



Avaya Solution & Interoperability Test Lab

Application Notes for Configuring NovaLink NovaConf PRI-S0 with Avaya IP Office – Issue 1.0

Abstract

These Application Notes describe the compliance testing of the NovaLink NovaConf conferencing system connected to via both PRI and S0 interfaces of Avaya IP Office. These Application Notes contain an extensive description of the configurations for both NovaConf and Avaya IP Office. The testing which was performed tested the major functions of NovaConf.

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

1. Introduction

The purpose of this document is to describe the compliance testing done with NovaLink NovaConf 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.

The NovaConf server includes a web-based administration facility that allows remote administration of users and conferences from a web browser. Various types of conferences can be configured, dependent on conference participant needs:

Incoming Conferences allow users to “dial in” to conferences held at specific times.

Outgoing Conferences can be configured to call a pre-defined list of conference participants as a specific time.

Ad-hoc conferences can be created to meet an immediate need.

Chief conferences are started by calling a pre-defined telephone number, and calling a pre-defined list of conference participants at that time.

Conference participants can optionally be assigned a PIN code with which they are required to authenticate themselves. NovaConf supports multiple interfaces, including the PRI and S0 interfaces described in these Application Notes.

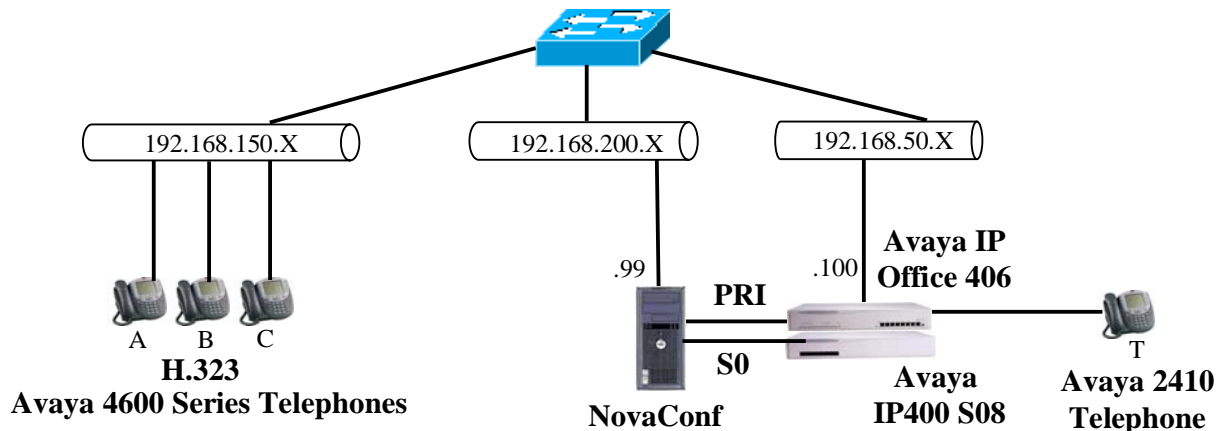


Figure 1: NovaConf Test Configuration

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

- The NovaConf server is attached to Avaya IP406 Office via either a S0 or Primary Rate Integrated Services Digital Network (ISDN) interface. The S0 interface is on the front panel of the IP400 S08. The PRI interface is at the rear of the IP Office 406. Normally a customer would need to configure only one of these interfaces for an actual installation.
- Avaya Telephones are attached to Avaya IP406 Office either directly via a digital interface or via the IP network.
- The NovaConf server establishes conference calls among Avaya telephones using the communication capabilities of Avaya IP Office.

2. Equipment and Software Validated

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

Equipment	Software Version
Avaya IP406 Office	4.0 (5)
Avaya IP400 S08	6.0 (5)
Avaya 4600 series H.323 IP Telephones	2.8
Avaya 2410 Digital Telephone	5.0
NovaLink NovaConf	7.5 SP 1A
Gerdes Primux 1S2M II / 4S0 II	3.6.4695
Microsoft Windows Server 2003 SE	SP2

Table 1: Version Numbers of Equipment and Software

3. Configuration

The following extensions are used for testing:

Extension	Designation
5000136	A
5000134	B
5000133	C
5000001	T
8111111	NovaConf via PRI
9222222	NovaConf via S0

Table 2: Extensions Used for Testing

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 NovaConf configuration.
- Configure the S0 and PRI interfaces which are used to connect to the NovaConf server.
- 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, as follows:

