Avaya Solution & Interoperability Test Lab

Application Notes for the Interoperation of NovaLink NovaMail with Avaya Integral 5 easy - Issue 1.0

Abstract

These Application Notes describe the necessary configuration steps for the successful interoperation of the NovaLink NovaMail with the Avaya Integral 5 easy (I5).

NovaLink NovaMail is a proprietary voice mailbox solution.

An Avaya Integral 5 easy with software version AR2.351GA was used as the hosting PBX for the NovaMail system.

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

1. Introduction

This document specifies the configurations and tests used to verify compatibility and interoperability between the NovaMail Server with Avaya BCS (Branch Communication Server) and the Avaya Integral 5 easy (I5). The NovaMail Server processes information, especially voice mails received from various sources (e.g., Avaya I5 easy extensions). The NovaMail Server provides mail boxes for the Avaya I5 subscribers, stores the received voice mails and sets a message waiting indication.

A V.24 interface with ACOM protocol is used for connecting the BCS with the Avaya I5 easy and a Basic Rate Interface (BRI) configured as Voice Server (external) is used for the NovaMail itself.

The figure below shows the interconnection of the NovaLink NovaMail system with the Avaya I5 easy.

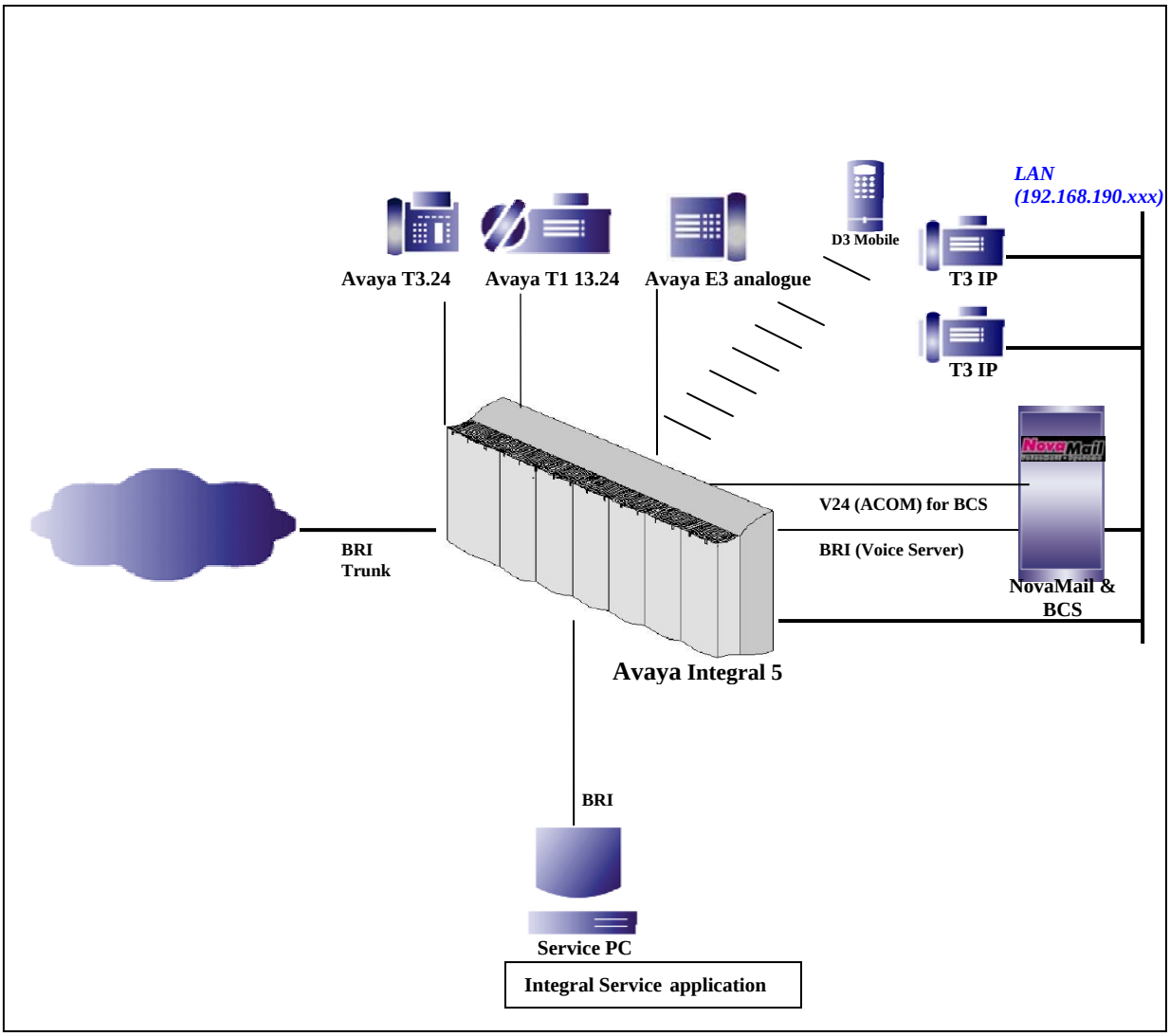


Figure 1: Avaya I5 with NovaLink NovaMail server

2. Equipment and Software Validated

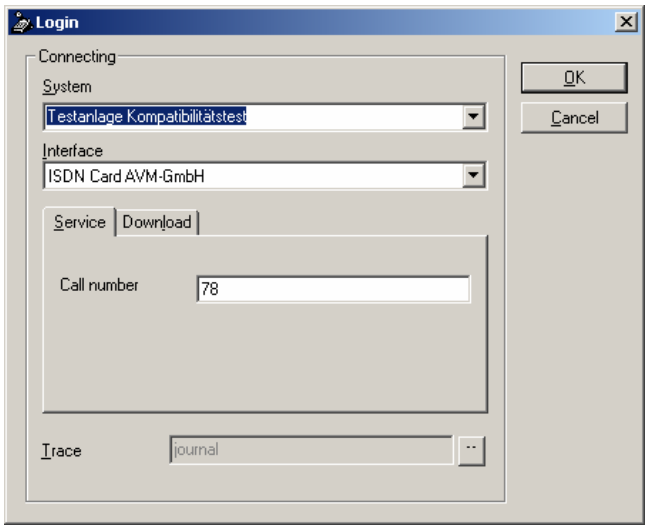
The following equipment and software were used for the sample configuration provided:

Equipment	Software
Avaya™ Integral 5 easy	AR 2.351 D
Avaya™ T8S circuit pack	UR 2250 DE
Avaya™ S8D circuit pack	FR 2250XX
Avaya™ V24 circuit pack	Board IDM05050055
Avaya™ D3 mobile handset	10-45-61 EE 03-08
Avaya™ T3 IP phone	V212_0DE.h4i
Avaya™ Digital T3.24 phone	V2_01
Avaya™ E3 analogue phone	
Avaya™ Digital T1 13.24 phone	V01_16
Avaya™ Integral service application	V4.401D
Avaya™ AVM Fritz! USB Card for service access	V.2.1
Service PC Dell optiplex gx270	Microsoft Windows XP Professional SP2
Deutsche Telekom BRI ISDN trunk (point to point)	
NovaLink NovaMail Server	V.7.0 SP1
Gerdes Primux ISDN card 4xBRI	V3.6.4389
Avaya™ BCS (Branch Communication Server)	V 3.0.6

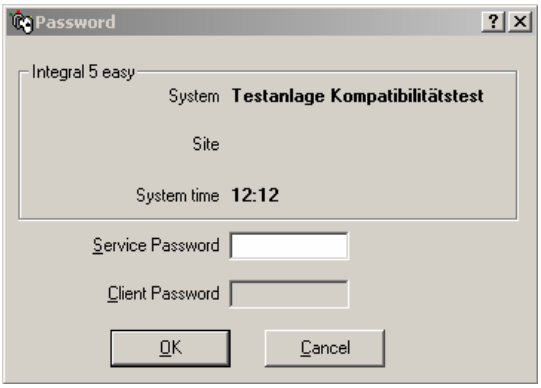
3. Configuration of the Avaya Integral 5 easy

The configuration of the Avaya Integral 5 easy is done via the Integral Service Application (ISA) which is running on a Service PC connected to the system via the AVM fritz! card with a BRI. ISA is the basic service tool for administrating the Avaya I5 systems. It is an application running under Windows-2000 or Windows-XP operating system.

