



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring NovaLink NovaMail with Avaya IP Office Using S0 / PRI – Issue 1.0

Abstract

These Application Notes describe the compliance testing of the NovaLink NovaMail voice mail system connected to Avaya IP Office via both S0 and PRI trunks. These Application Notes contain an extensive description of the configurations for both NovaMail and Avaya IP Office.

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

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1. Introduction

The purpose of this document is to describe the compliance testing done with NovaLink NovaMail and Avaya IP Office, 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.

1.1. Functionality

Users of endpoints attached locally to IP Office initiate an unconditional call diversion to NovaMail when they are out of the office, and cancel it when they return. They also initiate a call diversion to NovaMail for “busy” or “no answer” conditions on a permanent basis.

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 that the called party is unable to accept the call.

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. NovaMail responds with audio messages, providing clients with a means of retrieving messages and administering their mailbox from their local telephone or remotely via the PSTN. 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 Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) and S0 trunks described in these Application Notes. Normally a customer would need to configure only one of these interfaces for an actual installation.

1.2. Configuration

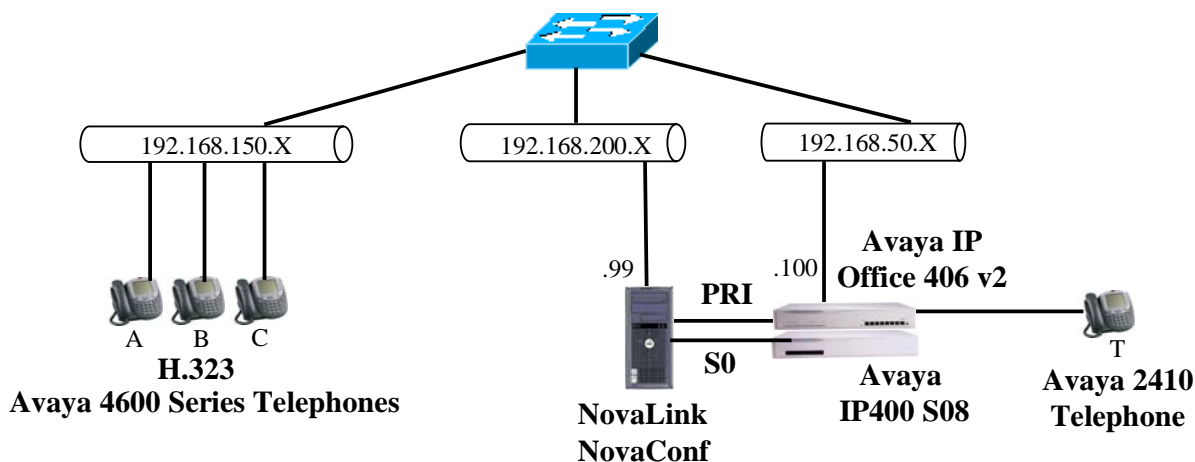


Figure 1: NovaMail Test Configuration

The function of each of the components in **Figure 1** is as follows:

- The NovaMail server provides voice mail coverage for telephones attached to Avaya IP Office via either an S0 or Primary Rate interface between itself and the Avaya Media Gateway.
- Users of endpoints attached locally to the IP Office.
- Avaya IP Office 406 v2 communicates with the NovaMail server via its PRI trunk.
- Avaya IP Office 406 v2 communicates the Avaya 4600 series telephones via the IP network.
- The BRI interface to the PSTN allows external callers to record/retrieve voicemail messages.

1.3. Call Diversion Operation

If IP Office diverts a call to NovaMail due to the inability of the called party to answer the call, it does not include the number of the diverting party in the Setup message which it sends to NovaMail. To enable NovaMail to determine the number of the diverting party, such calls are diverted to fictive extensions which lie within the number region assigned to the trunk which is connected to NovaMail. However, these fictive extension numbers are converted to the number of the diverting party before the call is sent to NovaMail, using the IP Office short code mechanism. Thus, NovaMail receives the calls which users are unable to answer with the correct calling party number, but with the number of the diverting party as called party number.

For example, if an external call is placed from 069 7505 6630 to 069 7500 9560, the Multiple Subscriber Number (MSN) assigned to extension 5000133, and the called party does not answer, the call is diverted to 9000133, which is mapped to the QSIG PRI trunk attached to NovaMail. However, the number is converted back to 5000133 by a short code prior to diversion of the call to NovaMail. Thus, NovaMail receives the number of the calling and the diverting party.

2. Equipment and Software Validated

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

Software Component	Version
Avaya IP 406 v2	4.0 (5)
Avaya IP400 S08 Office	6.0 (5)
Avaya 4600 Series IP Telephones	2.8
Avaya 2400 Digital Telephones	5.0
NovaLink NovaMail	7.5 SP 1A
Gerdes Primux 4S0 II	3.6.4389
Gerdes Primux 1S2M II	3.6.4389
Microsoft Windows Server 2003 SE	SP2
HP Compac with 1GB memory	

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**. The MSN column contains PSTN numbers which have been assigned to local endpoints. Note that extensions C, T, and NovaMail can be called from the PSTN, as each of these endpoints is allocated to an external phone number.

Extension	Designation	MSN
5000136	A	
5000134	B	
5000133	C	069 7500 9560
5000001	T	069 7500 9497
069 7505 6630	W	
9000000	NovaMail via QSIG PRI	069 7500 9779
6000000	NovaMail via S0	069 7500 9779

Table 2: Extensions Used for Testing

Note that either the 9000000 or the 6000000 extension is configured, dependent on whether the PRI or S0 interface is used to connect to NovaMail.

3.1. Configure Avaya IP Office

The configuration and verification operations illustrated in this section were all performed using the Avaya IP Office Manager application. The information provided in this section describes the configuration of Avaya IP Office for this solution. For other information concerning installation, configuration, and provisioning 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 telephone stations which are to be used for testing.