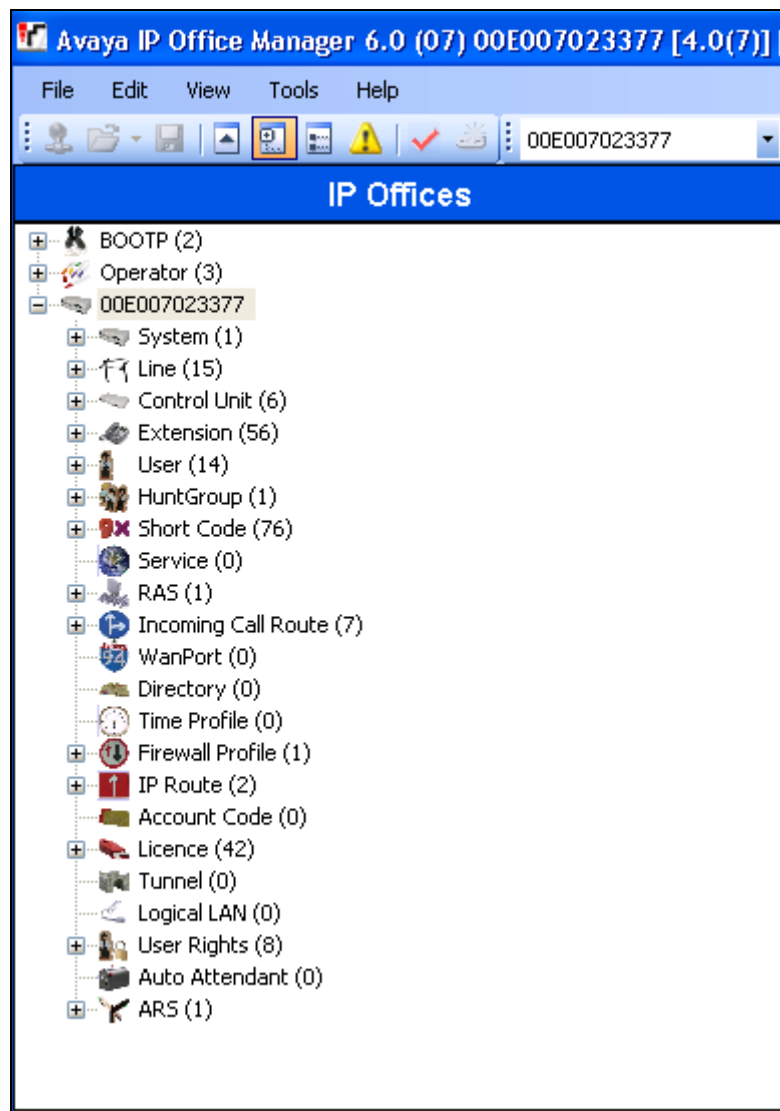


Figure 2: IPO Manager Main Menu

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

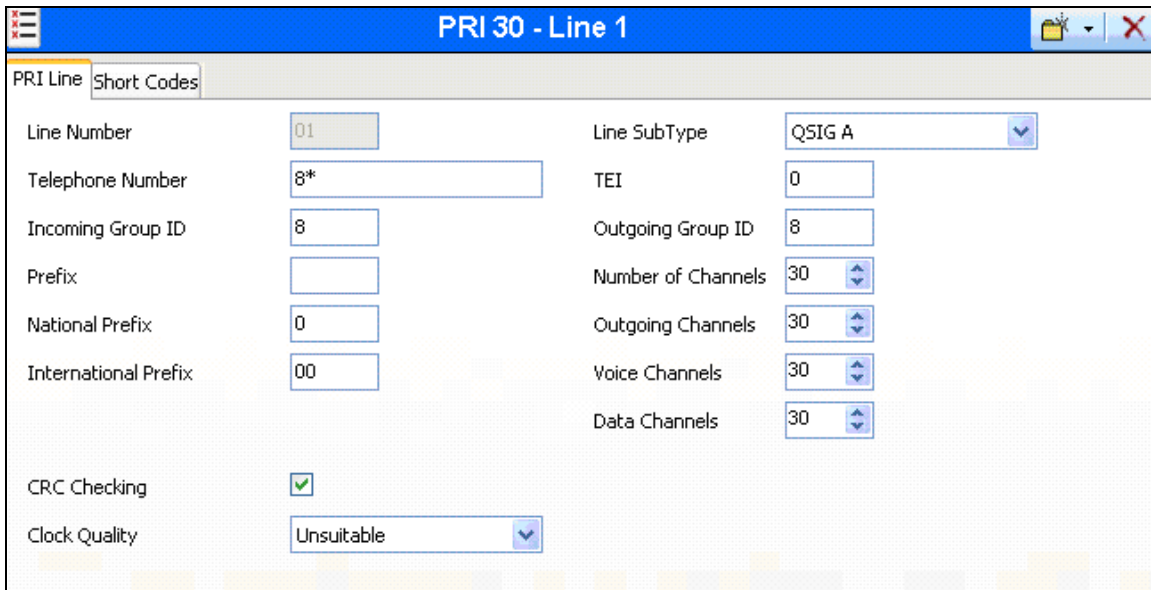
Figure 4: IPO System Parameters: Telephony

3.1.3. Configure PRI Interface to NovaConf

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 the 'PRI 30 - Line 1' configuration window. It has two tabs: 'PRI Line' and 'Short Codes'. The 'PRI Line' tab is active. The parameters are as follows:

