
SIP Gateways SIP Gat	Registration type Domain Remote IP-address Remote port Remote IP-address (Backup) Remote port (Backup) User Password Local network settings IP-address Port Connection type		Gateway aura.dcffm 192.168.150.115 5060 - 5060 - - - 192.168.150.131 5060 TCP			
Voicebox Settings	Hot Standby Server - SIP	settings				
	Remote IP-address Remote port Remote IP-address (Backup) Remote port (Backup) User Password Hot Standby Server - local IP-address Port	network settings	- 5060 - 5060 - - - 5060			

Figure 28: SAMwin SIP Gateway Configuration

For the "General Settings" tab, check the parameters shown in the following table to the "on" state. The remaining parameters should be in the "off" state.

Parameter
Use REFER
Assert identities in remote domain.
Fake from header
Hold before transfer
Set inactive for renegotiation
Disconnect caller after REFER
Aggressive connection reuse
Prefix to identify external calls
DTMF signalsation
Default registration expiration
History info precedence

Table 18: SAMwin SIP Gateway Configuration Parameters

contact center suite					
🗉 😔 General	🐺 General Settings 🤒 Address Translation	- 🔧 Extended settings			
- Q New Server	Extended settings				
Network Parameters	Extended settings				
🗈 🔂 Routing	Force OPTIONS negotiation	0			
🖻 🛄 Telephony Parameters	Use REFER	2			
🗄 🧐 SIP Gateways	Use maddr URI parameter	•			
SIP Gateway	Assert identities in remote domain	~			
- 🥰 Media Gateways	Fake From Header	×			
CTI Anti Tromboning	Force From Remote IP	•			
Tapi Translations	Hold before Transfer	×			
V Elau Cattinas	Set inactive for renegotiation	~			
	Busy on Early Media	0			
CSTA Gateways	Disconnect caller after REFER	~			
🖽 🚾 Collaboration	Non-selected user clearing in BYE verwenden	•			
Announcements	Aggressive connection reuse	~			
- 🔗 Date And Time	Request URI contains Connected ID	•			
💔 System Alerts	Extract forwards from To header	•			
Reporting	Always send SDP-Response	~			
🦾 🧐 Voicebox Settings	User=phone URI-Scheme	e			
🗄 🔤 Monitoring	Following numbers are not forwarded	-			
	Prefix to identify external calls (';' separated list)	0;+			
	Withheld identification (';' separated list)	-			
	DTMF signalisation	Inband (RFC 2833)			
	Default registration expiration [s]	60			
	History info precedence	First Redirecting Id			

Figure 29: SAMwin SIP Gateway Configuration

On the local console of the SAMwin server, start the SAMwin "System Manager" from the "Start" menu.



Figure 30: SAMwin Server System Manager Initiation

Enter the appropriate credentials and click "OK".

sam	(e) telecommunication software 5.01.14.00 Contact center suite SYSTEM MANAGER
User Password	Administrator
	OK Cancel

Figure 31: SAMwin Server Login

From the left frame of the screen, open the "Callcenter" menu point, and click "New Server". Assign a "Name" to identify the server. Select one or more codecs from the list "Activate codecs and define priorities" such that it is compatible with the codec set assigned in **Figure 5** and click "OK".

 General Organization data Strenal telephone numbi Callcenter New Server 		samwin Server Name New Server					
	Prefix Audio settings Advanced Calling party name Absence	Advanced RTP settings IP-address: IP-Address (Hot Standby): RTP-Ports: Default framesize (ms): DSCP:		192.168.150.131 ▼ 16384 until 32767 20 default DSCP ▼ Reset			
		Activate co	Activate codecs and define priorities.				
		Active	Name	Sequence			
			G.711 mu-law G.711 a-law G.729 Annex A	1 3 2			
۲ ۲				ОК	Cancel Apply		

Figure 32: SAMwin Audio Settings

8. Verification Steps

The correct installation and configuration of SAMwin can be verified by performing the following steps shown below. Using the SAT terminal, enter the status signaling-group <n> command, where <n> is the number of the SIP signaling group which connects to Session Manager. Verify that the signaling group status is "in-service".

```
status signaling-group 1
STATUS SIGNALING GROUP
Group ID: 1
Group Type: sip
Group State: in-service
```

Figure 33: Signaling Group Status

Start the SAMwin client and verify that the highlighted connection status indicator in the screen shown below contains a check mark to indicate that the connection is active. Note that there is an "X" to the right of the connection status indicator for the backup SAMwin server. The backup server is not included in the tested configuration, and the "X" indicates the disconnected state.

Demo mode (98 C	alls) - Attendant	samwin contact	t center suite - A	CD Extension	Demoli			
<u>File Skills View H</u> elp								
🛛 🗢 🕶 🚽 🖬 DND [🤶 Internal 🛛 樢 Call li	ist 🔳 Recording						
Connect 🛹 Exit	r Disconnect S	\land Disconnect D	🐢 Blind Transfer	👎 Skill park	🏠 Voicemail	>>		
Attendant Call Center						1		
	User, Softphone No incoming calls							
2371	All Full-text	t search 🛛 🛷 Num	nber Name	Alternative ex	d. 🔏 📜	18		
Mobile	Presence status	Name	Number	Memo)	Alterna		
•						F		
Number:		Memo:						
Name:		Email addres	s:					
Alternative ext.:		Keyword:						
🥏 available 🛛 🗸	Searchresults: 0		Tue 4/19/2011 14:1	8 CW 17 🔽	Connected			

Figure 34: SAMwin Connection Status Indicator

9. Conclusion

These Application Notes describe the compliance testing of the Telecommunication Software SAMwin with Avaya Aura[®] Communication Manager. The various functions of the SAMwin Attendant Console were tested as shown in **Section 2.1**. A detailed description of the configuration required for both the Avaya and SAMwin is documented within these Application Notes. SAMwin passed all of the tests performed except those noted in **Section 2.2**.

10. References

This section references documentation relevant to these Applications. Avaya product documentation, including the following, is available at <u>http://support.avaya.com</u>.

Information regarding Telecommunication Software products is available at: <u>http://www.telecomsoftware.com/business-communication-software/</u>

- Installing and Configuring Avaya Aura[®] Communication Manager, Doc ID 03-603558, Release 6.0 June, 2010 available at <u>http://support.avaya.com/css/P8/documents/100089133</u>
- [2] *Administering Avaya Aura*[®] *Communication Manager*, Doc ID 03-300509, Issue 6.0 June 2010 available at <u>http://support.avaya.com/css/P8/documents/100089333</u>
- [3] Administering Avaya Aura® Session Manager, Doc ID 03-603324, Release 6.0, June 2010 available at http://support.avaya.com/css/P8/documents/100082630
- [4] *Installing and Configuring Avaya Aura*[®] *Session Manager*, Doc ID 03-603473 Release 6.0, June 2010 available at <u>http://support.avaya.com/css/P8/documents/100089152</u>
- [5] Maintaining and Troubleshooting Avaya Aura[®] Session Manager, Doc ID 03-603325, Release 6.0, June 2010 available at http://support.avaya.com/css/P8/documents/100089154

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