



Application Notes for Configuring NovaLink NovaMail with Avaya Communication Manager H.323 – Issue 1.0

Abstract

These Application Notes describe the compliance testing of the NovaLink NovaMail voice mail system connected to Avaya Communication Manager via an H.323 link. These Application Notes contain an extensive description of the configurations for both NovaLink NovaMail and Avaya Communication Manager.

Information in these Application Notes has been obtained through Avaya Developer*Connection* compliance testing and additional technical discussions. Testing was conducted via the Avaya Developer*Connection* 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 NovaMail 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 NovaMail voice mail server handles calls for NovaMail clients who are unable to answer the telephone. The NovaMail server greets callers with a message which indicates whether the called party is

- busy with another call
- away from the desk or unable to answer the phone
- out of the office

NovaMail takes voice messages from callers and turns on the message waiting lamp on the client's telephone when new messages are received. NovaMail clients can call the NovaMail server, which executes commands corresponding to telephone key input and responds with audio messages, providing clients with a means of retrieving messages and administering their mailbox from their local telephone or remotely. The NovaMail server turns off the client's telephone message waiting lamp after messages have been retrieved by the client.

The NovaMail server includes a web-based administration facility that allows remote administration from a web browser.

Voicemail clients can optionally be assigned a PIN code with which they are required to authenticate themselves.

NovaMail supports multiple interfaces, including the H.323 trunk described in these Application Notes.

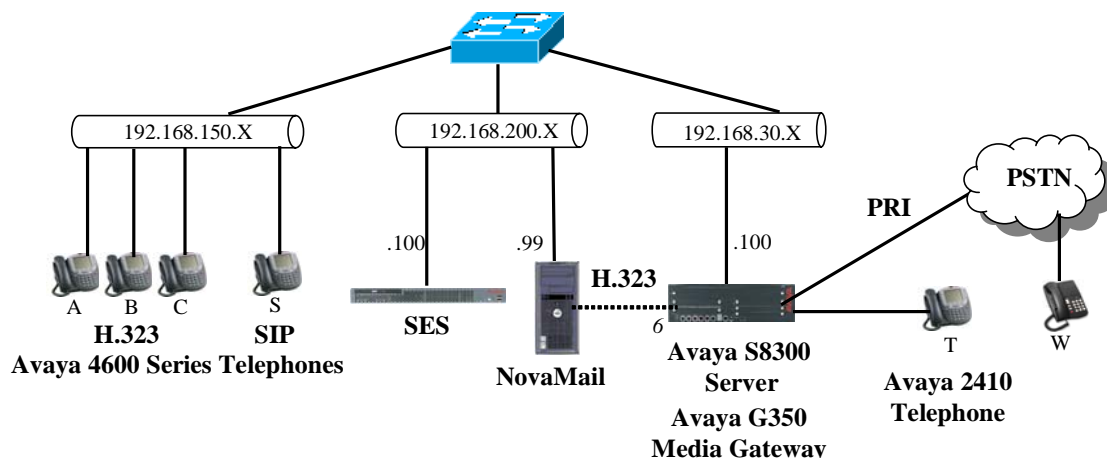


Figure 1: NovaMail Test Configuration

The H.323 trunk connecting Avaya Communication Manager to the NovaMail server was configured as trunk group 6, as shown in the diagram. The function of each of the components in **Figure 1** is as follows:

- The NovaMail server provides voice mail coverage for calls from telephones attached to Avaya Communication Manager as well as for calls from the PSTN.
- Avaya Communication Manager runs on the Avaya S8300 Server and communicates with the NovaMail 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 NovaMail	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
01000113	W
6000000	NovaMail via H.323

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 NovaMail configuration.
- Configure the H.323 interface that is used to connect to the NovaMail 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 NovaMail 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
Platform: 13
                                RFA System ID (SID): 1
                                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.

```

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 NovaMail.

```

display system-parameters customer-options
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, the parameters must be set as shown in **Table 3**.

Parameter	Required Setting	Comment
IP Stations	y	This is required so that IP stations can be configured.
Enhanced EC500	y	This is required to enable the allocation of off-PBX SIP telephones.
IP Trunks	y	This is required to allow the allocation of the H.323 trunks to be attached to NovaMail.

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

```

display system-parameters customer-options
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 8, the “Value-Added (VALU)?” parameter must be set to “y” to enable QSIG features required by NovaMail.

```
display system-parameters customer-options                               Page 8 of 10
                               QSIG OPTIONAL FEATURES

                               Basic Call Setup? y
                               Basic Supplementary Services? y
                               Centralized Attendant? n
                               Interworking with DCS? n
                               Supplementary Services with Rerouting? y
                               Transfer into QSIG Voice Mail? n
                               Value-Added (VALU)? y
```

Figure 6: System-Parameters Customers-Options Form, Page 8

3.1.2. Configure system-parameters features

Enter the **change system-parameters features** command and enter an unused extension which is within the dial plan for the “QSIG/ETSI TSC Extension” parameter on page 8. Set the value for the “MWI – Number of Digits Per Voice Mail Subscriber” parameter to the number of digits in the local dial plan. These settings are required to provide NovaMail control of the Message Waiting Indicator lamp on Avaya telephones.

```
display system-parameters features                                     Page 8 of 17
                               FEATURE-RELATED SYSTEM PARAMETERS

ISDN PARAMETERS                                                         PARAMETERS FOR CREATING
                               QSIG SELECTION NUMBERS
Send Non-ISDN Trunk Group Name as Connected Name? n                   Network Level: 0
Display Connected Name/Number for ISDN DCS Calls? n                   Level 2 Code:
Send ISDN Trunk Group Name on Tandem Calls? n                         Level 1 Code:

                               QSIG/ETSI TSC Extension: 390-0000
MWI - Number of Digits Per Voice Mail Subscriber: 7