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		

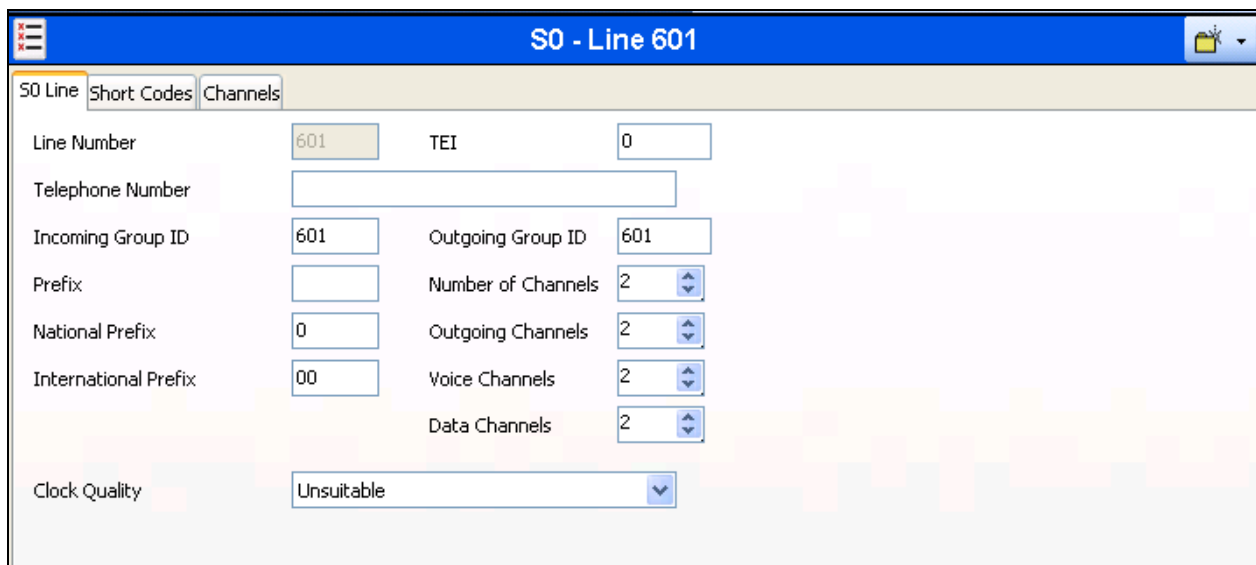
Figure 5 PRI Line: PRI Line Tab

3.1.4. Configure S0 Interface to NovaConf

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 Number of Channels 2

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

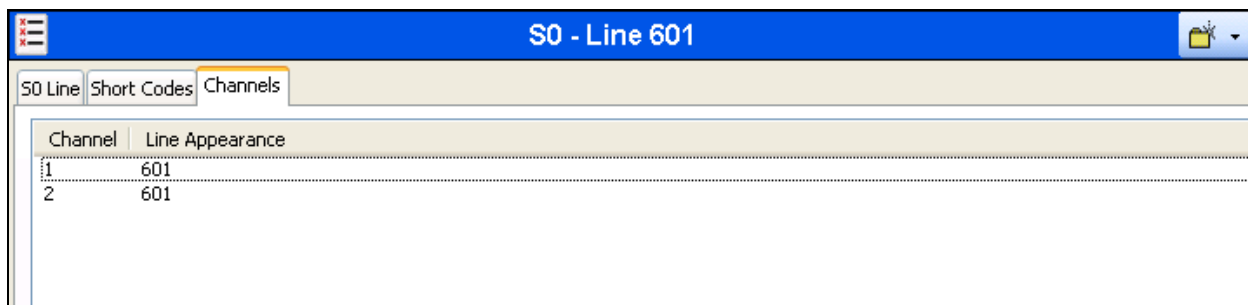


Figure 7: S0 Line: Channels Tab

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

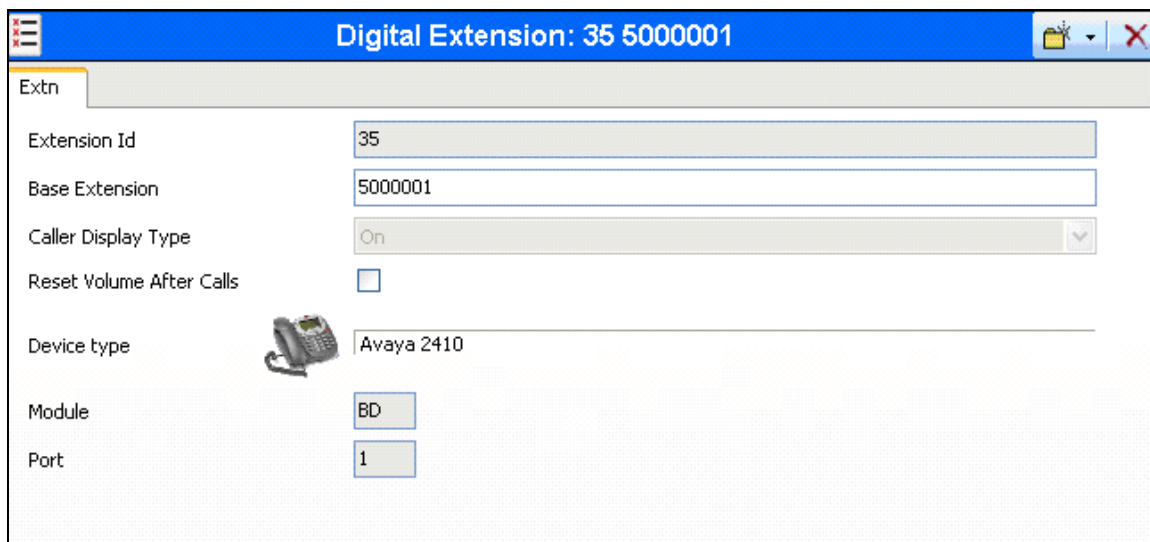
Extn | **VoIP**

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 extension 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

3.1.8.1 Configure PRI Line 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.

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

Table 9: User Parameters

The screenshot shows a configuration window titled "8XXXXXX: Dial". The "Short Code" tab is selected. The form contains the following fields:

- Code: 8XXXXXX
- Feature: Dial (dropdown menu)
- Telephone Number: .
- Line Group Id: 8 (dropdown menu)
- Locale: (dropdown menu)
- Force Account Code: ☐

Figure 13: Short Codes: User Tab

3.1.8.2 Configure S0 Line 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.

Tab	Parameter	Usage
Short Code	Code	Enter 92XXXXX.
	Feature	Enter “Dial”.
	Telephone Number	Enter “.”.
	Line Group Id	Enter the number of line group which is used for the Outgoing Group ID for the S0 line.

Table 10: User Parameters

The screenshot shows a window titled "92XXXXX: Dial" with a blue header bar. Below the header is a tab labeled "Short Code". The main area contains several input fields and a checkbox:

Code	92XXXXX
Feature	Dial
Telephone Number	.
Line Group Id	601
Locale	
Force Account Code	<input type="checkbox"/>

Figure 14: Short Codes: User Tab

3.2. Configure NovaConf

3.2.1. Configuration file NovaConf.ini

The NovaConf.ini configuration file is a “flat” ASCII file which can be edited with a text editor. This file is contained in the main installation directory on the NovaConf server (e.g., C:\Program Files\NovaConf).

Parameter	Usage
CardDriver	Set this value to “2” for CAPI cards.
Interface	Set this value to “2” for PRI and “3” for S0.
CNIPAktiv	“1” to enable Calling Name Interpretation Presentation.
QSIGStandard	“2” for QSIG ISO.
Rufnummer	Specify the CalledPartyNumber for NovaConf.

Table 11: Extension Parameters

The other parameters in this file should be configured with the default values which are shown. Please note that the “Interface” parameter needs to be set to indicate that an S0 or PRI interface is used, as described in the table above.

```
[CallInfo]
CardDriver=2
Interface=2
CNIPAktiv=1
QSIGStandard=2

[NovaConf]
Rufnummer=8111111
```

Figure 15: NovaConf.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 S0 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”.
Interface Type	Specify “Point-to-Point”.
Inbound calls	Specify “No Phone Numbers”.

Table 12: ISDN PRI Interface General Configuration Parameters

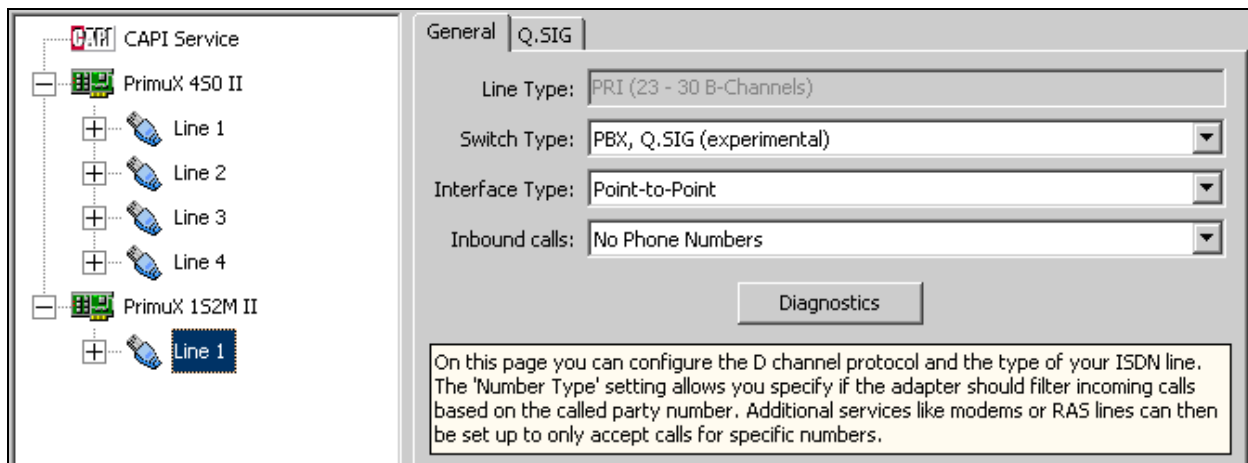


Figure 16: ISDN PRI Interface General Configuration Settings

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 13: ISDN PRI Interface Q.SIG Configuration Parameters

