



Application Notes for Configuring NovaLink NovaAlert with Avaya Communication Manager SIP – Issue 1.0

Abstract

These Application Notes describe the compliance testing of the NovaLink NovaAlert, an alarm notification system connected to Avaya Communication Manager via a SIP trunk. These Application Notes contain an extensive description of the configurations for both NovaLink NovaAlert and Avaya Communication Manager.

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

1. Introduction

The purpose of this document is to describe the compliance testing done with NovaLink NovaAlert and Avaya Communication Manager, including a description of the configuration of each, a description of the tests that were performed, and a summary of the results of those tests.

The NovaAlert is a PC-resident application, which is used in a health care, hotel or industrial environment for alerting, messaging or information services. NovaAlert can react to external alarm stimuli that indicate the existence of an emergency situation by informing affected persons of the situation.

Alarms can be triggered from various possible input sources including manual input via web browser, serial interfaces, potential free contacts, SNMP, etc. “Direct” alarms can also be defined which allow alarms to be input and triggered via telephone calls. The alarm triggering described within these application notes is restricted to those methods that involve interaction with Avaya Communication Manager.

Once an alarm has been triggered, the medium selected when the alarm was configured is used to deliver the alarm. Possible delivery interfaces include phone calls (including conferences), E-Mail, Pager, SMS, Fax, etc. Multiple recipients can be configured for an alarm, thus possibly creating multiple simultaneous telephone calls. These application notes only deal with those delivery methods that involve interaction with Avaya Communication Manager.

Alarms which are triggered via Avaya Communication Manager can include pre-recorded or ad hock voice messages, or can generate voice message via a text-to-speech mechanism. The calling party name can also be configured to contain a brief alarm message, so that alarm message will appear in the caller list of intended recipients who are unable to answer an alarm call.

NovaAlert supports multiple interfaces, including the SIP trunk described in these Application Notes.

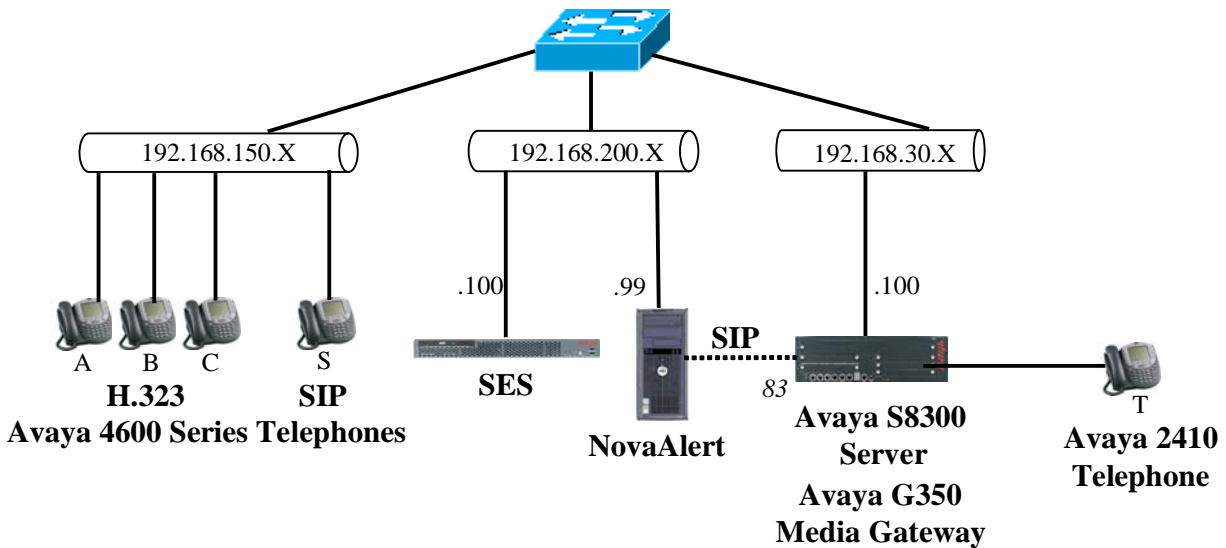


Figure 1: NovaAlert Test Configuration

The SIP trunk connecting Avaya Communication Manager to the NovaAlert server was configured as trunk group 83, as shown in the diagram. The function of each of the components in **Figure 1** is as follows:

- The NovaAlert server signals alarm events to Avaya IP Telephones attached to Avaya Communication Manager via the SIP trunk.
- Avaya Communication Manager runs on the Avaya S8300 Server and communicates with the NovaAlert server and Avaya Telephones via the Avaya G350 Media Gateway.
- The Avaya SIP Enablement Services (SES) server is the interface between Avaya Communication Manager and Avaya SIP Telephones.

2. Equipment and Software Validated

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

Equipment	Software Version
Avaya S8300 Server	Avaya Communications Manager 4.0 (R014x.00.0.730.5) Service Pack 00.0.730.5-13566
Avaya SIP Enablement Services Server	SES-3.1.2.0-309.0
Avaya G350 Media Gateway	26.31.0
MM712AP DCP	HW05 FW008
Avaya 4600 series H.323 stations	2.8
Avaya 4600 series SIP stations	2.2.2
NovaLink NovaAlert	7.5
Microsoft Windows Server 2003 SE	SP2

Table 1: Version Numbers of Equipment and Software

3. Configuration

The following table contains the extensions that are used for testing. The capital letter designations correspond to the telephones shown in **Figure 1**.

Extension	Designation
3000136	A
3000134	B
3000133	C
3000115	S
3000001	T
7000000	NovaAlert via SIP

Table 2: Extensions Used for Testing

3.1. Configure Avaya Communication Manager

The configuration and verification operations illustrated in this section were all performed using the Avaya Communication Manager SAT terminal via SSH port 5022.

The information provided in this section describes the configuration of Avaya Communication Manager for this solution. For all other provisioning information such as installation and configuration, please refer to the product documentation in reference [1].

The configuration operations described in this section can be summarized as follows:

- Verify that the licenses allocated to the system are sufficient to support the required configuration.
- Configure the dial plan and call routing required for the NovaAlert configuration.
- Configure the SIP interface that is used to connect to the NovaAlert server.
- Configure the telephone stations that are to be used for testing.
- Configure Avaya Communication Manager as required to interface to the Avaya SIP Enablement Services server.

3.1.1. Verify system-parameters customer-options

Use the **display system-parameters customer-options** command to verify that Avaya Communication Manager is licensed to meet the minimum requirements to interoperate with the NovaAlert server. 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.

On page 1 of this form, verify that the “Maximum Off-PBX Telephones – OPS” is sufficient for the number of Avaya SIP Telephones to be used.

display system-parameters customer-options		Page 1 of 10
OPTIONAL FEATURES		
G3 Version: V14		
Location: 2	RFA System ID (SID): 1	
Platform: 13	RFA Module ID (MID): 1	
		USED
Platform Maximum Ports: 900		76
Maximum Stations: 450		7
Maximum XMOBILE Stations: 0		0
Maximum Off-PBX Telephones - EC500: 0		0
Maximum Off-PBX Telephones - OPS: 5		2
Maximum Off-PBX Telephones - PBFMC: 0		0
Maximum Off-PBX Telephones - PVFMC: 0		0
Maximum Off-PBX Telephones - SCCAN: 0		0

Figure 2: System-Parameters Customers-Options Form, Page 1

On page 2, the value configured for “Maximum Concurrently Registered IP Stations” must be sufficient to support the total number of IP stations used.

The number “Maximum Administered SIP Trunks” must be sufficient to support the maximum number of members assigned to all SIP trunks. This is the sum of the number of SIP telephones plus the SIP trunk to the NovaAlert Server.

display system-parameters customer-options		Page 2 of 10
OPTIONAL FEATURES		
IP PORT CAPACITIES		USED
Maximum Administered H.323 Trunks: 30		5
Maximum Concurrently Registered IP Stations: 10		3
Maximum Administered Remote Office Trunks: 0		0
Maximum Concurrently Registered Remote Office Stations: 0		0
Maximum Concurrently Registered IP eCons: 0		0
Max Concur Registered Unauthenticated H.323 Stations: 0		0
Maximum Video Capable H.323 Stations: 0		0
Maximum Video Capable IP Softphones: 0		0
Maximum Administered SIP Trunks: 10		3
Maximum Number of DS1 Boards with Echo Cancellation: 0		0
Maximum TN2501 VAL Boards: 0		0
Maximum Media Gateway VAL Sources: 0		0
Maximum TN2602 Boards with 80 VoIP Channels: 0		0
Maximum TN2602 Boards with 320 VoIP Channels: 0		0
Maximum Number of Expanded Meet-me Conference Ports: 0		0

Figure 3: System-Parameters Customers-Options Form, Page 2

On page 3 of this form, the “Cvg Of Calls Redirected Off-net” parameter must be set to “y” to allow redirection of calls to NovaAlert.

display system-parameters customer-options		Page 3 of 10
OPTIONAL FEATURES		
Abbreviated Dialing Enhanced List? n	Audible Message Waiting? n	
Access Security Gateway (ASG)? n	Authorization Codes? n	
Analog Trunk Incoming Call ID? n	CAS Branch? n	
A/D Grp/Sys List Dialing Start at 01? n	CAS Main? n	
Answer Supervision by Call Classifier? n	Change COR by FAC? n	
ARS? y	Computer Telephony Adjunct Links? n	
ARS/AAR Partitioning? y	Cvg Of Calls Redirected Off-net? y	
ARS/AAR Dialing without FAC? y	DCS (Basic)? n	
ASAI Link Core Capabilities? n	DCS Call Coverage? n	
ASAI Link Plus Capabilities? n	DCS with Rerouting? n	
Async. Transfer Mode (ATM) PNC? n		
Async. Transfer Mode (ATM) Trunking? n	Digital Loss Plan Modification? n	
ATM WAN Spare Processor? n	DS1 MSP? n	
ATMS? n	DS1 Echo Cancellation? n	
Attendant Vectoring? n		

Figure 4: System-Parameters Customers-Options Form, Page 3

On page 4 and 5, the parameters must be set as shown in **Table 3**.