Many of the descriptions contained within this section make reference to the “left frame” of the IPO Manager application. This portion of the Manager’s main display contains a list of the components which can be configured by the Manager program, shown as follows:

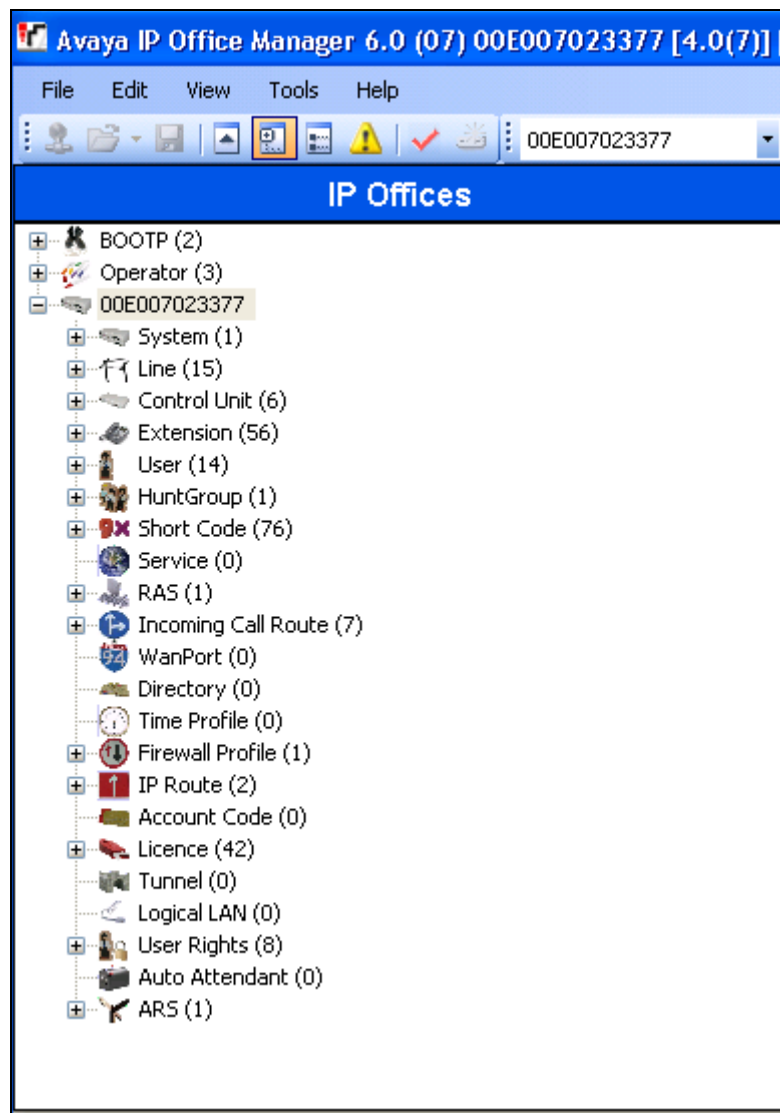


Figure 2: IPO Manager Main Menu

3.1.1. Verify Licenses

No additional licenses are required for these tests.

3.1.2. Configure System Settings

Select the IPO “System” icon from the left frame of the Manager application, and set the parameters as shown in **Table 3**.

Tab	Parameter	Usage
LAN1 / LAN Settings	IP Address	The IP address which is to be assigned to IP Office.
	IP Mask	The IP mask which is to be assigned to IP Office.
Telephony	Companding Law: Switch	Select the appropriate value for the region in which the system is located: ALAW for Europe.
	Companding Law: Line	Select the appropriate value for the region in which the system is located: ALAW for Europe.



Table 3: “System” Parameters

The screenshot shows the 'LAN1' tab selected in the 'System' configuration window. The 'LAN Settings' sub-tab is active. The configuration fields are as follows:

- IP Address:** 192 . 168 . 50 . 10
- IP Mask:** 255 . 255 . 255 . 0
- RIP Mode:** None (dropdown menu)
- Number Of DHCP IP Addresses:** 200 (spinner)
- DHCP Mode:** Disabled (radio button selected)

The 'DHCP Mode' section includes four radio buttons: Server, Client, Dialin, and Disabled. The 'Disabled' option is selected, indicated by a green dot.

Figure 3: IPO System Parameters: LAN1 / LAN Settings


00E007023377*


System
LAN1
DNS
Voicemail
Telephony
LDAP
System Alarms
Twinning
CDR
VCM

Default Outside Call Sequence
Normal

Default Inside Call Sequence
Ring Type 1

Default Ring Back Sequence
Ring Type 2

Dial Delay Time (sec)
1

Dial Delay Count
4

Default No Answer Time (secs)
15

Hold Timeout (secs)
15

Park Timeout (secs)
300

Ring Delay (secs)
5

☒ Local Dial Tone
☐ Local Busy Tone
☐ Conferencing Tone
☐ Inhibit Off-Switch Forward/Transfer
☒ Dial By Name

Default Currency
EUR

Companding Law

Switch

☐ ULAW
☒ ALAW

Line

☐ ULAW Line
☒ ALAW Line

Busy Tone Detection

Mode
System Frequency

Single Freq. [10Hz]
42

Dual Freq. [10Hz]
48
+
62

On Width [10ms]
50

Off Width [10ms]
50

☐ GSM Silence Suppression
☒ Show Account Code
☒ Auto Hold
☐ Use External Music on Hold
☐ WAN Mode Override

Disconnect Tone
Default

Figure 4: IPO System Parameters: Telephony

3.1.3. Configure PRI Interface to NovaMail

Select the icon corresponding to the “PRI” line from the list of lines from the left frame of the Manager application, and set the parameters as shown in **Table 4**.