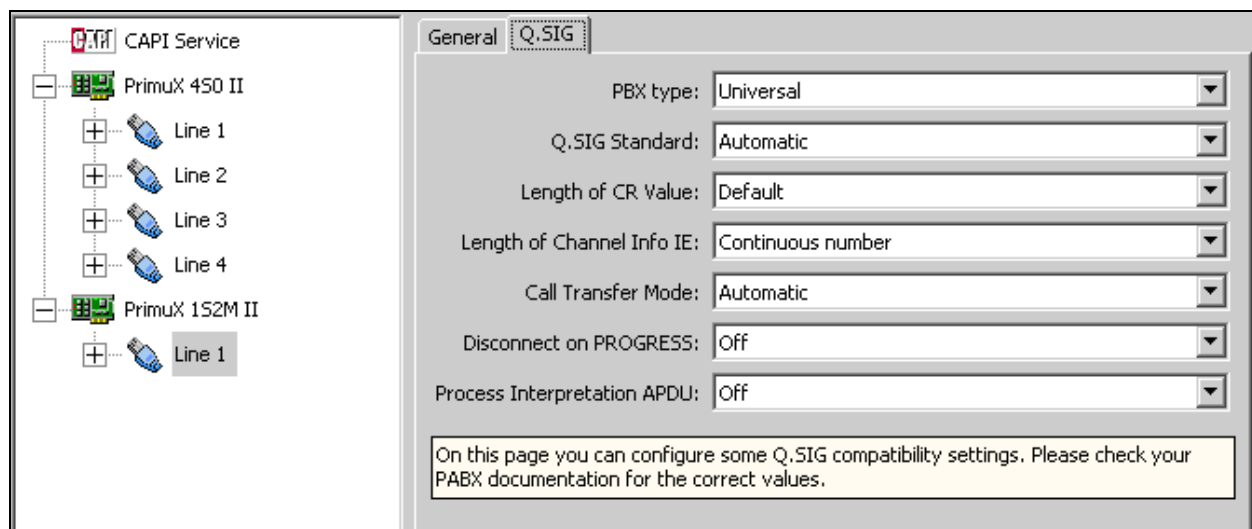


Figure 17: ISDN PRI Interface Q.SIG Configuration Settings

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 14: ISDN S0 Interface General Configuration Parameters

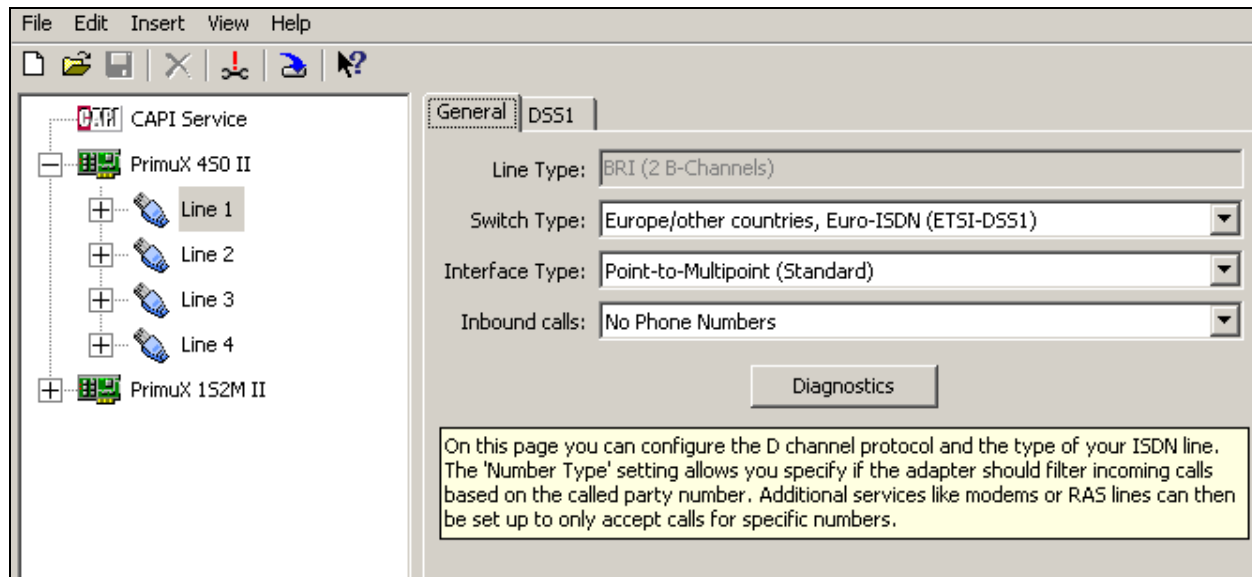


Figure 18: ISDN S0 Interface General Configuration Settings

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 "Continuous Number".
Call transfer mode	Specify "Preallocate channel".
Num Ziffern in Rufnummer (only digits in phone number).	Specify "On".

Table 15: ISDN S0 Interface Q.SIG Configuration Parameters

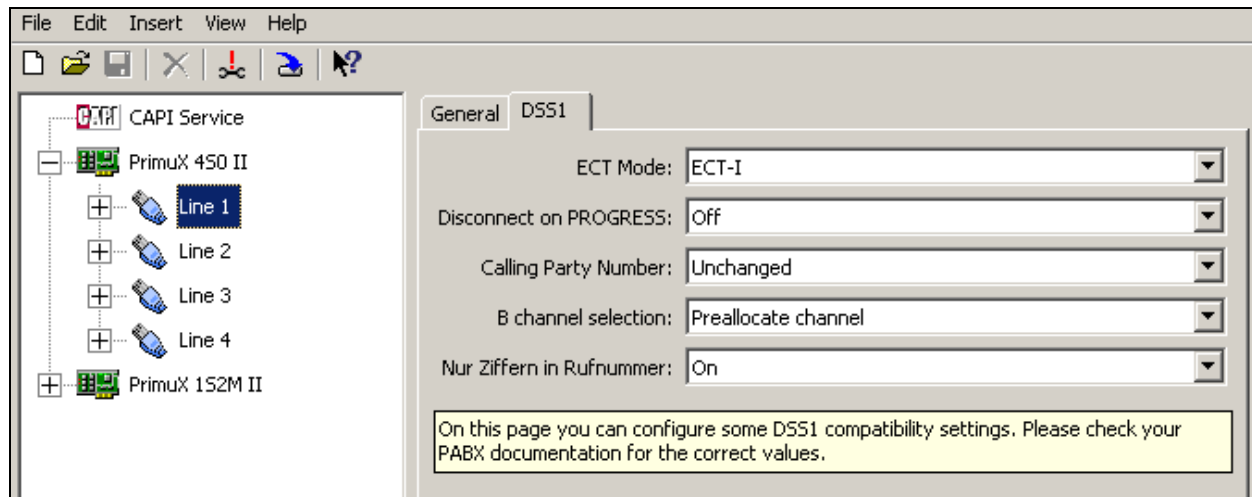


Figure 19: ISDN S0 Interface DSS1 Configuration Settings

3.2.3. Configure Application

Use the Windows “Start” button to select the program “NovaConf Webclient”. After entering the user name and password, the NovaConf startup screen is displayed. Click the “Show users” icon to show potential conference participants.