Necessary parameters to login:
System: Arbitrary system name
Interface: ISDN Card AVM-GmbH
Default Service Call number: 78

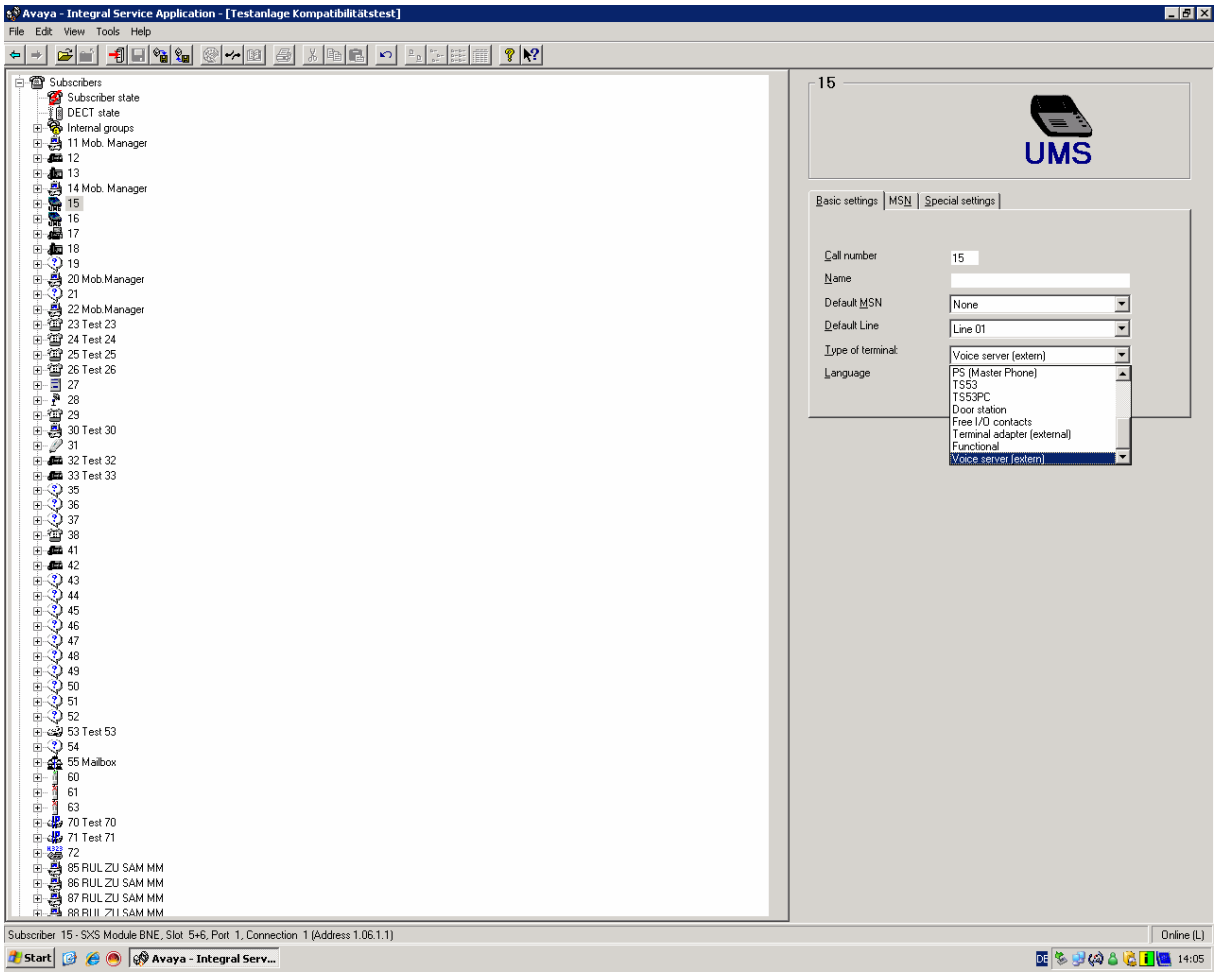


Service password: System time backwards



3.1. Configuration of the Avaya I5 BRI (Voice Server)

The BRI subscriber for NovaMail, especially is configured as type Voice Server (external):



3.2. Configuration of the V.24 interface for the BCS (Branch Communication Server)

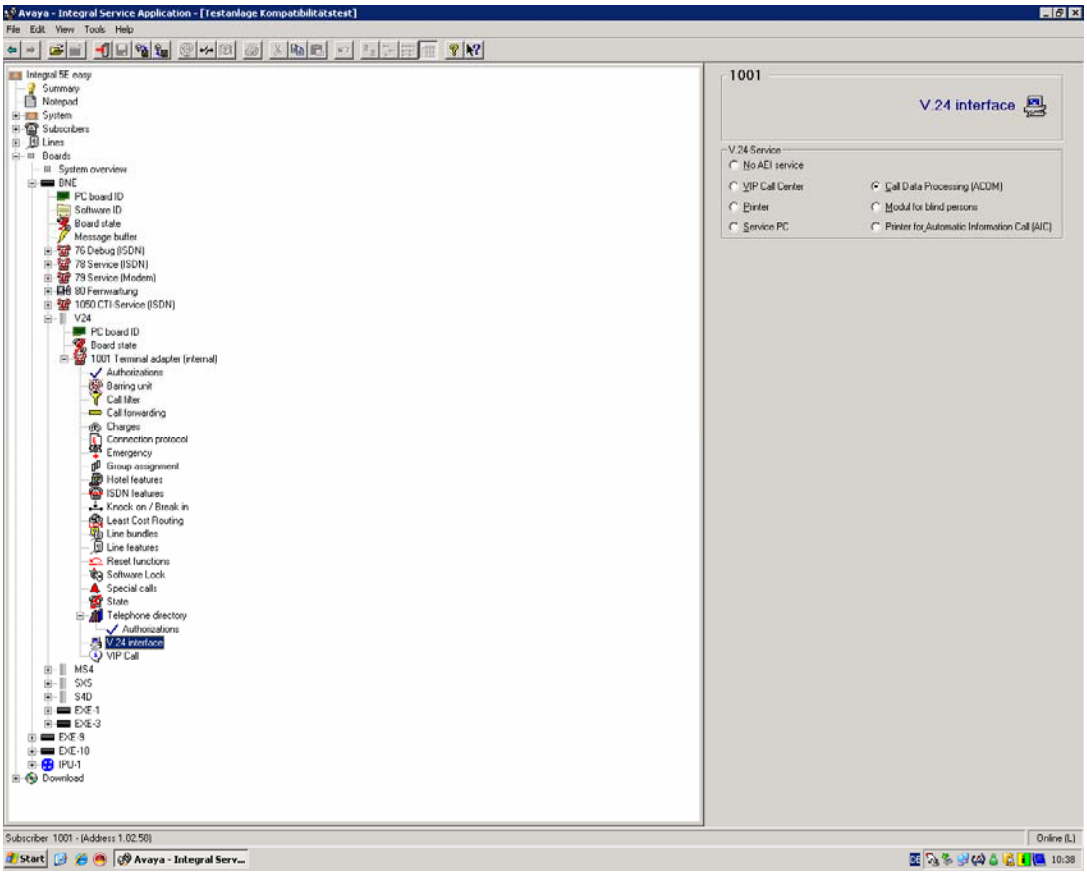
For the direct connection of the BCS to the Avaya I5 with the V.24 circuit pack, a special cable is required. The pinout for this special cable is shown below.