Parameter	Usage
Telephone Number	Enter a telephone number to be used as identification, for informational purposes only.
Incoming Group ID	Select an unused group number, or use the default value.
CRC Checking	Check this box.
Line SubType	Select QSIG A.
Outgoing Group ID	Select the same group as for “Incoming Group ID”.
Number of Channels	Select 30 channels, as are available for an E1 interface.
Outgoing Channels	Select the same value as used for “Number of Channels”.
Voice Channels	Select the same value as used for “Number of Channels”.
Data Channels	Select the same value as used for “Number of Channels”.

Table 4: PRI Line Parameters

The screenshot shows a window titled "PRI 30 - Line 1" with a blue header bar. Below the header, there are two tabs: "PRI Line" (selected) and "Short Codes". The main area contains a form with the following fields and values:

Line Number	01	Line SubType	QSIG A
Telephone Number	8*	TEI	0
Incoming Group ID	8	Outgoing Group ID	8
Prefix		Number of Channels	30
National Prefix	0	Outgoing Channels	30
International Prefix	00	Voice Channels	30
		Data Channels	30
CRC Checking	<input checked="" type="checkbox"/>		
Clock Quality	Unsuitable		

Figure 5 PRI Line: PRI Line Tab

3.1.4. Configure S0 Interface to NovaMail

Select the icon corresponding to the “S0” line from the list of lines from the left frame of the Manager application, and set the parameters as shown in **Table 5**.

Tab	Parameter	Usage
S0 Line	Incoming Group ID	Select an unused group number.
	Outgoing Group ID	Select the same group as for “Incoming Group ID”.
	Number of Channels	Select “2” channels as required for S0 interface.
	Outgoing Channels	Select the same value as used for “Number of Channels”.
	Voice Channels	Select the same value as used for “Number of Channels”.
	Data Channels	Select the same value as used for “Number of Channels”.
Channels / 1	Line Appearance	Assign the S0 outgoing group ID to the line appearance of the first S0 channel.
Channels / 2	Line Appearance	Assign the S0 outgoing group ID to the line appearance of the second S0 channel.

Table 5: S0 Line Parameters

S0 - Line 601

S0 Line Short Codes Channels

Line Number 601 TEI 0

Telephone Number

Incoming Group ID 601 Outgoing Group ID 601

Prefix

National Prefix 0 Outgoing Channels 2

International Prefix 00 Voice Channels 2

Data Channels 2

Clock Quality Unsuitable

Figure 6: S0 Line: S0 Line Tab

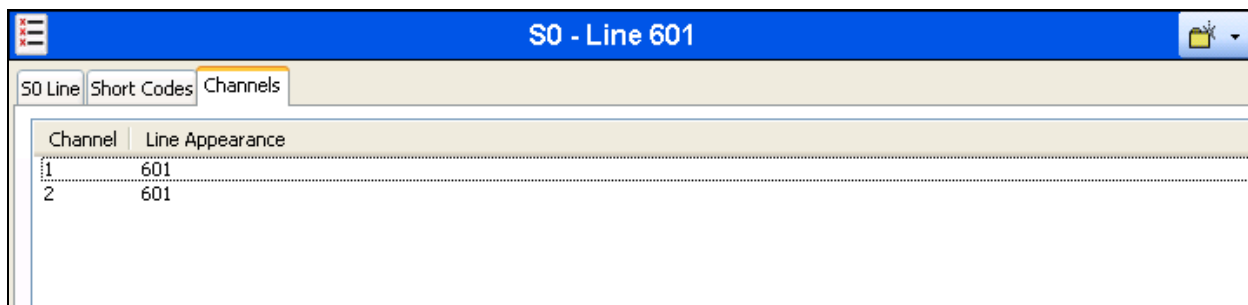


Figure 7: S0 Line: Channels Tab

3.1.5. Configure H.323 Telephone Extensions

Configure stations A-C by performing an “add” operation via the “Extensions” icon contained in the left frame of the main Manager window.

Tab	Parameter	Usage
Extn	Base Extension	Enter one of the extensions to be assigned to stations A-C.
VoIP	Compression Mode	Select G.711 ALAW 64K.
	Out Of Band DTMF	Check this box.
	Allow Direct Media Path	Check this box.

Table 6: Extension Parameters

Figure 8: Extensions: Extn Tab

VoIP Extension: 8018 5000133

Extn | **VoIP**

IP Address: 0 . 0 . 0 . 0

MAC Address: 00 00 00 00 00 00

Voice Payload Size (ms): 20

Compression Mode: G.711 ALAW 64K

Gain: Default

H450 Support: None

☐ VoIP Silence Suppression
☐ Enable Faststart for non-Avaya IP phones
☐ Fax Transport Support
☒ Out Of Band DTMF
☐ Local Tones
☐ Enable RSVP
☒ Allow Direct Media Path

Figure 9: Extensions: VoIP Tab

3.1.6. Configure Digital Telephone Extension

Configure station T by performing an “add” operation via the “Extensions” icon contained in the left frame of the main Manager window.

Tab	Parameter	Usage
Extn	Base Extension	Enter the extension to be assigned to station T.

Table 7: Extension Parameters

Digital Extension: 35 5000001


Extn | **VoIP**

Extension Id: 35

Base Extension: 5000001

Caller Display Type: On

Reset Volume After Calls: ☐

Device type:  Avaya 2410

Module: BD

Port: 1

Figure 10: Extensions: Extn Tab

3.1.7. Configure Users

Configure users by performing an “add” operation via the “Users” icon contained in the left frame of the main Manager window for stations A-C and T.