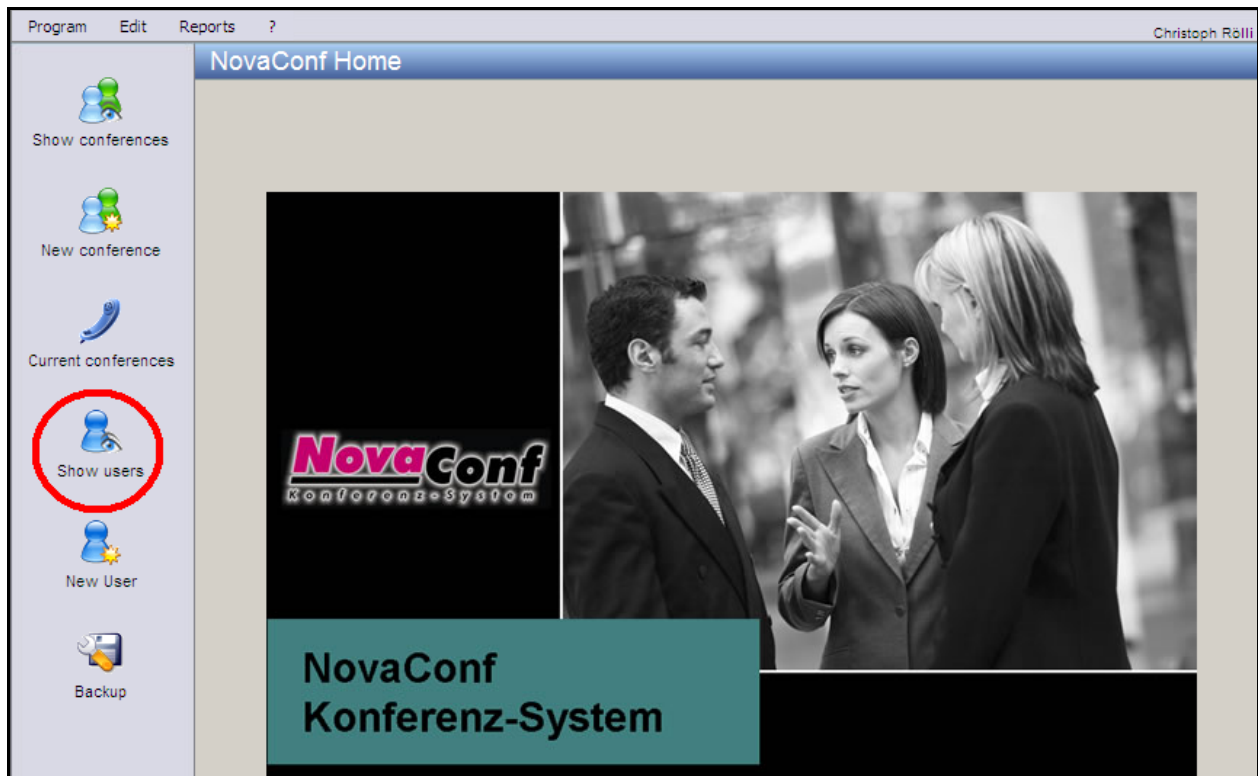


Figure 20: NovaConf Startup Screen

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 [2] for additional information. Click the “New person” icon to add a potential conference participant. A conference user should be configured for each of the telephone extensions shown in **Table 2**.

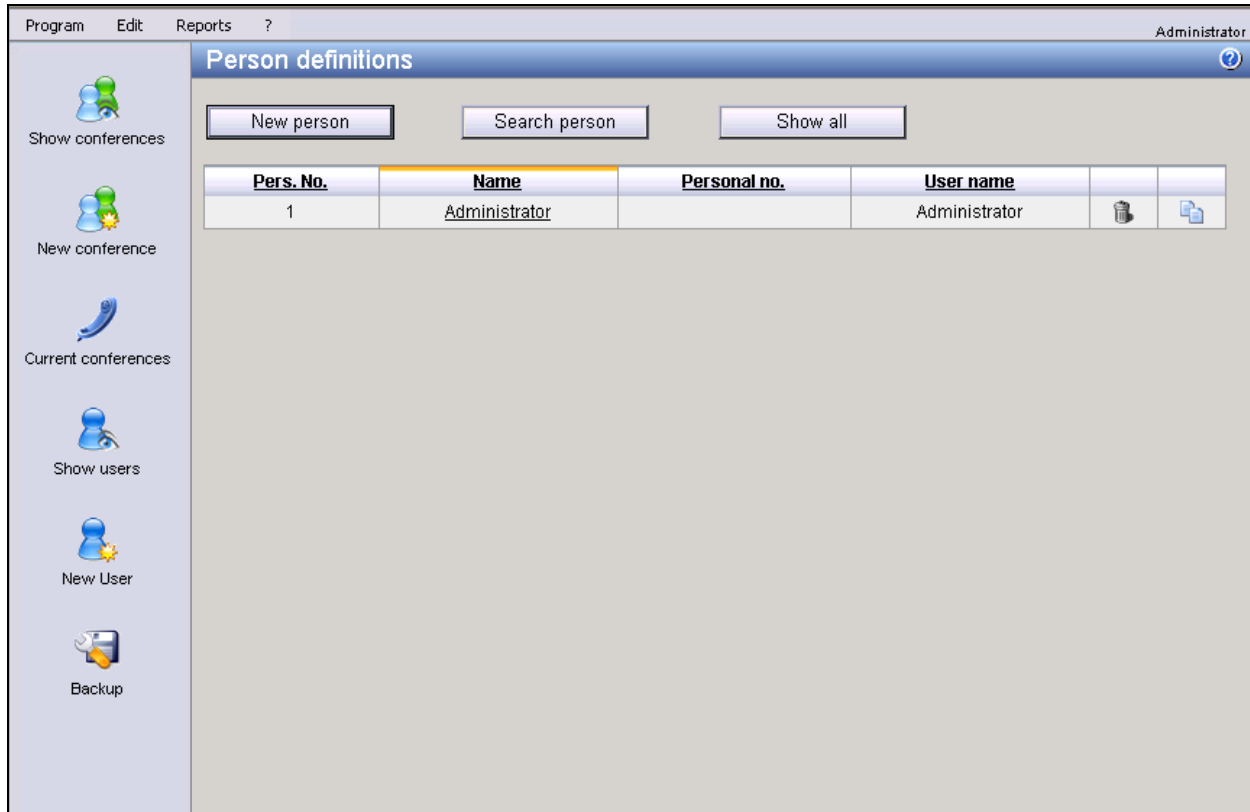


Figure 21: NovaConf User Configuration Screen

In the “Personal details” tab, enter the user’s name in the “Name” field and a numeric PIN code to be assigned to the user in the “PIN code” field. The user will use this PIN code when an authorization sequence for a conference operation is required.

