AVAYA

Avaya Solution & Interoperability Test Lab

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

Abstract

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

NovaLink NovaTax is a proprietary charging data solution.

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

JAN; Reviewed:
SPOC 9/18/2007

Solution & Interoperability Test Lab Application Notes
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Novatax_I5

1. Introduction

This document specifies the configurations and tests used to verify compatibility and interoperability between the NovaTax Server and the Avaya Integral 5 easy (I5). A V.24 interface with ACOM protocol is used for connecting the Avaya I5 easy. The NovaTax server provides detailed control of telecommunication charging data of the Avaya I5 easy.

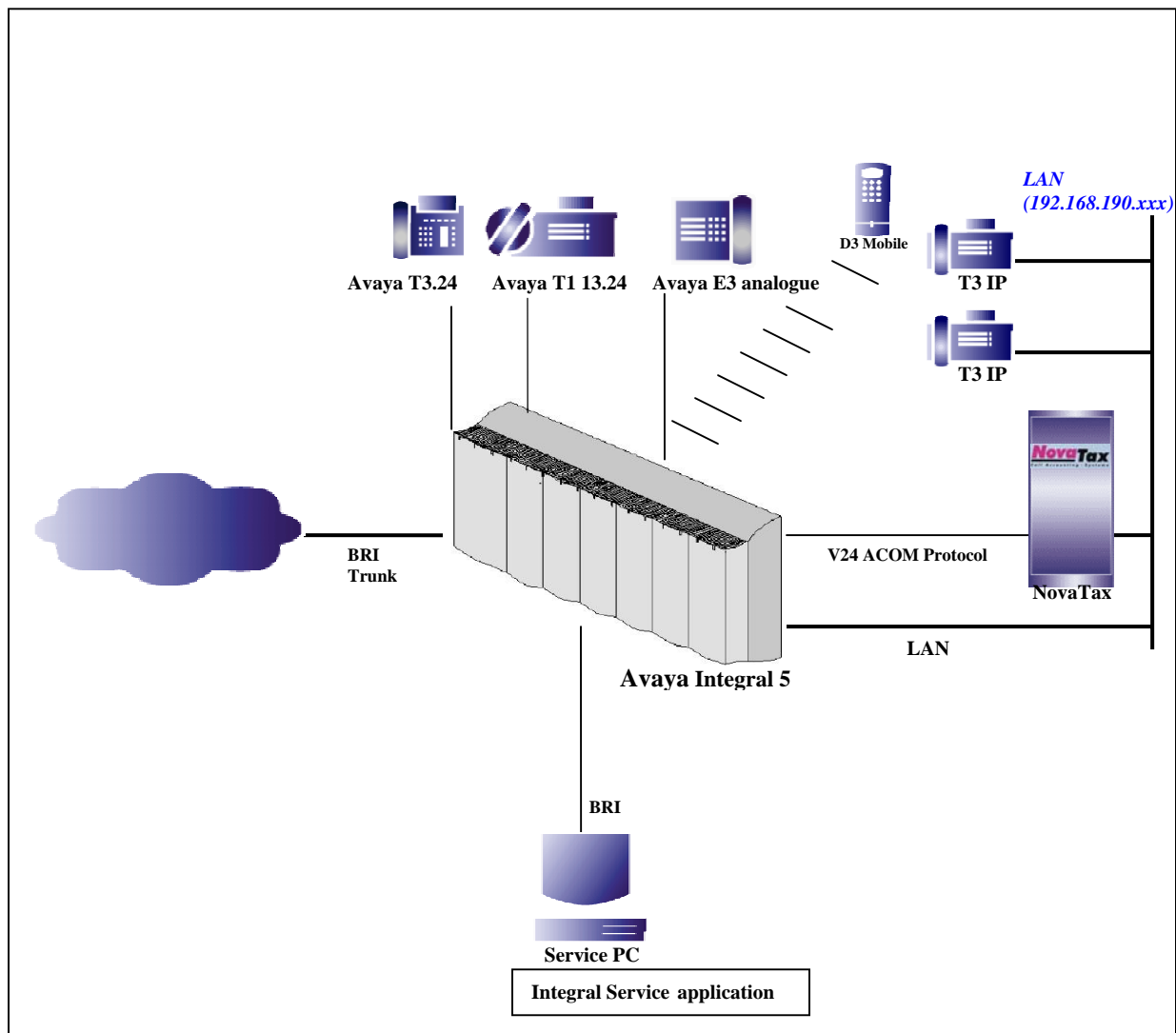The figure below shows the interconnection of the NovaLink NovaTax system with the Avaya I5 easy.