Tab	Parameter	Usage
User	Name	Enter a name which identifies the user.
	Extension	Enter one of the extensions A-C, T.
Telephony	Can Intrude	Check this box.
	Cannot be Intruded	Uncheck this box.

Table 8: User Parameters

Extn5000133: 5000133

User | DND | ShortCodes | Source Numbers | Telephony | Forwarding | Dial In | Button Programming | Menu Programming | Twi

Name: Extn5000133

Password:

Confirm Password:

Full Name:

Extension: 5000133

Locale:

Priority: 5

☐ Ex Directory

Device Type: Avaya 4621

User Rights

User Rights view: User data

Working hours time profile: <None>

Working hours User Rights:

Out of hours User Rights:

Figure 11: Users: User Tab

Extn5000133: 5000133*

User
DND
ShortCodes
Source Numbers
Telephony
Forwarding
Dial In
Button Programming
Menu Programming
Twir

Outside Call Sequence
Default Ring

Inside Call Sequence
Default Ring

Ringback Sequence
Default Ring

No Answer Time (secs)

Wrap-up Time (secs)
2

Transfer Return Time (secs)

Individual Coverage Time (secs)
10

Login Code

Login Idle Period (secs)

Monitor Group
<None>

Ring Delay (secs)

Call Cost Mark-Up
100

Status on No-Answer
Logged On (No change)

Multi Line Options

☒ Ringing Line Preference
☒ Idle Line Preference
☐ Delayed Ring Preference
☐ Answer Pre-Select

Reset Longest Idle Time

☒ All Calls
☐ External Incoming

☐ Call Waiting On
☒ Answer Call Waiting On Hold (Analogue)
☐ Busy On Held
☐ Outgoing Call Bar
☐ Offhook Station
☒ Can Intrude
☐ Cannot be Intruded
☐ Force Login
☐ Force Account Code
☐ System Phone
☐ Inhibit Off-Switch Forward/Transfer
☐ Reserve Last CA
☐ Can Trace Calls

Figure 12: Users: Telephony Tab

3.1.8. Configure Short Codes

Configure Short Codes by performing an “add” operation via the “Short Codes” icon contained in the left frame of the main Manager window.

3.1.8.1 Configure Short Code for Routing to NovaMail via the PRI Trunk

Create a short code to route calls to seven digit extensions beginning with “90” to the NovaMail PRI trunk, and replace the first two digits of the called party number with “50”. This is used to enable NovaMail to preserve the extension of calls which are diverted to coverage.

Tab	Parameter	Usage
Short Code	Code	Enter “90XXXXX”.
	Feature	Enter “Dial”.
	Telephone Number	Enter “50N”.
	Line Group Id	Enter the group number assigned to the PRI line: “8”.

Table 9: User Parameters

The screenshot shows a configuration window titled "90XXXXX: Dial". On the left, there is a tab labeled "Short Code". The main area contains the following fields:

- Code:** A text box containing "90XXXXX".
- Feature:** A dropdown menu with "Dial" selected.
- Telephone Number:** A text box containing "50N".
- Line Group Id:** A dropdown menu with "8" selected.
- Locale:** A dropdown menu.
- Force Account Code:** An unchecked checkbox.

Figure 13: Short Codes: Short Code Tab

3.1.8.2 Configure S0 Line Short Codes

Create a short code to route calls to seven digit extensions beginning with “6” to the NovaMail PRI trunk, and replace the first digit of the called party number with “5”. This is used to enable NovaMail to preserve the extension of calls which are diverted to coverage.

Tab	Parameter	Usage
Short Code	Code	Enter 6XXXXXX.
	Feature	Enter “Dial”.
	Telephone Number	Enter “5N”.
	Line Group Id	Enter the number of line group which is used for the Outgoing Group ID for the S0 line: “601”.

Table 10: User Parameters

6XXXXXX: Dial

Short Code

Code: 6XXXXXX

Feature: Dial

Telephone Number: 5N

Line Group Id: 601

Locale:

Force Account Code: ☐

Figure 14: Short Codes: User Tab

3.1.9. Configure Connection to PSTN

3.1.9.1 Configure BRI Connection to PSTN

Configure the BRI line which is connected to the PSTN, using the parameters shown in the following table.

Value	Usage
Incoming Group ID	Specify “4”, the group ID assigned to line 5, the first BRI port.
Outgoing Group ID	Specify the same as for Incoming Group ID.
Line SubType	Specify “ETSI”, as required by BRI connections in Germany.

Table 11: PBR Line Parameters

The screenshot displays the 'BRI Line' configuration window with three tabs: 'BRI Line', 'Short Codes', and 'Channels'. The 'BRI Line' tab is active, showing the following fields and values:

- Line Number: 05
- Telephone Number: (empty)
- Incoming Group ID: 4
- Prefix: 0
- National Prefix: 00
- International Prefix: 000
- Line SubType: ETSI (dropdown)
- TEI: 127 (spinner)
- Outgoing Group ID: 4
- Number of Channels: 2 (spinner)
- Outgoing Channels: 2 (spinner)
- Voice Channels: 2 (spinner)
- Data Channels: 2 (spinner)
- Clock Quality: Network (dropdown)
- Supports Partial Rerouting: ☐
- Support Call Tracing: ☐
- Active CCBS Support: ☐
- Passive CCBS Support: ☐
- Cost Per Charging Unit: 618 (spinner)

Figure 15: BRI Line

3.1.9.2 Configure Incoming Call Routes

Configure the Incoming Calls route for the BRI line which is connected to the PSTN. Create one call route each for extensions C, T, and NovaMail as shown in **Table 2**.

Value	Usage
Line Group Id	Specify “4”, the group ID assigned to line 5, the first BRI port.
Incoming Number	Enter the number assigned to the MSN for this extension, as shown in Table 2 .
Destination	Enter the extension, as shown in Table 2 .