The screenshot displays the 'Edit person' window in the NovaConf application. The window has a menu bar with 'Program', 'Edit', 'Reports', 'Extras', and a help icon. The user is logged in as 'Administrator'. On the left is a sidebar with icons and labels: 'Show conferences', 'New conference', 'Current conferences', 'Show users', 'New User', and 'Backup'. The main area is titled 'Edit person' and contains a form with several tabs: 'Personal details' (selected), 'Telephone numbers', 'Authorization', and 'Notes'. At the top of the form are fields for 'No.:' and 'Name:'. The 'Personal details' tab contains the following fields: 'Name:' with the value 'Extn 5000001', 'Add. information:', 'Name of street:', 'ZIP/Town/City:' (split into two boxes), and 'Lingua:' with a dropdown menu set to 'English'. To the right of these fields is a 'Deactivated:' checkbox. A 'PIN code:' field contains the value '1234', and a 'Personal ID:' field is empty. At the bottom of the form are two buttons: 'Save changes' and 'Discard'.

Figure 22: NovaConf Edit Personal Details Screen

Select the “Telephone numbers” tab to enter the telephone number to be assigned to the user. For testing purposes, it is sufficient to configure one telephone extension, which can be entered into the “Office 1” field. Click the “Save changes” button to save the user’s configuration and return to the “Person definitions” screen.

The screenshot shows the 'Edit person' window in the NovaConf application. The window has a title bar with 'Program Edit Reports Extras ?' and 'Administrator' on the right. Below the title bar is a sidebar with icons and labels: 'Show conferences', 'New conference', 'Current conferences', 'Show users', 'New User', and 'Backup'. The main area is titled 'Edit person' and has a 'Zurück' button. It contains a form with the following fields:

- No.:** [Empty text box]
- Name:** [Empty text box]
- Personal details** (selected tab)
- Telephone numbers** (active tab)
- Authorization** (tab)
- Notes** (tab)

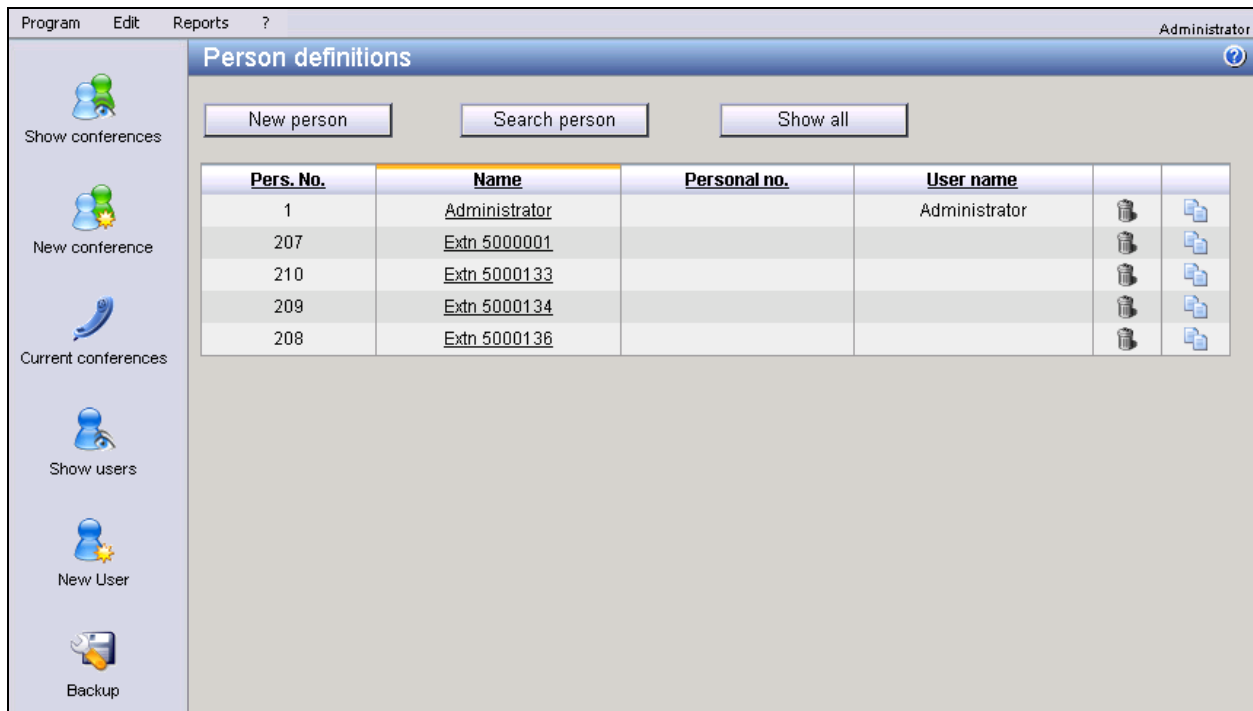
The 'Telephone numbers' tab contains the following fields:

- Office 1:** [5000001]
- Office 2:** [Empty text box]
- Home 1:** [Empty text box]
- Home 2:** [Empty text box]
- Mobile 1:** [Empty text box]
- Mobile 2:** [Empty text box]
- DECT/WLAN 1:** [Empty text box]
- DECT/WLAN 2:** [Empty text box]
- E-Mail:** [Empty text box]

At the bottom of the form are two buttons: 'Save changes' and 'Discard'.

Figure 23: NovaConf Edit User Telephone Numbers Screen

Repeat the preceding user allocation steps for each of the extensions in **Table 2**. The newly configured users are now listed in the “Person definitions” screen, as show below. Click the “Show conference” icon to continue.



The screenshot shows the NovaConf Personal User Display Screen. The interface includes a sidebar on the left with navigation icons for 'Show conferences', 'New conference', 'Current conferences', 'Show users', 'New User', and 'Backup'. The main area is titled 'Person definitions' and contains a table with the following data:

Pers. No.	Name	Personal no.	User name
1	Administrator		Administrator
207	Extn 5000001		
210	Extn 5000133		
209	Extn 5000134		
208	Extn 5000136		

Figure 24: NovaConf Personal User Display Screen

3.2.3.2 Configure Conferences

From the “Predefined Conferences” screen, click the “New Conference” button to create a new conference. This operation is performed once for each of the three conference types used by the tests described in these Application Notes: incoming conference, outgoing conference, and ad-hoc conference.