Figure 1: Avaya I5 with NovaLink NovaTax 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™ V24 circuit pack with corresponding cable	Board IDM05050055
Avaya™ S8D circuit pack	FR 2250XX
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)	
Numbering plan: 3 digits	
NovaLink NovaTax Server	V 4.0

3. Configuration 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.
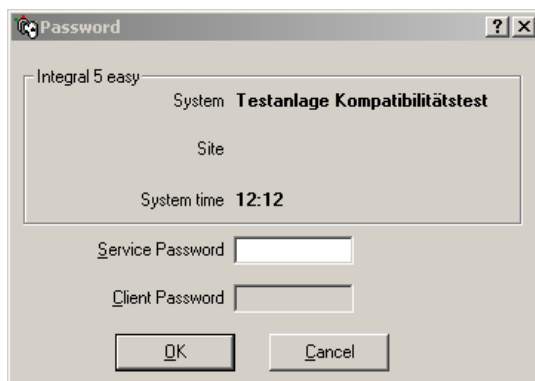
Necessary parameters to login:
System: Arbitrary system name
Interface: ISDN Card AVM-GmbH
Default Service Call number: 78
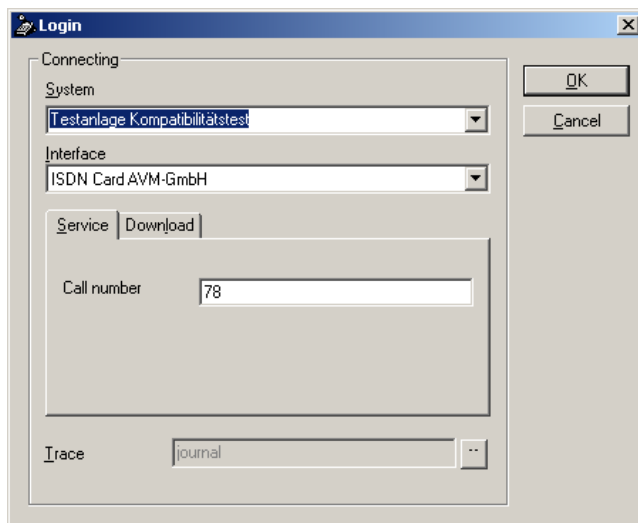
Service password: System time backwards