                               National CPN Prefix:
                               International CPN Prefix:
                               Pass Prefixed CPN to ASAI? n
Unknown Numbers Considered Internal for AUDIX? n
USNI Calling Name for Outgoing Calls? n
Path Replacement with Measurements? y
QSIG Path Replacement Extension: 390-0001
Path Replace While in Queue/Vectoring? n
```

3.1.3. Configure system-parameters coverage-forwarding

Use the **change system-parameters coverage-forwarding** command and enter the settings shown in the table below.

Parameter	Required Setting	Comment
Threshold for Blocking Off-Net Redirection of Incoming Trunk Calls	2	These settings are required so that CFNR is signaled correctly for calls from external telephones
QSIG VALU Coverage Overrides QSIG Diversion with Rerouting?	y	
Coverage After Forwarding?	y	

Table 4: System-Parameters Coverage-Forwarding Parameters

change system-parameters coverage-forwarding	Page 1 of 2
SYSTEM PARAMETERS CALL COVERAGE / CALL FORWARDING	
CALL COVERAGE/FORWARDING PARAMETERS	
Local Cvg Subsequent Redirection/CFWD No Ans Interval (rings): 2	
Off-Net Cvg Subsequent Redirection/CFWD No Ans Interval (rings): 2	
Coverage - Caller Response Interval (seconds): 4	
Threshold for Blocking Off-Net Redirection of Incoming Trunk Calls: 2	
COVERAGE	
Keep Held SBA at Coverage Point? n	
External Coverage Treatment for Transferred Incoming Trunk Calls? n	
Immediate Redirection on Receipt of PROGRESS Inband Information? n	
Maintain SBA At Principal? n	
QSIG VALU Coverage Overrides QSIG Diversion with Rerouting? y	
Station Hunt Before Coverage? n	
FORWARDING	
Call Forward Override? n	
Coverage After Forwarding? y	

Figure 7: System-Parameters Coverage-Forwarding Form, Page 1

3.1.4. Configure Node Names

Use the **change node-names ip** command to configure the IP addresses of the NovaMail and the Avaya SES servers.

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

Figure 8: Node-Names IP Form

3.1.5. Configure H.323 Interface to the NovaMail Server

Use the **add trunk-group** command to configure the Trunk Group to the NovaMail Server. Assign values for this command as shown in **Table 5**.

Parameter	Usage
Group Type	Specify the Group Type as “isdn”
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.
Carrier Medium	Specify a Carrier Medium of “H.323” will be used for this trunk group.
Dial Access	Allow dial access to the trunk by dialing the trunk access code.
Service Type	Designate the trunk as a “tie” line to a peer system.
Member Assignment Method *	Specify “auto” assignment.
Signaling Group *	Specify signaling group 6.
Number of Members *	Specify a sufficient number of members to accommodate expected traffic. A value of “5” was used for these tests.
Supplementary Service Protocol	Specify a Supplementary Service Protocol of “b” for QSIG.
Format (page 2)	Specify “unk-unk” to use unknown dialing plan for calls in both directions.
Disconnect Supervision Out	Specify “y” to allow trunk-to-trunk transfers.
Send Name	Specify “y” so that the name of the caller is sent for outgoing calls.
Send Calling Number	Specify “y” so that the number of the caller is sent for outgoing calls.
Format (page 3)	Specify “unknown” to use unknown dialing plan for calls in both directions.
Send Called/Busy/Connected Number	Specify “y” so that the number of the connected party is sent to the caller.
QSIG Value-Added (page 4)	Specify “y” so that NovaMail can use the QSIG Value-Added extensions.

Table 5: Trunk-Group Parameters for H.323 Interface

* Perform a “Change trunk-group 6” after adding Signaling group 6 to define Member assignment Method, Signaling Group, and Number of Members field

add trunk-group 6		Page 1 of 21
TRUNK GROUP		
Group Number: 6	Group Type: isdn	CDR Reports: y
Group Name: NovaLink	COR: 1	TN: 1 TAC: *06
Direction: two-way	Outgoing Display? n	Carrier Medium: H.323
Dial Access? y	Busy Threshold: 255	Night Service:
Queue Length: 0	Auth Code? n	
Service Type: tie	Member Assignment Method: auto	
	Signaling Group: 6	
	Number of Members: 5	

Figure 9: Trunk-Group Form for H.323 Interface, Page 1

add trunk-group 6		Page 2 of 21
Group Type: isdn		
TRUNK PARAMETERS		
Codeset to Send Display: 6	Codeset to Send National IEs: 6	
	Charge Advice: none	
Supplementary Service Protocol: b	Digit Handling (in/out): overlap/overlap	
Digit Treatment:	Digits:	
	Digital Loss Group: 18	
Incoming Calling Number - Delete:	Insert:	Format: unk-unk
Disconnect Supervision - In? y Out? y		
Answer Supervision Timeout: 0		

Figure 10: Trunk-Group Form for H.323 Interface, Page 2

add trunk-group 6		Page 3 of 21
TRUNK FEATURES		
ACA Assignment? n	Measured: none	
	Internal Alert? n	Maintenance Tests? y
	Data Restriction? n	NCA-TSC Trunk Member:
	Send Name: y	Send Calling Number: y
Used for DCS? n	Hop Dgt? n	Send EMU Visitor CPN? n
Suppress # Outpulsing? n	Format: unknown	
	UUI IE Treatment: service-provider	
	Replace Restricted Numbers? n	
	Replace Unavailable Numbers? n	
	Send Called/Busy/Connected Number: y	
	Hold/Unhold Notifications? y	
Send UUI IE? n	Modify Tandem Calling Number? n	
Send UCID? n		
Send Codeset 6/7 LAI IE? y		

Figure 11: Trunk-Group Form for H.323 Interface, Page 3

```
add trunk-group 6                               Page    4 of   21
                                         QSIG TRUNK GROUP OPTIONS


TSC Method for Auto Callback: drop-if-possible
      Diversion by Reroute? y
        Path Replacement? y
Path Replacement with Retention? n
      Path Replacement Method: better-route
          SBS? n
Display Forwarding Party Name? y
      Character Set for QSIG Name: eurofont
          QSIG Value-Added? y
              Encoding Method: proprietary
```

Figure 12: Trunk-Group Form for H.323 Interface, Page 4

Use the **add signaling-group** command to allocate a signaling group for this trunk group.

Parameter	Usage
Group Type	Specify “h.323”.
Max number of NCA TSC	Assign a sufficient number of Non-Call Associated Temporary Signaling Connections to accommodate the anticipated maximum number of concurrent MWI messages which can be sent by NovaMail to control the message waiting lamp of Avaya Telephones. A value of “4” was used for these tests.
Trunk Group for Channel Selection	Specify “6” as the Trunk Group to be used for channel selection.
TSC Supplementary Service Protocol	Specify “b” to designate use of the QSIG protocol.
Far-end Node Name	Specify “NovaMail” as the far end node name.

Table 6: Signaling-Group Parameters for H.323 Interface

```

add signaling-group 6                                     Page 1 of 5
                                SIGNALING GROUP

Group Number: 6          Group Type: h.323
Remote Office? n          Max number of NCA TSC: 4
SBS? n                    Max number of CA TSC: 0
IP Video? n              Trunk Group for NCA TSC:
Trunk Group for Channel Selection: 6
TSC Supplementary Service Protocol: b
T303 Timer(sec): 10

Near-end Node Name: procr          Far-end Node Name: NovaMail
Near-end Listen Port: 1720         Far-end Listen Port: 1720
Far-end Network Region: 1
LRQ Required? n                  Calls Share IP Signaling Connection? n
RRQ Required? n

Bypass If IP Threshold Exceeded? n
H.235 Annex H Required? n
DTMF over IP: out-of-band         Direct IP-IP Audio Connections? n
Link Loss Delay Timer(sec): 90     IP Audio Hairpinning? n
Enable Layer 3 Test? n            Interworking Message: PROGress
DCP/Analog Bearer Capability: 3.1kHz

```

Figure 13: Signaling-Group Form for H.323 Interface

3.1.6. Configure Dial Plan and Call Routing

Use the **change dialplan analysis** command to specify that dialed strings which begin with “3” or “6” are extensions. The extensions local to this PBX are all seven digit numbers which begin with a “3”. The extensions assigned to the NovaMail are all seven digit numbers which begin with “6”. The dial string “*06” is used as a trunk access code to access the NovaMail trunk.

