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Handbook

IP configuration with CLI

Version 1.3 of January 19th, 2012

document is subject to changes

Contents

1 Overview 3
1.1 Changes relating to previouse version 3
1.2 Reference list 3
1.3 Predictable changes 3
1.4 Abbreviations 3
1.5 Introduction 3
1.6 Compendium 3

2 Dependancy to SW/FW 4
2.1 TELNET-Client 4
2.2 Terminal 4
2.3 Trace Info Client 4
2.4 Firmware 5

3 Dial-in to the system 6
3.1 Dial-in with TELNET or COM-Port 6
3.1.1 Dial-in with Telnet via IP 6
3.1.2 Dial-in with HyperTerminal via the COM-Port 7
3.1.3 Login as user “TECHNIK” 10
3.2 Starting CLI in the Trace Info Client 11

4 CLI commands 13
4.1 The command help 13
4.2 The command exit 14
4.3 The command ifconfig 15
4.4 The command netconf 16
4.5 The command dhcpconf 17
4.6 The command setpasswd 18
4.7 The command showsub 19
4.8 The command showcf 20
4.9 The command activatecf 22
4.10 The command deactivatecf 24

5 Service examples 26
5.1 Example 1: On-site installation, configuration via DHCP and NMS 26
5.2 Example 2: On-site installation, configuration via NMP 27

1 Overview

1.1 Changes relating to previouse version

The screenshot in chapter 4.1 was revised. In chapter 4.1 and 4.2 notes regarding the command exit were integrated.

1.2 Reference list

not applicable

1.3 Predictable changes

not applicable

1.4 Abbreviations

not applicable

1.5 Introduction

This document describes how NovaTec systems can be configured and controled via CLI. It is furthermore described how the connection via Telnet or COM-Port can be established and how CLI can be launched remote via Trace Info Client. A description of all supported CLI commands is also included. Finally it is described how the system can be made accessible over IP for NMS or NMP using the CLI commands.

1.6 Compendium

This document describes how NovaTec systems can be configured and controled with CLI and how these commands may be used in possible service cases.

2 Dependancy to SW/FW

The commands and features as described in this document are not accessible in all software- and firmwareversions. As of this please find here a short description of the software- and firmware dependancies.

2.1 TELNET-Client

Dependancies to certain TELNET-Clients are not known. But NovaTec cannot preclued problems as it is impossible to test with all of the existing clients. It has been tested with the standard Windows TELNET-Client in the Windows Command Prompt.

2.2 Terminal

Dependancies to a certain terminal software are unknown. But NovaTec cannot preclude problems as it is impossible to test with all of the existing terminals. This document describes the connection establishment with the Microsoft ® Hyper Terminal.

2.3 Trace Info Client

To use CLI over Trace Info Client a special version of the Trace Info Client is required, wich is liable to pay costs. Please contact our sales department for an offer. The article number of the needed Trace Info Client with CLI is 2F8600. Trace Info Client backs CLI from version 6.8.0.3.

2.4 Firmware

The following tablet shows wich firmware supports wich features.

Firmwareversion	Feature
00.07.01.XX and older	no CLI support
from 00.07.02.00	1. release with CLI support: - dial-in via TELNET and COM-Port - commands: • help • exit • setpasswd • dhcpconf • netconf • ifconfig
from 00.07.04.00	- features as of 00.07.02.00 - support for Trace Info Client-CLI - new commands: • showsub • showcf • activatecf • deactivatecf

3 Dial-in to the system

CLI can be launched in three ways:

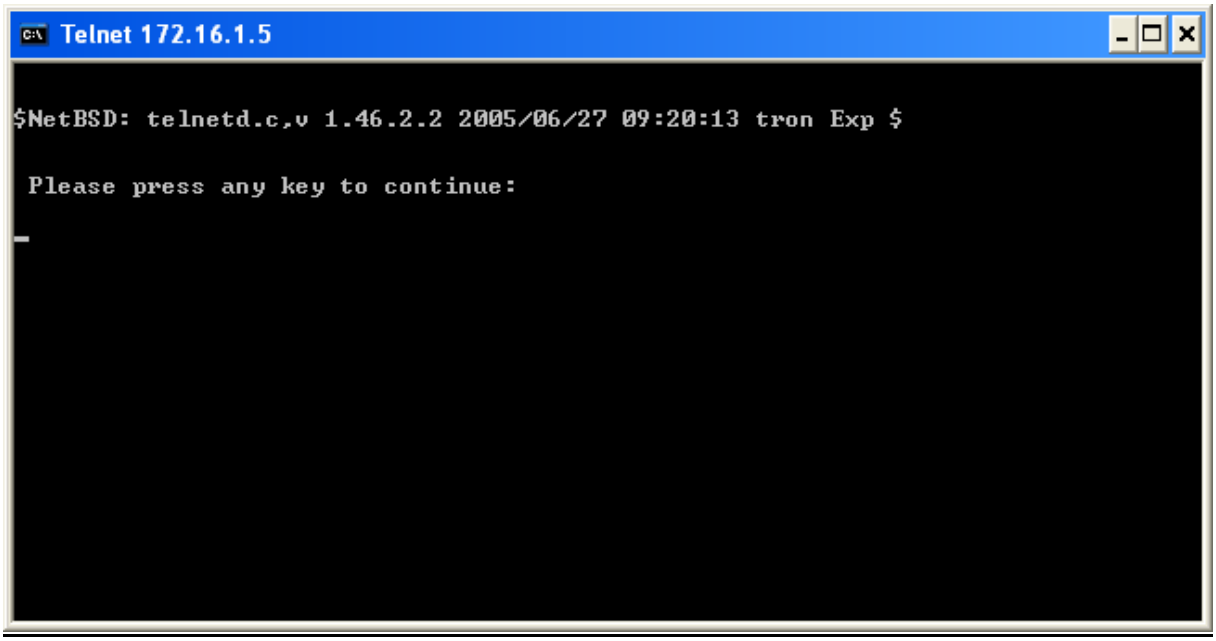
- Dial-in via Telnet (generally only possible if TLS is inactive)
- Dial-in via COM-Port (e.g. with HyperTerminal, generally only possible if TLS is inactive)
- Starting CLI with active Trace Info Client connection.
  This is the only method enabling you to use CLI whilst encryption (TLS) is active. In this case CLI communication is transported via the encrypted TLS connection of the Trace Info Client.

3.1 Dial-in with TELNET or COM-Port

The following describes the connection and logg-in via TELNET and COM-Port.

3.1.1 Dial-in with Telnet via IP

The dial-in is effected and the DOS input window „telnet (current IP address)“ opens. The following text requests pressing any key.



picture 1: example of DOS input window: „telnet 172.16.1.5“

After pressing any key you can login with the login data for the account „TECHNIK“.

3.1.2 Dial-in with HyperTerminal via the COM-Port

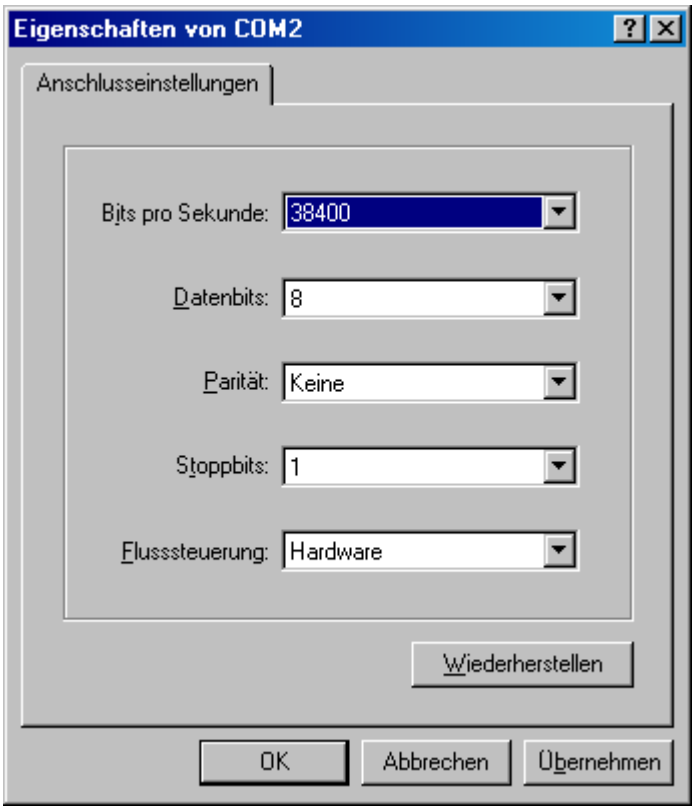
Dial-in via the Hyper-Terminal is effected as follows:

1. Start your Hyper-Terminal
   (Start/Programme/Zubehör/Kommunikation/HyperTerminal/HyperTerminal)

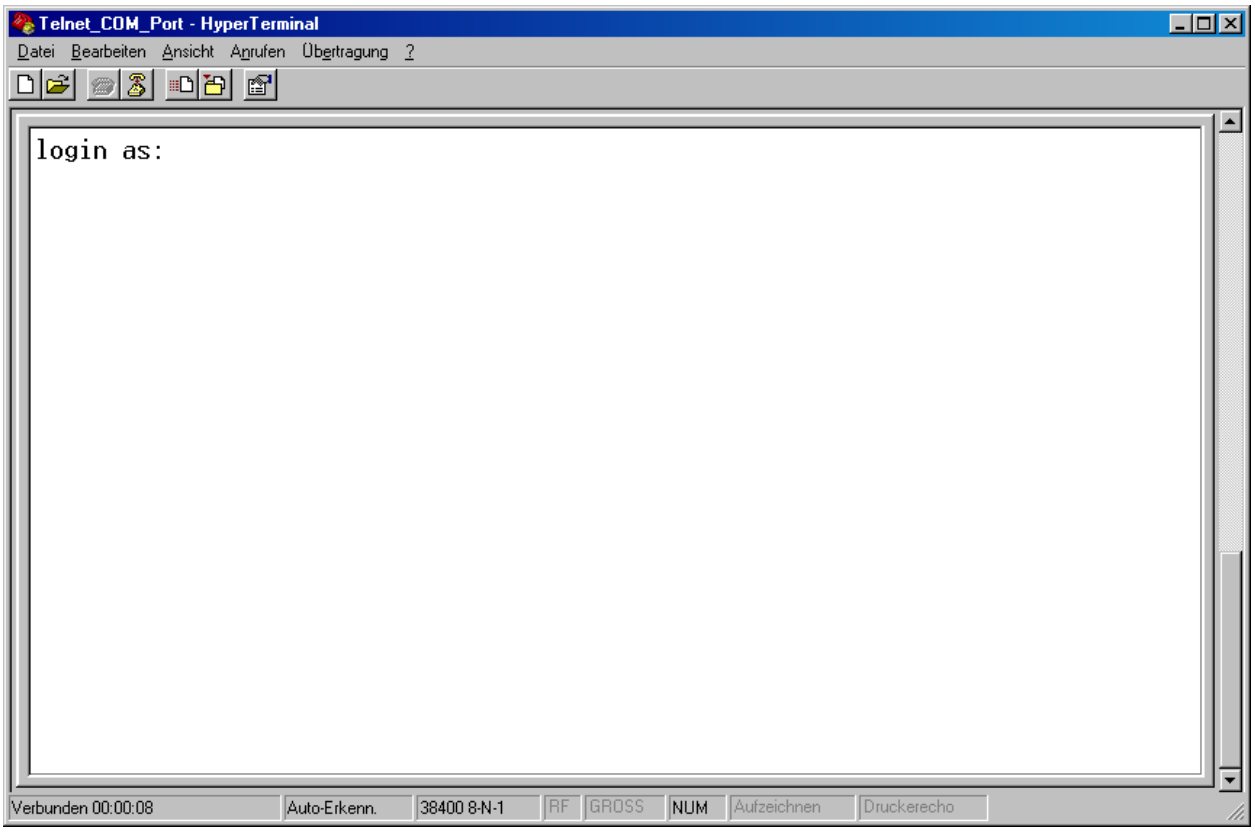
2. Enter the name for the new connection:

3. Chose the appropriate COM-Port:

4. Set the characteristics for the COM-Port as given beneath:



5. Press any key to be shown the login prompt:

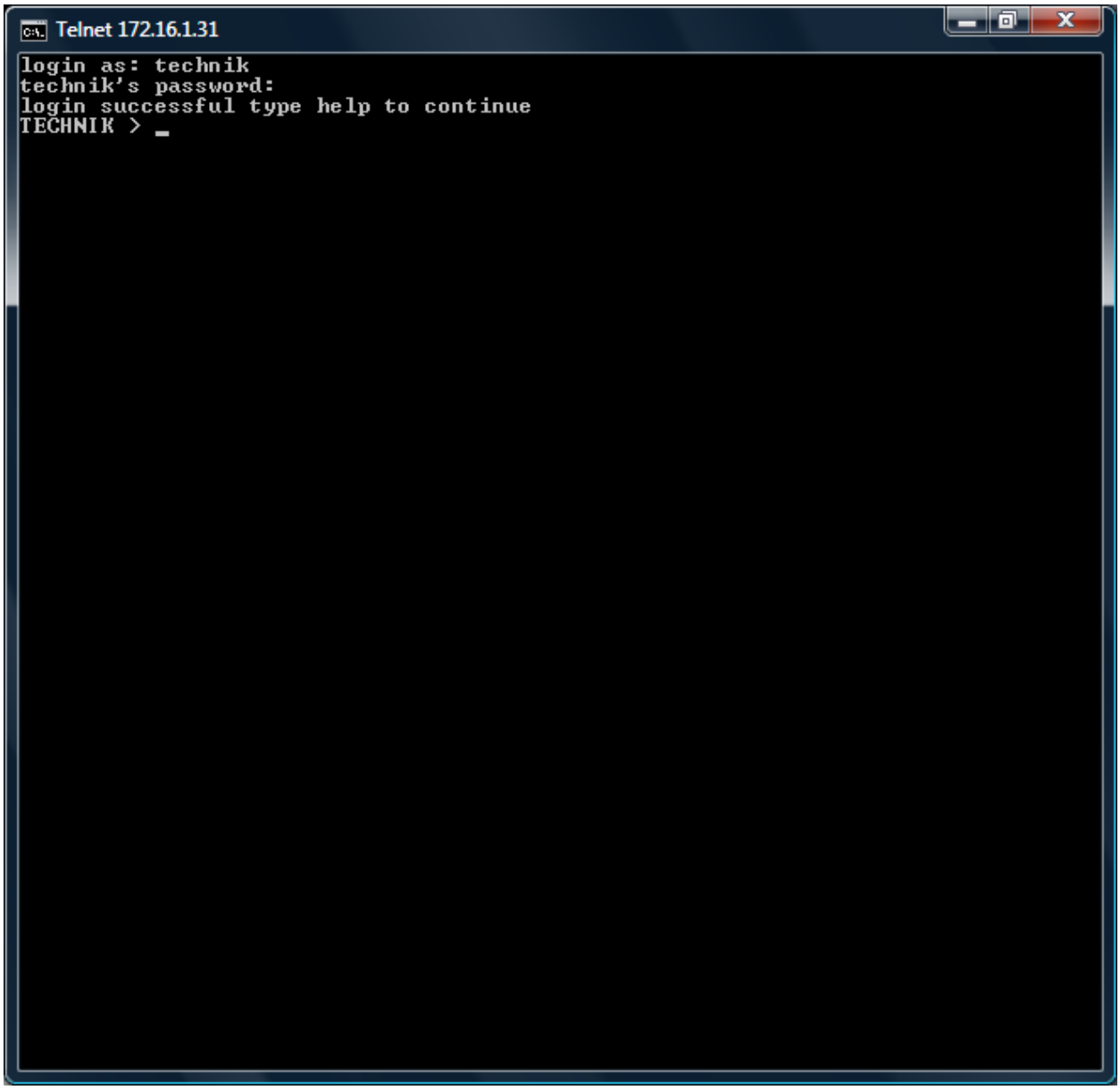


6. Login with the data for the account „TECHNIK“.

3.1.3 Login as user “TECHNIK”

When loging in you can only use the account data of the user „TECHNIK“. Login and password are case sensitive.

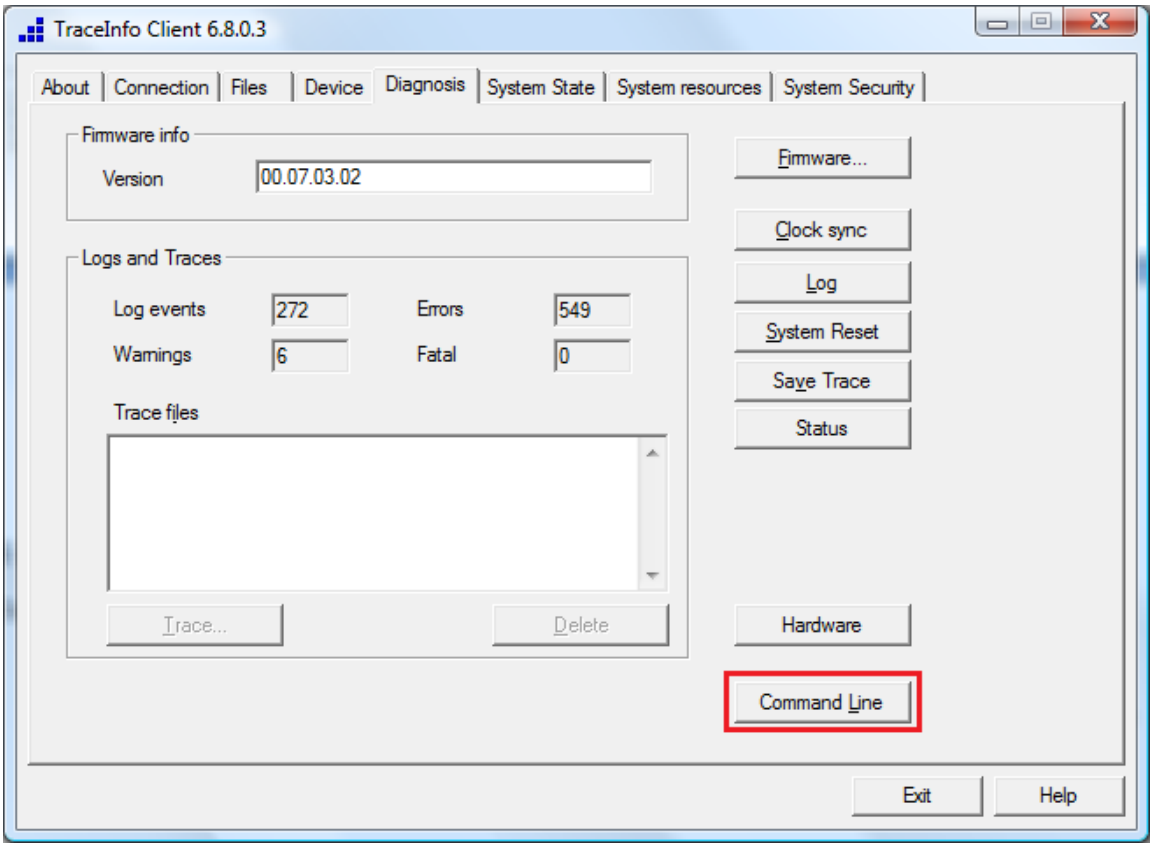
After successful login the follwing CLI prompt is shown:



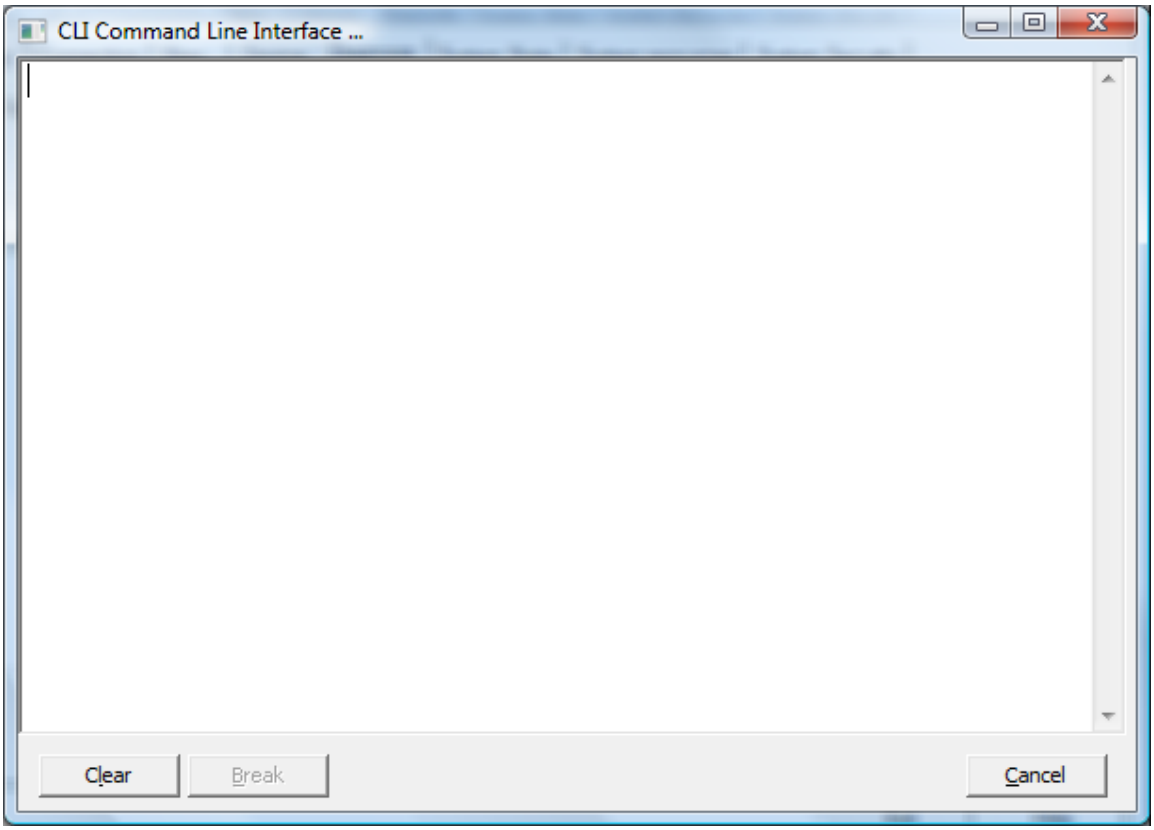
3.2 Starting CLI in the Trace Info Client

CLI in the Trace Info Client can be started as follows:

- Start your Trace Info Client (Start → All Programs → NovaTec → TraceInfo → TraceInfo)
- Connect with the target system (see also TraceInfo Client Online-Help under „Contents/Trace Info Client/The „Connection Page“)
- Change to flag „Diagnosis“ and click onto button „Command Line“



- A new window is shown in which you can enter your CLI commands:



- Every command entered and every response received is broadcasted via Trace Info Client connection to the gateway, i.e.
    - If the Trace Info Client connection is encrypted via TLS the entire CLI communication is automatically also encrypted.
    - If the Trace Info Client connection is not encrypted the entire CLI communication is automatically not encrypted.
- In case you do not receive an response to your CLI command it is possible that the target system does not support CLI due to the installed FW version.

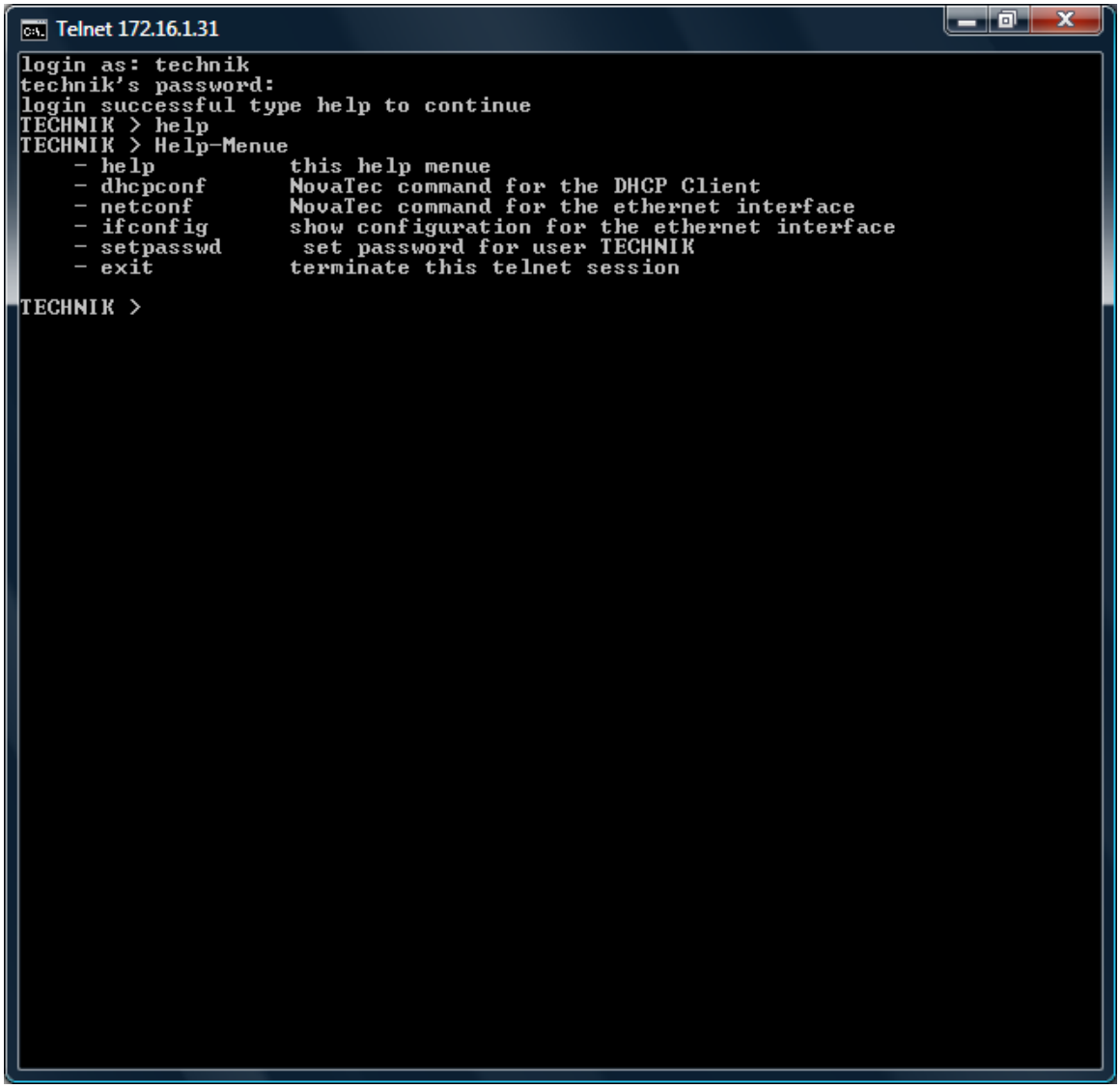
4 CLI commands

In the following all known CLI commands are described. The screenshots are based on a TELNET connection in a Windows Command Prompt. But the syntax of the commands is always the same weather you use TELNET, COM-Port or Trace Info Client. Only the appearance of the CLI differs.

The only exception is the command “exit”, which is only available with TELNET.