## 3.1. Configurations of the components

3.1.1. Configuration of the I5 V.24 interface for NovaTax

For the direct connection of the NovaTax 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).
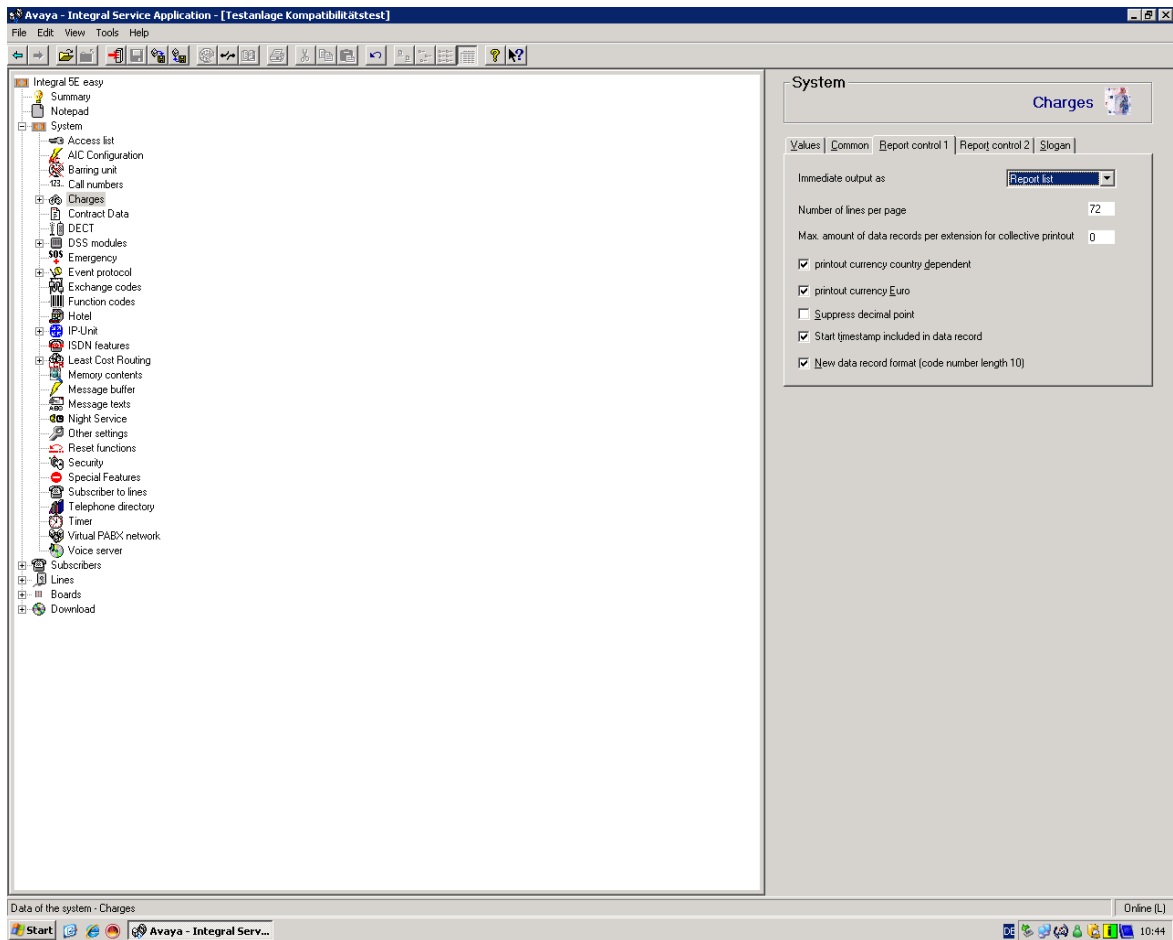
The settings of the V.24 interface have to be changed to Call Data Processing (ACOM):