Parameter	Required Setting	Comment
IP Stations (page 4)	y	This is required so that IP stations can be configured.
Enhanced EC500 (page 4)	y	This is required to enable the allocation of off-PBX SIP telephones.
Uniform Dialing Plan (page 5)	y	This is required to support the call routing scheme chosen for testing.

Table 3: System-Parameters Customers-Options Form, Page 4

display system-parameters customer-options		Page 4 of 10
OPTIONAL FEATURES		
Emergency Access to Attendant? y	IP Stations? y	
Enable 'dadmin' Login? y		
Enhanced Conferencing? n	ISDN Feature Plus? n	
Enhanced EC500? y	ISDN Network Call Redirection? n	
Enterprise Survivable Server? n	ISDN-BRI Trunks? y	
Enterprise Wide Licensing? n	ISDN-PRI? y	
ESS Administration? n	Local Survivable Processor? n	
Extended Cvg/Fwd Admin? n	Malicious Call Trace? n	
External Device Alarm Admin? n	Media Encryption Over IP? n	
Five Port Networks Max Per MCC? n	Mode Code for Centralized Voice Mail? n	
Flexible Billing? n		
Forced Entry of Account Codes? n	Multifrequency Signaling? y	
Global Call Classification? n	Multimedia Call Handling (Basic)? n	
Hospitality (Basic)? y	Multimedia Call Handling (Enhanced)? n	
Hospitality (G3V3 Enhancements)? n		
IP Trunks? y		
IP Attendant Consoles? n		


Figure 5: System-Parameters Customers-Options Form, Page 4

On page 5, the “Uniform Dialing Plan” parameter must be set to “y”.

display system-parameters customer-options		Page 5 of 10
OPTIONAL FEATURES		
Multinational Locations? n	Station and Trunk MSP? n	
Multiple Level Precedence & Preemption? n	Station as Virtual Extension? n	
Multiple Locations? n		
Personal Station Access (PSA)? n	System Management Data Transfer? n	
Posted Messages? n	Tenant Partitioning? n	
PNC Duplication? n	Terminal Trans. Init. (TTI)? n	
Port Network Support? n	Time of Day Routing? n	
	Uniform Dialing Plan? y	
Processor and System MSP? n	Usage Allocation Enhancements? y	
Private Networking? n	TN2501 VAL Maximum Capacity? y	
Processor Ethernet? y		
	Wideband Switching? n	
	Wireless? n	
Remote Office? n		
Restrict Call Forward Off Net? y		
Secondary Data Module? y		

Figure 6: System-Parameters Customers-Options Form, Page 5

3.1.2. Configure Node Names

Use the **change node-names ip** command to configure the IP addresses of the NovaAlert and the Avaya SES servers. The value assigned to ses must be the same value that was assigned in **Figure 8, Figure 23, Figure 25, Figure 28, and Figure 40** 

change node-names ip		Page 1 of 2
IP NODE NAMES		
Name	IP Address	
default	0.0.0.0	
NovaAlert	192.168.200.99	
procr	192.168.30.100	
ses	192.168.200.100	

Figure 7: Node-Names IP Form

3.1.3. Configure SIP Interface to the NovaAlert Server

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”.
Far-end Node Name	Enter node name assigned to the Avaya SES in Figure 7 .
Near-end Listen Port	Accept the default value of 5061. This must be the same value that is assigned to the SES contact shown in Figure 33 .
Far-end Listen Port	Specify “5061” as the far end node name.
Far-end Domain	Specify “ffm.com” as the far end node name. This must be the same value that was assigned in Figure 23 , Figure 25 , Figure 28 , and Figure 40 .

Table 4: Signaling-Group Parameters for SIP Interface

```
add signaling-group 83                                     Page 1 of 1
                                SIGNALING GROUP
Group Number: 83          Group Type: sip
                        Transport Method: tls

Near-end Node Name: procr          Far-end Node Name: ses
Near-end Listen Port: 5061        Far-end Listen Port: 5061
                                Far-end Network Region:
Far-end Domain: ffm.com

                                Bypass If IP Threshold Exceeded? n
DTMF over IP: rtp-payload          Direct IP-IP Audio Connections? y
                                IP Audio Hairpinning? y
Enable Layer 3 Test? n
Session Establishment Timer(min): 3
```

Figure 8: Avaya SES Signaling-Group Form

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

Parameter	Usage
Group Type	Specify the Group Type as “sip”.
Group Name	Select an appropriate name to identify the device.
TAC	Specify a trunk access code that can be used to provide dial access to the trunk group. This code must be defined in Figure 10 .
Service Type	Designate the trunk as a “tie” line to a peer system.
Signaling Group	Enter the number assigned to the SIP signaling group shown in Figure 8 .
Number of Members	Specify sufficient number of members to support the maximum simultaneous connections required.

Table 5: Trunk-Group Parameters for the SIP Interface

```

add trunk-group 83                                     Page 1 of 21
                                     TRUNK GROUP
Group Number: 83          Group Type: sip          CDR Reports: y
  Group Name: SIP          COR: 1          TN: 1          TAC: *83
    Direction: two-way    Outgoing Display? n    Night Service:
    Dial Access? n
    Queue Length: 0
  Service Type: tie          Auth Code? n

                                     Signaling Group: 83
                                     Number of Members: 5

```

Figure 9: Trunk-Group Screen Form

3.1.4. Configure Dial Plan and Call Routing

Use the **change dialplan analysis** command to specify that dialed strings which begin with “3” or “7” are extensions. The extensions local to this PBX are all seven digit numbers which begin with a “3”. The extensions assigned to the NovaAlert are all seven digit numbers which begin with “7”. The dial string “*83” is used as the TAC for the SIP trunk defined in **Figure 9**.

```

change dialplan analysis                               Page 1 of 12
                                     DIAL PLAN ANALYSIS TABLE
                                     Percent Full: 3

Dialed   Total   Call   Dialed   Total   Call   Dialed   Total   Call
String   Length  Type  String   Length  Type  String   Length  Type
3         7      ext
7         7      ext
*83       3      dac

```

Figure 10: Dialplan Analysis Form

Use the **change uniform-dialplan** command to designate extensions which begin with “7” and are seven digits in length to use the Automatic Alternate Routing (AAR) table.

change uniform-dialplan 0										Page	1	of	2
UNIFORM DIAL PLAN TABLE										Percent Full: 0			
Matching					Insert				Node				
Pattern	Len	Del			Digits		Net	Conv	Num				
7	7	0					aar	n					

Figure 11: Uniform-Dialplan Form

Use the **change aar analysis** command to select routing pattern “7” for numbers which have the leading dialed string “7”, as specified in the uniform dial plan shown in **Figure 11**

change aar analysis 0										Page	1	of	2
AAR DIGIT ANALYSIS TABLE										Percent Full: 3			
		Dialed		Total		Route		Call	Node	ANI			
		String		Min	Max	Pattern		Type	Num	Reqd			
7				7	7	7		aar		n			

Figure 12: AAR Analysis Form

Use the **change route-pattern** command to route numbers using Routing Pattern 7 via Trunk Group 83.

change route-pattern 7										Page	1	of	3
Pattern Number: 2										Pattern Name: NovaAlert SIP			
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:	83	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		
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	
4:	y	y	y	y	y	n	n	rest				none	
5:	y	y	y	y	y	n	n	rest				none	
6:	y	y	y	y	y	n	n	rest				none	

Figure 13: Route-Pattern 6 Form

3.1.5. Configure Public-Unknown-Numbering Format

Use the **change public-unknown-numbering** command to designate how telephone numbers are to be displayed on stations that have displays. Specify that seven digit numbers starting with “7” from trunk group “7” and “3” from trunk group “83” should not be modified.

change public-unknown-numbering 7				Page 1 of 2	
NUMBERING - PUBLIC/UNKNOWN FORMAT					
				Total	
Ext	Ext	Trk	CPN	CPN	
Len	Code	Grp(s)	Prefix	Len	
7	7	7		7	Total Administered: 2
7	3	83		7	Maximum Entries: 240

Figure 14: Public-Unknown-Numbering Form

3.1.6. Configure Telephone Stations

Use the **add station** command to configure all of the telephones shown in **Table 2**. The settings for Avaya 2400 Telephones are the same as those required for the Avaya 4621 Telephone, except that the “Type” designation must be set to match the telephone type.

Parameter	Usage
Type	Enter the type of station that is to be configured.
Security Code	Enter a numeric security code.
Name	Enter a descriptive name for the user of the station.
BUTTON ASSIGNMENTS	Assign “send-calls” and “call-fwd” buttons to the stations, as required to test call coverage and call forwarding with NovaAlert. This not required for SIP telephones.