```

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
6         7      ext
*83       3      dac
*06       3      dac

```

Figure 14: Dialplan Analysis Form

Use the **change uniform-dialplan** command to designate extensions which begin with “6” 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				
6		7	0			aar	n					

Figure 15: Uniform-Dialplan Form

Use the **change aar analysis** command to select routing pattern “6” for numbers which have the leading dialed string “6”, as specified in the uniform dial plan shown in **Figure 14**.

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		
6		7	7	6	aar		n		

Figure 16: AAR Analysis Form

Use the **change route-pattern** command to route numbers using route-pattern 6 via Trunk Group 6.

change route-pattern 6										Page	1 of	3					
Pattern Number: 2										Pattern Name: NovaMail H.323							
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:	6	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			rest	none			
2:	y	y	y	y	y	n	n			rest			rest	none			
3:	y	y	y	y	y	n	n			rest			rest	none			
4:	y	y	y	y	y	n	n			rest			rest	none			
5:	y	y	y	y	y	n	n			rest			rest	none			
6:	y	y	y	y	y	n	n			rest			rest	none			

Figure 17: Route-Pattern 6 Form

3.1.7. 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 “6” from trunk group “6” and “3” from trunk group “83” should not be modified.

change public-unknown-numbering 7					Page 1 of 2
NUMBERING - PUBLIC/UNKNOWN FORMAT					
Ext	Ext	Trk	CPN	Total	
Len	Code	Grp(s)	Prefix	CPN	
				Len	
7	6	6		7	Total Administered: 2
7	3	83		7	Maximum Entries: 240

Figure 18: Public-Unknown-Numbering Form

3.1.8. Configure Remote Coverage

To designate NovaMail as the coverage point for remote calls, use the **change coverage remote <x>** command, when <x> is a remote coverage group between 1 and 10. Enter the extension which is assigned to NovaMail into an unused entry in the table.

change coverage remote 1			Page 1 of 23
REMOTE CALL COVERAGE TABLE			
ENTRIES FROM 1 TO 1000			
01:	16:	31:	
02:	17:	32:	
03:	18:	33:	
04:	19:	34:	
05:	20:	35:	
06: 6000000	21:	36:	
07:	22:	37:	
08:	23:	38:	
09:	24:	39:	
10:	25:	40:	
11:	26:	41:	
12:	27:	42:	
13:	28:	43:	
14:	29:	44:	
15:	30:	45:	

Figure 19: coverage remote Form

Use the **change coverage path <x>** command, when <x> is an unused coverage path between 1 and 2000. Enter the remote call coverage entry which was assigned to NovaMail in **Figure 19** as one of the coverage points in this form.

```

change coverage path 6                                     Page 1 of 1

                                COVERAGE PATH

        Coverage Path Number: 6

        Next Path Number:          Hunt after Coverage? n
                                   Linkage

COVERAGE CRITERIA

    Station/Group Status    Inside Call    Outside Call
        Active?              n              n
        Busy?                Y              Y
        Don't Answer?        Y              Y      Number of Rings: 2
        All?                  n              n
    DND/SAC/Goto Cover?      Y              Y
    Holiday Coverage?        n              n