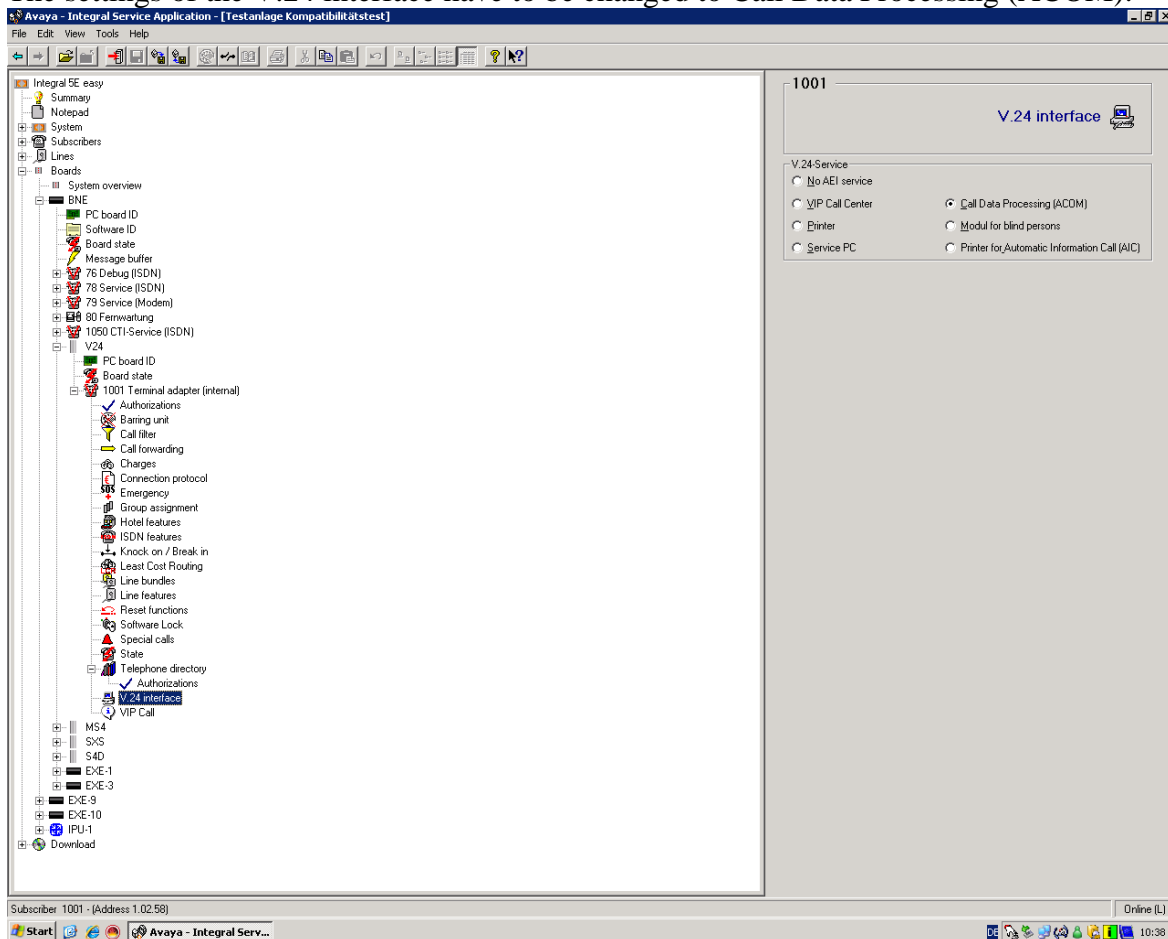
The required values for the charges are entered (see screenshot):
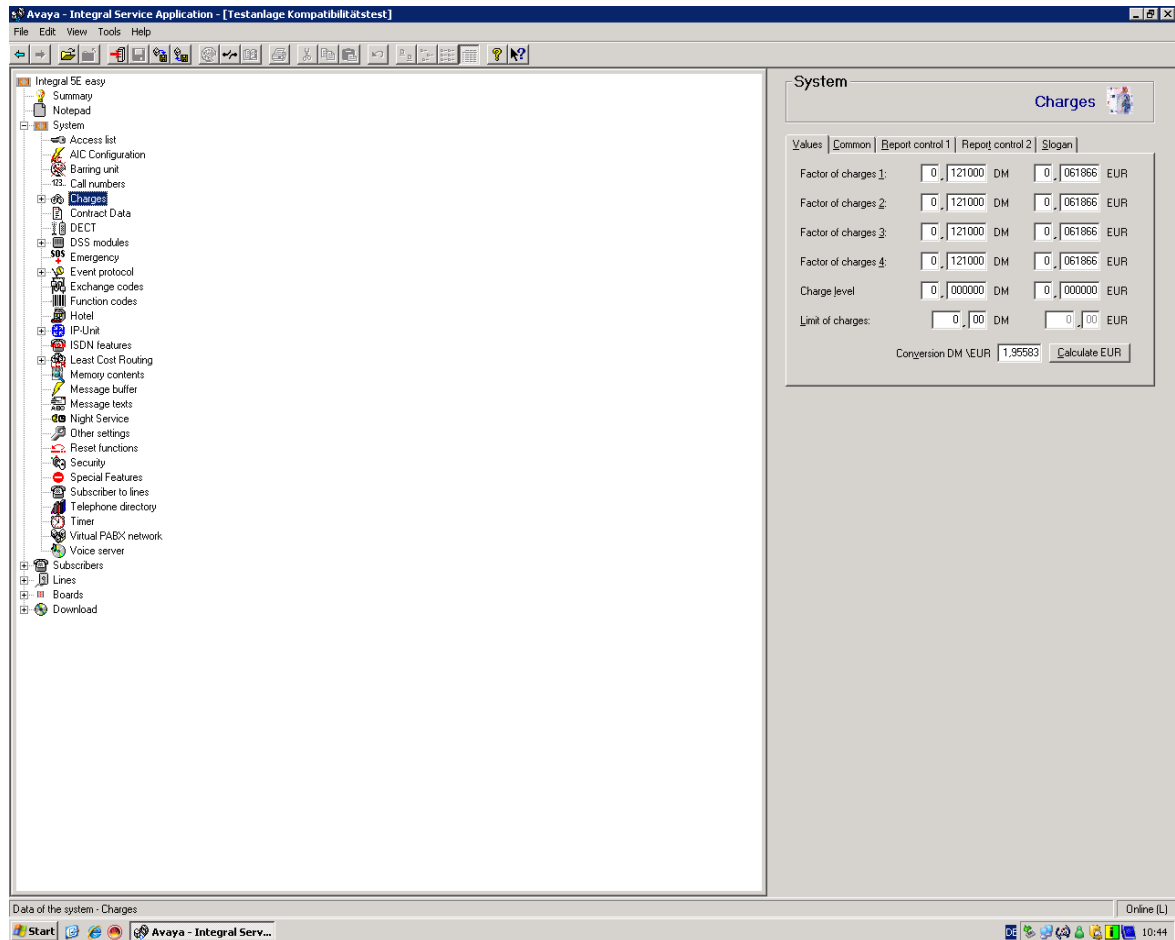
Under the tab, Report control 1, the following parameters were enabled:
Printout currency country dependent, Printout currency Euro, Start timestamp included in data record, New data record (code number length 10)