4.1 The command help

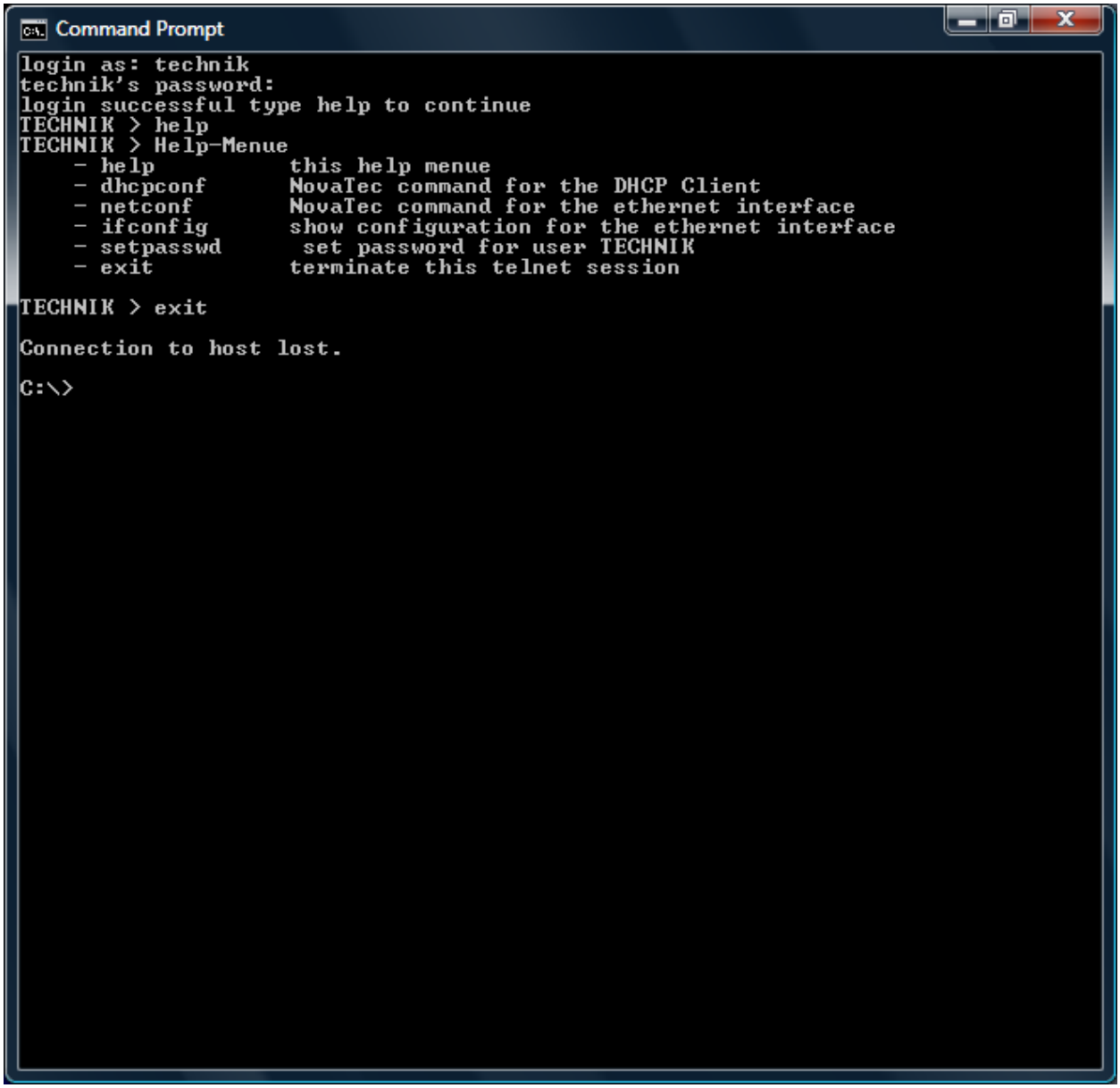
A list of all available commands can be requested with the command „help“:



The command „exit“ is only shown whithin the TELNET window but not by the Trace Info Client. In TELNET the connection/CLI is quit whith “exit”. In the Trace Info Client CLI is quit by pressing the “Cancel” button.

4.2 The command exit

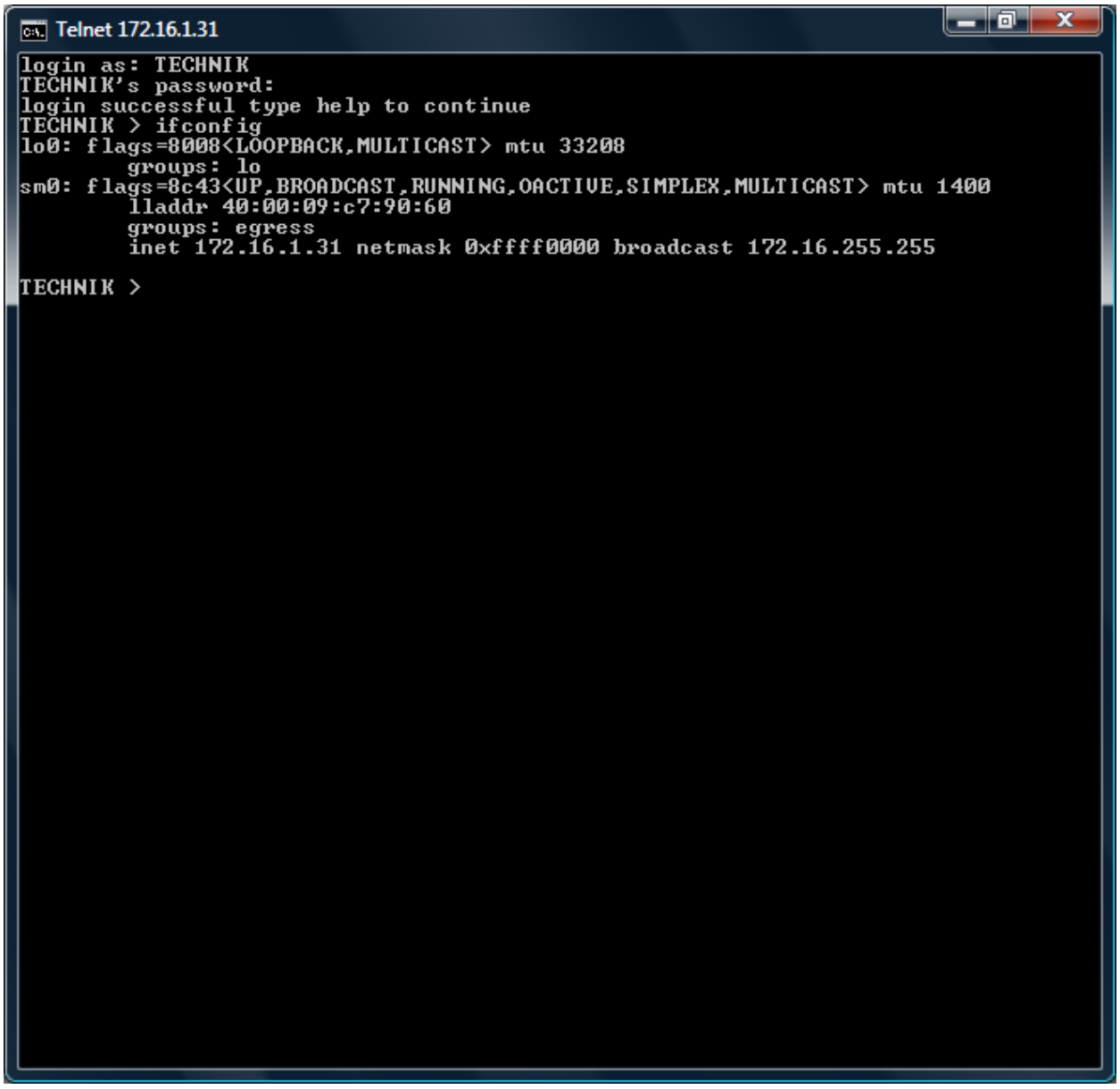
With the command „exit“ you cancel the current connection:



If the connection was established via HyperTerminal, COM-Port or the Trace Info Client the command „exit“ is not available. In the HyperTerminal the connection is cancelled by hanging up or closing the HyperTerminal. In the Trace Info Client CLI is quit by pressing the button “Cancel”.

4.3 The command ifconfig

The BSD interface config command can not be used to set but only to show all the current data of the TCP/IP stack:



The interface „sm0“ on S5, S6 and S20 or the interface „in0“ on the S3 show:
mtu, MAC address, IP address, netmask and broadcast address.

4.4 The command netconf

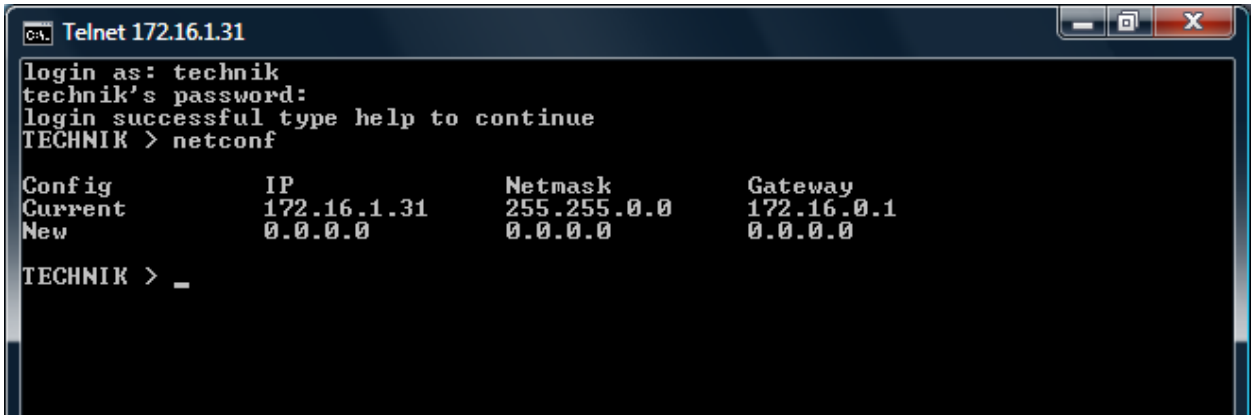
With the command „netconf“ you can change the following IPv4 parameters:
IP address, netmask and gateway IP address.