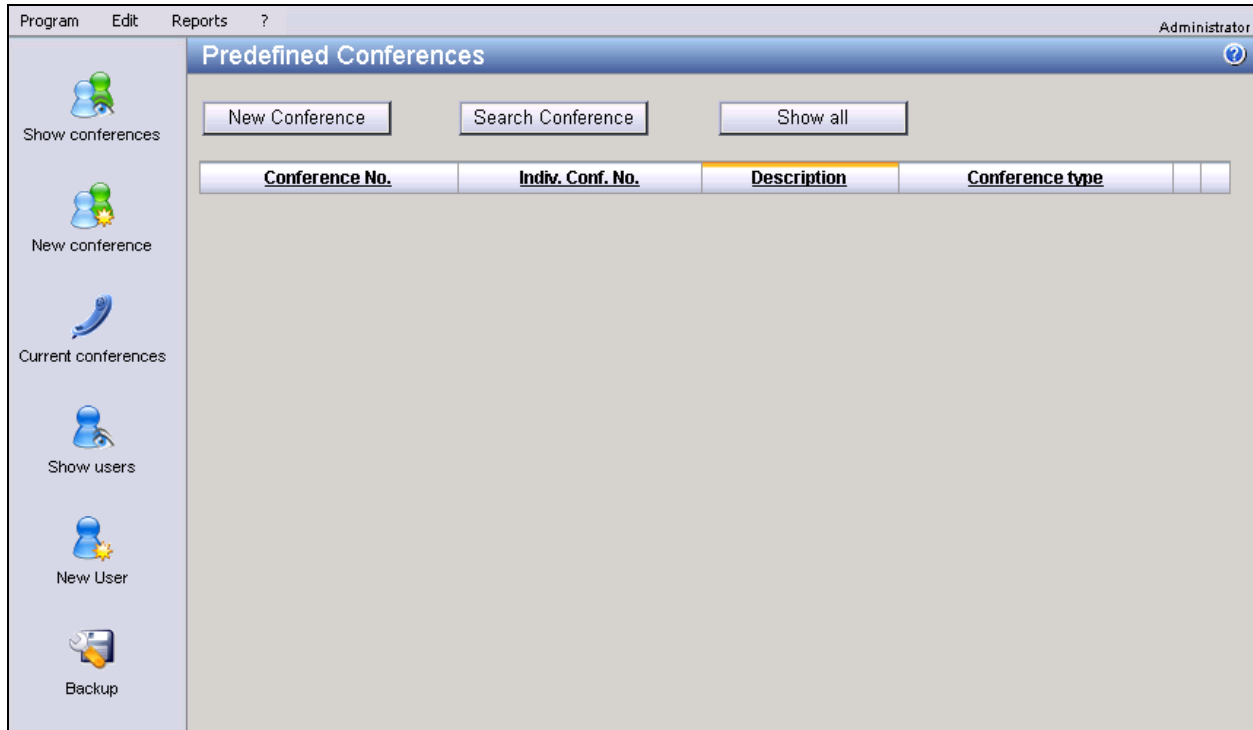


Figure 25: Predefined Conference List Screen

The “Common” tab of the “Edit conference” screen allows the creation of various conference types. Enter the parameters for the conference to be configured as shown in the table below.

Parameter	Usage
Description	Assign a descriptive name to the conference.
Individual No.	Assign an unused conference number to be used as an identifier for this conference.
Conference-Type	Select “Outgoing Conference”, “Incoming Conference”, or “Ad-hoc Conference” from this drop-down box, dependent on the type of conference which it to be created.
Message	Select an existing message from the list of files contained within this drop-down box, or click the button to the right to record a new message.

Table 16: NovaConf Conference Common Configuration Parameters

Program Edit Reports Extras ? Administrator

Edit conference Zurück ?

No.: 2 Description: General Conference

Common User Timetable Notes

Description: General Conference Individual No.:

Conference-Type: Ad-Hoc Conference

Message: Test Announcement Responsible: <No selection> Call attempts: 1

Specification values for Conf. Users:

Authentication-Type: None Authentication:

Dial-In values for incoming conferences:

Dial-In No.: Add. Authentic.-Type: None (Additional authentication to start a Chef conference) Add. Authentic.:

Save changes Discard entries

Show conferences
 New conference
 Current conferences
 Show users
 New User
 Backup

Figure 26: NovaConf New Outgoing Conference Screen

Select the “User” tab and allocate users to the conference using “drag and drop” operations, as shown below.

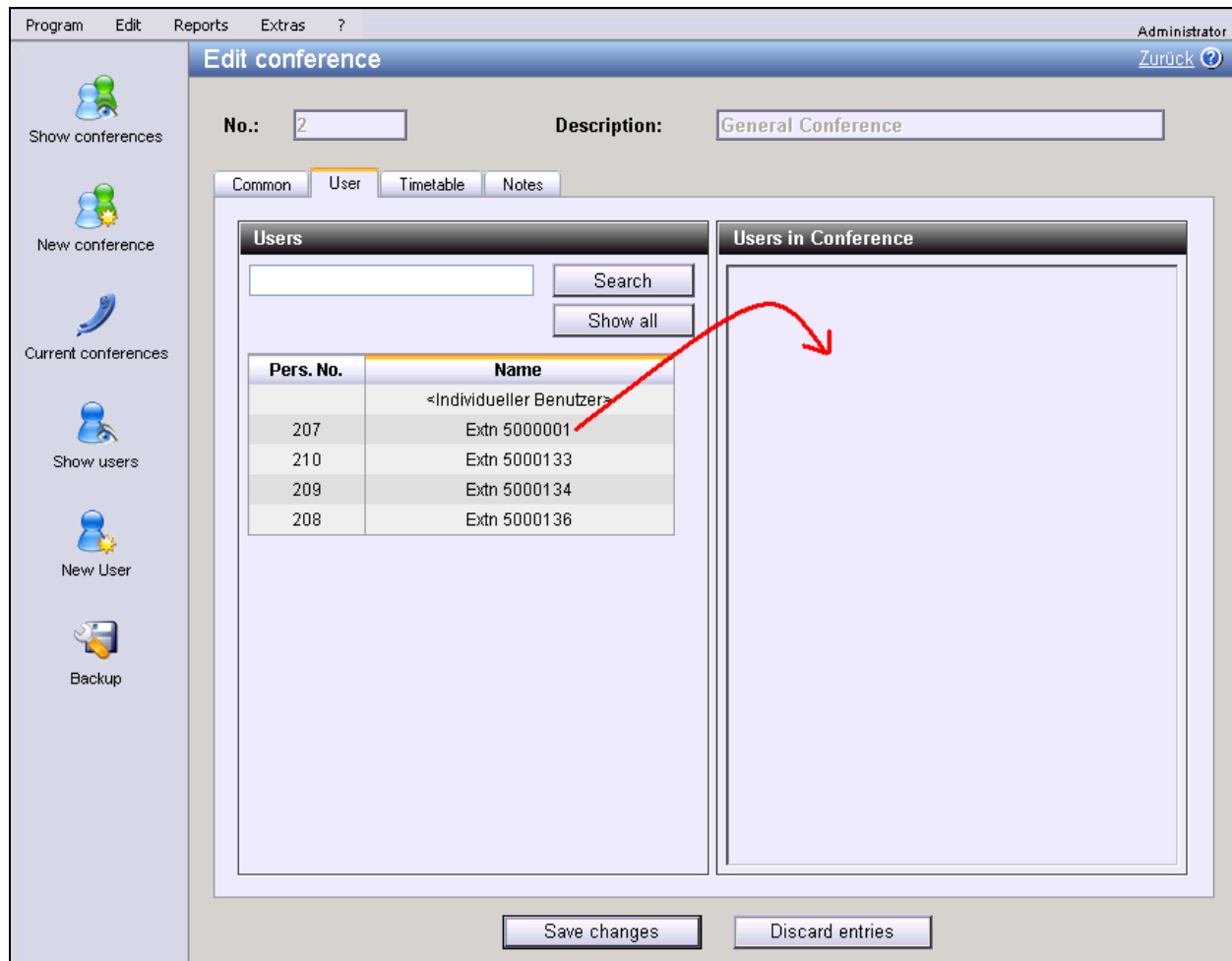


Figure 27: NovaConf User Allocation via Drag and Drop

A newly selected conference participant is removed from the list of “Users” and added to the list of “Users in Conference”. Repeat this operation for all users who are to participate in the conference.