COVERAGE POINTS
    Terminate to Coverage Pts. with Bridged Appearances? n
    Point1: r6              Rng:    Point2:
    Point3:                  Point4:
    Point5:                  Point6:
  
```

Figure 20: Coverage Path Form

3.1.9. 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.
Coverage Path 1	Enter the number of the coverage path which was created in Figure 20 .
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 NovaMail. This not required for SIP telephones.

Table 7: 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: 6	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 21: 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 22: Add Station Form, Page 4

3.1.10. 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 21 .
Call Limit	Enter “3” to allow the SIP telephone to perform call transfers.

Table 8: 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	Application	Dial	CC	Phone Number	Trunk	Config		
Extension		Prefix			Selection	Set		
300-0115	OPS	-		3000115	83	1		

Figure 23: Off-PBX-Telephone Form, Page 1

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

Figure 24: 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 sending all calls to coverage.

Table 9: 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 25: 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 26: Feature Access Code Form, Page 3

Use the **change off-pbx-telephone feature-name-extension** 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 15**.

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 10: 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 27: 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 28: 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 name assigned to Avaya SES in Figure 41 .
Name	Enter a descriptive name.

Table 11: 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 29: 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 30: IP-Codec-Set Form

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 8 .
Far-end Domain	Enter the domain name configured for SES in Figure 41 .

Table 12: 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 31: 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 which can be used to provide dial access to the trunk group.
Service Type	Designate the trunk as a “tie” line to a peer system.
Signaling Group	Enter the number assigned to the SIP signaling group show in Figure 31 .
Number of Members	Specify sufficient number of members to support the maximum simultaneous connections required.

Table 13: 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 32: Trunk-Group Screen Form

3.2. Configure Avaya IP Telephones

Configure the **46xxsettings.txt** text file to be used by Avaya IP Telephones. The parameters that are required 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.
ENHDIALSTAT	Set this parameter to “0” to indicate that enhanced dialing is not required.

Table 14: Parameters for Telephone Setting File

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

Figure 33: 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 to using the **Off-Pbx-Telephone Feature-Name-Extensions** command described in **Table 10**.

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 15: Speed Dial Entry Assignments for Avaya SIP Telephones

3.3. Configure Avaya SIP Enablement Services

Avaya SES is needed in this configuration only if Avaya SIP IP Telephones are used. 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”.

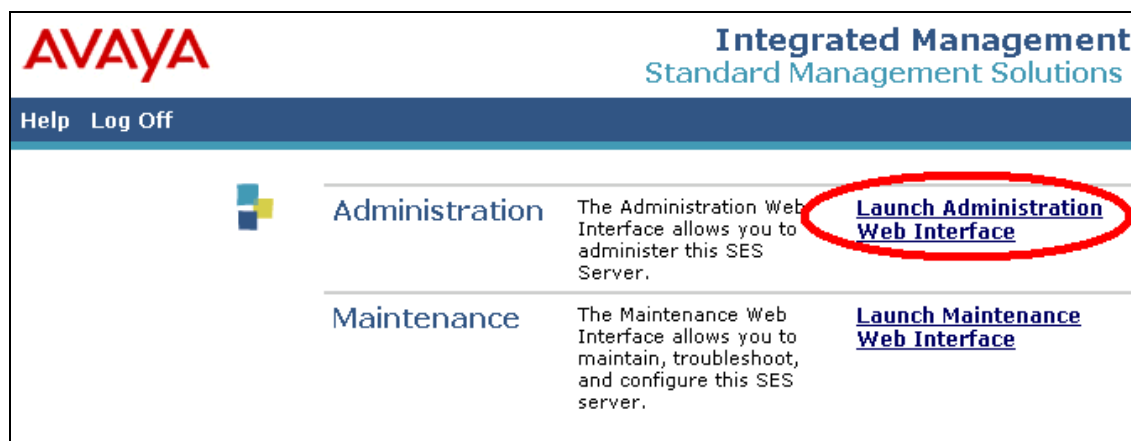


Figure 34: SES Initial Greeting Screen

From the top-level management screen, click “Manage Hosts” followed by “Add Host”.