You have to use the following syntax to achieve this:
„netconf –h“ or a faulty entry will cause the following hint:

netconf [-h help] [-i ip-adress] [-n netmask] [-g gateway-ip] [-s store]

Explanation:

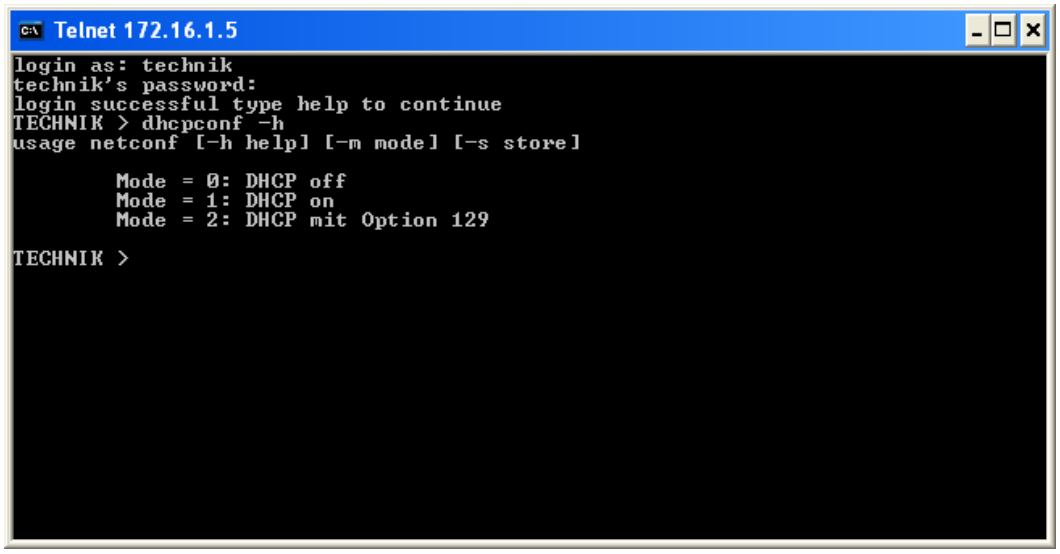
„netconf –i xxx.xxx.xxx.xxx“	Set system IP address temporary.
„netconf –n xxx.xxx.xxx.xxx“	Set system netmask temporary.
„netconf –g xxx.xxx.xxx.xxx“	Set gateway IP address temporary.
„netconf –s	Save the temporary data as new active data. These parameters are activated by an automatically invoked LAN down/up. Should the system be in „Default“ the parameters stay as they are also after the next „System-Reset“ .
„netconf“ (new)	Shows the current data and future data as it will be set by netconf



4.5 The command dhcpconf

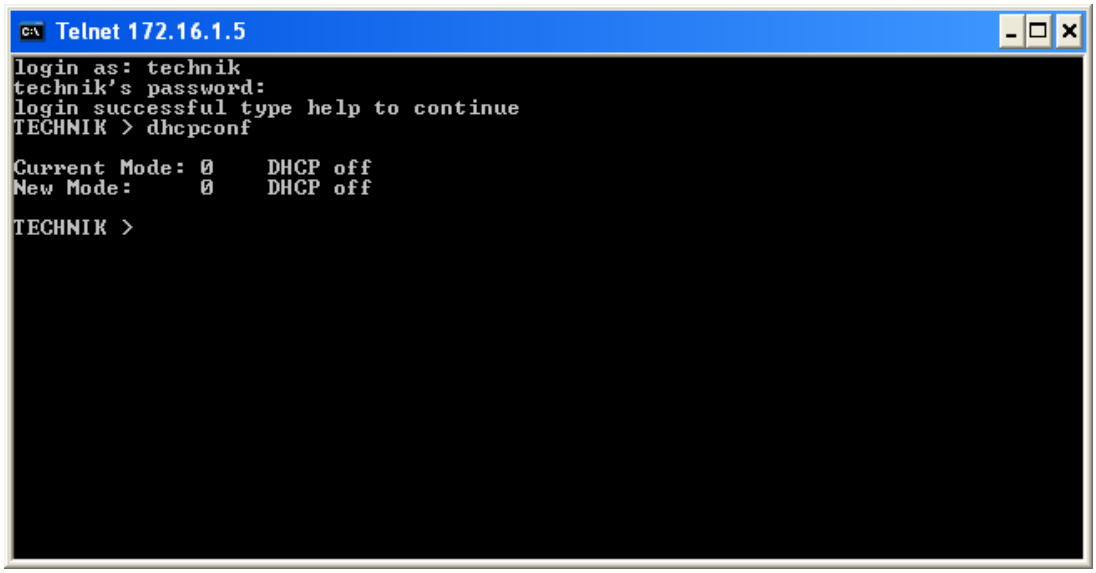
With the command „dhcpconf“ you can change the DHCP settings via the system.

The following syntax has to be used to achieve this:
„dhcpconf –h“ or a faulty entry will cause the following hint:



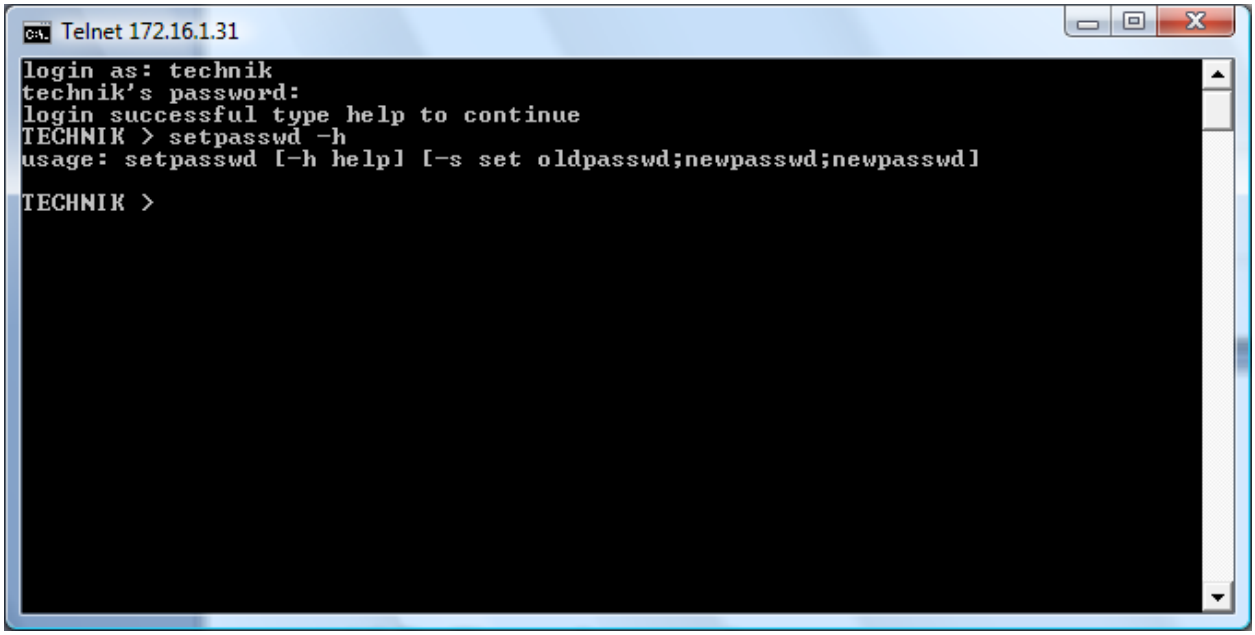
Explanation:

„dhcpconf –m 0,1,2“	Set system DHCP mode temporary.
„dhcpconf –s	Save the temporary mode as new active data. By an automatic LAN down/up these parameters are activated. Should the system be in „Default“ the parameters stay as they are also after the next „System-Reset“.
„dhcpconf“	Shows the current data and future data such as it will be set by dhcpconf (new) (see next page)



4.6 The command setpasswd

The command is used to set the password for the user „TECHNIK“. Giving a wrong option or the option –h will show the help function for the command:



With the option –s the password is set. The procedure is the same as known from the Trace Info Client. Here are a few examples:

Example 1:

There is no password set in the system. The new password shall be “test”. The command has to be as follows:

```
setpasswd –s ;test;test
```

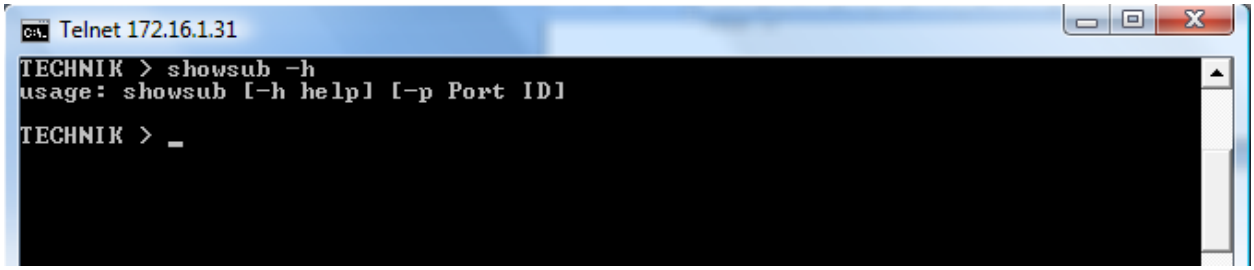
Example 2:

After executing Example 1 the password has to be deleted in the system. This entry will achieve this effect:

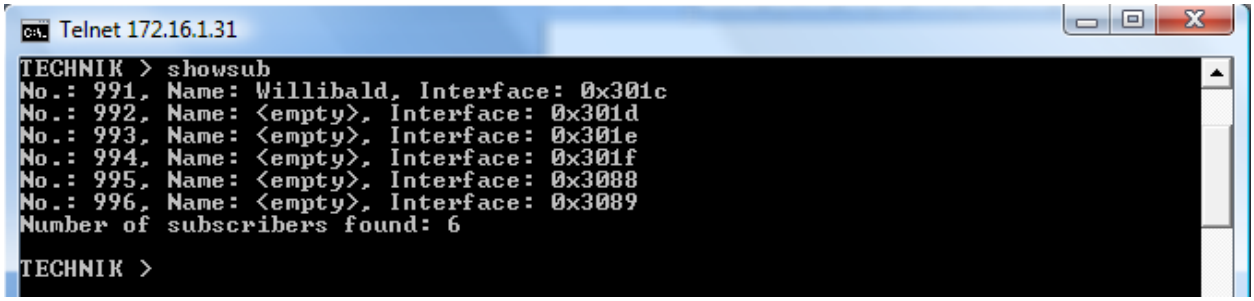
```
setpasswd –s test;;
```

4.7 The command showsub

The command is used to show all configurated subscribers of the target system. Giving a wrong entry or the entry –h will cause the following output:

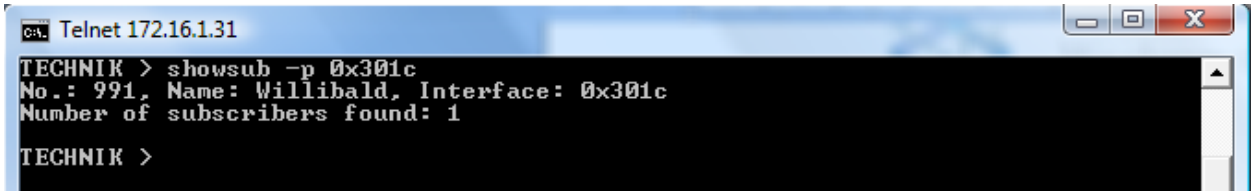


If the command is given without parameters a list of all configurated subscribers is stated:



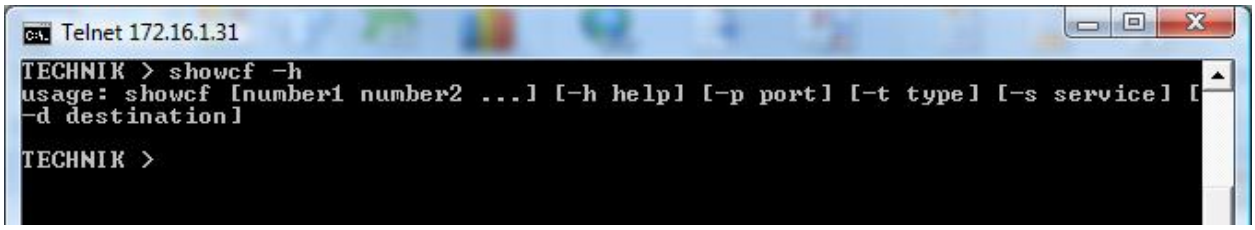
Should no name be defined for an subscriber, meaning the appropriate field in the configuration was left empty, the output will only state <empty> as name.

With the option –p Port ID you can limit the output to the subscribers of a certain interface:

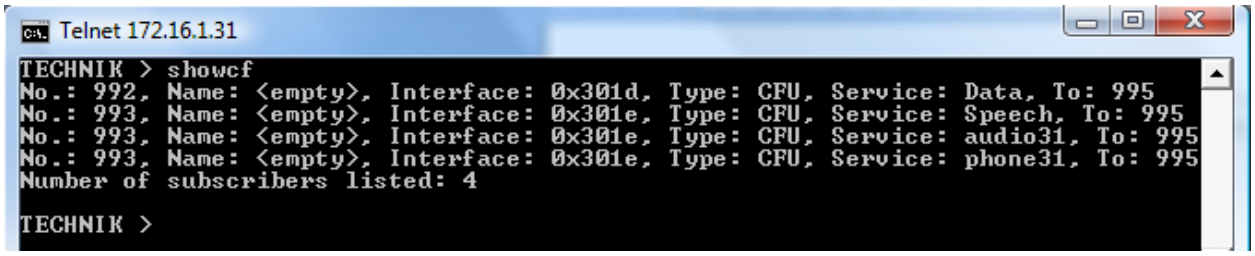


4.8 The command showcf

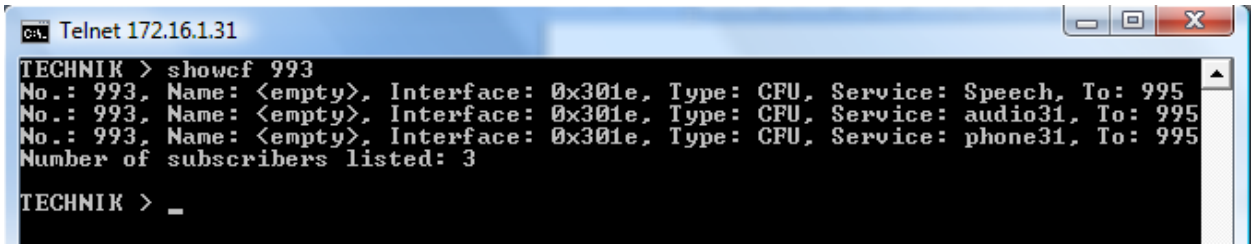
The command is used to show all active call diversions on the target system. Giving a faulty entry or the option –h will show the help text for this command:



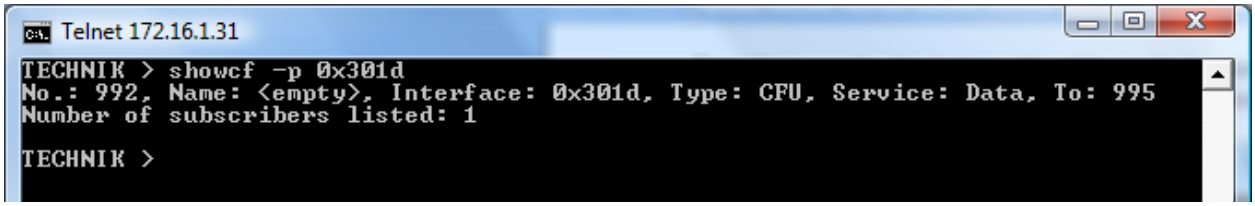
The entry of the command without option will show all active call diversions:



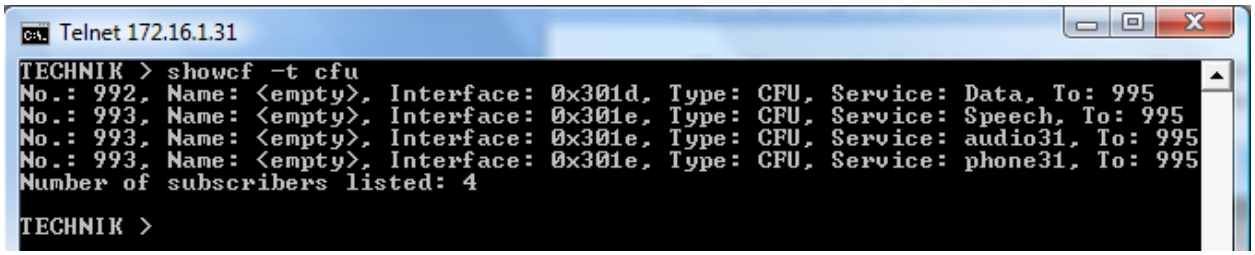
Entry of the command with a number will show all active call diversions for this number:



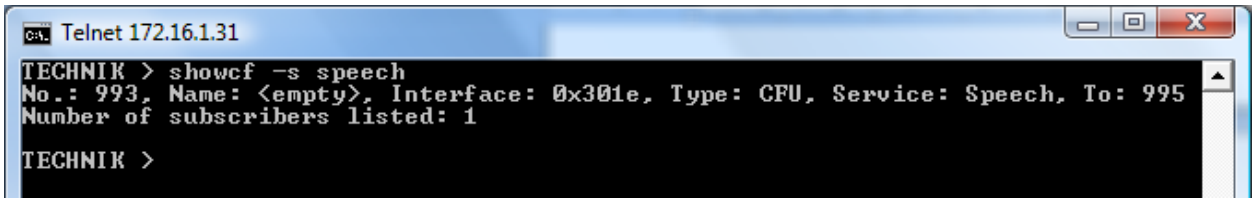
Entering the command with option –p will show all call diversions on a specific interface:



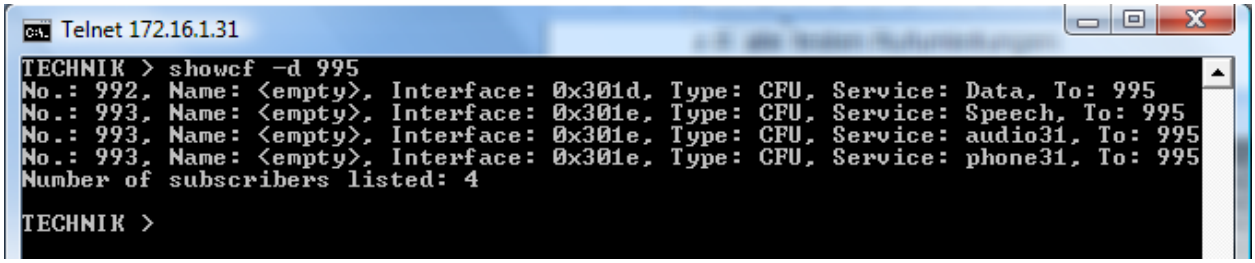
The entry of the command and option –t will show all call diversions of a specific type e.g. all permanent call diversions:



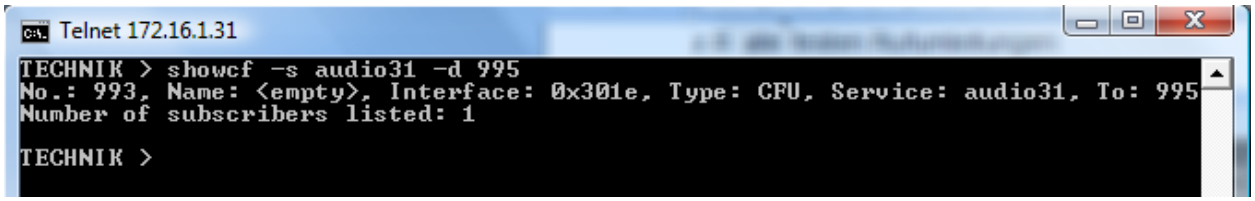
Entering the command and option -s will show all call diversions for a specific service e.g. all call diversions for the service „Speech“:



Entry of the command with option –d will show all call diversions to a specific destination:

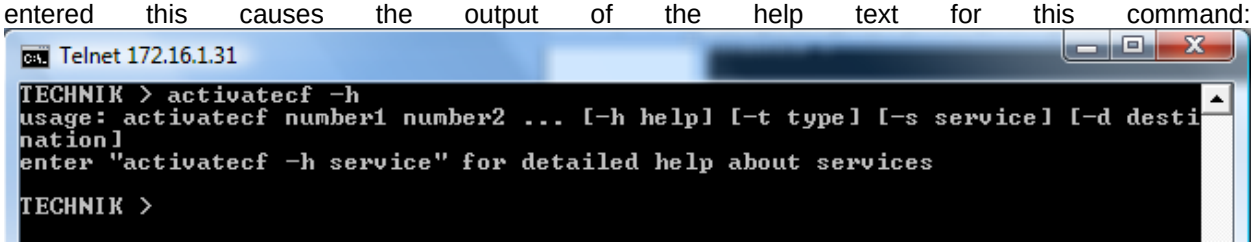


It is also possible to combine the different options. The following example shows all call diversions for the service ‘audio31’ to destination 995:



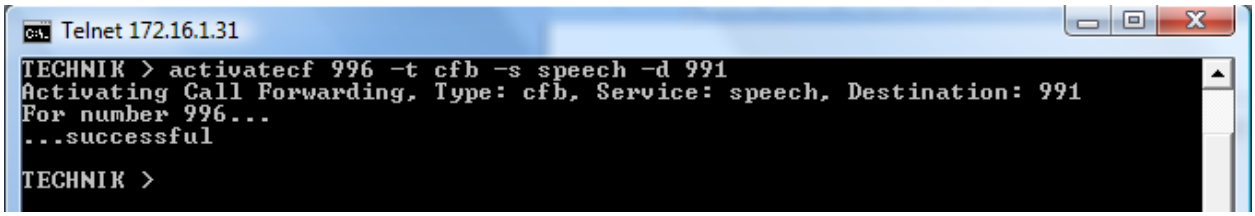
4.9 The command activatecf

This command is used to setup call diversions in the target system. If a wrong option or option –h is entered this causes the output of the help text for this command:

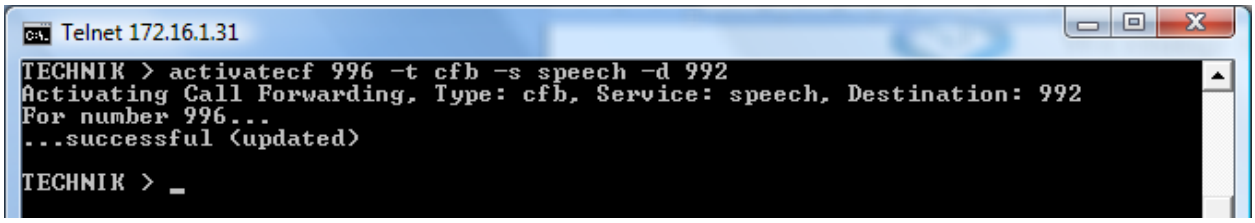


Adding ‘service’ to the option – h will show the extended help text. A tablet is issued which shows which service fits to which combination of BC and HLC. The tablet corresponds to the ETSI definition from ETSI EN 300196-1 (Version 1.3.2 (2001-06) page 112)

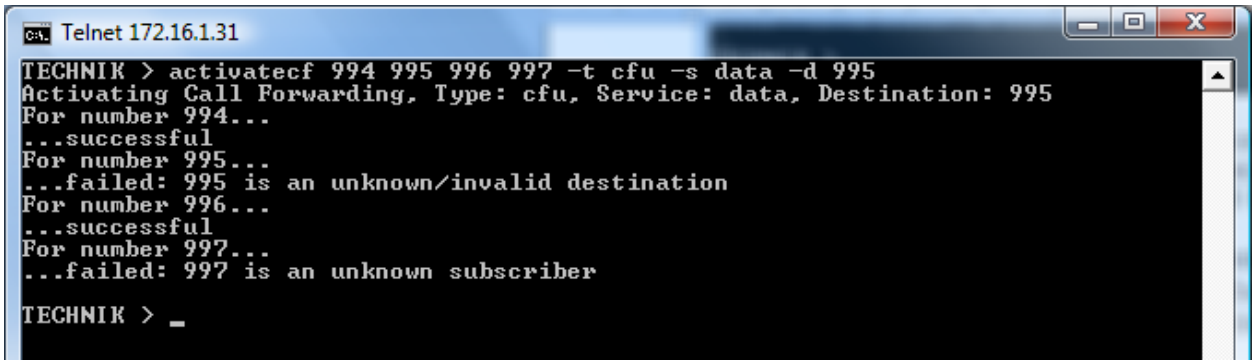
To setup a call diversion you have to give at least one number, the type of diversion (-t), the service that is diverted (-s) as well as the destination of the diversion (-d). The following example shows a call diversion on busy for number 996 and with the service ‘speech’ to destination 991:



A call diversion for a specific number and service is setup. In case you setup a call diversion for a number and service which is already diverted the existing call diversion is changed. The addition ‘(updated)’ shows that an already existing diversion has been changed:



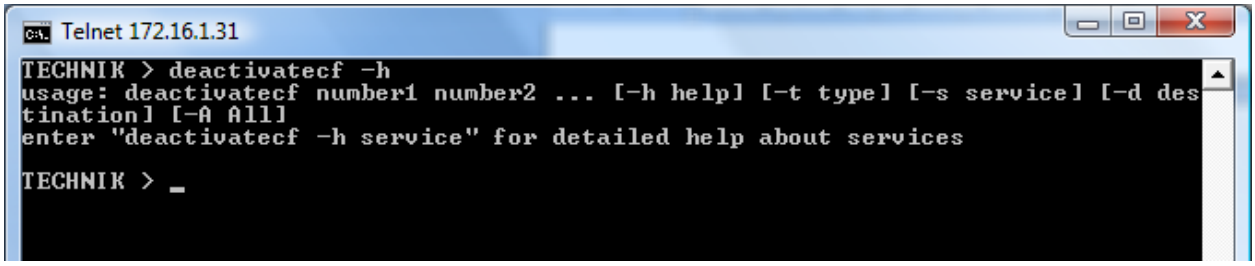
If multiple numbers are given infront of the options the same diversion is setup for all numbers. The list of numbers is completely processed even if one of the numbers is wrong:



This example shows that only two out of four call diversions could be setup successfully. The call diversion for 995 could not be setup as you are not allowed to divert a number to itself. The diversion for 997 could not be setup as subscriber 997 does not exsist.