Table 12: Extension Parameters

The screen below shows Incoming Call Route assignments for the external connection for NovaMail. The content of the “Destination” field assumes that an S0 trunk is used to connect to NovaMail. If a PRI trunk used, the “Destination” field must be set to “90000000”.

The screenshot shows a configuration window titled "4 06975009779". It has two tabs: "Standard" and "Voice Recording". The "Standard" tab is selected. The fields and their values are as follows:

Bearer Capability	Any Voice
Line Group Id	4
Incoming Number	06975009779
Incoming Sub Address	
Incoming CLI	
Destination	6000000
Locale	
Priority	1
Fallback Extension	
Night Service Profile	<None>
Night Service Destination	

Figure 16: Short Codes: User Tab

3.1.10. Configure Call Diversion to NovaMail

The users of individual telephone stations attached to IP Office must each initiate call diversion operations to NovaMail if they wish for their calls to be answered by NovaMail, as shown in the following table:

Reason	Sequences	Comment
User is absent.	"*07*6xxxxxx#", "*01"	The first sequence need not be repeated on subsequent activations of this feature by the user.
User returns.	"*02"	
User wishes NovaMail to provide coverage on "busy".	"*57*6xxxxxx#", "*03"	The first sequence need not be repeated on subsequent activations of this feature by the user.
User wishes NovaMail to end coverage on "busy".	"*04"	
User wishes NovaMail to provide coverage on "no answer".	"*57*6xxxxxx#", "*05"	The first sequence need not be repeated on subsequent activations of this feature by the user.
User wishes NovaMail to end coverage on "no answer".	"*06"	

Table 13: Extension Parameters

The "xxxxxx" sequences shown in the table are formed by removing the leading digit from the number of the extension from which the operation is performed. For example, extension 5000136 can forward all calls to NovaMail ("absent") by entering "*07*6000136#" followed by "*01". The sequences shown in the above table are for connection via S0 trunk. If a PRI trunk is used the "6xxxxxx" values in the table should be replaced by "9xxxxxx".

3.2. Configure NovaMail

3.2.1. 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).

Parameter	Usage
CardDriver	Set this value to “2” for the ISDN CAPI interface cards used by the NovaMail server.
Interface	Set this value to “2” for PRI usage and “3” for S0
SigTyp	Set this value to “32” for ISO QSIG operation.
CallingParty	Set this value to the extension to be used by NovaMail for outgoing calls. Use “9000000” for PRI, and “6000000” for S0.
ChannelIDLength	Set this value to “1”.

Table 14: NovaMail.ini File Configuration Parameters

```
[CallInfo]
CardDriver=2
Interface=2
SigTyp=32
CallingParty=9000000
ChannelIDLength=1
```

Figure 17: NovaMail.ini Configuration File Content

3.2.2. Configure Interface to Avaya IP Office

Use the Windows “Start” button to select the program “Primux ISDN” / “CAPI Configuration”. If the BRI interface is used, the “PrimuX 4S0 II” icon should be selected. If the PRI interface is used, the “PrimuX 1S2M II” icon should be selected.

3.2.2.1 Configure PRI Interface

Set the parameters in the “General” tab as show in the following table.

Parameter	Usage
Switch Type	Specify “PBX, Q.SIG (experimental)”.
Interface Type	Specify “Point-to-Point”.
Inbound calls	Specify “No Phone Numbers”.

Table 15: ISDN PRI Interface General Configuration Parameters

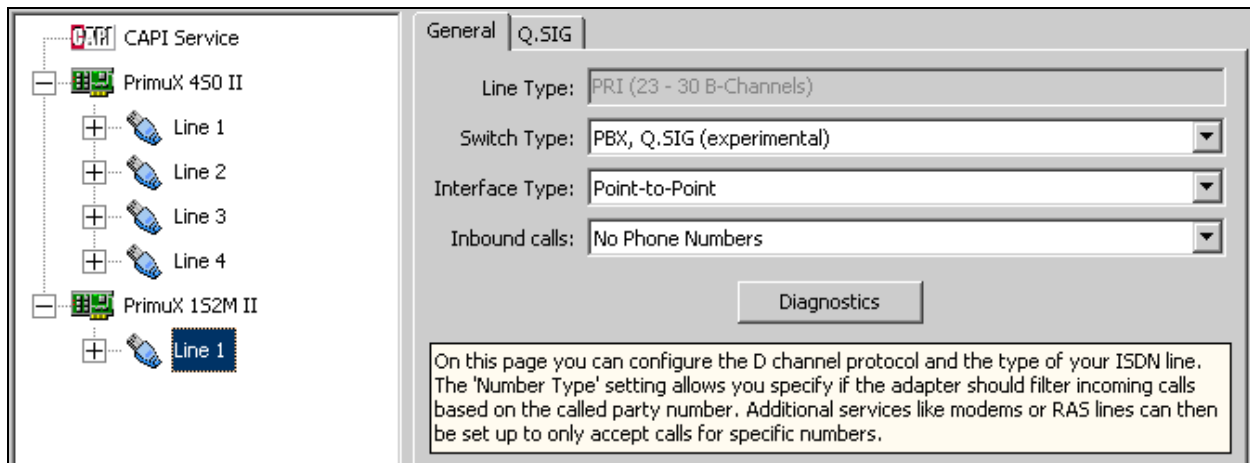


Figure 18: ISDN PRI Interface General Configuration Settings

Configure the parameters in the “Q.SIG” tab as shown in the following table.

Parameter	Usage
PBX type	Specify “Universal”.
Q.SIG Standard	Specify “Automatic”.
Length of CR Value	Specify “Default”.
Length of Channel Info IE	Specify “Continuous Number”.
Call Transfer Mode	Specify “Automatic”.
Disconnect on PROGRESS	Specify “Off”.
Process Interpretation APDU	Specify “Off”.