Special DUO connector 9-Pin D-sub female PC

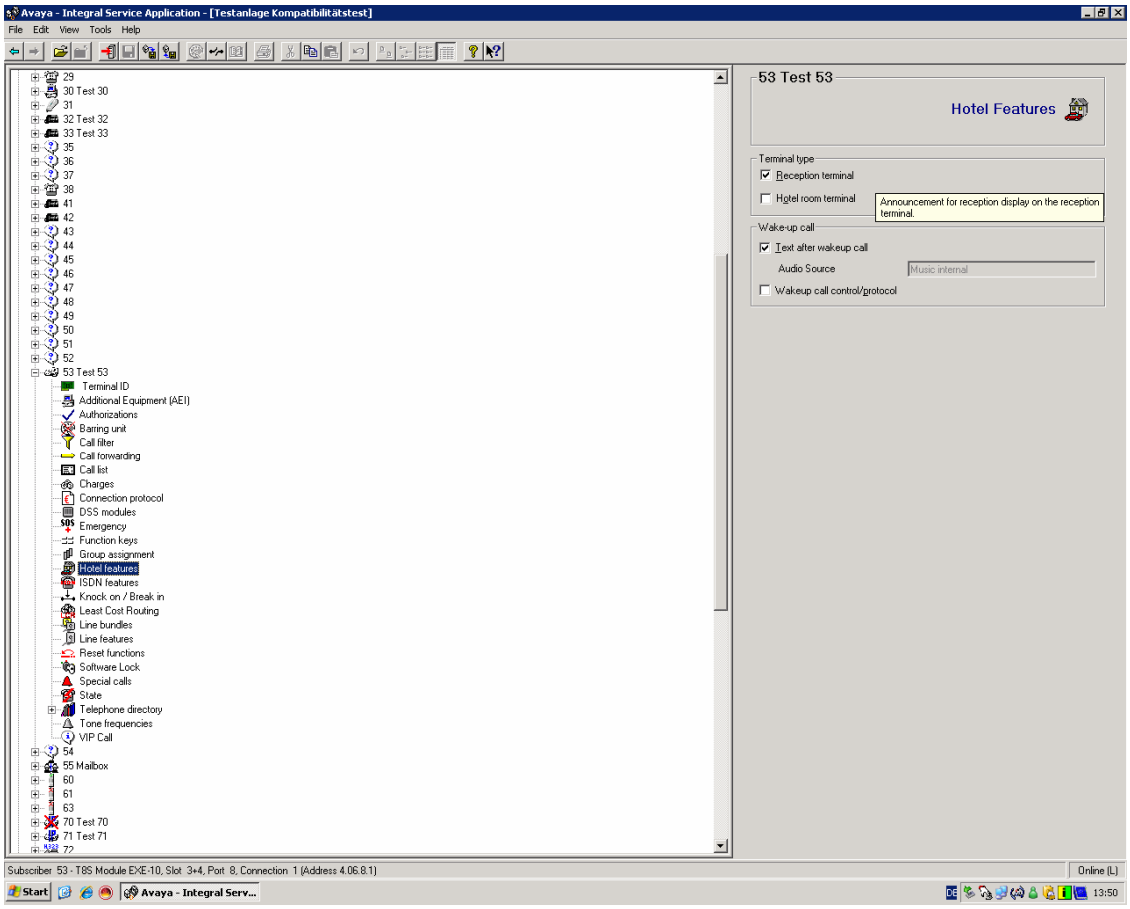
1----------2
2----------3
3----------7
4----------8
5----------6
6----------4
7----------5
8

Setting the V.24 interface parameters: From a terminal in the service menu FAC 08 subscriber 1001 has to be changed to option two (option two = 9600 bit/s, 8 data bits, n no flow control, 1 stop bit).

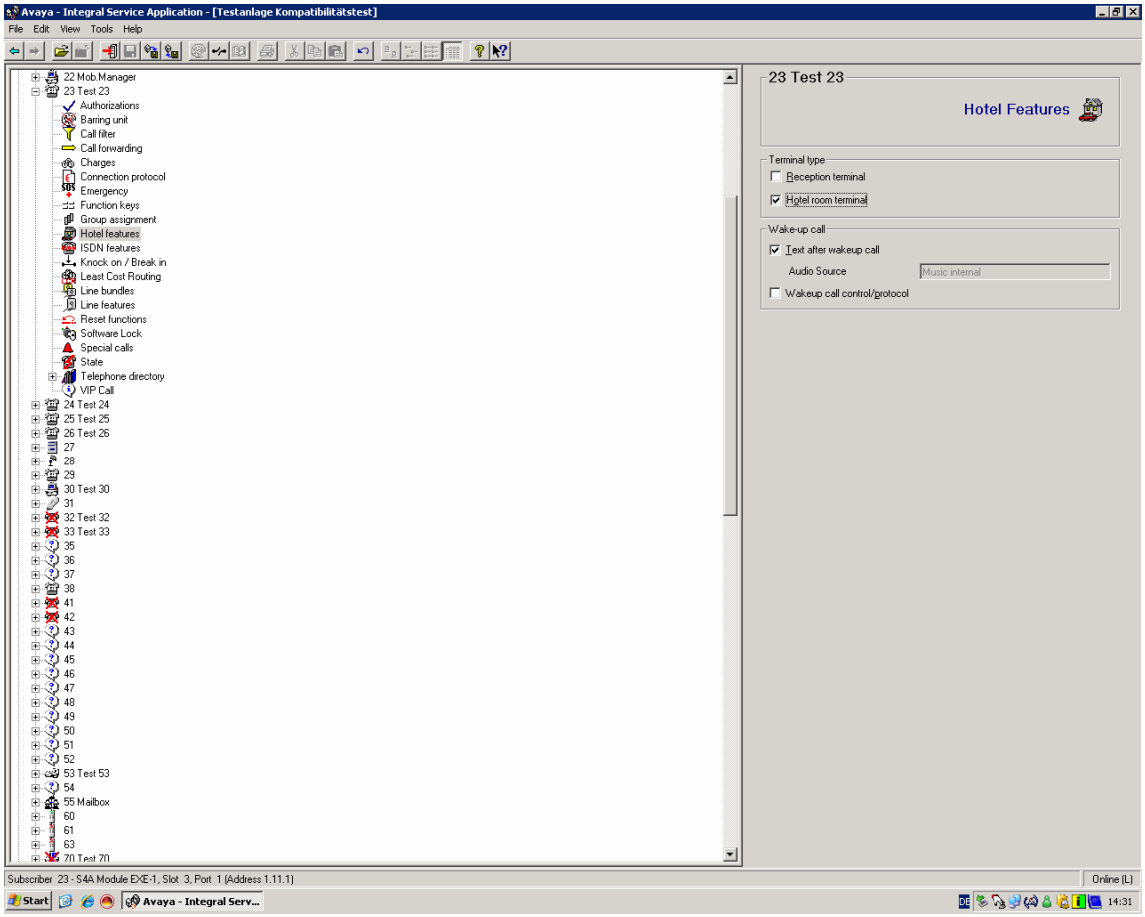
The settings of the V.24 interface have to be changed to Call Data Processing (ACOM):



Terminal type “Reception terminal” has to be assigned to one terminal.



The terminal type “Hotel room terminal” has to be assigned to another terminal.



4. Configuration of the NovaMail

The NovaMail offers the following ways of configuration:
For initial configuration the Configuration & License Manager is used (as described below).
Further configurations or changes can be made by means of a web interface (not described here).
All configurations are saved in the NovaMail.ini file. This file can also be altered by means of a text editor and restored.