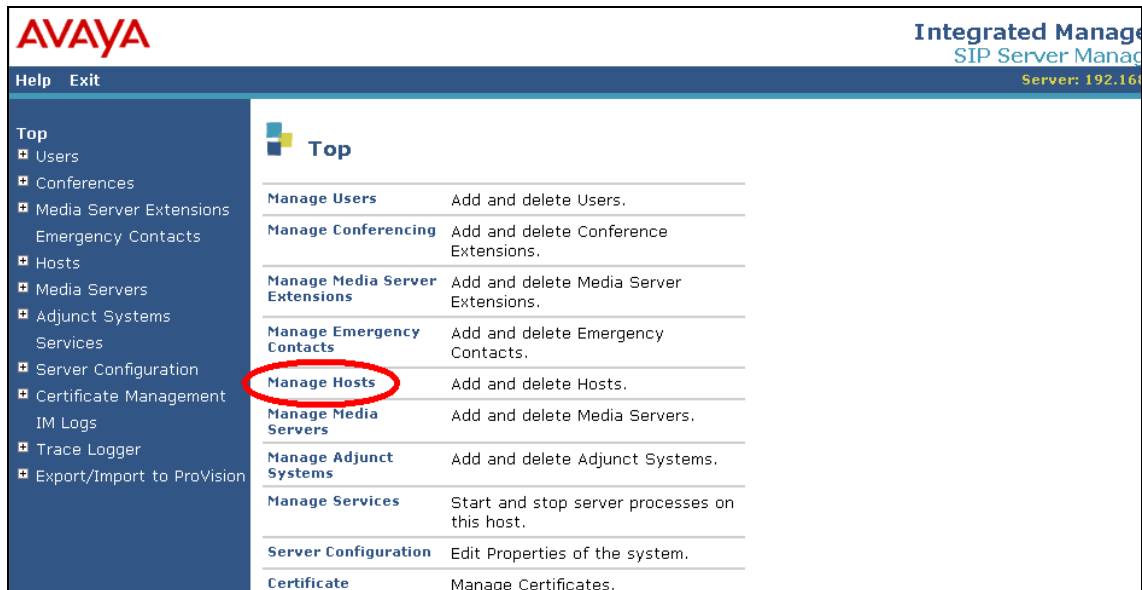
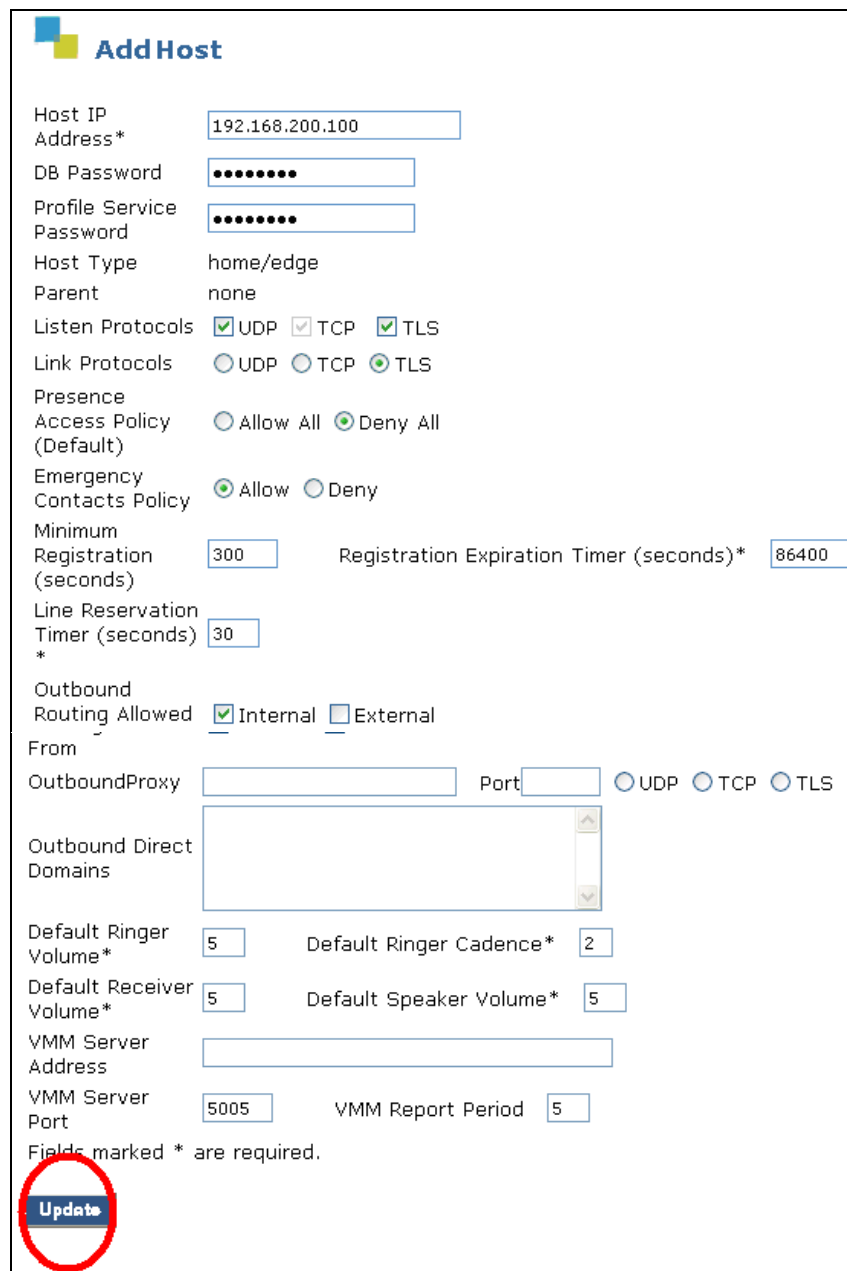


Figure 35: Host Management Selection from Top-Level Administration Screen

Enter the IP address of the Avaya SES Server, a database password, and a Profile Service Password that were allocated to the Avaya SES server when it was installed. Leave the other field assigned to their respective default values. Select the “Update” button.



The image shows the 'Add Host' configuration screen in the Avaya SES interface. It contains various input fields and checkboxes for configuring a new host. The 'Update' button at the bottom left is circled in red.

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

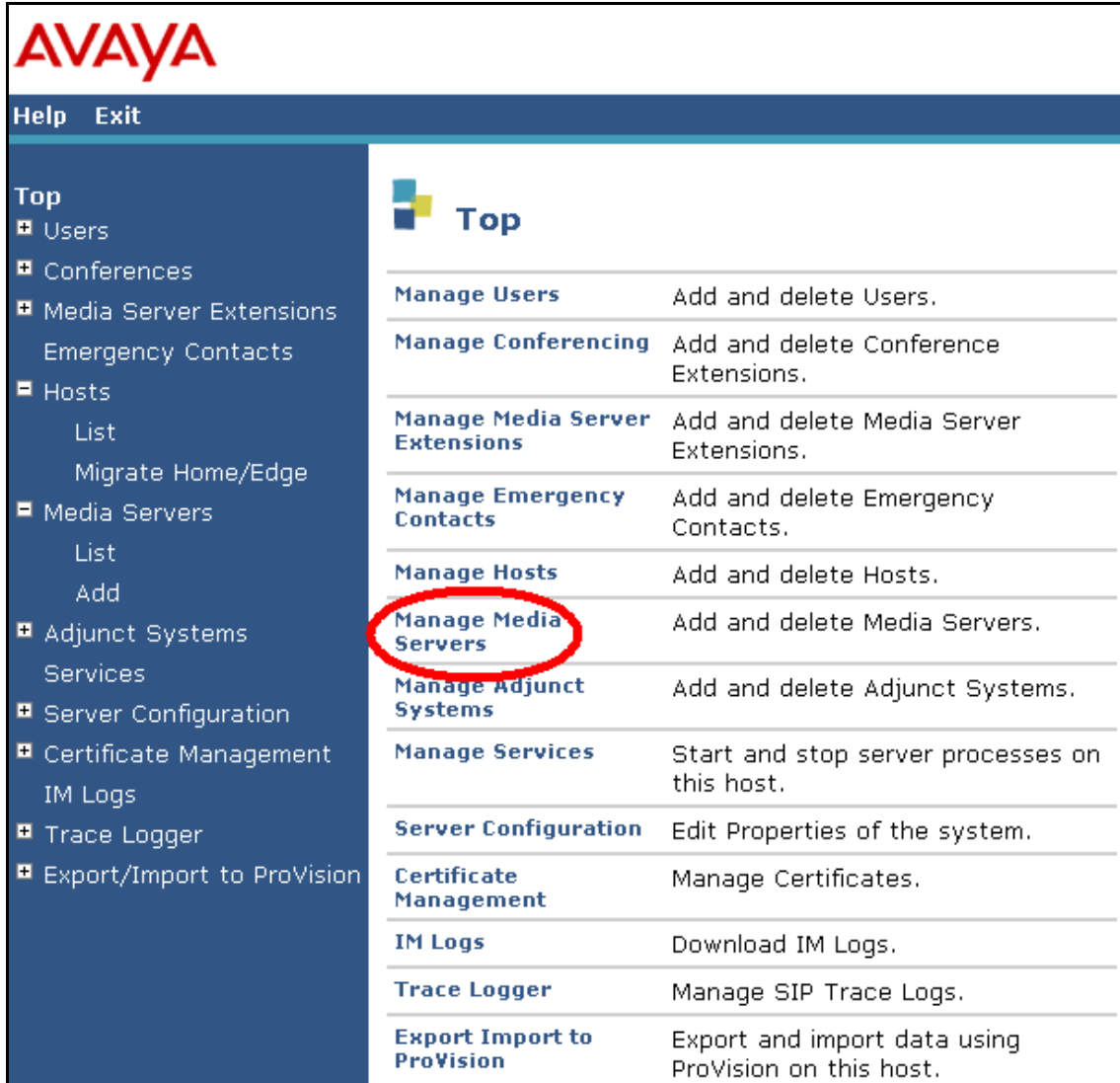
VMM Server Port VMM Report Period

Fields marked * are required.

Update

Figure 36: Avaya SES “Add Host” Screen

From the top-level management screen, select “Manage Media Servers”.



The screenshot displays the Avaya Top-Level Administration interface. On the left is a dark blue sidebar with a 'Top' section containing a list of management options: Users, Conferences, Media Server Extensions, Emergency Contacts, Hosts (with sub-options List and Migrate Home/Edge), Media Servers (with sub-options List and Add), Adjunct Systems, Services, Server Configuration, Certificate Management, IM Logs, Trace Logger, and Export/Import to ProVision. On the right is a white panel titled 'Top' with a list of management tasks. The 'Manage Media Servers' option is circled in red. The tasks listed are: Manage Users, Manage Conferencing, Manage Media Server Extensions, Manage Emergency Contacts, Manage Hosts, Manage Media Servers, Manage Adjunct Systems, Manage Services, Server Configuration, Certificate Management, IM Logs, Trace Logger, and 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 37: Media Server Management Selection from Top-Level Administration Screen

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.

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 38: Avaya SES Add Media Server Interface Screen

From the top-level management screen, select “Server Configuration”.

The screenshot displays the Avaya Top-Level Administration interface. On the left is a dark blue sidebar with a 'Top' header and a list of management categories, each preceded by a plus icon. The 'Server Configuration' option is highlighted in blue. On the right is a white panel with a 'Top' header and a table of management tasks. The 'Server Configuration' row in this table is circled in red. The table lists tasks such as 'Manage Users', 'Manage Conferencing', 'Manage Media Server Extensions', 'Manage Emergency Contacts', 'Manage Hosts', 'Manage Media Servers', 'Manage Adjunct Systems', 'Manage Services', 'Certificate Management', 'IM Logs', 'Trace Logger', and 'Export Import to ProVision', each with a brief description of its function.

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 39: Server Configuration Selection from Top-Level Administration Screen

From the Server Configuration screen, select “System Properties”.

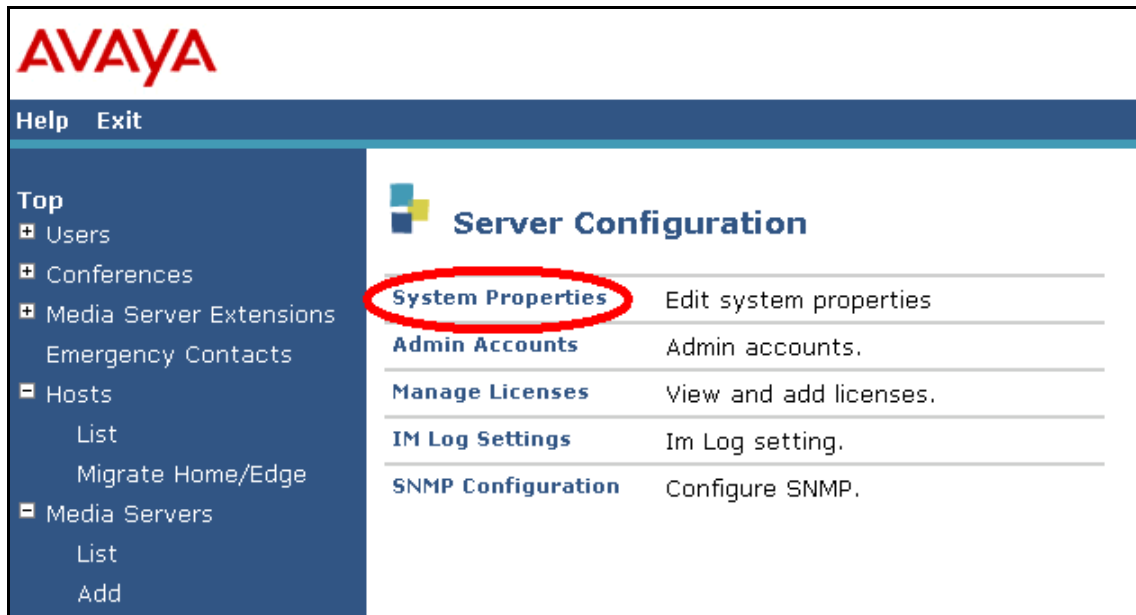
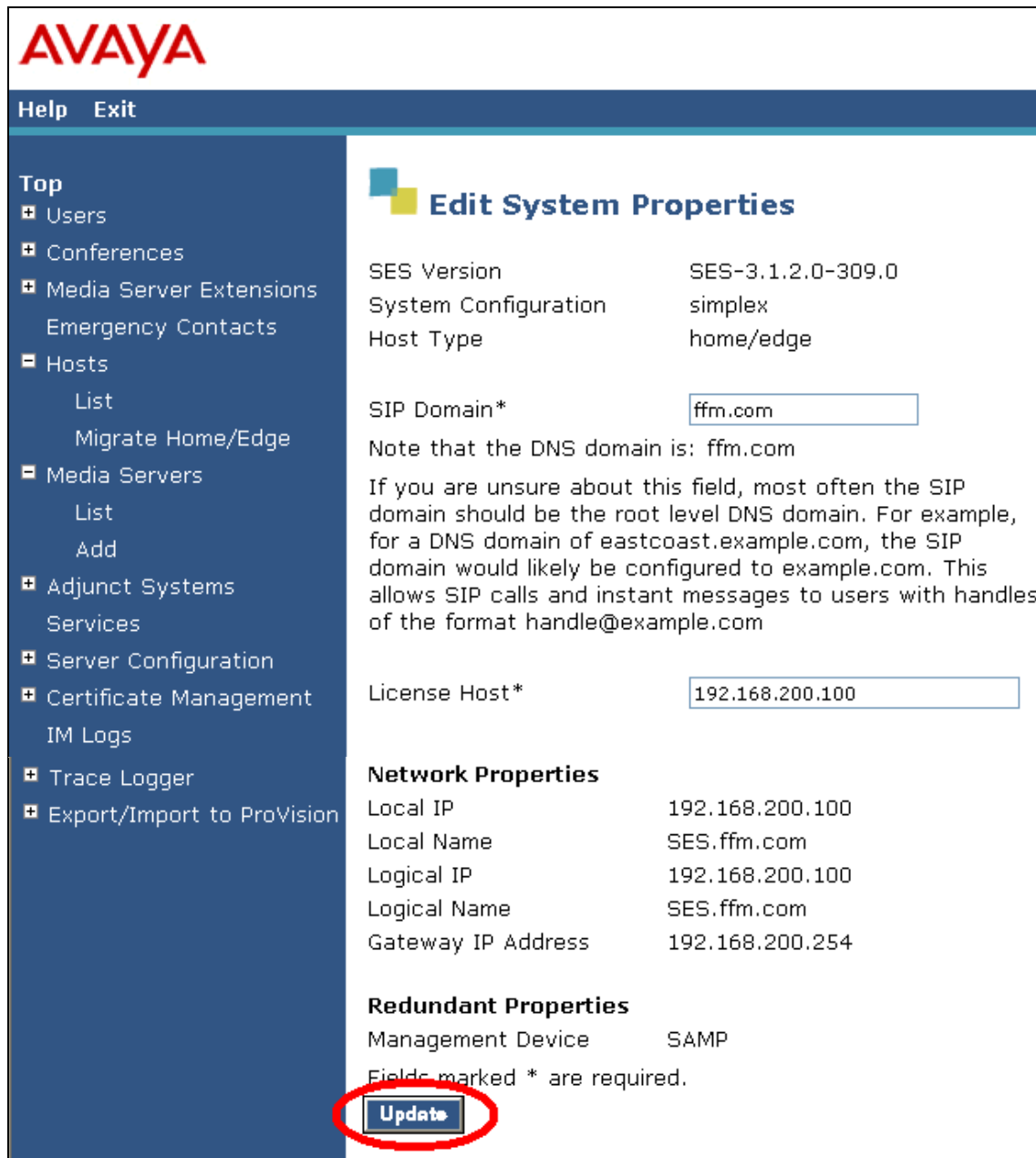


Figure 40: System Properties Selection from Server Configuration Screen

Enter the name to be assigned to the “SIP Domain”. This must be the same name as is assigned in **Figure 29** and **Figure 31**. Select the “Update” button.



The screenshot shows the Avaya SES Edit System Properties screen. On the left is a dark blue sidebar with a navigation menu. The main content area has a white background with a title bar and several sections for system configuration. The 'SIP Domain*' field is highlighted with a red circle, and the 'Update' button at the bottom is also circled in red. The 'License Host*' field is also highlighted with a red circle.