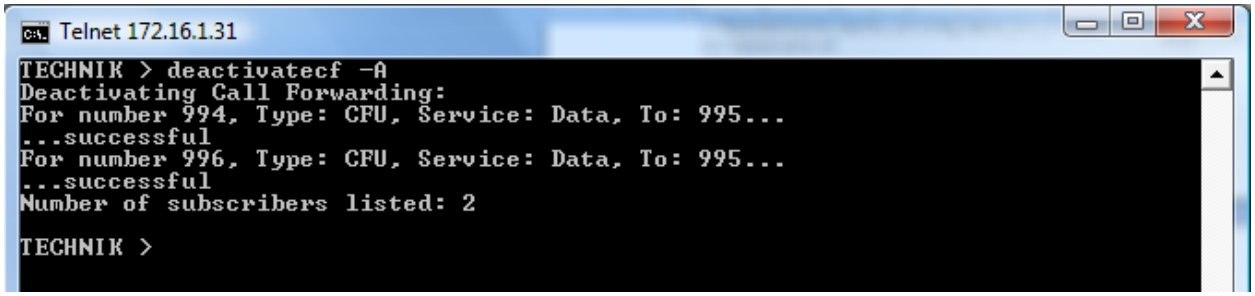
4.10 The command deactivatecf

This command is used to delete call diversions in a target system. Entry of a wrong option or option –h causes the output of the help text:

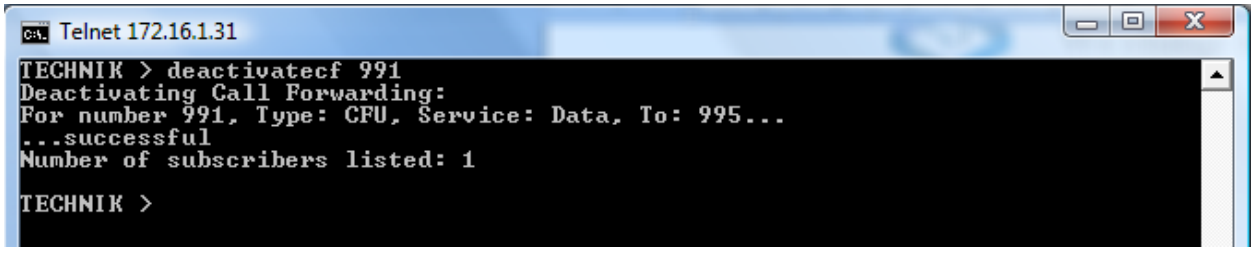


If you enter ‘service’ in addition to option –h the extended help text for the services is shown. A tablet is issued which shows which service corresponds to which combination of BC and HLC. The tablet corresponds to the ETSI definition from ETSI EN 300 196-2 (version 1.3.2 (2001-06) page 112).

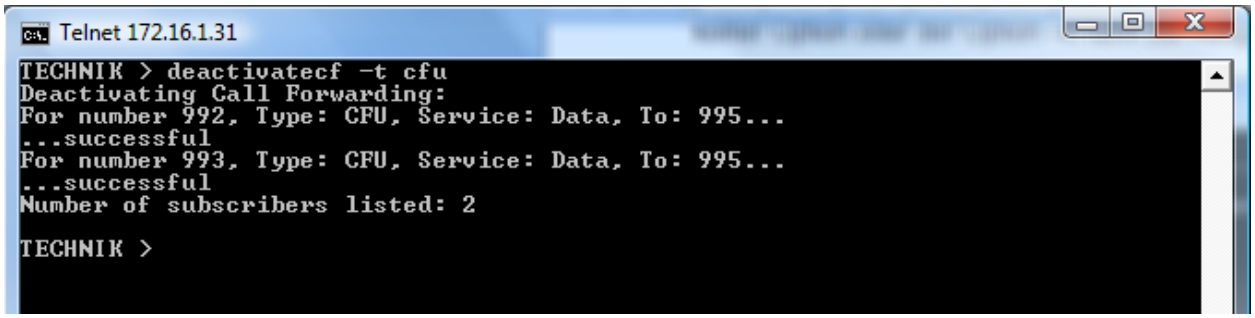
With option –A all call diversions in the target system are deleted. The output informs you about the deleted diversions:



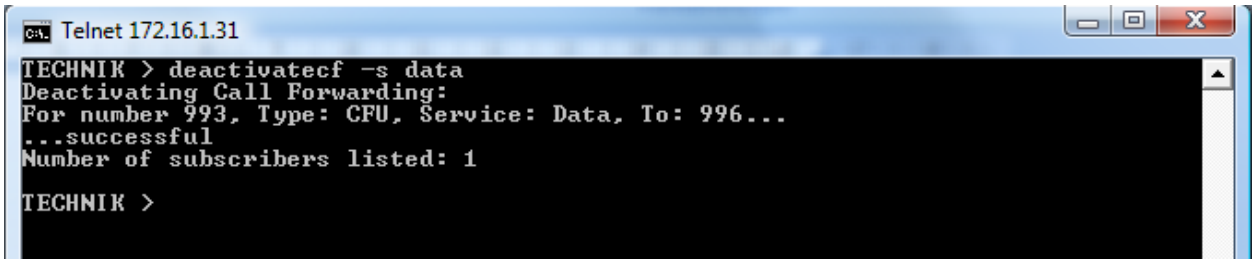
By entering one or more numbers you achieve that only call diversions for the given numbers are deleted:



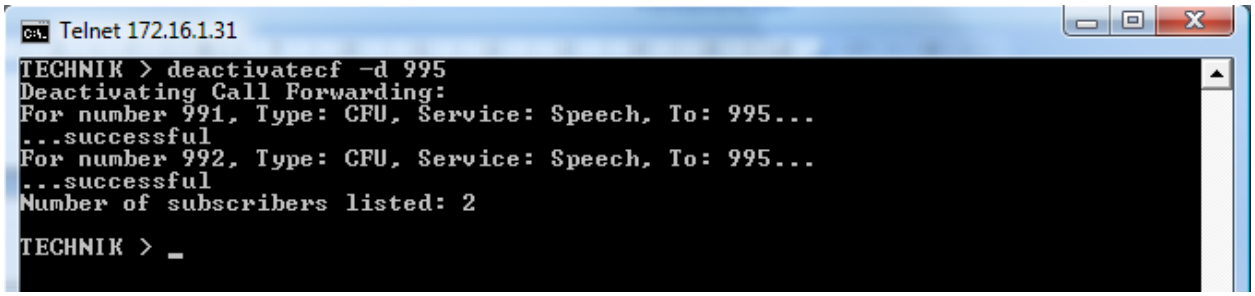
Entering option –t will achieve the cancellation of call diversions of a specific type. E.g. '–t cfu' deletes all permanent diversions:



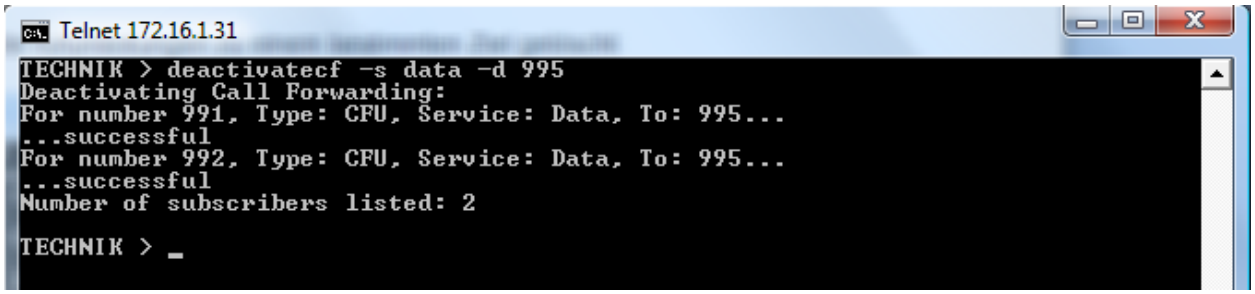
With option –s all call diversions for a specific service are deleted:



With option –d call diversions to a specific destination are deleted:



It is also possible to combine the different options. E.g. ‚-s data –d 995' deletes all call diversions for the service ‚data' with target 995:



5 Service examples

5.1 Example 1: On-site installation, configuration via DHCP and NMS

The technician wants to install a NovaTec system on-site via DHCP and NMS with help of the configuration saved on the NMS server.

1. Return NovaTec system to default state by pressing the front button twice. By doing so the password for the user 'Technik' is deleted and the LAN interface is operated with the default data:

   IP address: 192.168.127.254

   Netmask: 255.255.0.0

   Gateway IP: 192.168.1.254

2. The technician dialls into the NovaTec system via „telnet" or COM port.

3. The technician sets up a new system password with the command „`setpasswd –s ;NewPassword;NewPassword`".

4. The following command 'dhcpconf –m 2 –s' causes a call home to the NMS server (without TLS) as determined by DHCP option 129. The call home transferres the defined configuration.

5. The NovaTec system executes an automatic „system start" (reset) and is – apart of TLS - now on standby.

6. In case of the usage of TLS you have to sign the certificates of the NovaTec system via TI-CA (remote via LAN).

5.2 Example 2: On-site installation, configuration via NMP

The technician wants to install a NovaTec system on-site and set it up via LAN remotly later.

1. Return NovaTec system to default state by pressing the front button twice. By doing so the password for the user ‘Technik’ is deleted and the LAN interface is operated with the default data:

   IP-Adresse: 192.168.127.254
   Netmask: 255.255.0.0
   Gateway-IP: 192.168.1.254

2. The technician dials into the NovaTec system via ‘telnet’ or COM port.

3. The technician sets up a new system password with the command
   „`setpasswd –s ;NewPassword;NewPassword`“.

4. The command
   „`netconf –i 192.168.1.10 –n 255.255.0.0 –g 192.168.0.1 –s`“
   sets up the customers gateway IP address and customers system IP address as well as the netmask.

5. After this action the system can be maintained remotly via LAN and with NMP the proper configuration can be transferred to the system.