Table 16: ISDN PRI Interface Q.SIG Configuration Parameters

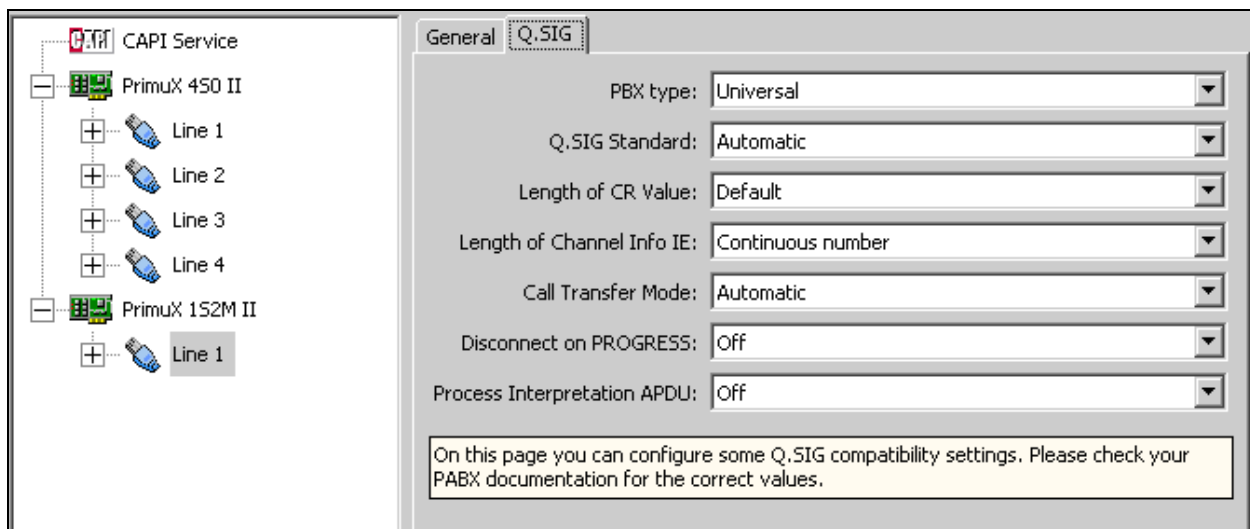


Figure 19: ISDN PRI Interface Q.SIG Configuration Settings

3.2.2.2 Configure S0 Interface

Set the parameters in the “General” tab as show in the following table.

Parameter	Usage
Switch Type	Specify “Europe/other countries, Euro-ISDN (ETSI-DSS1)”.
Interface Type	Specify “Point-to-Multipoint”.
Inbound calls	Specify “No Phone Numbers”.

Table 17: ISDN S0 Interface General Configuration Parameters

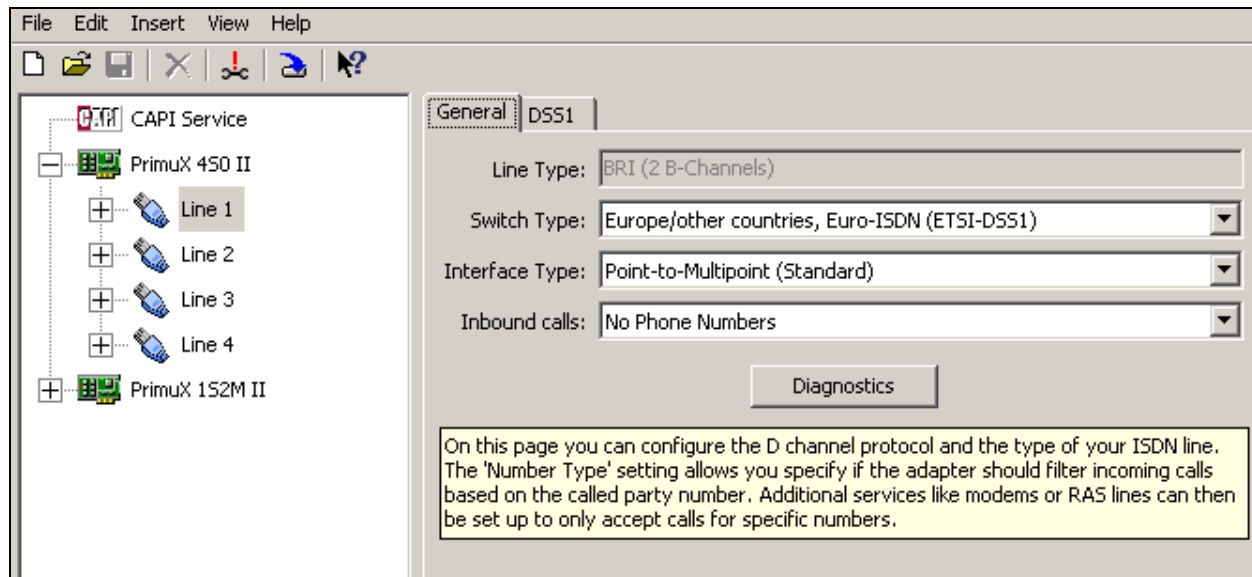


Figure 20: ISDN S0 Interface General Configuration Settings

Configure the parameters in the DSS1 tab as shown in the following table.

Parameter	Usage
ECT Mode	Specify “ECT-I”.
Disconnect on PROGRESS	Specify “Off”.
Calling Party Number	Specify “Unchanged”.
B channel selection	Specify “Preallocate channel”.
Nur Ziffern in Rufnummer (only digits in phone number).	Specify “On”.