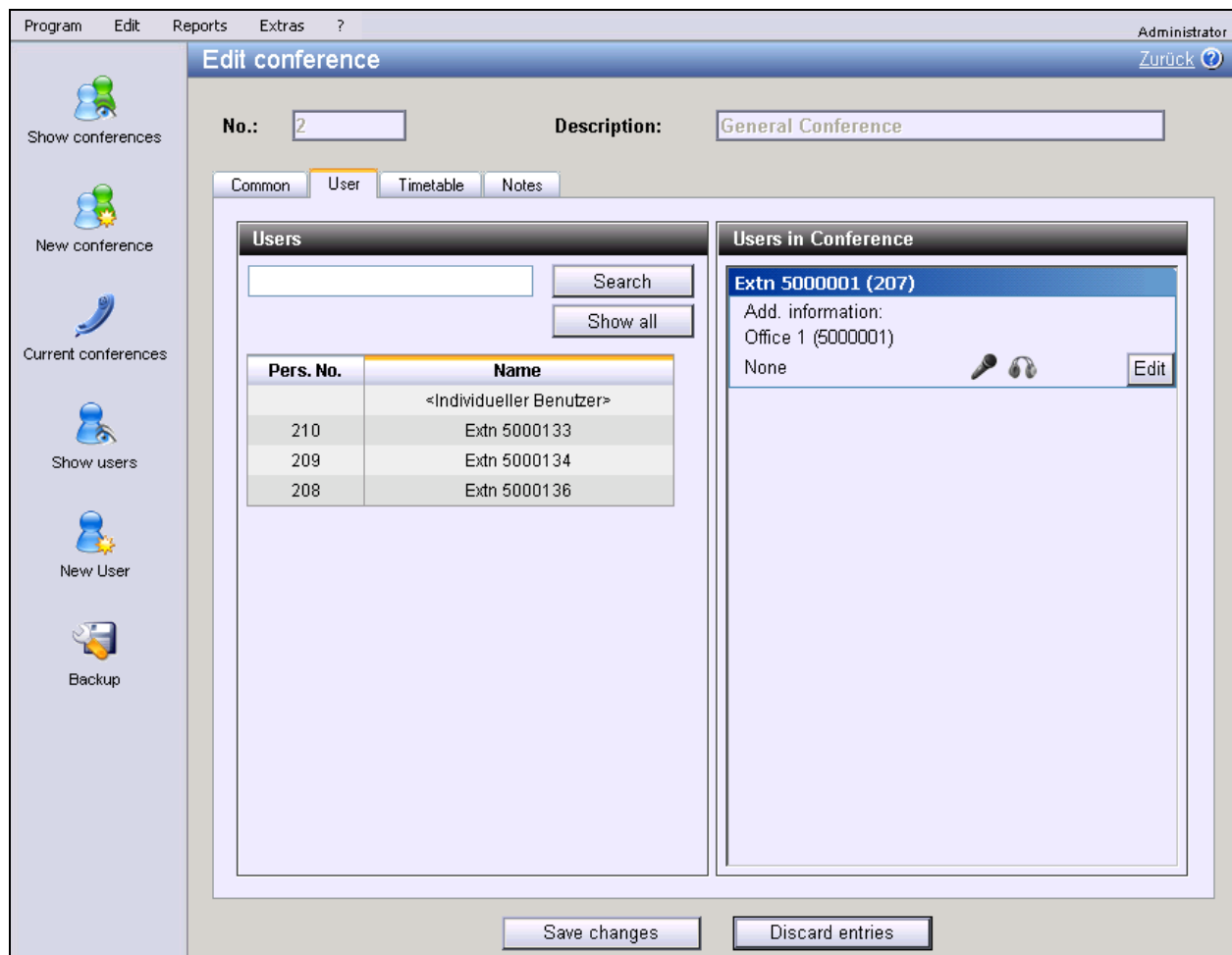


Figure 28: NovaConf Conference After Allocation of First Participant

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 NovaConf server and Avaya products, including various sequences involving the following:

- Verification of the ability to establish conferences initiated by various Avaya telephones calling the NovaConf server.
- Verification of the ability of the NovaConf server to establish conferences by calling various Avaya telephones.
- Verification of the ability of the NovaConf server to establish conferences with parties that have activated call diversion. The conference should be established with the diverted-to station.
- Verification of the ability of NovaConf to recognize DTMF tones.
- Verification of the ability of Avaya telephones to correctly log unanswered conference calls.

The serviceability testing focused on verifying that the NovaConf product components can recover from interruption to interface connections that can occur during routine maintenance activities. The NovaConf 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 NovaConf server and Avaya IP Office was verified by confirming that the various telephony operations that can be invoked by conferencing activity all function properly.
- NovaLink NovaConf robustness was tested by verifying its ability to recover from interruptions to its external connections including:
 - The LAN connection between the NovaConf and the network
 - The S0 connection between NovaConf and the Avaya IP400 S08
 - The PRI connection between NovaConf and the Avaya IP Office 406
- NovaConf robustness was further tested by verifying the ability to recover from power interruptions to the NovaConf server.

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

4.2. Test Results

The following problems were encountered during testing:

- It is not possible for NovaConf to detect that an Avaya 4600 series H.323 phone is disconnected, as this status is not reported to the caller by Avaya IP Office.

This problem was determined to not be of a serious nature.

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 NovaConf server can ping each other.
- Verify that the IP phones can call each other.
- Start the NovaConf Monitor from the Windows “Start” menu, and verify that the “Line Status” control is green to indicate that the interface to the Avaya IP Office is operational.
- Verify that each of the Avaya Telephones can call the extension allocated to NovaConf to participate in an incoming conference.
- Verify that it is possible for NovaConf to call each of the Avaya IP Telephones to participate in an outgoing conference.
- Verify that it is possible to navigate the NovaConf voice menu from each of the Avaya Telephones by calling the NovaConf extension, and entering key sequences in response to prompting requests from NovaConf.
- Verify the ability of Avaya Telephones to correctly log unanswered calls by initiating an unanswered conference call from NovaConf 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
Business tower
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 NovaConf with Avaya IP Office. The various features of the NovaConf which 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. NovaConf passed all of the tests performed, which included both functional and robustness tests.

8. Additional References

- [1] *IP Office 4.0 Installation Manual*, February 2007, Issue 1, Document Number 15-601047.
- [2] *NovaConf 7.5 Manual*, May 2007

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