4. Configuration of the NovaTax

The NovaTax offers the following ways of configuration:
For initial configuration, the NovaTax Setup Wizard 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 NovaTax.ini file. This file can also be altered by means of a text editor and restored.
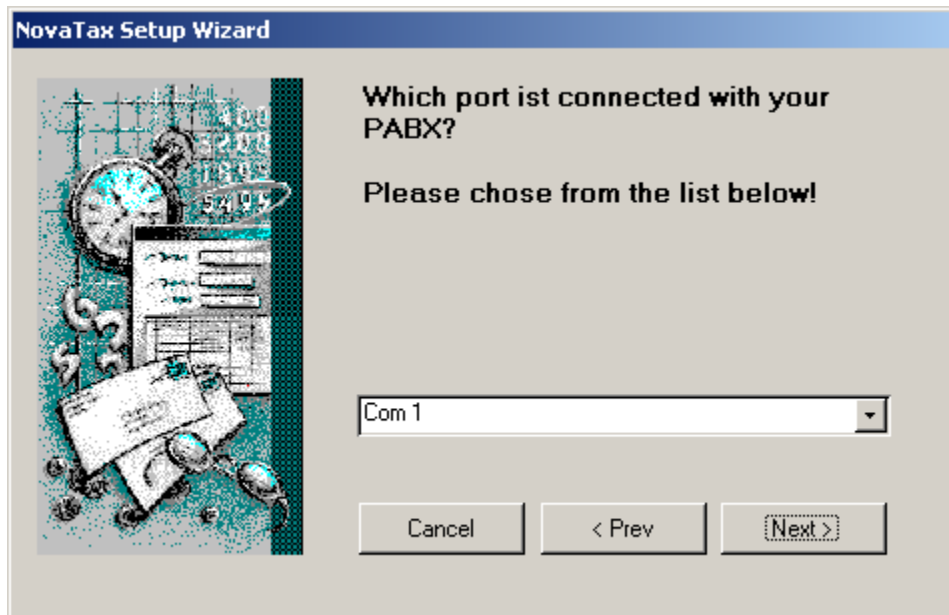
4.1. NovaTax Setup Wizard