Table 6: Station Parameters

add station 3000136		Page 1 of 5
STATION		
Extension: 300-0136	Lock Messages? n	BCC: 0
Type: 4621	Security Code: 6310003	TN: 1
Port: S00006	Coverage Path 1:	COR: 1
Name: extn 3000136	Coverage Path 2:	COS: 1
	Hunt-to Station:	
STATION OPTIONS		
Loss Group: 19	Time of Day Lock Table:	
	Personalized Ringing Pattern: 1	
Speakerphone: 2-way	Message Lamp Ext: 300-0136	
Display Language: english	Mute Button Enabled? y	
Survivable GK Node Name:	Expansion Module? n	
Survivable COR: internal	Media Complex Ext:	
Survivable Trunk Dest? y	IP SoftPhone? n	
Customizable Labels? y		

Figure 15: Add Station Form, Page 1

add station 3000136		Page 4 of 5
STATION		
SITE DATA		
Room:		Headset? n
Jack:		Speaker? n
Cable:		Mounting: d
Floor:		Cord Length: 0
Building:		Set Color:
ABBREVIATED DIALING		
List1:	List2:	List3:
BUTTON ASSIGNMENTS		
1: call-appr	5: call-fwd	Ext:
2: call-appr	6:	
3: call-appr	7:	
4: send-calls Ext:	8:	

Figure 16: Add Station Form, Page 4

3.1.7. Configure Interface to Avaya SES and Integration for SIP Telephones

Use the **change off-pbx-telephone station-mapping** command to configure SIP telephones. Assign values for this command as shown in the following table.

Parameter	Usage
Station Extension	Enter the extension of the SIP telephone.
Application	Enter “OPS”.
Phone Number	Enter the phone number assigned to the SIP telephone.
Trunk Selection	Enter the number assigned to the SIP trunk group in Figure 9 .
Call Limit	Enter “3” to allow the SIP telephone to do call transfers.

Table 7: Parameters for Off-PBX-Telephone Station-Mapping

change off-pbx-telephone station-mapping 3000115						Page 1 of 2
STATIONS WITH OFF-PBX TELEPHONE INTEGRATION						
Station Extension	Application	Dial Prefix	CC	Phone Number	Trunk Selection	Config Set
300-0115	OPS	-		3000115	83	1

Figure 17: Off-PBX-Telephone Form, Page 1

change off-pbx-telephone station-mapping 3000115					Page 2 of 2
STATIONS WITH OFF-PBX TELEPHONE INTEGRATION					
Station Extension	Call Limit	Mapping Mode	Calls Allowed	Bridged Calls	
300-0115	3	both	all	both	

Figure 18: Off-PBX-Telephone Form, Page 2

Use the **change feature-access-codes** command to assign feature codes required by SIP telephones, as shown in the following table:

Parameter	Usage
Call Forwarding Activation Busy/DA and Deactivation	Assign unused feature access codes that are within the local dial plan to activate/deactivate call forwarding.
Send All Calls Activation and Deactivation	Assign unused feature access codes that are within the local dial plan to activate/deactivate call sending all calls to coverage.

Table 8: Parameters for the Feature Access Codes

change feature-access-codes		Page 1 of 5
FEATURE ACCESS CODE (FAC)		
Abbreviated Dialing List1 Access Code:		
Abbreviated Dialing List2 Access Code:		
Abbreviated Dialing List3 Access Code:		
Abbreviated Dial - Prgm Group List Access Code:		
Announcement Access Code:		
Answer Back Access Code:		
Attendant Access Code:		
Auto Alternate Routing (AAR) Access Code:		
Auto Route Selection (ARS) - Access Code 1:		Access Code 2:
Automatic Callback Activation:		Deactivation:
Call Forwarding Activation Busy/DA: *75	All: *73	Deactivation: *74
Call Forwarding Enhanced Status:	Act:	Deactivation:
Call Park Access Code:		
Call Pickup Access Code:		
CAS Remote Hold/Answer Hold-Unhold Access Code:		
CDR Account Code Access Code:		
Change COR Access Code:		
Change Coverage Access Code:		
Contact Closure	Open Code:	Close Code:

Figure 19: Feature Access Codes Form, Page 1

change feature-access-codes		Page 3 of 5
FEATURE ACCESS CODE (FAC)		
Leave Word Calling Send A Message:		
Leave Word Calling Cancel A Message:		
Limit Number of Concurrent Calls Activation:		Deactivation:
Malicious Call Trace Activation:		Deactivation:
Meet-me Conference Access Code Change:		
PASTE (Display PBX data on Phone) Access Code:		
Personal Station Access (PSA) Associate Code:		Dissociate Code:
Per Call CPN Blocking Code Access Code:		
Per Call CPN Unblocking Code Access Code:		
Priority Calling Access Code:		
Program Access Code:		
Refresh Terminal Parameters Access Code:		
Remote Send All Calls Activation:		Deactivation:
Self Station Display Activation:		
Send All Calls Activation: *71		Deactivation: *72
Station Firmware Download Access Code:		

Figure 20: Feature Access Code Form, Page 3

Use the **change off-pbx-telephone feature-name-extensions** command to assign extensions to features required by SIP telephones, as shown in the following table below. Note that the extensions used here are assigned to speed dial entries for SIP telephones, as shown in **Table 12**.

Parameter	Usage
Call Forward All	Assign an unused extension within the local dial plan to the “Call Forward All” feature.
Call Forward Cancel	Assign an unused extension within the local dial plan to the “Call Forward Cancel” feature.
Send All Calls	Assign an unused extension within the local dial plan to the “Send All Calls” feature.
Send All Calls Cancel	Assign an unused extension within the local dial plan to the “Send All Calls Cancel” feature.

Table 9: Parameters for Off-PBX-Telephone Feature-Name-Extension

```

change off-pbx-telephone feature-name-extensions                               Page 1 of 2
EXTENSIONS TO CALL WHICH ACTIVATE FEATURES BY NAME

Active Appearance Select:
Automatic Call Back:
Automatic Call-Back Cancel:
    Call Forward All: 300-1804
Call Forward Busy/No Answer:
    Call Forward Cancel: 300-1806
Call Park:
Call Park Answer Back:
Call Pick-Up:
Calling Number Block:
Calling Number Unblock:
Conference on Answer:
Directed Call Pick-Up:
Drop Last Added Party:
Exclusion (Toggle On/Off):
Extended Group Call Pickup:
Held Appearance Select:

```

Figure 21: Off-PBX-Telephone Feature Name Extensions Form, Page 1

```

change off-pbx-telephone feature-name-extensions                               Page 2 of 2
EXTENSIONS TO CALL WHICH ACTIVATE FEATURES BY NAME

Idle Appearance Select:
Last Number Dialed:
Malicious Call Trace:
Malicious Call Trace Cancel:
Off-Pbx Call Enable:
Off-Pbx Call Disable:
Priority Call:
    Send All Calls: 300-1825
    Send All Calls Cancel: 300-1826
Transfer On Hang-Up:
Transfer to Voice Mail:
Whisper Page Activation:

```

Figure 22: Off-PBX-Telephone Feature Name Extensions Form, Page 2

Use the **change ip-network-region** command to configure the network region used by Avaya SES. Assign values for this command as shown in the following table.

Parameter	Usage
Authoritative Domain	Enter the domain name assigned to Avaya SES. This must be the same value which was assigned in Figure 8 , Figure 25 , Figure 28 , and Figure 40 .
Name	Enter a descriptive name.

Table 10: Parameters for IP-Network-Region 1

```

change ip-network-region 1                                     Page 1 of 19

                                IP NETWORK REGION

Region: 1
Location: 1      Authoritative Domain: ffm.com
Name: FFM
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? y
    UDP Port Max: 3329
DIFFSERV/TOS PARAMETERS              RTCP Reporting Enabled? y
    Call Control PHB Value: 46        RTCP MONITOR SERVER PARAMETERS
    Audio PHB Value: 46               Use Default Server Parameters? y
    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 23: IP-Network-Region Form

Use the **change ip-codec-set** command to specify the codec to be used for the Network Region assigned to Avaya SES. Specify that the G.711A codec is to be used.

```

change ip-codec-set 1                                         Page 1 of 2

                                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 24: IP-Codec-Set Form

3.2. Configure Avaya IP Telephones

Configure the **46xxsettings.txt** text file to be used by Avaya IP Telephones. The parameters that are to be configured in this file are shown in the following table. This is a “flat” ASCII file that must reside in the directory of the TFTP server accessible by the Avaya IP Telephones. Avaya IP Telephones must be configured so that the “FileSv” parameter is set to the address of the TFTP server that contains this configuration file, which is re-read each time the phone is restarted.

Parameter	Usage
MWISVR	The value “SES_IP_address” indicates that Avaya SIP telephones should register with the Avaya SES server to receive message-waiting events.
SIPDOMAIN	Enter the name of the SIP domain. This must be the same value that was assigned in Figure 8 , Figure 23 , Figure 28 , and Figure 40 .
ENHDIALSTAT	Set this parameter to “0” to indicate that enhanced dialing is not required.

Table 11: Parameters for Telephone Setting File

SET MWISVR	"192.168.200.100"
SET SIPDOMAIN	"ffm.com"
SET ENHDIALSTAT	0

Figure 25: Telephone Settings File Content

In addition to these settings, Avaya SIP Telephones must be configured manually to add speed dial entries to activate/deactivate Call Forwarding and Send All Calls features, by assigning the extensions that were assigned to the features shown in the following table to speed dial entries. These extensions are those that were assigned using the **Off-Pbx-Telephone Feature-Name-Extensions** command described in **Table 9**.