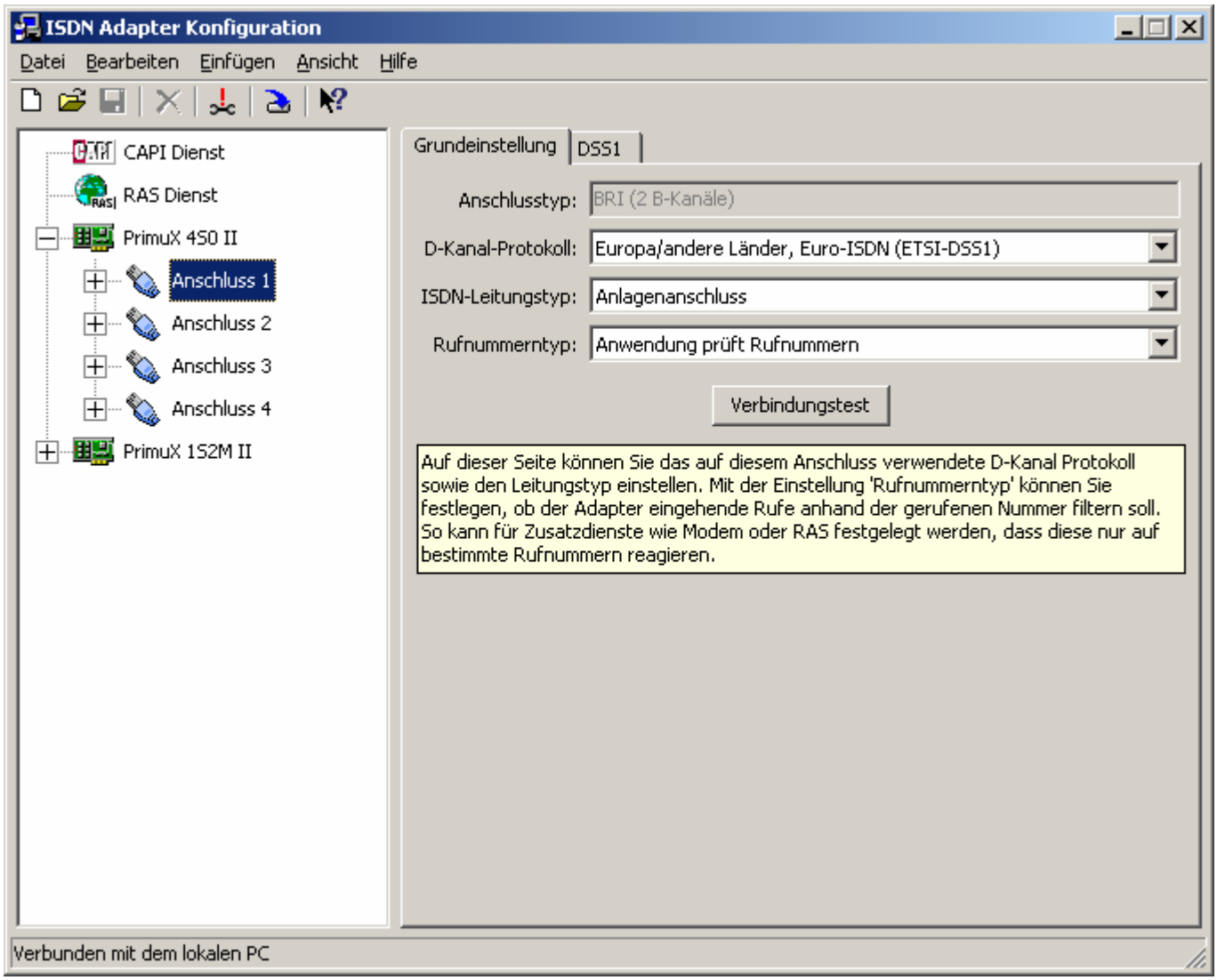
The configuration for NovaMail includes some screen shots and fields that are in German.

4.1. Configuration of the Gerdes PrimuX ISDN card for BRI (voice server)

The configuration of the Gerdes PrimuX ISDN Card is done together with the installation of the card:

D-Kanal-Protokoll: Europa/andere Länder, Euro-ISDN (ETSI-DSS1)
ISDN-Leitungstyp: Anlagenanschluss
Rufnummerntyp: Anwendung prüft Rufnummern

D-channel-protocol: Europe/other countries, Euro-ISDN (ETSI-DSS1)
Type of ISDN trunk: Trunk (point to point)
Type of number: Application checks call numbers



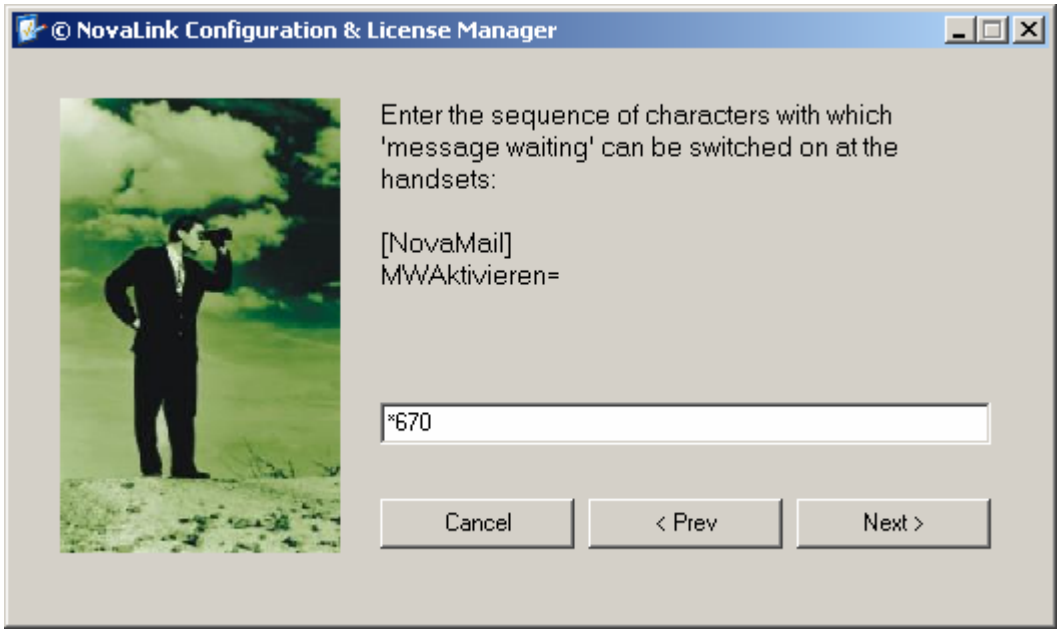
4.2. Configuration & License Manager for BRI configuration

The following screens show the step by step configuration of the NovaMail server by means of the Configuration & License Manager.

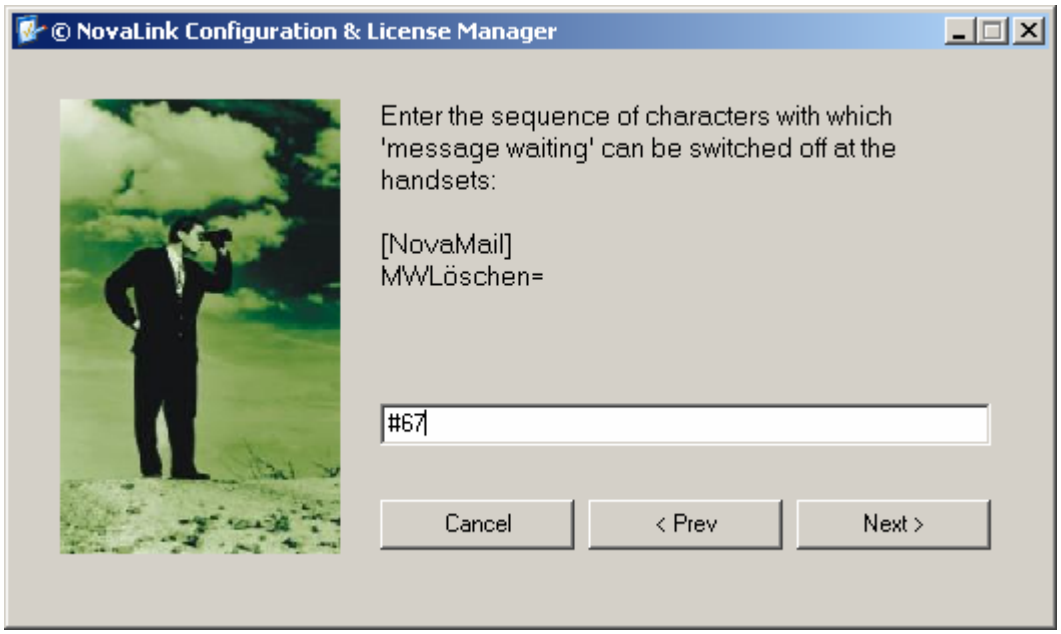
Configure Server-Settings:

Linie=2
Two lines are used:

MWAktivieren=*670
Enable message waiting=*670

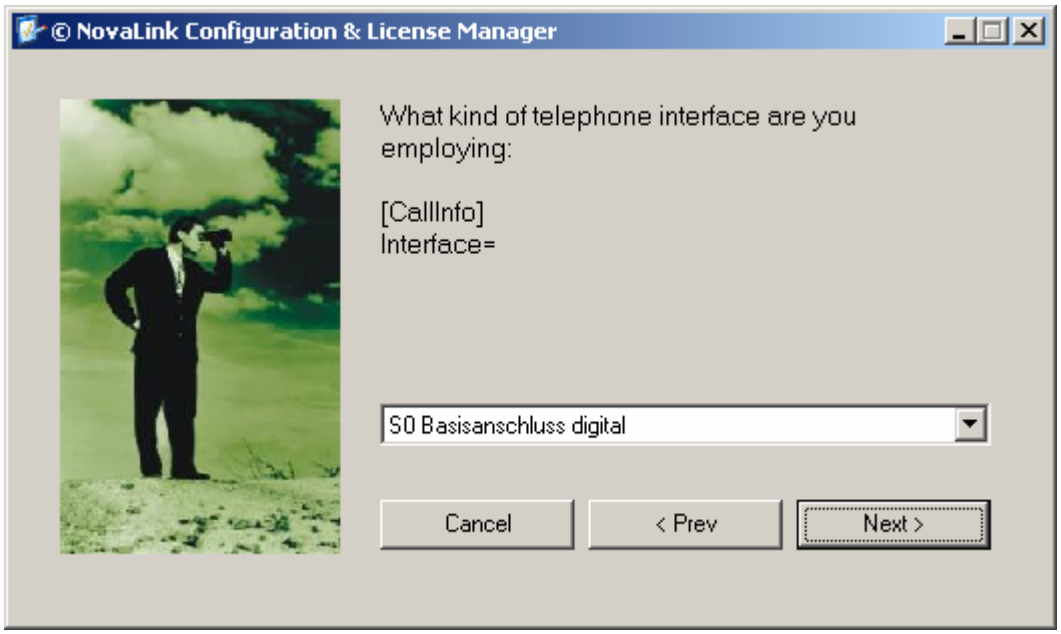


MWLöschen= #67
Disable message waiting = #67



CardDriver= CAPI:

Interface= S0 Basisanschluss digital
Interface= BRI digital



SigTyp=Neues Tenovis-Format (I3/I5)
Type of signalling = New Tenovis-formate (I3/I5)

4.3. Settings in the NovaMail.ini for BRI (voice Server)

All settings which have been made in the Configuration & License Manager are included in the NovaMail.ini file. The file with the configurations as described above is listed below:

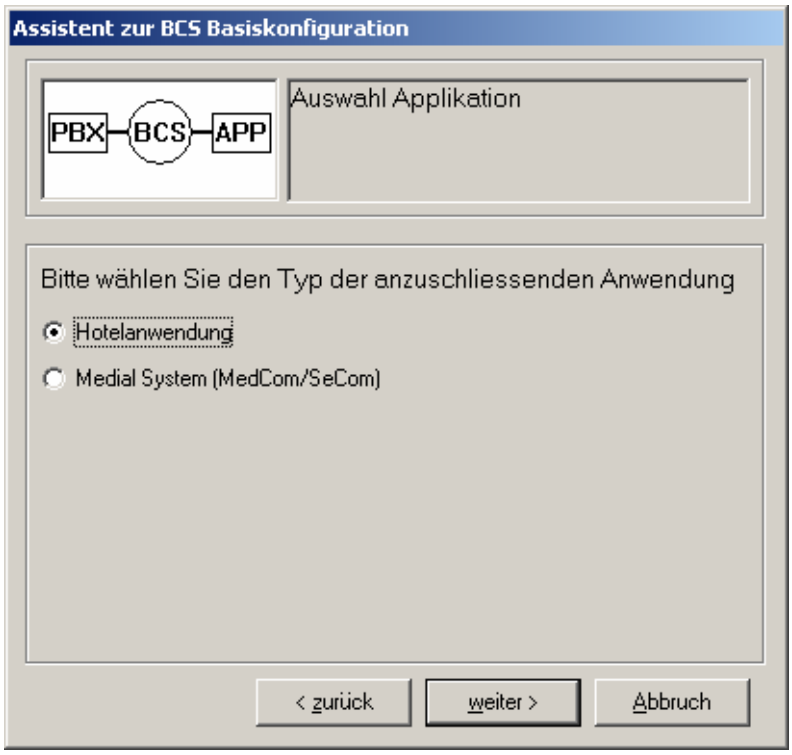
```
[NovaMail]
Linie1=1                    'Allocation of the lines logical=physical
Linie2=2
MWAktivieren=*670           'Shortcode for activation of message waiting
MWLöschen=*67               'Shortcode for deactivation of message waiting
MWQuittung=2  '0=No acknowledgement for message waiting, 1=waiting for acknowledgement from pbx
(digit or connect), 2=special feature to connect to I5

[CallInfo]
CardDriver=2                '0=Auto-Detect, 1=Dialogic, 2=CAPI, 3=VoIP
Interface=3                 'Line-Interface-type 1=analogue, 2=2 MBit primary digital, 3=BRI basic
interface digital
SigTyp=2                    '1=Old bosch format, 2=New bosch format (with. external call number), ...
```

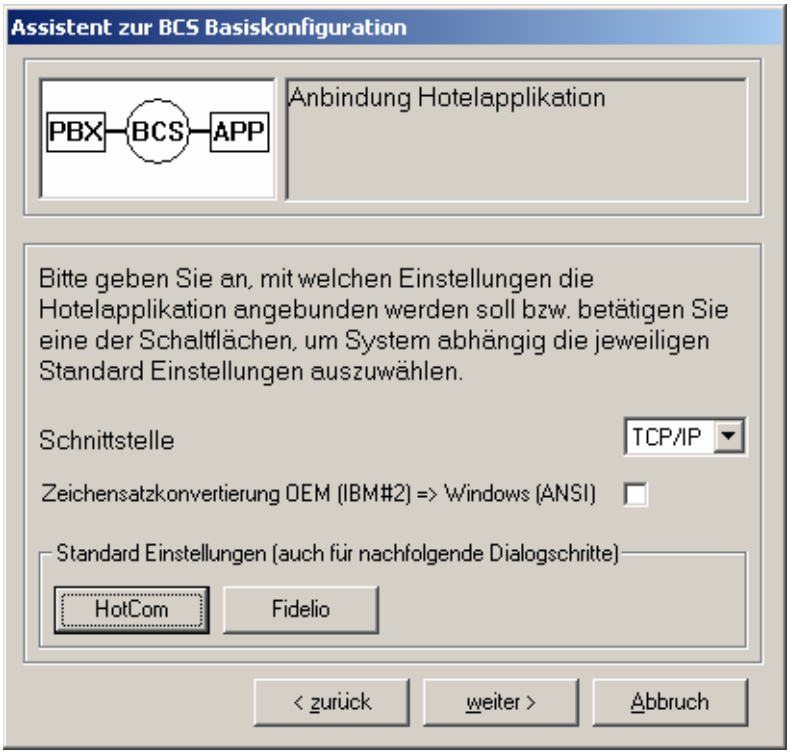
5. Configuration of the BCS

The following screens show the basic step by step configuration for the BCS.
The BCS (Branch Communications Server) is server software which is used as an interface between an Avaya branch solution (e.g., HotCom, MedCom) and one or more Avaya telecommunication systems. BCS allows the exchange of data between Avaya telecommunication systems and Avaya branch solutions. The data sets of Avaya telecommunication systems and Avaya branch solutions have different formats. BCS transforms the format of incoming data sets internally and forwards them to the Avaya telecommunication systems or Avaya branch solutions respectively in the appropriate format.