Configure PABX-Settings:
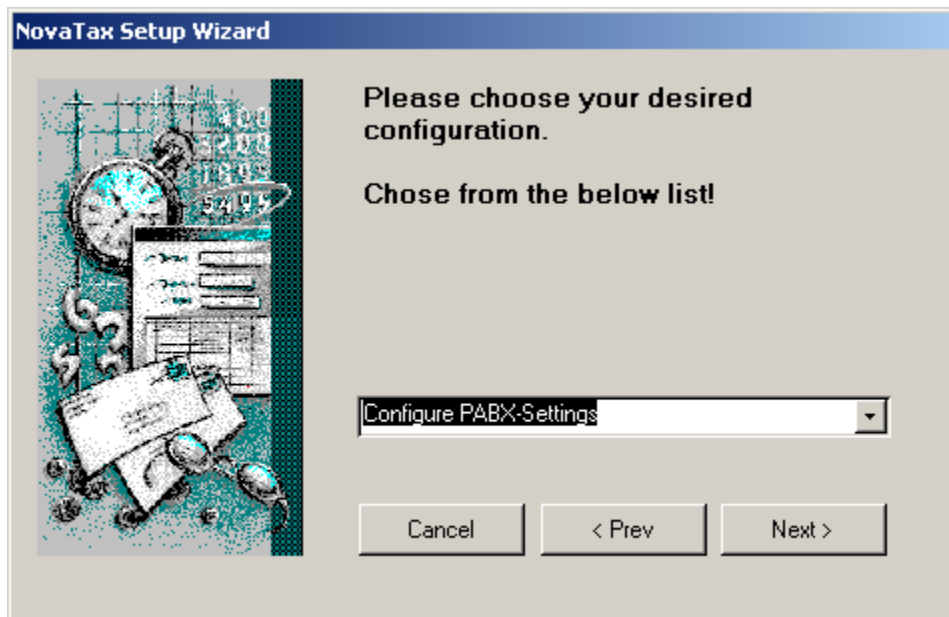
The PABX is a Tenovis I5E + Easy
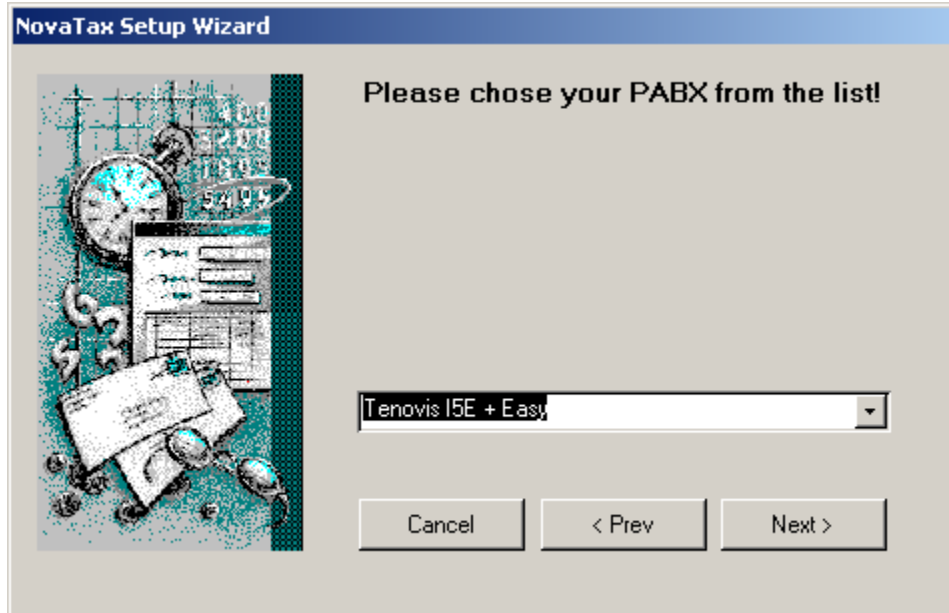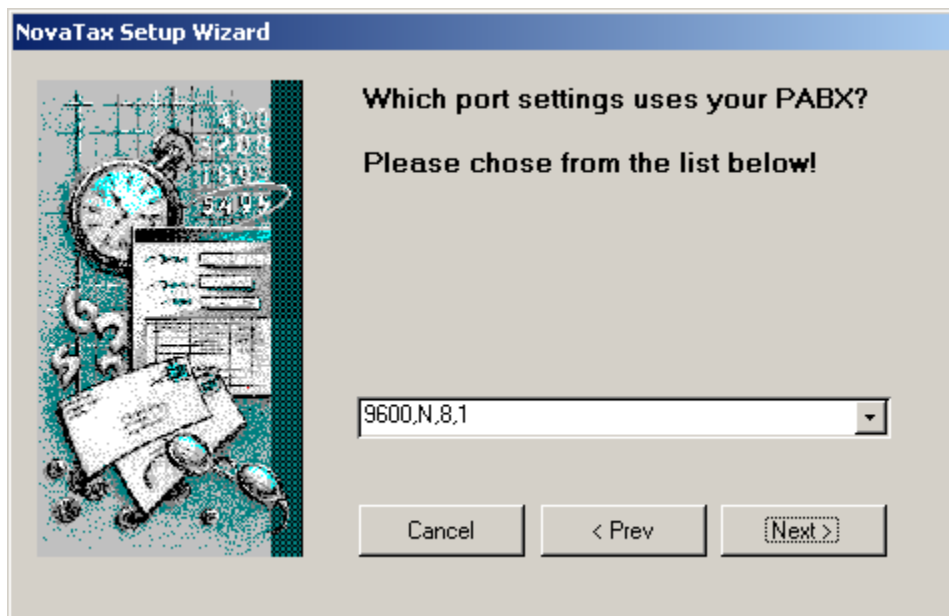