Parameter	Extension	Usage
CallFwd On	3001804	Activate Call Forwarding
CallFwd Off	3001806	Deactivate Call Forwarding
SendAll On	3001825	Activate Send All Calls
SendAll Off	3001826	Deactivate Send All Calls

Table 12: Speed Dial Entry Assignments for Avaya SIP Telephones

3.3. Configure Avaya SIP Enablement Services

Log in to the Avaya SES Web-based Integrated Management tool by selecting the IP address of the Avaya SES server followed by “/admin” from the Web browser. After entering the login ID and password, select “Launch Administration Web Interface”.

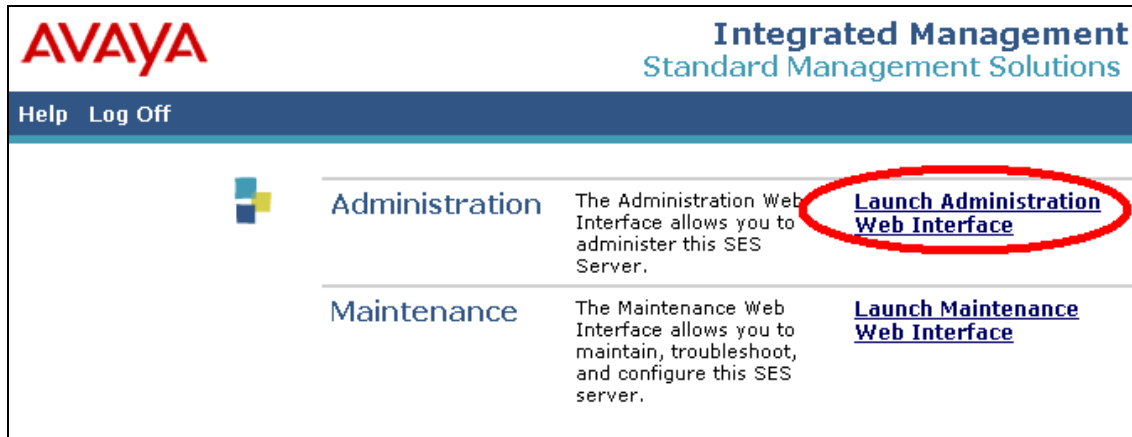



Figure 26: SES Initial Greeting Screen

The SES Integrated Management top-level menu is then displayed.




Integrated Management
SIP Server Management

Help Exit

Server: 192.168.200.100

Top

- Users
- Conferences
- Media Server Extensions
 - Emergency Contacts
- Hosts
- Media Servers
- Adjunct Systems
 - Services
- Server Configuration
- Certificate Management
- IM Logs
- Trace Logger
- Export/Import to ProVision

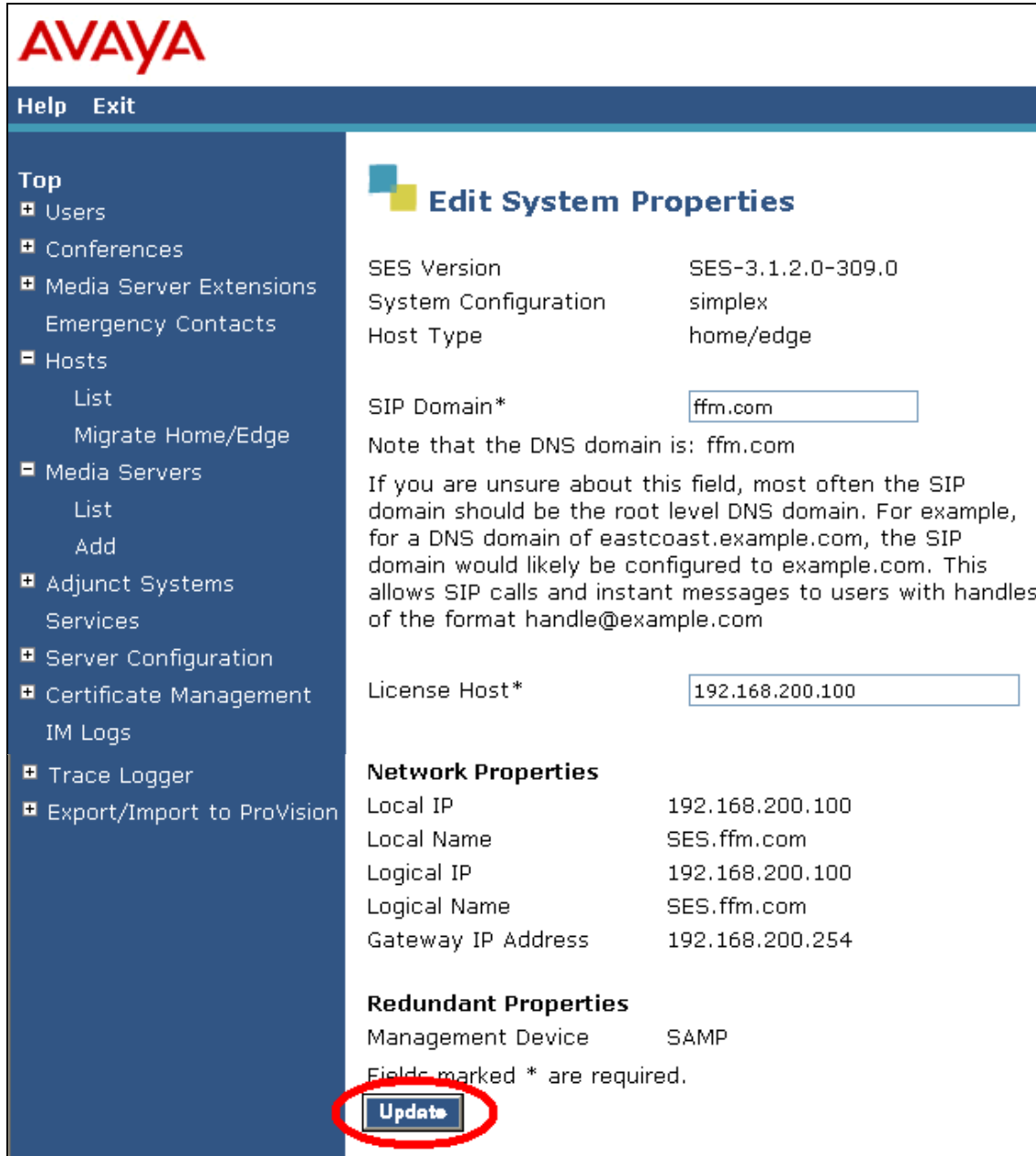

Top

Manage Users	Add and delete Users.
Manage Conferencing	Add and delete Conference Extensions.
Manage Media Server Extensions	Add and delete Media Server Extensions.
Manage Emergency Contacts	Add and delete Emergency Contacts.
Manage Hosts	Add and delete Hosts.
Manage Media Servers	Add and delete Media Servers.
Manage Adjunct Systems	Add and delete Adjunct Systems.
Manage Services	Start and stop server processes on this host.
Server Configuration	Edit Properties of the system.
Certificate Management	Manage Certificates.
IM Logs	Download IM Logs.
Trace Logger	Manage SIP Trace Logs.
Export Import to ProVision	Export and import data using ProVision on this host.

Figure 27: SES Integrated Management Top Level Menu

3.3.1. Configure Basic SES Parameters

From the top-level management screen, select “Server Configuration” -> “System Properties”. Enter the name to be assigned to the “SIP Domain”. This must be the same value that was assigned in **Figure 8**, **Figure 23**, **Figure 25**, and **Figure 40**. Select the “Update” button.



The screenshot shows the Avaya SES Edit System Properties screen. On the left is a navigation menu with options like Top, Users, Conferences, Media Server Extensions, Emergency Contacts, Hosts, Media Servers, Adjunct Systems, Server Configuration, Certificate Management, IM Logs, Trace Logger, and Export/Import to ProVision. The main content area is titled 'Edit System Properties' and contains several sections: Basic System Properties (SES Version, System Configuration, Host Type), SIP Domain configuration (SIP Domain*, Note, and a detailed explanation), License Host*, Network Properties (Local IP, Local Name, Logical IP, Logical Name, Gateway IP Address), and Redundant Properties (Management Device). A red circle highlights the 'Update' button at the bottom left of the main content area.

Edit System Properties	
SES Version	SES-3.1.2.0-309.0
System Configuration	simplex
Host Type	home/edge
SIP Domain*	<input type="text" value="ffm.com"/>
Note that the DNS domain is: ffm.com	
If you are unsure about this field, most often the SIP domain should be the root level DNS domain. For example, for a DNS domain of eastcoast.example.com, the SIP domain would likely be configured to example.com. This allows SIP calls and instant messages to users with handles of the format handle@example.com	
License Host*	<input type="text" value="192.168.200.100"/>
Network Properties	
Local IP	192.168.200.100
Local Name	SES.ffm.com
Logical IP	192.168.200.100
Logical Name	SES.ffm.com
Gateway IP Address	192.168.200.254
Redundant Properties	
Management Device	SAMP
Fields marked * are required.	
<input type="button" value="Update"/>	

Figure 28: Avaya SES Edit System Properties Screen

From the top-level management screen, click “Manage Hosts” ->y “Add Host”. Enter the **Host IP Address** of the Avaya SES Server, a **DB password**, and a **Profile Service Password** that were allocated to the Avaya SES server when it was installed. Leave the other fields assigned to their respective default values. Select the “Update” button.