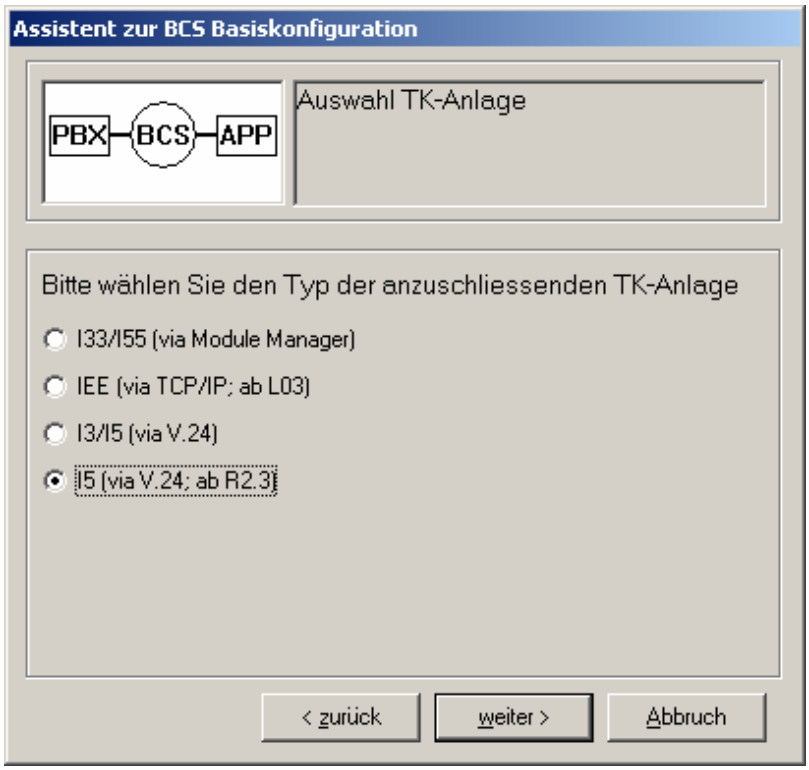
Typ der Anwendung: Hotelanwendung:
Type of application = hotel application



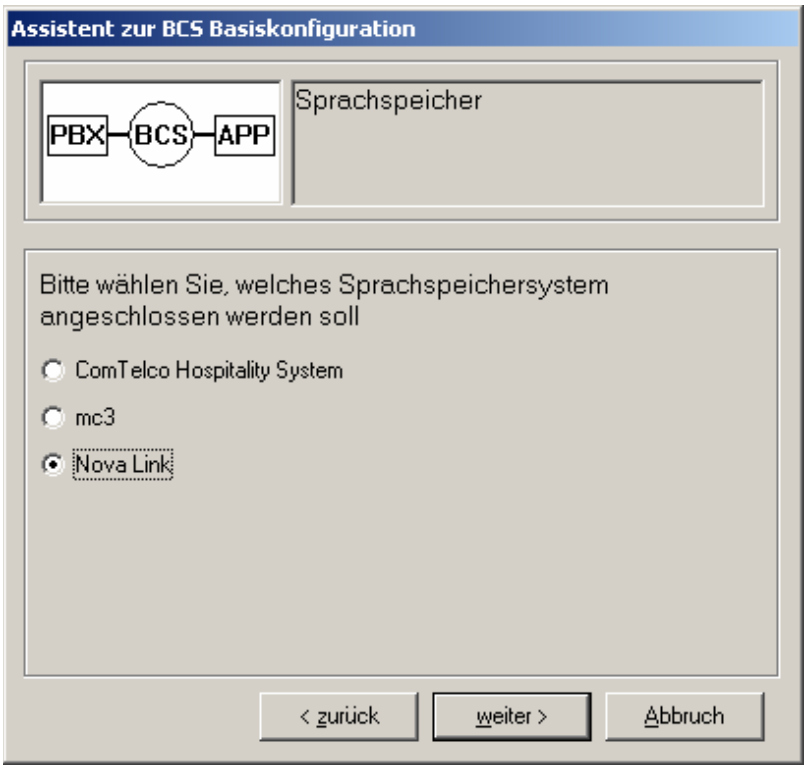
Schnittstelle: TCP/IP
Standard Einstellungen: HotCom
Interface: TCP/IP
Default settings: HotCom



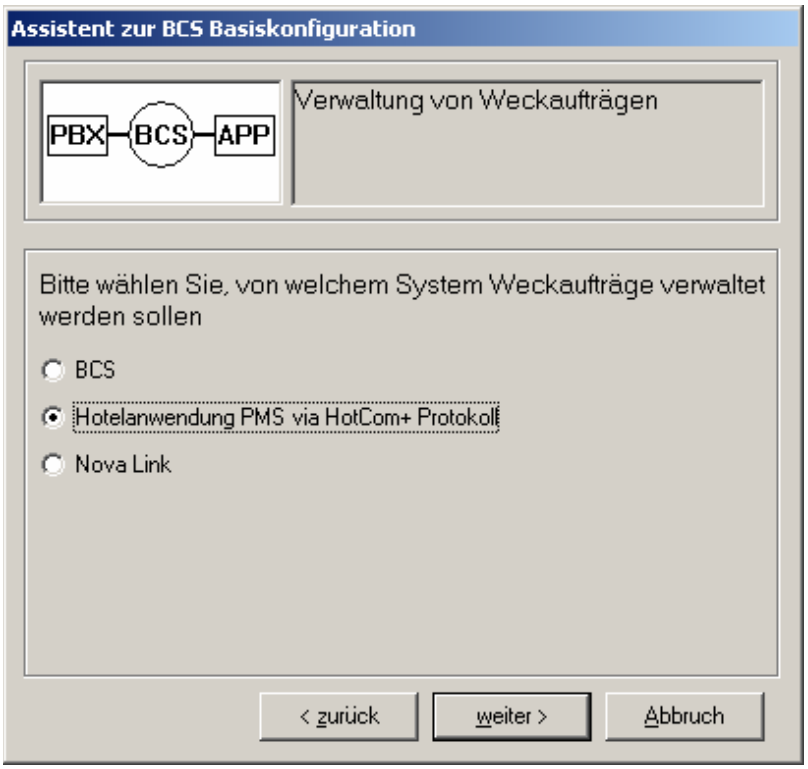
Typ der TK-Anlage: I5 (via V.24; ab R2.3)
Type of telecommunication system: I5 (via V.24; from software R2.3)



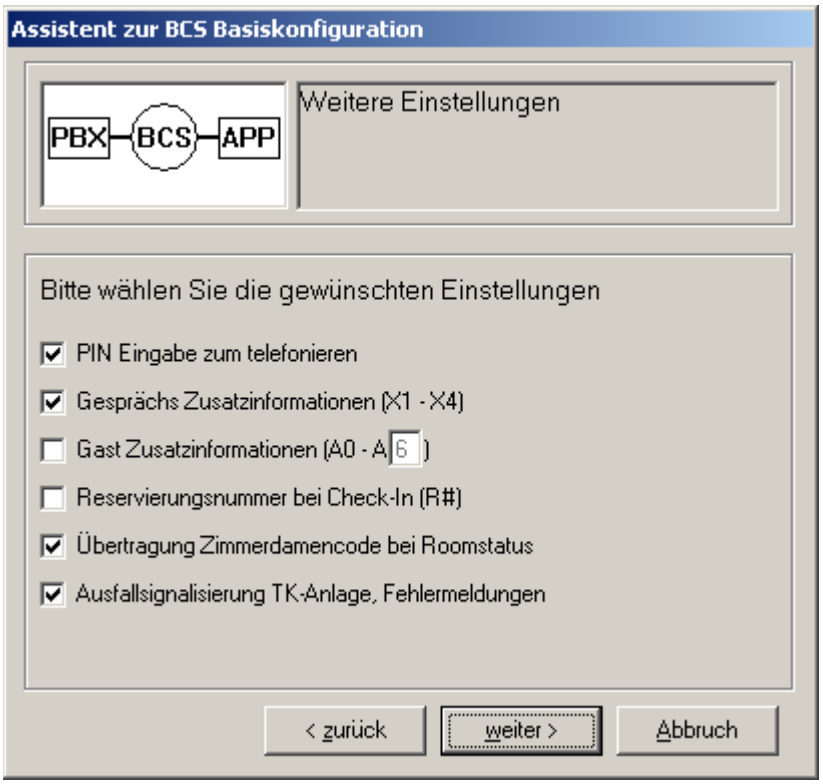
Weitere Systeme: Sprachspeichersysteme
Additional systems: voice mail box