AVAYA

Help Exit

Top

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

Edit System Properties

SES Version SES-3.1.2.0-309.0

System Configuration simplex

Host Type home/edge

SIP Domain*

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*

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.

Update

Figure 41: Avaya SES Edit System Properties Screen

From the top-level management screen, select “Manage Users”.

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 address "192.168.200.100". A navigation sidebar on the left lists various management options. The main content area displays a table of management functions, with "Manage Users" circled in red.

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 42: User Management Selection from Top-Level Administration Screen

Select “Add User”.

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', etc. The main content area is titled 'User Administration' and contains a table of actions. The 'Add User' link in the table is circled in red.

User Administration	
List Users	List all users.
Add User	Add a new user.
Search Users	Search for users.
Edit User Profile	Edit a user by user id.
Delete User	Delete a user by user id.
Update Password	Change a password by user id.
Edit Default User Profile	Edit the default user profile.
Registered Users	Search for registered and provisioned users.

Figure 43: Avaya SES User Administration Screen

Enter the extension of the user to be added as the “Primary Handle”. This is the same extension that was configured in **Section 3.1.10**. 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*

User ID

Password*

Confirm Password*

Host*

First Name*

Last Name*

Address 1

Address 2

Office

City

State

Country

Zip

Add Media Server Extension ☒

Fields marked * are required.

Add

Figure 44: 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 42**) and drop down box and click “Add” to continue.

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 'Add Media Server Extension' and contains two input fields: 'Extension*' with the value '3000115' and 'Media Server' with a dropdown menu showing 'G350'. Below these fields is a note: 'Fields marked * are required.' A red circle highlights the 'Add' button at the bottom left of the form area.

Figure 45: Avaya SES Add Media Server Extension Screen

3.4. Configure NovaMail

3.4.1. Configuration file NovaMail.ini

The NovaMail.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 NovaMail server (e.g. C:\Program Files\NovaMail). The values within this file must be set as shown in **Figure 46**. 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	Assign a value of “3” to designate H.323.
SigType	Assign a value of “32” to designate QSIG ISO over IP.
DefaultCallingParty	This is the default extension to be used for calls made by NovaMail. A value of “6000000” was used for these tests.
DriverPref	Assign a value of “2” to designate H.323.
LocalUserName	This is the user name to be used for calls made by NovaMail. A value of “6000000” was used for these tests.
H323_Gateway	This is the IP address that was assigned to the Avaya Communication Manager “procr” entry in the Node-Names form shown in Figure 8 .
H323_UseGateKeeper	Assign a value of “0” to disable gatekeeper registration.
H323_UseFastStart	Assign a value of “0” to disable H.245 fast start.
H323_UseH245Tunneling	Assign a value of “0” to disable H.245 tunneling.

Table 16: Parameters for Telephone Setting File