Add Host

Host IP Address*

DB Password

Profile Service Password

Host Type

Parent

Listen Protocols ☒ UDP ☒ TCP ☒ TLS

Link Protocols ☐ UDP ☐ TCP ☒ TLS

Presence Access Policy (Default) ☐ Allow All ☒ Deny All

Emergency Contacts Policy ☒ Allow ☐ Deny

Minimum Registration (seconds) Registration Expiration Timer (seconds)*

Line Reservation Timer (seconds)

Outbound Routing Allowed ☒ Internal ☐ External

From OutboundProxy Port ☐ UDP ☐ TCP ☐ TLS

Outbound Direct Domains

Default Ringer Volume* Default Ringer Cadence*

Default Receiver Volume* Default Speaker Volume*

VMM Server Address

VMM Server Port VMM Report Period

Fields marked * are required.

Update

Figure 29: Avaya SES “Add Host” Screen

3.3.2. Configure Interface to Avaya Communication Manager

From the top-level management screen, select “Manage Media Servers”-> “Add Media Server”. Assign a meaningful name to the “Media Server Interface Name”. Select the IP address of the Avaya SES server as the “Host”. Enter the address of the Avaya S8300 Server as the SIP Trunk IP Address. Select the “Add” button when these parameters have been entered.

The screenshot displays the Avaya Integrated Management SIP Server Management interface. The top header features the Avaya logo and the title 'Integrated Management SIP Server Management'. Below the header, a navigation menu on the left lists various management options, including 'Top', 'Users', 'Conferences', 'Media Server Extensions', 'Emergency Contacts', 'Hosts', 'List', 'Migrate Home/Edge', 'Media Servers', 'Adjunct Systems', 'Services', 'Server Configuration', 'Certificate Management', 'IM Logs', 'Trace Logger', and 'Export/Import to ProVision'. The main content area is titled 'Add Media Server Interface' and contains several form fields. The 'Media Server Interface Name*' field is populated with 'G350'. The 'Host' field is a dropdown menu showing '192.168.200.100'. The 'SIP Trunk Link Type' section has two radio buttons: 'TCP' and 'TLS', with 'TLS' selected. The 'SIP Trunk IP Address*' field is populated with '192.168.30.100'. The 'Media Server' section includes four text input fields: 'Media Server Admin Address (see Help)', 'Media Server Admin Login', 'Media Server Admin Password', and 'Media Server Admin Password Confirm'. A note at the bottom states 'Fields marked * are required.' The 'Add' button is highlighted with a red circle.

AVAYA Integrated Management SIP Server Management
Server: 192.168.200.100

Help Exit

Top

- Users
- Conferences
- Media Server Extensions
 - Emergency Contacts
- Hosts
 - List
 - Migrate Home/Edge
- Media Servers
- Adjunct Systems
 - Services
- Server Configuration
- Certificate Management
 - IM Logs
- Trace Logger
- Export/Import to ProVision

Add Media Server Interface

Media Server Interface Name*

Host

SIP Trunk

SIP Trunk Link Type ☐ TCP ☒ TLS

SIP Trunk IP Address*

Media Server

Media Server Admin Address (see Help)

Media Server Admin Login

Media Server Admin Password

Media Server Admin Password Confirm

Fields marked * are required.

Add

Figure 30: Avaya SES Add Media Server Interface Screen

From the Media Server List screen select “Map” -> “Add Map In New Group”.


The screenshot shows the Avaya Integrated Management SIP Server Management interface. The top header includes the Avaya logo, the title "Integrated Management SIP Server Management", and the server IP "192.168.200.100". A left sidebar contains a navigation menu with options like Users, Conferences, Media Server Extensions, Hosts, Media Servers, Adjunct Systems, Services, Server Configuration, Certificate Management, IM Logs, Trace Logger, and Export/Import to ProVision. The main content area is titled "List Media Servers" and contains a table with columns "Commands", "Interface", and "Host". The table lists a media server with interface "G350" and host "192.168.200.100". The "Commands" column for this server includes links for "Edit Extensions", "Map" (circled in red), "Test-Link", and "Delete". Below the table is a button labeled "Add Another Media Server Interface".

Commands	Interface	Host
Edit Extensions Map Test-Link Delete	G350	192.168.200.100

[Add Another Media Server Interface](#)

Figure 31: Media Server List Screen

Enter a meaningful name for the address map. Enter the “^sip:3.*” to cause all calls to numbers beginning with “3” to be routed to the G350.



The screenshot displays the Avaya Integrated Management SIP Server Management web interface. The top header features the Avaya logo on the left and the title 'Integrated Management SIP Server Management' on the right, with the server IP '192.168.200.100' shown below it. A navigation menu on the left lists various system components, with 'Add' button highlighted in the 'Media Servers' section. The main content area is titled 'Add Media Server Address Map' and contains a form with the following fields: 'Host' (G350), 'Name*' (G350map), 'Pattern*' (^sip:3.*), and 'Replace URI' (checked). A note states 'Fields marked * are required.' The 'Add' button is circled in red.

AVAYA Integrated Management SIP Server Management
Server: 192.168.200.100

Help Exit

Top

- + Users
- + Conferences
- + Media Server Extensions
Emergency Contacts
- + Hosts
- + Media Servers
Add
- + Adjunct Systems
- Services
- + Server Configuration
- + Certificate Management
- IM Logs
- + Trace Logger
- + Export/Import to ProVision

Add Media Server Address Map

Host G350

Name* G350map

Pattern* ^sip:3.*

Replace URI ☒

Fields marked * are required.

Figure 32: Add Media Server Address Map

The screenshot displays the Avaya Integrated Management SIP Server Management web application. The top navigation bar includes "Help" and "Exit" links, and the server address "Server: 192.168.200.100". A left-hand sidebar contains a tree view of system components such as Users, Conferences, Media Server Extensions, Emergency Contacts, Hosts, Media Servers, Adjunct Systems Services, Server Configuration, Certificate Management, IM Logs, Trace Logger, and Export/Import to ProVision.

The main content area shows the "List Media Server Address Map" page for host "G350". It features a table with columns for Commands, Name, and Contact. The table lists a single entry named "G350Map" with contact information "sip:\${(user)}@192.168.30.100:5061;transport=tls". Below the table are buttons for "Add Another Map", "Add Another Contact", and "Delete Group". An "Add Map In New Group" button is also present at the bottom.

<u>Commands</u>	<u>Name</u>	<u>Contact</u>
Edit Delete	G350Map	sip:\${(user)} @192.168.30.100:5061;transport=tls

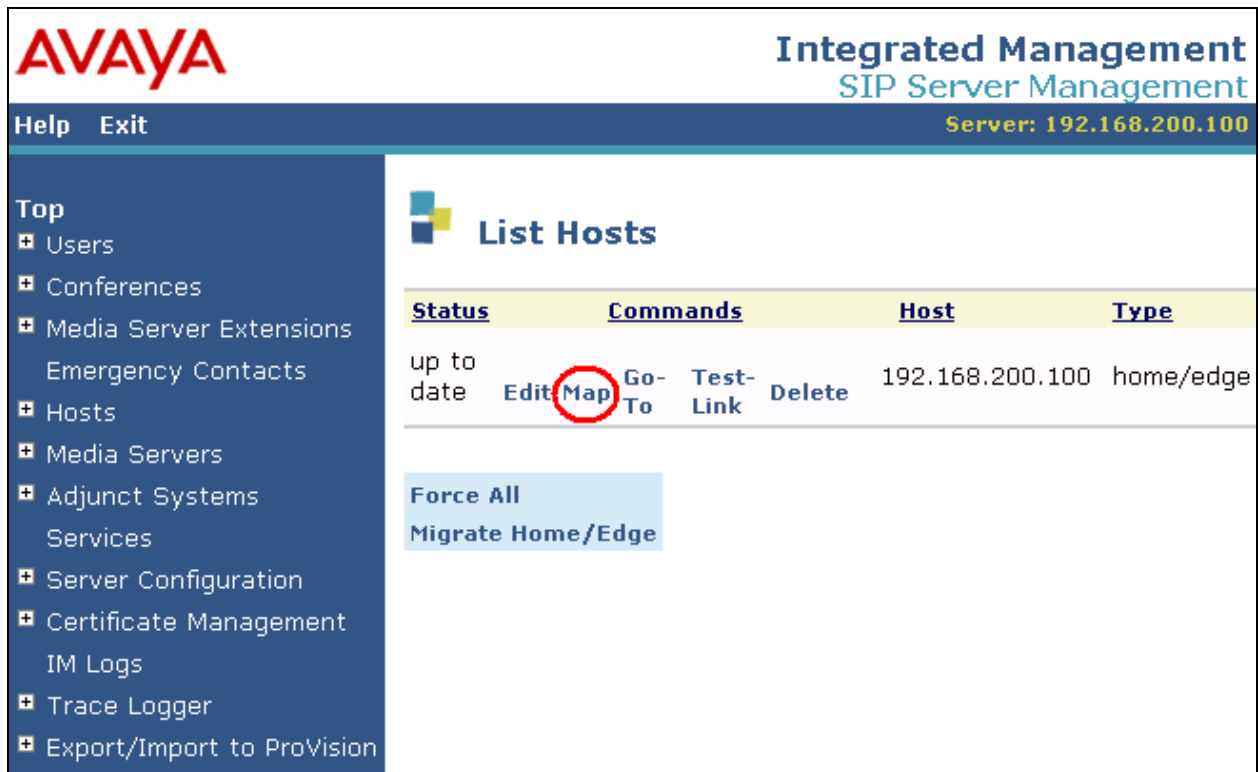
Buttons below the table:

- Add Another Map
- Add Another Contact
- Delete Group
- Add Map In New Group

MRR; Reviewed:
SPOC 11/8/2007

3.3.3. Configure SIP Interface to NovaAlert

From the top-level menu select “Manage Hosts” -> “List Hosts”. Select the “Map” -> “Add Map In New Group” menu point to add a host map for NovaAlert.