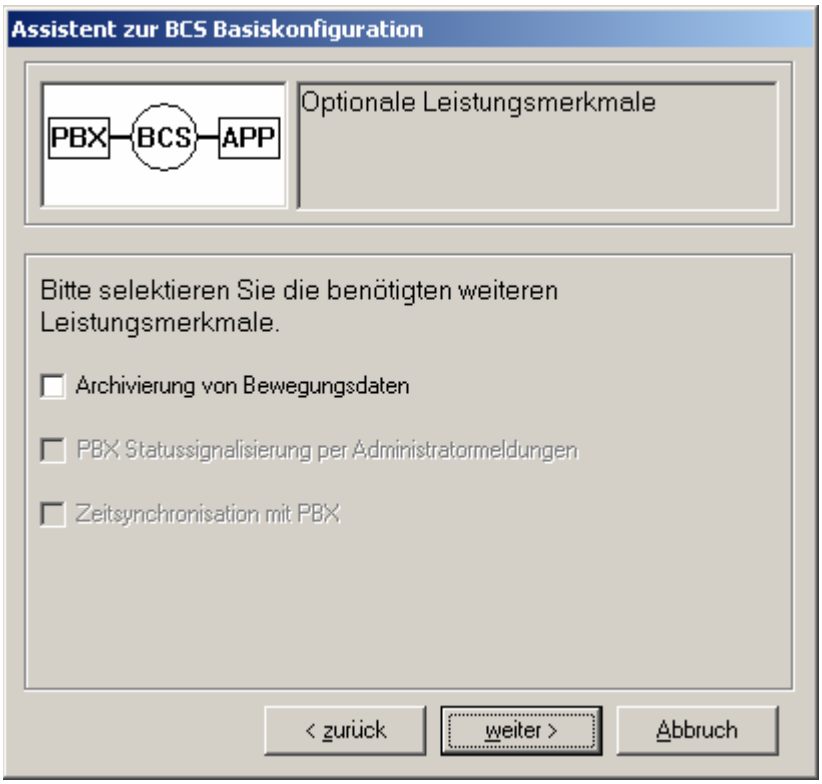
Weckaufträge verwalten: Hotelanwendung PMS via HotCom+ Protokoll
Manage wake-up calls: hotel application PMS via HotCom+ protocol



Weitere Einstellungen:
PIN Eingabe zum telefonieren
Gesprächs Zusatzinformationen
Übertragung Zimmerdamencode bei Roomstatus
Ausfallsignalisierung TK-Anlage, Fehlermeldung
Additional settings:
Enter PIN for making calls
Additional information for a call
Transfer room mate code with room status
Failure signaling to telecommunication system

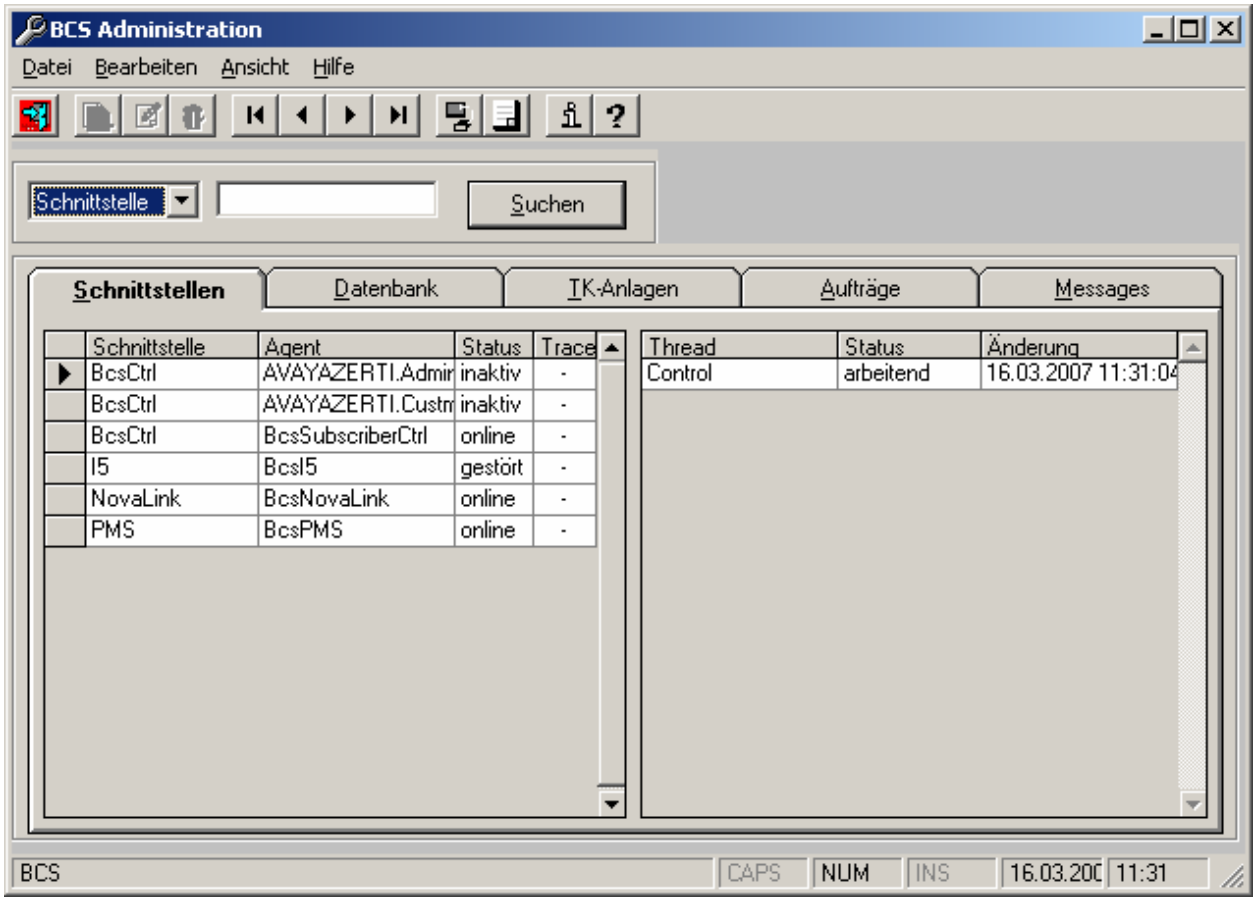


Optionale Leistungsmerkmale aktiveren:
Enable optional features



5.1. BCS Administrator

With the BCS Administrator the status of the interfaces used as well as data bases, telecommunication systems, etc. can be observed:

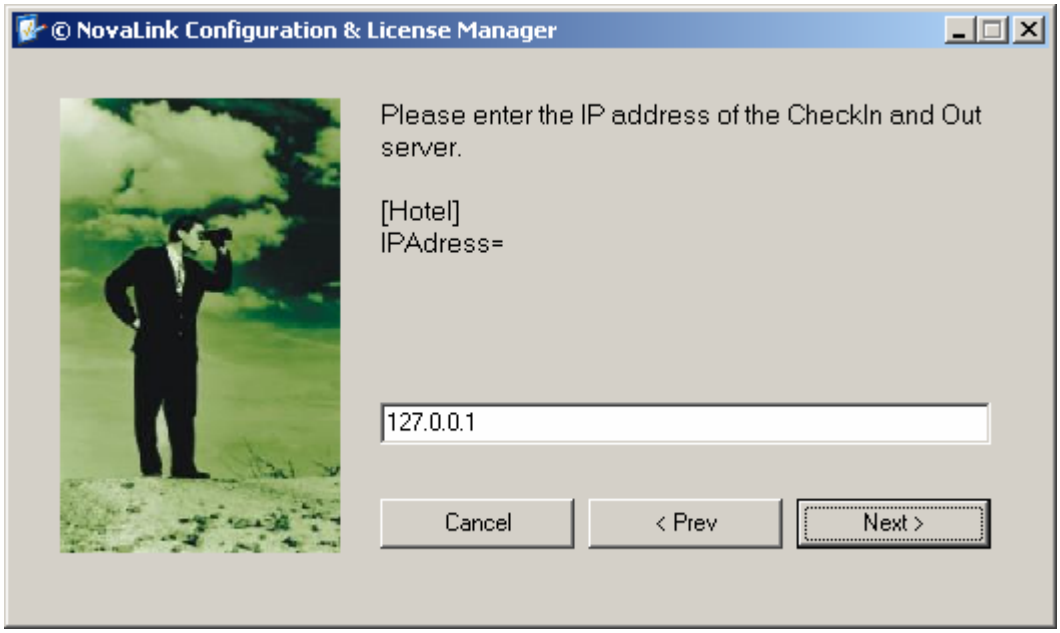


5.2. Configurations in NovaMail for the support of BCS

The following settings were made by means of the Configuration and License Manager:

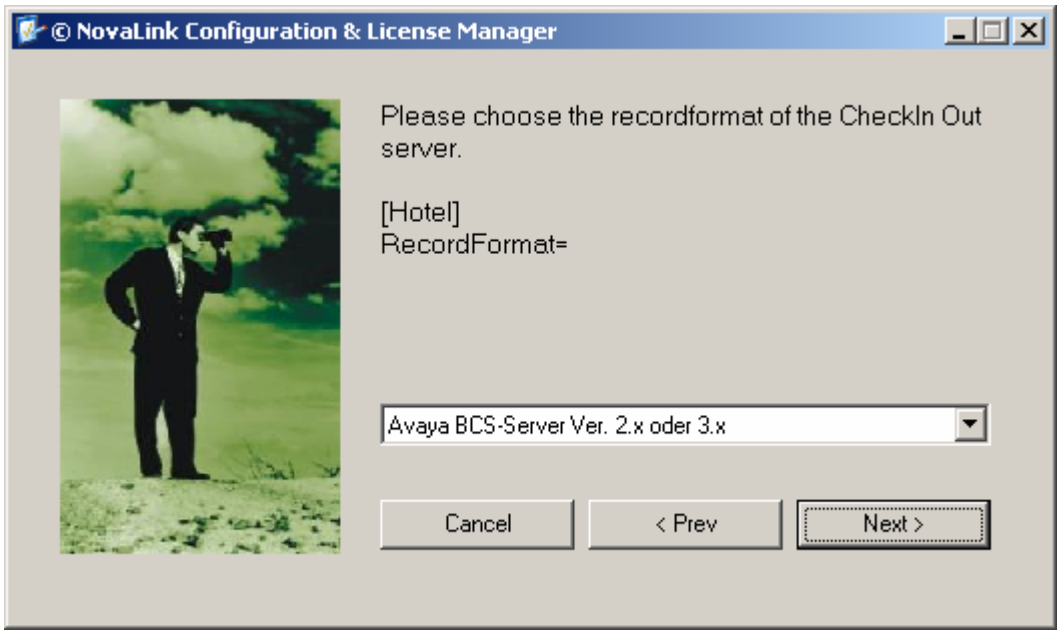
Configure Server-Settings**:**
(i.e. the BCS server)

IP address=IP address of the BCS server (e.g., 127.0.0.1)



IPPort= default 8000

RecordFormat=Avaya BCS-Server Ver. 2.x oder 3.x



5.3. Settings in the NovaMail.ini

All settings which have been made in the Configuration & License Manager are included in the

NovaMail.ini file. The file with the configurations as described above is listed below:

```
[Hotel]
Load=1                          'If 1 is programmed the interface starts automatically
IPAdress=127.0.0.1              'IP address of the connected server
IPPort=8000                     'Port of the connected server
RecordFormat=1                  'Dataset, 1=Avaya BCS-Server version. 2.x or 3.x
CheckedOutName=Vacant           'Setting name if guest checked out
SaveOriData=1                   'If 1 is programmed the received data saved in file NovaInt.Log
CheckedInAnsage=101             'Announcement if somebody has checked in (only for hotel-connection)
CheckedOutAnsage=101            'Announcement if somebody has checked out (only for hotel-connection)
CheckedOutUmleitung=            'Mailbox forwarding, for check out, for example: reception mailbox (only
for hotel-connection)
StandardSprache=1               'Language for check out (only for hotel-connection)
StandardCode=1234               'PIN code for check in / check out (only for hotel-connection)
```

5.4. Front Office application

The BCS supports Front Office applications. As described in **Section 5**, the BCS also transforms the format of incoming data sets such as Check-In or Check-Out from the Front office and forwards them to the Avaya telecommunication systems or Avaya branch solutions respectively. The BCS configuration for Front Office applications is covered by **Section 5.2**.

6. Interoperability Compliance Testing

6.1. General Test Approach

Testing included validation of correct operation of the functions as agreed with NovaLink such as:

Normal cases:

- Incoming / outgoing calls internal / external
- Receipt of DTMF tones during incoming / outgoing calls
- Voice Connection recording of a message / playback of a message
- Incoming calls with overlap receiving
- Connection to BCS Server over IP
- Check in - setting of subscriber name / language
- Check out - setting of subscriber name / language
- Set message waiting at front desk

Supplementary services:

- Call transfer
- Call forwarding unconditional / on busy / on no reply / external
- Call with no answer - must be listed in the call log of the endpoint

Recovery treatment

- Reconnect after disconnect of the BRI cable between NovaMail and Avaya Integral 5
- Power down the NovaMail services, start it again and wait for reconnect
- Power down the Avaya Integral 5, start it again and wait for reconnect
- Reconnect after restart the BCS services

6.2. Test Results

All test cases were executed and passed.

7. Verification Steps

After establishing the physical connection between the NovaMail Server and Avaya I5 for the BRI, the associated line must be accessible. This can be checked by dialing *102 (refer to **Section 3.1**, **Screen 6**) at an Avaya I5 phone. Also, the initialization of the BRI (layer 1) can be observed on an ISDN monitor at the NovaMail server.

The status of the various interfaces can be checked with the BCS Administrator (**Section 5.1**). In addition, the Avaya I5 event protocol allows tracing of the V.24 interface. A test call to verify that it is possible for NovaMail to reach each of the Avaya Telephones to deliver a voice mail message can be made. Also, the function of message waiting indication has to be checked by means of *670 and #67 (refer to **Section 4.2**, **Screens 3&4**).

8. Support

For technical support for the NovaLink NovaMail solution, please contact the technical support hotline of NovaLink:

- **Phone:** +41 52 762 6677
- **Email:** helpdesk@novalink.ch

9. Conclusion

These Application Notes describe the configuration steps required for NovaLink NovaMail to successfully interoperate with an Avaya Integral 5 easy with software version AR 2.351 DE. Normal test cases, (e.g., basic call incoming /outgoing or receiving DTMF tones and overlap receiving) were validated. The available supplementary services and the error and recovery treatment of the solution were checked. The configuration described in these Application Notes has been successfully compliance tested successfully.

10. Additional References

Additional product information from Avaya:
Avaya Integral 5: http://www.avaya.co.uk/gcm/emea/en-us/products/offers/i5.htm
BCS: http://www.avaya.de/gcm/emea/de/solutions/offers/hotcom.htm&View=SolComponents

Additional product information from NovaLink:
http://www.novalink.ch/index.php?id=50

Please e-mail any questions or comments pertaining to these Application Notes along with the full title name and filename, located in the lower right corner, directly to the Avaya Developer*Connection* Program at devconnect@avaya.com.