As connection type choose: Serial connection
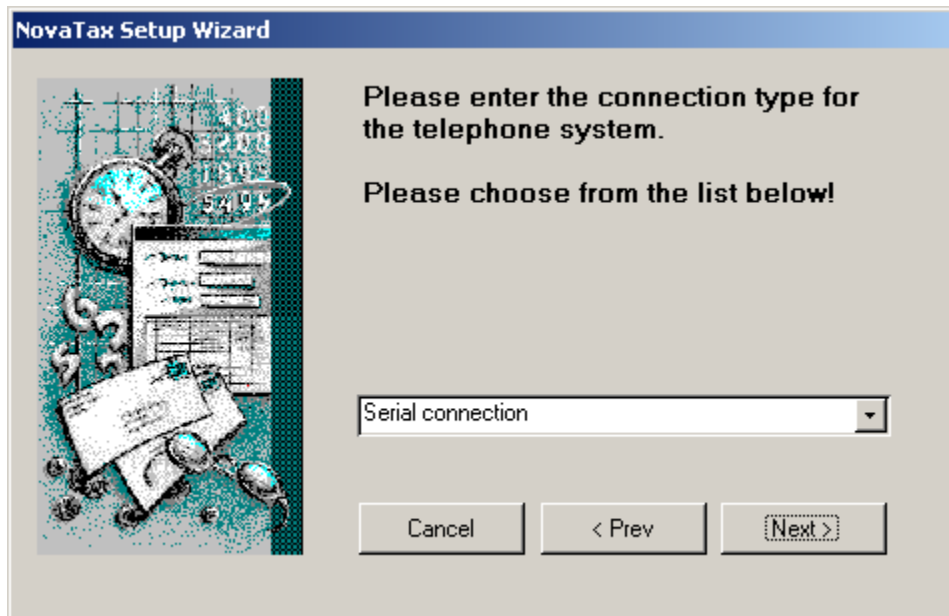
Choose port: Com 1

Choose the port settings which your PABX uses: 9600,N,8,1 (refer to **Section 3.1.1**)

4.1.1. Settings in the NovaTax.ini

All settings which have been made in the NovaTax Setup Wizard are included in the NovaTax.ini file. The file with the configurations as described above is listed below:

```
[General]
PABXFile=TenovisI3.pbx          'For several PABX are special interpreters available, please ask
                                for you PABX
DataSource=0                    '0=serial port (see section [Port]), 1=input from file (see section
                                [File])

[Port]
ComPort=1                       'Number of the local, serial comport
Handshaking=3                   '0=No handshaking, 1=XON/XOFF handshaking, 2=RTS/CTS
handshaking, 3=Both Request To Send and ...
InBufferSize=8192               'Size of the buffer in bytes
Settings=9600,N,8,1             'Baud rate, Parity, Number of data bits, Number of stop bits
Interval=25                     'Time in milliseconds the application checks the port for new data
ACOM=1                          '0=standard TTY-interface, 1=the port uses the ACOM-protocol
```

5. Interoperability Compliance Testing

5.1. General Test Approach

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

Normal cases:
- Connection to the PBX (Avaya I5) over V.24 with ACOM protocol
- Receipt of records from outgoing calls - correct listing of parameters
- Receipt of records from incoming calls - correct listing of parameters

Supplementary services:
- Receipt of records from incoming calls to a busy endpoint - correct listing of parameters
- Receipt of records from incoming calls with no answer - correct listing of parameters

Recovery treatment
- Reconnect after disconnection of the V.24 cable between NovaTax and Avaya Integral 5
- Power down the NovaTax, start it again and wait for reconnect
- Power down the Integral 5, start it again and wait for reconnect

5.2. Test Results

All test cases were executed and passed.

6. Verification Steps

To verify that the solution is properly configured, the following steps can be taken:
After establishing the physical connection between the NovaTax Server and Avaya I5 easy via V.24 with ACOM protocol, the correctness of the output charging data can be checked. This can be checked with the Avaya I5 event protocol. It allows tracing the V.24 interface.

7. Support

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

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

8. Conclusion

These Application Notes describe the configuration steps required for NovaLink NovaTax to successfully interoperate with an Avaya Integral 5 easy with software version AR 2.351 DE. Normal test cases, (e.g., "Receipt of records from outgoing calls - correct listing of parameters" and "Receipt of records from incoming calls - correct listing of parameters") 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.

9. Additional References

Additional product information from Avaya:
Avaya Integral 5: http://www.avaya.co.uk/gcm/emea/en-us/products/offers/i5.htm

Additional product information from NovaLink:
http://www.novalink.ch/index.php?id=49

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