Table 18: ISDN S0 Interface Q.SIG Configuration Parameters

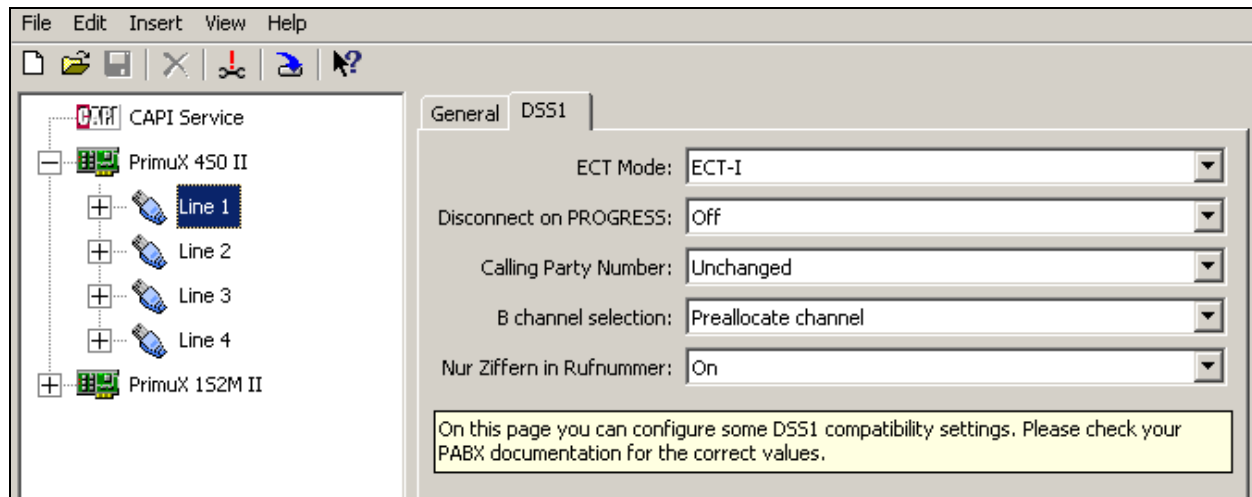


Figure 21: ISDN S0 Interface DSS1 Configuration Settings

3.2.3. 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.

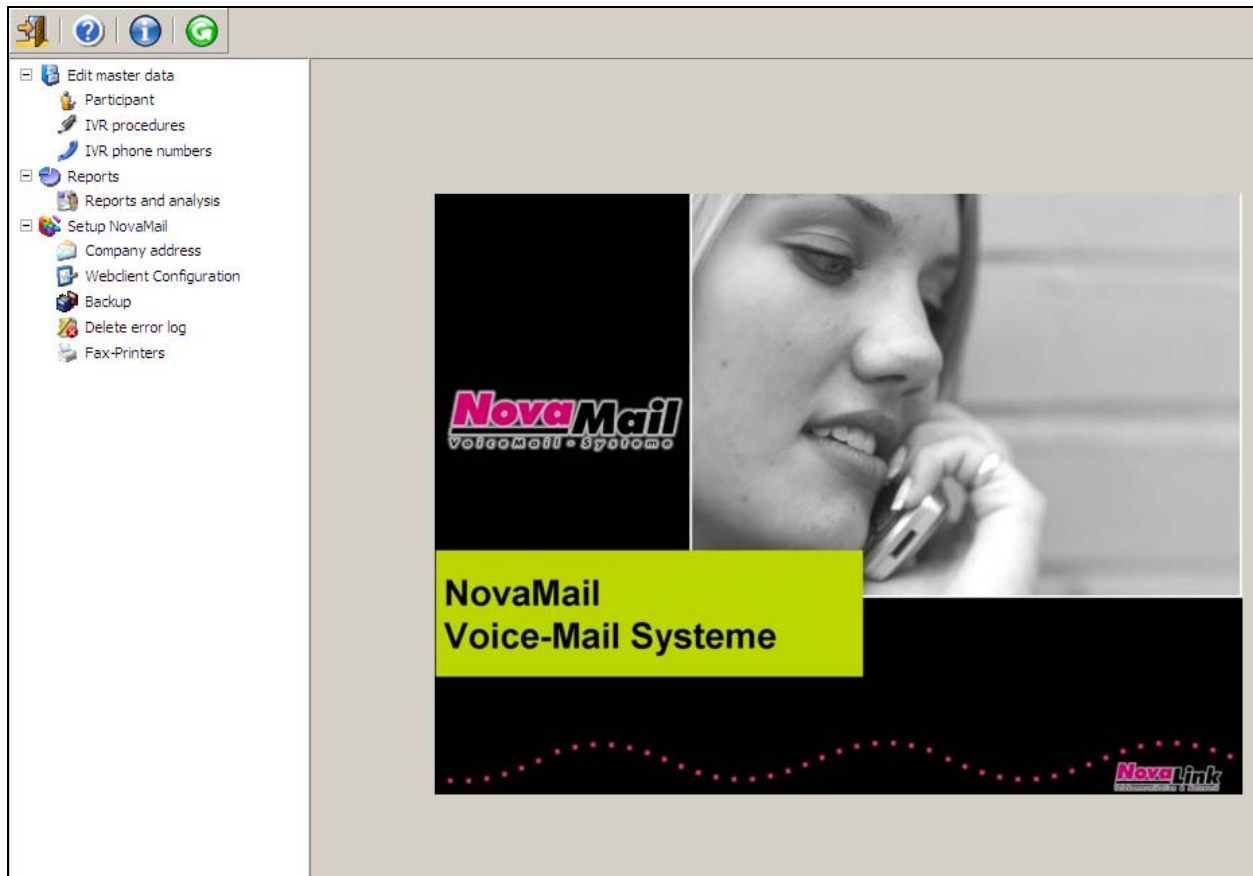


Figure 22: NovaMail Startup Screen

3.2.3.1 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 [3] 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**.