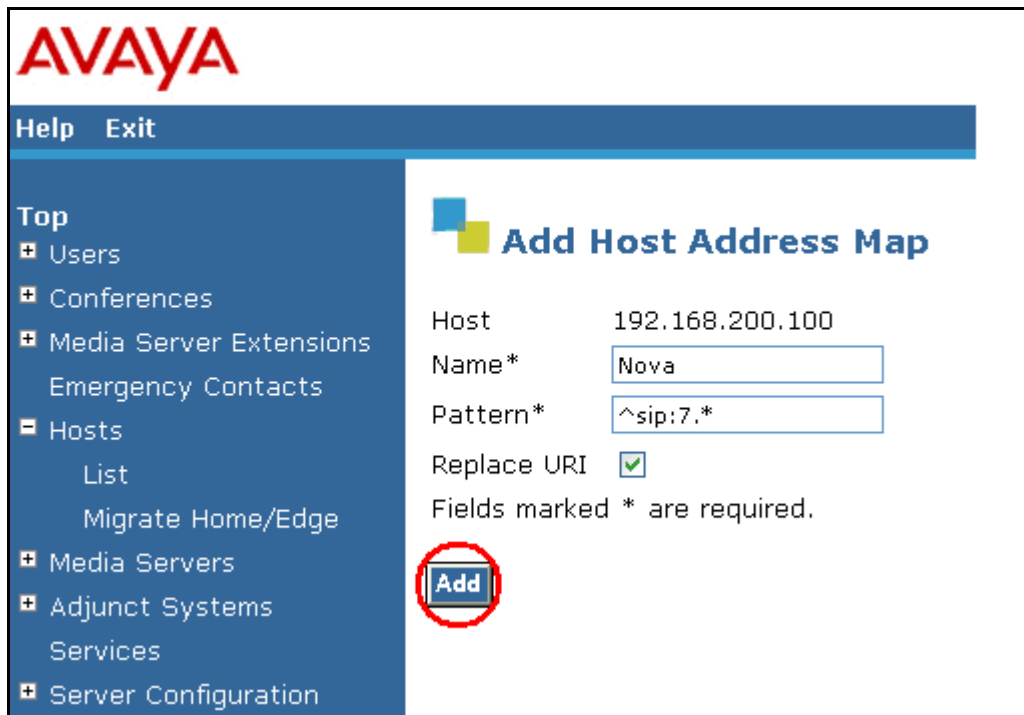
The screenshot shows the Avaya Integrated Management SIP Server Management interface. The top header includes the Avaya logo, the title "Integrated Management SIP Server Management", and the server address "Server: 192.168.200.100". A navigation menu on the left lists various options under "Top", including Users, Conferences, Media Server Extensions, Emergency Contacts, Hosts, Media Servers, Adjunct Systems, Services, Server Configuration, Certificate Management, IM Logs, Trace Logger, and Export/Import to ProVision. The main content area is titled "List Hosts" and displays a table with columns: Status, Commands, Host, and Type. The table contains one row with the status "up to date", the command "Edit Map" (where "Map" is circled in red), "Go-To", "Test-Link", and "Delete", the host "192.168.200.100", and the type "home/edge". Below the table, there are two buttons: "Force All" and "Migrate Home/Edge".

Status	Commands	Host	Type
up to date	Edit Map Go-To Test-Link Delete	192.168.200.100	home/edge

Force All
Migrate Home/Edge

Figure 34: SES Host List

Enter a meaningful name for the host map and pattern which matches the telephone extensions assigned to NovaAlert. The pattern “^sip:7.*” matches all SIP telephone numbers assigned to NovaAlert (numbers beginning with “7”). Click the “Add” button upon completion.



The screenshot shows the Avaya SES web interface. At the top is the Avaya logo. Below it is a navigation bar with 'Help' and 'Exit' links. A left-hand menu contains various configuration options: 'Top', 'Users', 'Conferences', 'Media Server Extensions', 'Emergency Contacts', 'Hosts' (with sub-options 'List' and 'Migrate Home/Edge'), 'Media Servers', 'Adjunct Systems', 'Services', and 'Server Configuration'. The main content area is titled 'Add Host Address Map'. It contains the following fields: 'Host' with the value '192.168.200.100', 'Name*' with the value 'Nova', and 'Pattern*' with the value '^sip:7.*'. There is a 'Replace URI' checkbox which is checked. A note states 'Fields marked * are required.' At the bottom of the form is an 'Add' button, which is circled in red.

AVAYA

Help Exit

Top

- + Users
- + Conferences
- + Media Server Extensions
- Emergency Contacts
- Hosts
 - List
 - Migrate Home/Edge
- + Media Servers
- + Adjunct Systems
- Services
- + Server Configuration

Add Host Address Map

Host 192.168.200.100

Name* Nova

Pattern* ^sip:7.*

Replace URI ☒

Fields marked * are required.

Add

Figure 35: SES Host Address Map for NovaAlert

When the Host Address Map list is displayed, select “Add Contact” to create a contact for NovaAlert. Enter “sip:\$(user)@”<NovaAlert IP address>”;<NovaAlert port>;transport=udp”. Upon completion of this form, click “Add”.

The screenshot shows the Avaya SES web interface. At the top is the Avaya logo. Below it is a navigation bar with 'Help' and 'Exit' links. A sidebar on the left contains a 'Top' section and a list of expandable/collapsible items: Users, Conferences, Media Server Extensions, Emergency Contacts, Hosts (expanded), List, Migrate Home/Edge, Media Servers, and Adjunct Systems. The main content area is titled 'Add Host Contact' and contains the following fields:

Host	192.168.200.100
Handle	Nova
Contact*	<input type="text" value="sip:\$(user)@192.168.200.99:5060;transport=udp"/>

Fields marked * are required.

An 'Add' button is located at the bottom of the form, circled in red.

Figure 36: SES Host Contact for NovaAlert

3.3.4. Configure Users for SIP Endpoints

This step can be omitted if no SIP endpoints are present in the configuration. From the top-level menu, select the “Manage Users” -> “Add User” menu entries. Enter the extension of the user to be added as the “Primary Handle”. This is the same extension that was configured in **Section 3.1.7**. Enter a **Password** and **First/Last Name** of the user, check the “Add Media Server Extension” box, and click “Add”.

AVAYA Integrated Management
SIP Server Management
Server: 192.168.200.100

Help Exit

Top

- Users
- Conferences
- Media Server Extensions
- Emergency Contacts
- Hosts
- Media Servers
- Adjunct Systems
- Services
- Server Configuration
- Certificate Management
- IM Logs
- Trace Logger
- Export/Import to ProVision

Add User

Primary Handle* 3000115

User ID 3000115

Password*

Confirm Password*

Host* 192.168.200.100

First Name* Extn

Last Name* 3000115

Address 1 Kleyerstr 94

Address 2

Office

City Frankfurt

State

Country Germany

Zip 60326

Add Media Server Extension ☒

Fields marked * are required.

Add

Figure 37: Avaya SES “Add User” Screen

Enter the Media Server Extension for the User ID 3000115 (the extension of the Avaya SIP telephone). Select the Media Server (refer to **Figure 30**) from the drop-down box and click “Add” to continue.

The screenshot shows the Avaya Integrated Management SIP Server Management web interface. The top header includes the Avaya logo, the title 'Integrated Management SIP Server Management', and the server IP '192.168.200.100'. A left-hand navigation menu lists various system components. The main content area is titled 'Add Media Server Extension' and contains two input fields: 'Extension*' with the value '3000115' and 'Media Server' with a dropdown menu showing 'G350'. A note below the fields states 'Fields marked * are required.' The 'Add' button is highlighted with a red circle.

Top
Users
Conferences
Media Server Extensions
Emergency Contacts
Hosts
Media Servers
Adjunct Systems
Services
Server Configuration
Certificate Management
IM Logs
Trace Logger
Export/Import to ProVision

Add Media Server Extension

Extension*

Media Server

Fields marked * are required.

Add

Figure 38: Avaya SES Add Media Server Extension Screen

3.3.5. Configure NovaAlert as Trusted Host

Login to the SES server as user sroot and assign the IP address of the NovaAlert server as a trusted host so that SES will not request authorization from NovaAlert.

```
admin@SES> trustedhost -a 192.168.200.99 -n 192.168.200.100 -c NovaLink
192.168.200.99 is added to trusted host list.
```

Figure 39: Trusted Host Assignment for SIP Interface

3.4. Configure NovaAlert

3.4.1. Configuration file NovaAlert.ini

The NovaAlert.ini configuration file is a “flat” ASCII file that can be edited with a text editor. This file is contained in the main installation directory on the NovaAlert server (e.g. C:\Program Files\NovaAlert). The values within this file must be set as shown in **Figure 40**. The values for those items shown in bold may vary, depending on the configuration of external components. The values to be used for these entries are described in the following table.

Parameter	Usage
CardDriver	Enter “3” to specify the SIP driver.
DefaultCallingParty	Enter the extension chosen for NovaAlert.
DriverPref	Enter “3” to specify the SIP driver.
LocalUserName	Enter the extension chosen for NovaAlert.
SIP_Gateway	Enter the Authoritative Domain. This must be the same value that was assigned in Figure 8 , Figure 23 , Figure 25 , and Figure 28 . This is followed by the IP address for the Avaya SES server, as defined in the “ses” entry in the Node-Names form shown in Figure 7 .
Rufnummer	This is the extension assigned to NovaAlert. A value of “7111111” was used for these tests.