```
[NovaMail]
MWAktivieren=
MWLöschen=

[CallInfo]
CardDriver=3
SigTyp=32
DefaultCallingParty=6000000

[VoIP]
DriverPref=2
LocalUserName=6000000
H323_Gateway=192.168.30.100
H323_UseGateKeeper=0
H323_UseFastStart=0
H323_UseH245Tunneling=0
```

Figure 46: NovaMail.ini Configuration File Content

3.4.2. Configure NovaMail Application

Use the Windows “Start” button to select the program “NovaMail Webclient”. After entering the user name and password, the NovaMail startup screen is displayed. Click the “Participant” icon to show the configured NovaMail participants.

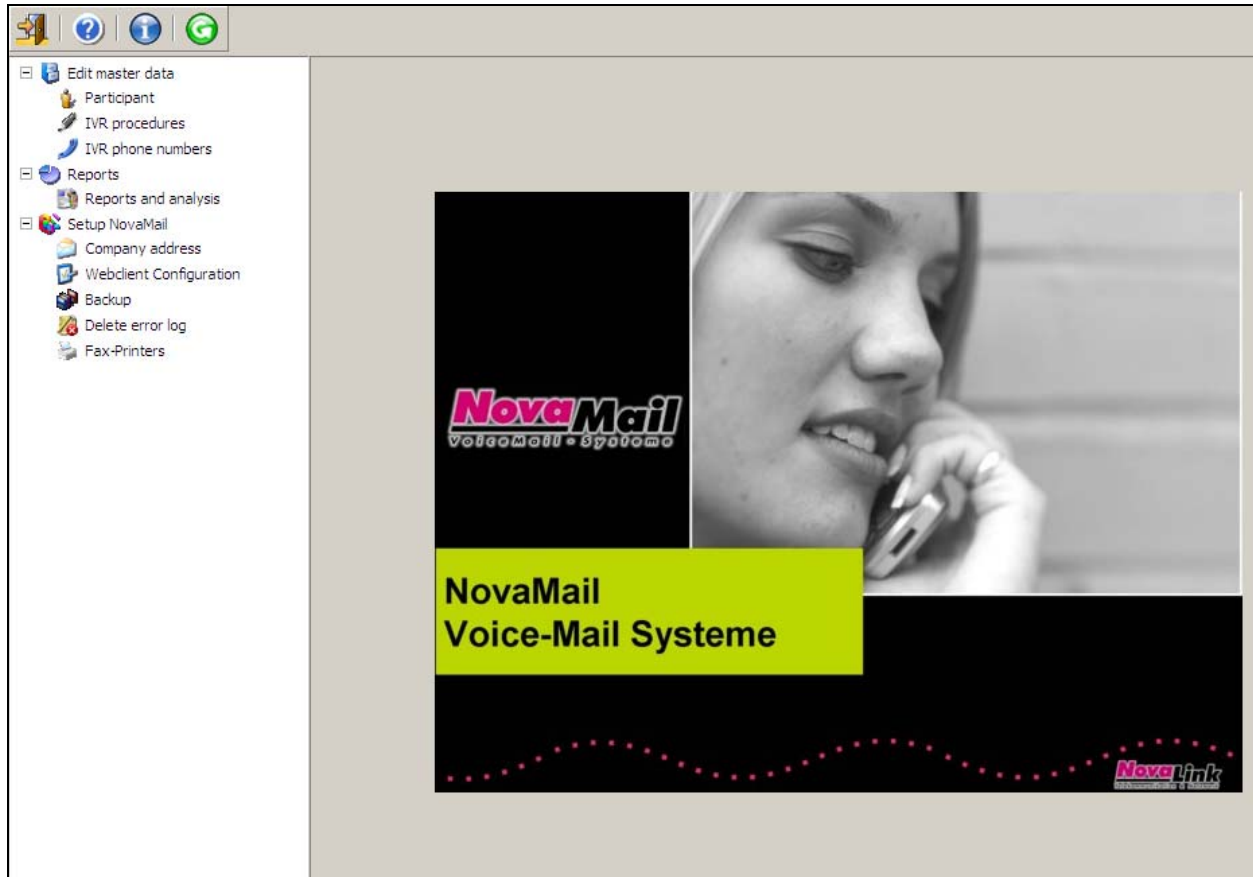


Figure 47: NovaMail Startup Screen

3.4.2.1 Configure Users

Assuming that no other users have been defined, the user designated as administrator is displayed. The configuration of the administrator is beyond the scope of these Application Notes. See reference [4] for additional information. Click the “New participant” icon to add a NovaMail participant. A Participant should be configured for each of the telephone extensions shown in **Table 2**.

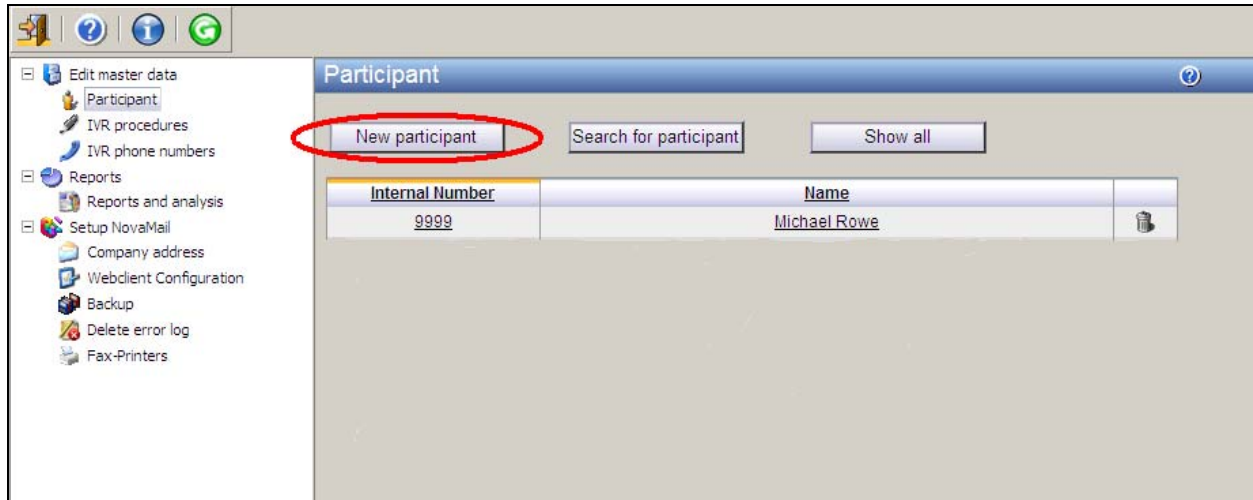
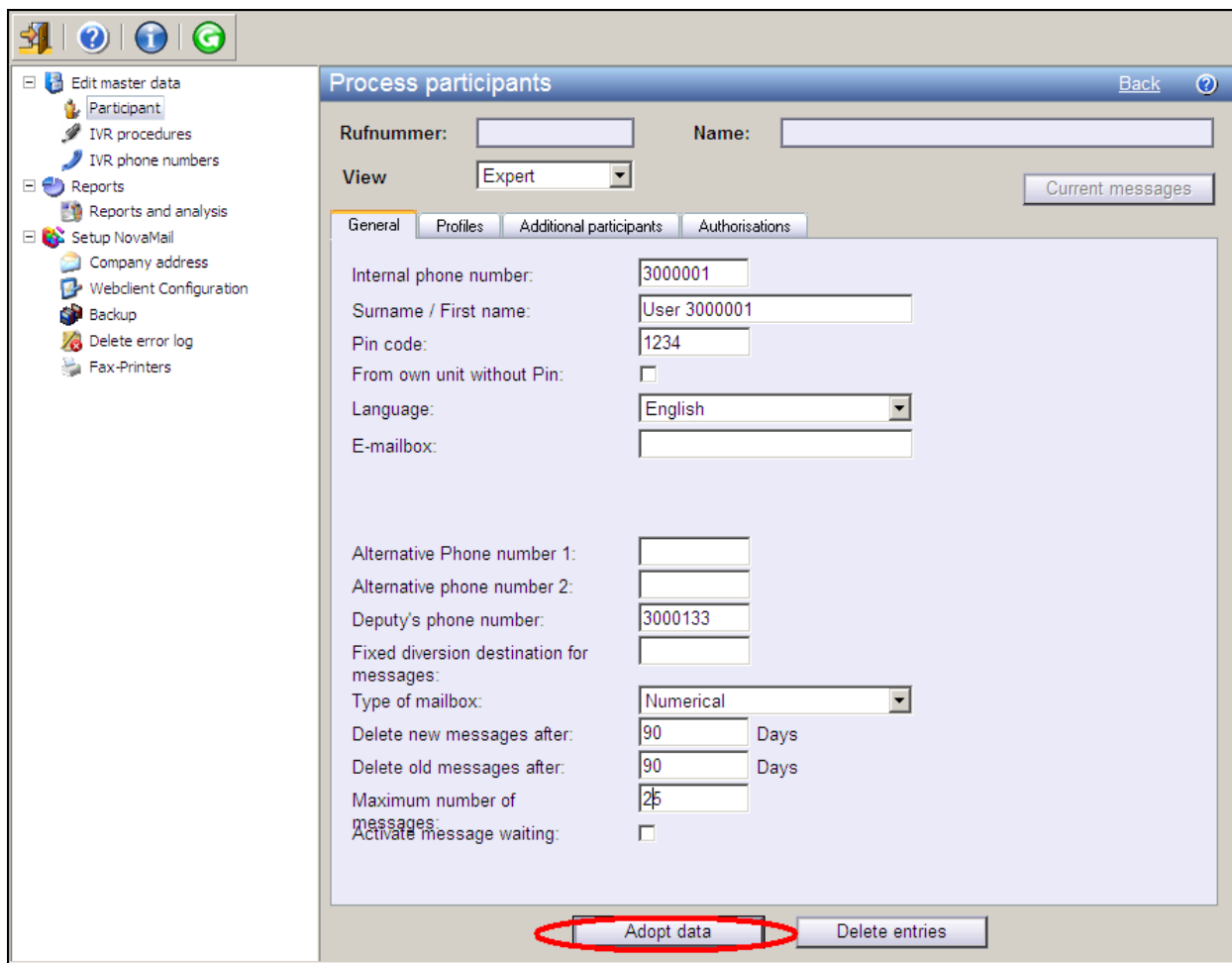


Figure 48: NovaMail Participant List Screen

Enter the values shown in the table below into the NovaMail Participants Screen shown in **Figure 49** and click the “Adopt data” button upon completion.

Parameter	Usage
View	Select “Expert” from the drop-down box.
Internal phone number	Enter the user’s extension.
Surname / First name	Enter the user’s first name followed by last name.
Pin code	Enter the numeric code that the user can use for authorization.
Language	Select the language spoken by the user
Deputy’s phone number	Enter the extension to which calls are to be diverted when the user is absent or unable to answer incoming calls.

Table 17: NovaMail Participant General Configuration Parameters



The screenshot shows the 'Process participants' window in NovaMail. The left sidebar contains a tree view with categories like 'Edit master data', 'Reports', and 'Setup NovaMail'. The main area has tabs for 'General', 'Profiles', 'Additional participants', and 'Authorisations'. The 'General' tab is active, displaying various fields for participant information. At the bottom, the 'Adopt data' button is circled in red.

Process participants Back ?

Rufnummer: Name:

View Current messages

General Profiles Additional participants Authorisations

Internal phone number:

Surname / First name:

Pin code:

From own unit without Pin: ☐

Language:

E-mailbox:

Alternative Phone number 1:

Alternative phone number 2:

Deputy's phone number:

Fixed diversion destination for messages:

Type of mailbox:

Delete new messages after: Days

Delete old messages after: Days

Maximum number of messages:

Activate message waiting: ☐

Adopt data Delete entries

Figure 49: NovaMail Participant Screen

Select the “Profiles” tab and click the “Standard” profile.



The screenshot shows the 'Process participants' window with the 'Profiles' tab selected. It displays a table of profiles. The 'Standard' profile is circled in red. The 'New profile' button is also visible.

Process participants Back ?

Rufnummer: Name:

View Current messages

General Profiles Additional participants Authorisations

New profile

Name	Active
Standard	<input checked="" type="checkbox"/>

Figure 50: NovaMail Profile Screen

For “Internal calls” select “1: Representative” from the “Possible selection” drop-down box for each of the call types. Note that this selection is only available if a “Deputy’s phone number” was assigned in NovaMail Participant screen shown in **Figure 49**. Leave the other fields within this screen set to their default values.

Process profile Zurück ?

Profilname: Standard Teilnehmer: 3000001 / User 3000001

Ansicht: Expert

Recorded messages Notification Times Fax

Profile name: Standard ☒ Active

Rename recorded mess

Notify absence: ☐ Recorded message only, no recording

	Recorded message:	Possible selection:	NA	AB
Internal calls				
Standard calls	Standard greeting "Not present" (101)	1: Representative	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For diverted telephone:	Standard greeting "Out of office" (102)	1: Representative	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For occupied telephone:	Standard greeting "Busy" (103)	1: Representative	<input type="checkbox"/>	<input checked="" type="checkbox"/>
External calls				
Standard calls:	Standard greeting "Not present" (101)	No menu	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For diverted telephone:	Standard greeting "Out of office" (102)	No menu	<input type="checkbox"/>	<input checked="" type="checkbox"/>
For occupied telephone:	Standard greeting "Busy" (103)	No menu	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Save data Cancel data

Figure 51: NovaMail Recorded Message Profile Screen