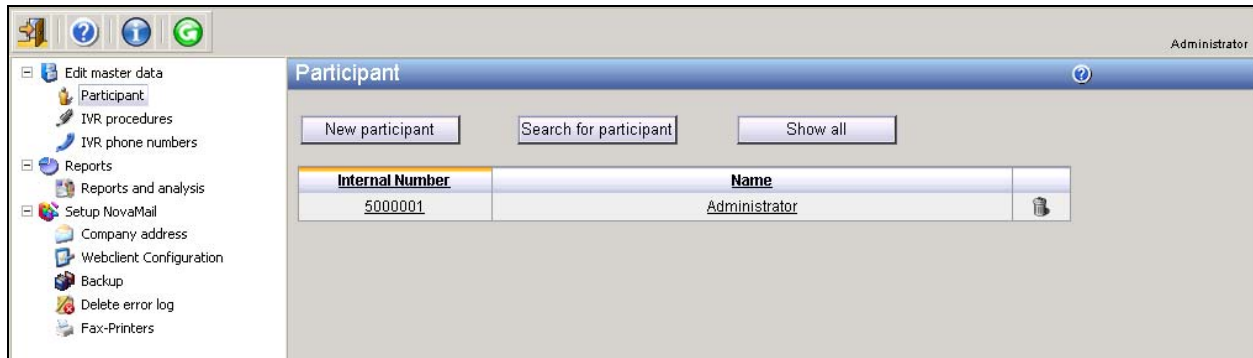


Figure 23: NovaMail Participant List Screen

Enter the values shown in the table below into the NovaMail Participants Screen shown in **Figure 24** 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. This allows voicemail messages received by NovaMail to be routed to the user’s deputy when the user cannot answer the call.

Table 19: NovaMail Conference Common Configuration Parameters

Process participants Back ?

Rufnumber: Name:

View: Expert Current messages

General Profiles Additional participants Authorisations

Internal phone number:

Surname / First name:

Pin code:

From own unit without Pin: ☐

Language: English

E-mailbox:

Alternative Phone number 1:

Alternative phone number 2:

Deputy's phone number:

Fixed diversion destination for messages:

Type of mailbox: Numerical

Delete new messages after: Days

Delete old messages after: Days

Maximum number of messages:

Activate message waiting: ☐

Adopt data Delete entries

Figure 24: NovaMail Participant Screen

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

Process participants Back ?

Rufnumber: Name:

View: Expert Current messages

General Profiles Additional participants Authorisations

New profile

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

Figure 25: 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 24**. Leave the other fields within this screen set to their default values.

Process profile Zurück ? Administrator

Profilname: Standard Teilnehmer: 5000136 / Extn 5000136

Ansicht: Expert

Recorded messages Notification Times Fax

Profile name: Standard ☒ Active

Notify absence: Recorded message only, no recording

Internal calls

	Recorded message:	Possible selection:	NA	AB
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

	Recorded message:	Possible selection:	NA	AB
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 26: 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 20: NovaMail Notification Configuration Parameters

Figure 27: 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.

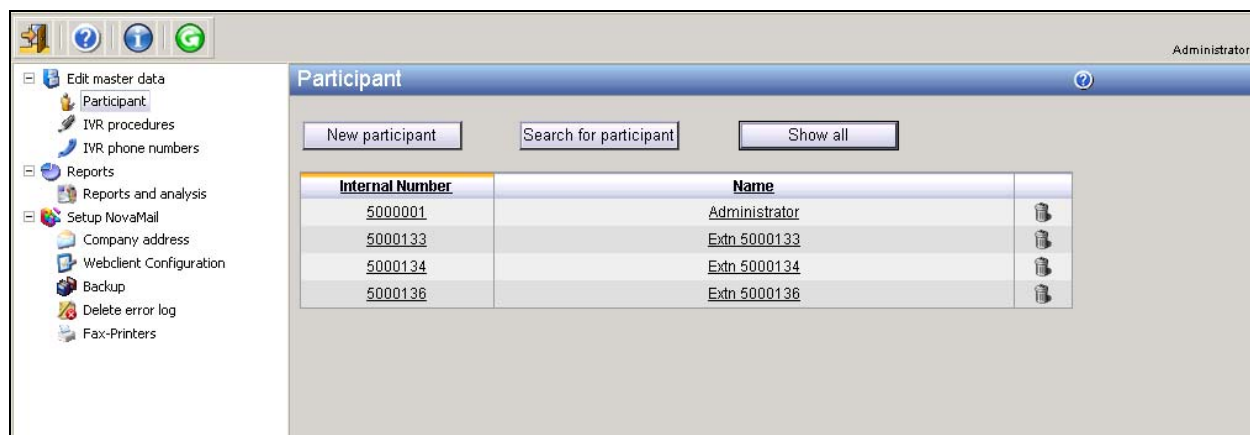


Figure 28: NovaMail Participant List Screen

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 NovaMail to receive overlap number transmission.
- 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 IP Office 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 connections including:
 - The LAN connection between the NovaMail and the network
 - The S0 connection between NovaMail and the Avaya IP Office
 - The PRI connection between NovaMail and the Avaya IP Office
- 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 IP Office 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 IP Office 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” menu 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 IP Office via an SSH login session.
- Verify that the Avaya IP Telephones can call each other.
- 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 from local extensions and from PSTN endpoints to NovaMail clients which are busy, out of the office (send all calls activated), and unavailable (no answer) and verify that the coverage 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
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 NovaMail with Avaya IP Office. 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 IP Office*, February 2007, Issue 3, Document Number 03-300509
- [2] *Feature Description and Implementation for Avaya IP Office*, February 2007, Issue 5, Document Number 555-245-205
- [3] *NovaMail 7.5 Manual*, May 2007

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