Table 13: Parameters for Telephone Setting File

```
[CallInfo]
CardDriver=3
DefaultCallingParty=7111111

[VoIP]
DriverPref=3
LocalUserName=7111111
SIP_Gateway=ffm.com,192.168.200.100

[NovaAlert]
Rufnummer=7111111
```

Figure 40: NovaAlert.ini Configuration File Content

3.4.2. Configure NovaAlert Application

Start the “NovaAlert Web Client” application from the Windows “start” control.

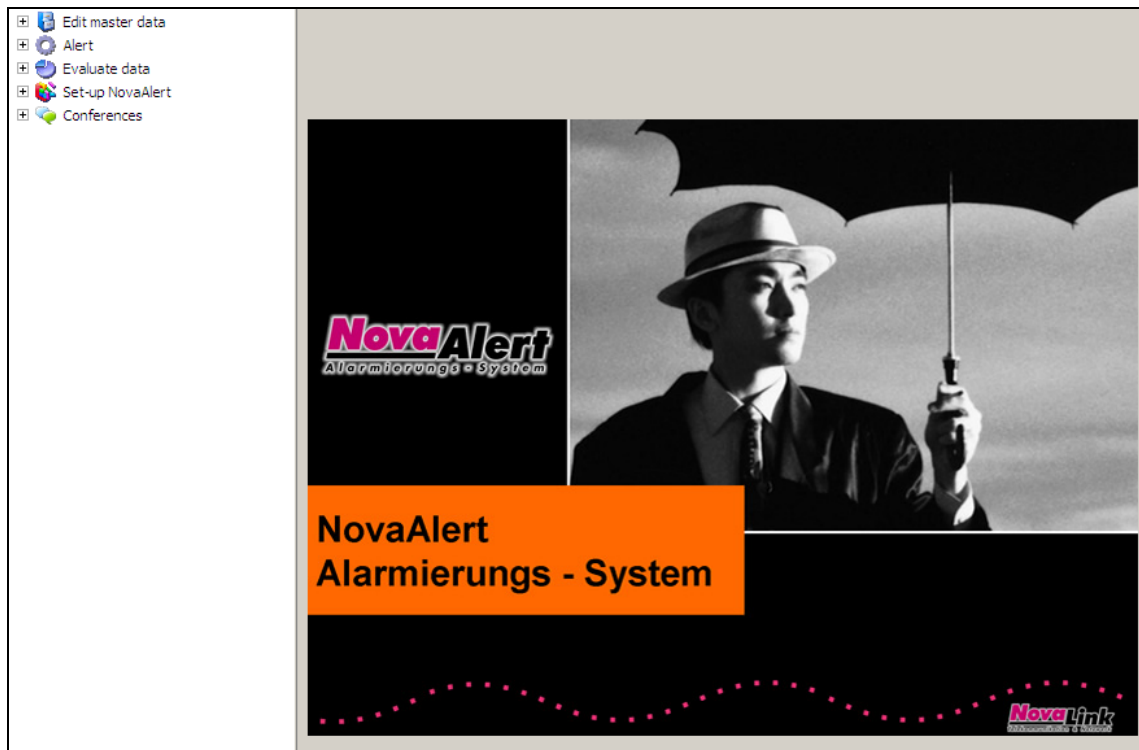


Figure 41: NovaAlert Introductory Screen

3.4.3. Configure Users

Select the “User master data” icon from the left frame.

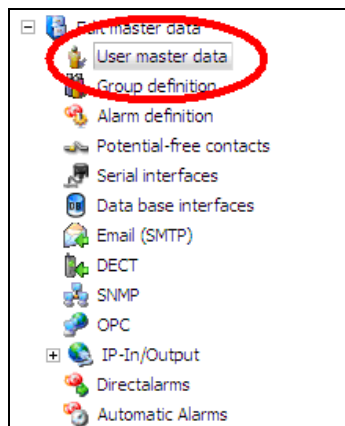


Figure 42: User Master Data Configuration Selection from NovaAlert Top-Level Screen

When the “Person definitions” screen appears, click the “New person” button.

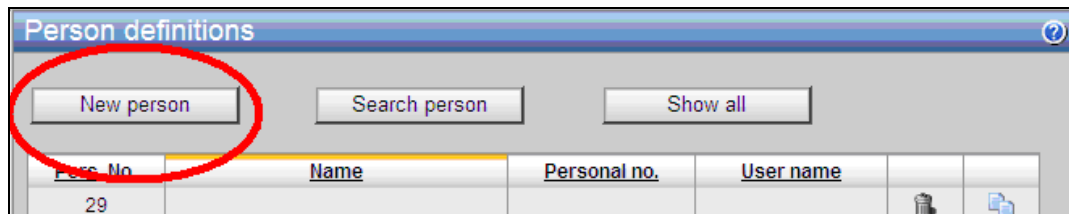


Figure 43: New Person Selection from NovaAlert User Screen

In the “Personal details” tab, enter the name and a PIN code to be assigned to the user. The user will use this PIN code when an authorization sequence is required.

The screenshot shows a web application window titled "Edit person". At the top right, there is a "Back" button and a help icon. Below the title bar, there are two input fields: "No.:" with the value "37" and "Name:" with the value "Apparat 3000001". Below these fields are four tabs: "Personal details", "Telephone numbers", "Authorization", and "Notes". The "Personal details" tab is selected. The form contains several input fields: "Name:" with the value "Apparat 3000001", "Add. information:", "Name of street:", "ZIP/Town/City:" (split into two fields), "Lingua:" with a dropdown menu showing "German", "PIN code:" with the value "1234", and "Personal ID:". There is also a checkbox labeled "Deactivated" which is currently unchecked.

Figure 44: NovaAlert Edit Personal Details Screen

Select the “Telephone numbers” tab, enter the telephone number to be assigned to the user, and click the “Save changes” button.

Edit person Back ?

No.: 37 Name: Apparat 3000001

Personal details Telephone numbers Authorization Notes

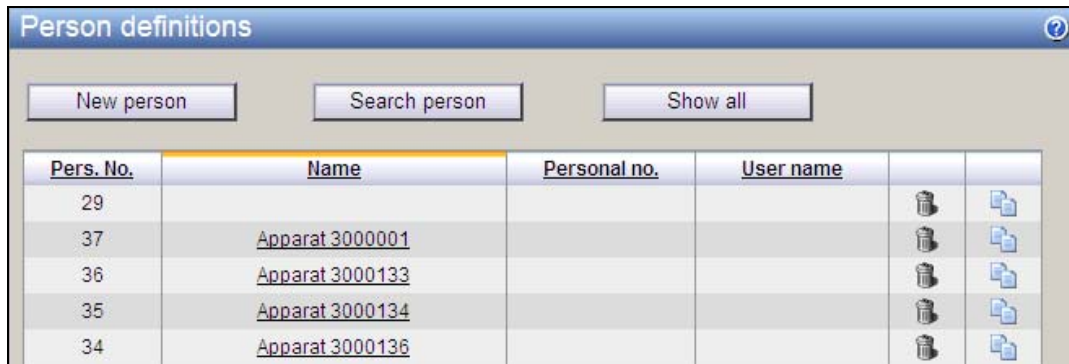
On-call duty		On-call duty	
Office 1:	3000001 <input checked="" type="checkbox"/>	Office 2:	<input checked="" type="checkbox"/>
Home 1:	<input checked="" type="checkbox"/>	Home 2:	<input checked="" type="checkbox"/>
Mobile 1:	<input checked="" type="checkbox"/>	Mobile 2:	<input checked="" type="checkbox"/>
SMS GSM 1:	<input checked="" type="checkbox"/>	SMS GSM 2:	<input checked="" type="checkbox"/>
DECT 1:	<input checked="" type="checkbox"/>	DECT 2:	<input checked="" type="checkbox"/>
Fax 1:	<input checked="" type="checkbox"/>	Fax 2:	<input checked="" type="checkbox"/>
Serial 1:	<input checked="" type="checkbox"/>	Serial 2:	<input checked="" type="checkbox"/>
Pager 1:	<input type="text"/> Tone call <input checked="" type="checkbox"/>		
Pager 2:	<input type="text"/> Tone call <input checked="" type="checkbox"/>		
E-Mail:	<input type="text"/> <input checked="" type="checkbox"/>		
PC-Name/IP:	<input type="text"/> <input checked="" type="checkbox"/>		

Save changes Discard

Figure 45: NovaAlert Edit Personal Telephone Numbers Screen

Repeat this for the other extensions, which are used for testing.

The newly configured users are now listed in the “Person definitions” screen.



The screenshot shows the 'Person definitions' window with a title bar and a help icon. Below the title bar are three buttons: 'New person', 'Search person', and 'Show all'. A table displays a list of users with columns for 'Pers. No.', 'Name', 'Personal no.', and 'User name'. Each row also includes icons for deleting and adding users.

<u>Pers. No.</u>	<u>Name</u>	<u>Personal no.</u>	<u>User name</u>		
29					
37	<u>Apparat 3000001</u>				
36	<u>Apparat 3000133</u>				
35	<u>Apparat 3000134</u>				
34	<u>Apparat 3000136</u>				

Figure 46: NovaAlert Personal User Display Screen

3.4.4. Configure Alarms

Use the Windows “Start” button to select the “Alarm definition” icon from the left frame.