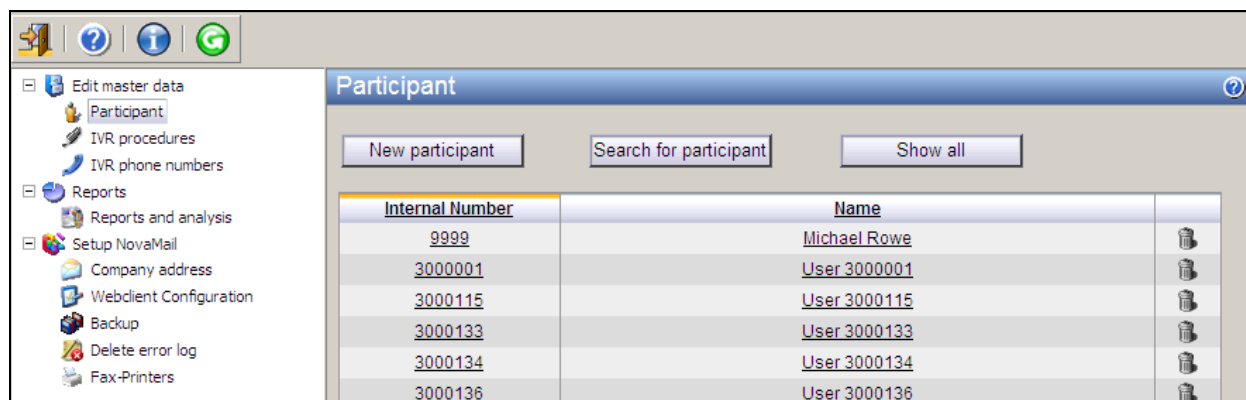
Select the “Notification” tab and enter values shown in the following table. On completion of this operation, click the “Save Data” button.

Parameter	Usage
Notification for	Selected “Voice messages only” from the drop down box.
Keep copy of the recording on the VoiceMail system	Check this box to cause voice mail recordings to be retained.
Display on telephone	Check this box to cause the Message Waiting Lamp to be activated on the user’s telephone when new messages are available.

Table 18: NovaMail Notification Configuration Parameters

Figure 52: NovaMail Notification Profile Screen

When users have been allocated for each of the extensions in **Table 2**, the newly configured users are now listed in the “Participant” screen.



Internal Number	Name
9999	Michael Rowe
3000001	User 3000001
3000115	User 3000115
3000133	User 3000133
3000134	User 3000134
3000136	User 3000136

Figure 53: NovaMail Participant List Screen

4. Interoperability Compliance Testing

The interoperability compliance tests included feature and serviceability testing.

The feature testing focused on testing scenarios that involve interaction between the NovaMail server and Avaya products, including various sequences involving the following:

- Verification of the ability of various Avaya telephones to call the NovaMail server.
- Verification of the ability of the NovaMail server to establish connections to various Avaya telephones.
- Verification of the ability of the NovaMail server to establish contact with Avaya telephones that have activated a call diversion.
- Verification of the ability of the NovaMail server to present callers with the correct greeting dependent on whether the called party was busy, unavailable, or out of the office.
- Verification of the ability of the NovaMail server to differentiate between local and external callers.
- Verification of the ability of NovaMail to recognize DTMF tones.
- Verification of the ability of Avaya telephones to correctly log unanswered calls from the NovaMail server.

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

4.1. General Test Approach

The test method employed can be described as follows:

- Correct interoperation between the NovaMail server and Avaya Communication Manager was verified by confirming that the various telephony operations that can be invoked by voice mail activity all function properly.
- NovaLink NovaMail robustness was tested by verifying its ability to recover from interruptions to its external IP connection.
- Verifying the ability to recover from power interruptions to the NovaMail server further tested its 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 NovaMail 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 NovaMail server can ping each other. The “ping” command can be executed from the NovaMail 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 trunk connected to NovaMail are in the “in-service/idle” state.
- 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.
- Verify that each of the Avaya Telephones can call the extension allocated to NovaMail to perform a mailbox enquiry.
- Verify that it is possible for NovaMail to call each of the Avaya IP Telephones to deliver a voicemail message.
- Call the NovaMail server from both local extensions and telephones attached to the PSTN and verify that NovaMail responds with the correct greeting.
- Make calls to NovaMail clients which are busy, out of the office (send all calls activated), and unavailable (no answer) and verify that the correct greeting is presented to the caller.

- Verify that it is possible to navigate the NovaMail voice menu from each of the Avaya Telephones by calling the NovaMail extension, and entering key sequences in response to prompting requests from NovaMail.
- Verify the ability of NovaMail to receive overlap numbers by using Avaya IP Telephones to place a call to NovaMail via its trunk access code followed by the NovaMail extension.
- Verify the ability of Avaya Telephones to correctly log unanswered calls by initiating an unanswered voicemail delivery call from NovaMail 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.

6. Support

Technical support from NovaLink can be obtained through the following:

NovaLink GmbH
Businesstower
Zuercherstrasse 310
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Switzerland
helpdesk@novalink.ch
Phone: +41 52 762 66 77
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7. Conclusion

These Application Notes describe the conformance testing of the NovaMail with Avaya Communication Manager. The various features of the NovaMail 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. NovaMail 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] *NovaMail 7.5 manual*, May 2007

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