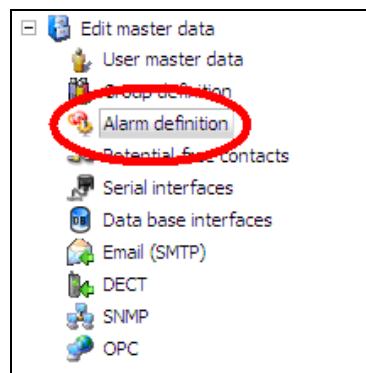


Figure 47: Alarm Definition Configuration Selection from NovaAlert Top-Level Screen

When the “Alarm definition” screen appears, click the “New Alarm” button.

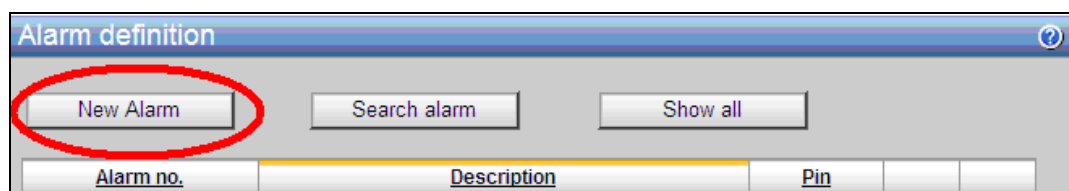


Figure 48: NovaAlert New Alarm Selection Screen

Configure the “General” alarm definition tab with the information shown in the following table.

Parameter	Usage
Description	Enter a name to be assigned to the alarm.
Pin code for trigger	Enter the PIN code to be used for alarm recipient verification
Priority	Select “Höchste Priorität” (highest priority) from the drop-down box.
Group call	Select “Group Call” from the drop-down box.
Nbr. Of pers. To be contacted	Select “Alle” (all) from the drop-down box.
Based on person	Check this box.
Display on reports	Check this box.
Select contact group	Select the “Compile individual alert list” radio button.

Table 14: NovaAlert General Alarm Configuration Parameters

Figure 49: NovaAlert New Alarm Definition Screen

Configure the “Messages” alarm definition tab with the information shown in the following table and click the “Save changes” button.

Parameter	Column	Usage
Phone display	Alarm messages	Enter the text message that is to be shown on the Avaya telephone display. The length of this message should not exceed the maximum calling party name text length which can be displayed by Avaya telephones, which is 15 characters for telephones used for these tests.
	Event text	Select “Yes” from the drop-down box.
	Call type	Select “Dauer” from the drop-down box.
	copy	Select this check box.
Phone TTS		Select the check box, which is positioned to the left of the “Alarm messages” text box.
	Alarm messages	Enter the text message, which is converted to speech and announced to the party receiving the alarm.
	Event text	Select “Yes” from the drop-down box.

Table 15: NovaAlert Alarm Messages Configuration Parameters

The screenshot shows the 'NovaAlert Alarm Message Definition Screen' with the 'Messages' tab active. The configuration parameters are as follows:

- Alarm messages:** Testalarm
- Event text:** Yes
- Call type:** Dauer
- copy:** ☒
- Phone display:** (empty field)
- Phone TTS:** ☒
- Calling Party:** (empty field)
- Alarm mess. before pin:** ☐
- Alarm mess. before conference:** ☐
- Fix before indiv. voice mess.:** ☐

The 'Save changes' button at the bottom is circled in red.

Figure 50: NovaAlert Alarm Message Definition Screen

3.4.5. Configure Direct Alarms

The Direct Alarm function maps a specific Called Party Number to an alarm, so that when this number is dialed, the caller records a message (optional) and the alarm is triggered. The recorded message is played on the alarmed stations.

Use the Windows “Start” button to select the “Directalarms” icon from the left frame.

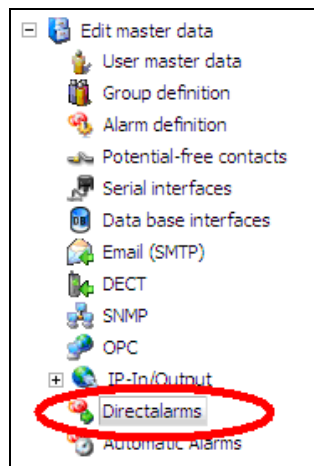


Figure 51: Direct Alarm Configuration Selection from NovaAlert Top-Level Screen

When the “Direct alarm” screen appears, click the “New Alarm” button.

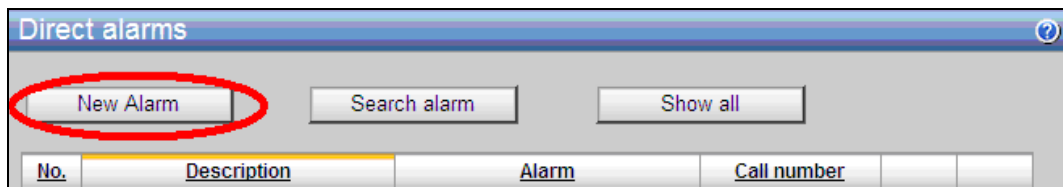


Figure 52: NovaAlert New Direct Alarm Selection Screen

Configure the “General” alarm definition tab with the information shown in the following table, and click the “Save changes” button.

Parameter	Usage
Description	Enter a name to be assigned to the alarm.
Initiating call number	Enter the telephone number that is to be used by NovaAlert to make the alarm call.
PIN Code	Enter a PIN code that needs to get input to trigger the alarm. Leave empty if none is required.
Alarm no.	Select one of the previously configured alarms from the drop-down box.
Alarm text	Input an alarm text to display on the alarmed stations (as Calling Party Name). Leave empty for the default alarm text.
Recording	Check this box to allow the recording of an alarm message per call.
Min. recording time	Enter the minimum recording time, in seconds.

Table 16: NovaAlert General Direct Alarm Configuration Parameters

Figure 53: NovaAlert Direct Alarm Configuration Screen

4. Interoperability Compliance Testing

The interoperability compliance tests included feature and serviceability testing.

The feature testing focused on testing use case scenarios that involve interaction between the NovaLink and Avaya products, including various sequences involving:

- Verification of the correct delivery of alarm voice messages
- Verification of the correct display of alarm text messages
- Verification of the ability of NovaAlert to recognize DTMF tones.
- Verification of the ability of NovaAlert to receive overlap number transmission.
- Verification of the ability of Avaya telephones to correctly log unanswered alarms.

The serviceability testing focused on verifying that the NovaLink product components can recover from interruption to interface connections that can occur during routine maintenance activities. Each of these units was also tested for recovery from unexpected power interruption.

4.1. General Test Approach

All testing 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:

- Manually generating alarms from the NovaAlert console and manually making calls from Avaya telephones tested the individual features of the NovaAlert.
- NovaAlert server robustness was tested by verifying its ability to recover from interruptions to its external connections via the LAN between the NovaAlert and the network.
- Verifying the ability to recover from power interruptions to the NovaAlert server further tested NovaAlert robustness.

All testing was performed manually. The tests were all functional in nature, and no performance testing was done.

4.2. Test Results

The following was observed during testing:

- It is not possible for NovaAlert to detect that an Avaya 4600 Series H.323 phone is disconnected, as Avaya Communication Manager does not report this status to the caller.

5. Verification Steps

The following steps can be performed to verify the basic operation of the various system components:

- Verify that Avaya Communication Manager and the NovaAlert server can ping each other. The “ping” command can be executed from the NovaAlert server by executing the “cmd” component via the run facility from the Windows “Start” control and entering “ping” followed by the IP address to which the ping message is to be sent. The “ping” command can be executed from Avaya Communication Manager via an SSH login session.
- Verify that the Avaya IP Telephones can call each other.
- From the Avaya Communication Manager SAT terminal, use the “status trunk” command to verify that the ports for the SIP trunk connected to NovaAlert are in the “in-service/idle” state.
- Verify that it is possible for NovaAlert to call each of the Avaya IP Telephones to initiate an ad-hoc alarm.
- Verify that it is possible to navigate the NovaAlert voice menu from each of the Avaya Telephones by calling the NovaAlert extension, and entering key sequences in response to prompting requests from NovaAlert.
- Verify the ability of Avaya Telephones to correctly log unanswered calls by initiating an unanswered conference call from NovaAlert to each of the Avaya Telephones, verifying the name and number in the log of the telephone, and subsequently dialing the caller from the telephone log.
- From the Avaya SES Maintenance Web Interface, select the “Status Summary” screen and verify that the server is in “Active” mode, no alarms are being generated, the “Server Hardware” is “okay”, and that server “Processes” are “okay”.
- Verify that it is possible to place calls between SIP and H.323 telephones.

6. Support

Technical support from NovaLink can be obtained through the following:

NovaLink GmbH
Busnesstower
Zuercherstrasse 310
8500 Frauenfeld
Switzerland
helpdesk@novalink.ch
Phone: +41 52 762 66 77
Fax: +41 52 762 66 99

7. Conclusion

These Application Notes describe the conformance testing of the NovaAlert with Avaya Communication Manager. The various features of the NovaAlert that involve its telephone interface were tested. A detailed description of the configuration required for both the Avaya and the NovaLink equipment is documented within these Application Notes. NovaAlert passed all of the tests performed, which included both functional and robustness tests.

8. Additional References

- [1] *Administrator Guide for Avaya Communication Manager*, February 2007, Issue 3, Document Number 03-300509
- [2] *Feature Description and Implementation for Avaya Communication Manager*, February 2007, Issue 5, Document Number 555-245-205
- [3] *Installing and Administering SIP Enablement Services*, March 2007, Issue 2.1, Document Number 03-600768
- [4] *NovaAlert 7.5 manual*, May 2007

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