

How-To-Do

Connect a shared folder through TM-H

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1 General

1.1 Information

This How To Do document describes what you will have to do, if you would like to connect a Windows shared folder located on a computer inside the WAN network of your Teleservice device to a computer inside the Machine network, the LAN network of TM-H.

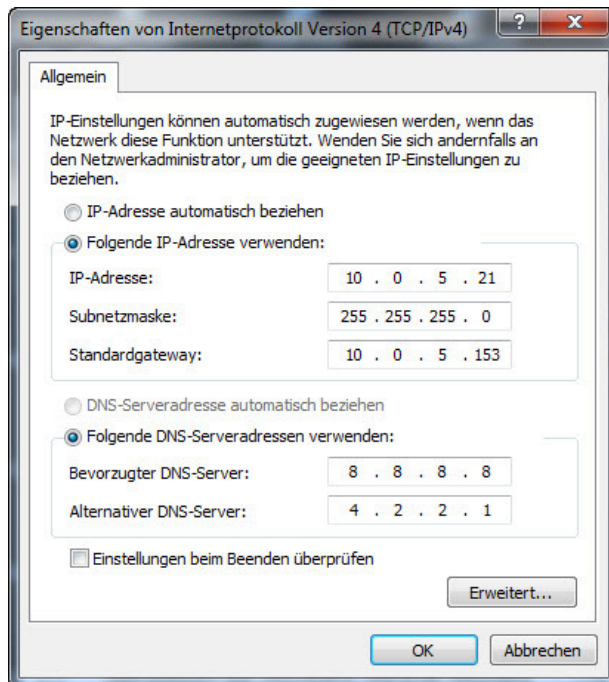
1.2 Note

Any liability for material defects and defects of title in this documentation, in particular for its correctness, faultlessness or freedom from third party proprietary rights and copyright, completeness and/or applicability – except for willful misconduct or fraud – is excluded.

2 Network settings of the devices

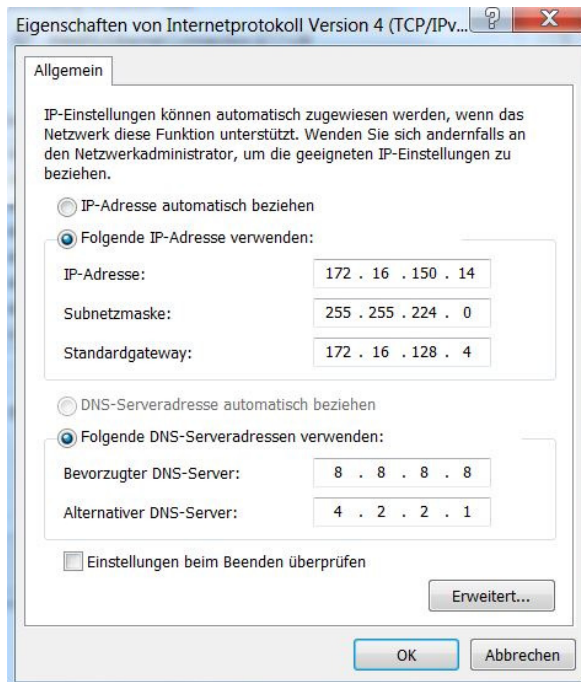
2.1 Computer within Machine network

IP address settings of the computer located in Machine network (=LAN of TM-H)



2.2 Computer within Office network

IP address settings of the computer located in office network (=WAN of TM-H)



ATTENTION:

A User containing the group "administrators" has to be created, **for that a password MUST be defined!**

In our example we create a User "TESTUSER" with a password defined as "TESTUSER", also.

The computer's firewall has to be deactivated, or at least reconfigured, to allow the needed services to establish connection with each other.

Standorteinstellungen für das Domänennetzwerk

 ☐ Windows-Firewall aktivieren

☐ Alle eingehenden Verbindungen blockieren, einschließlich der in der Liste der zugelassenen Programme

☒ Benachrichtigen, wenn ein neues Programm blockiert wird

 ☒ Windows-Firewall deaktivieren (nicht empfohlen)

Standorteinstellungen für das Heim- oder Arbeitsplatznetzwerk (privat)

 ☐ Windows-Firewall aktivieren

☐ Alle eingehenden Verbindungen blockieren, einschließlich der in der Liste der zugelassenen Programme

☒ Benachrichtigen, wenn ein neues Programm blockiert wird

 ☒ Windows-Firewall deaktivieren (nicht empfohlen)

Standorteinstellungen für das öffentliche Netzwerk

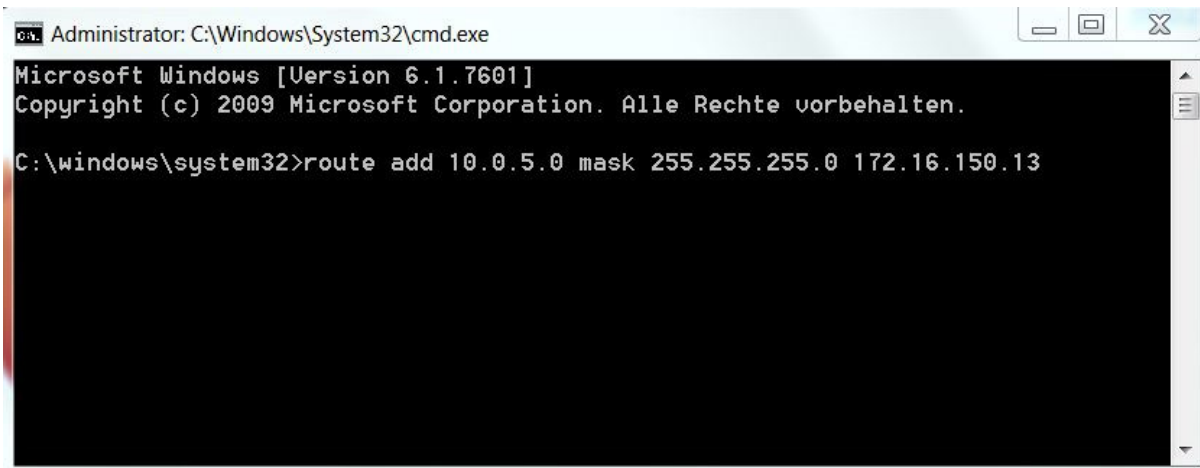
 ☐ Windows-Firewall aktivieren

☐ Alle eingehenden Verbindungen blockieren, einschließlich der in der Liste der zugelassenen Programme

☒ Benachrichtigen, wenn ein neues Programm blockiert wird

 ☒ Windows-Firewall deaktivieren (nicht empfohlen)

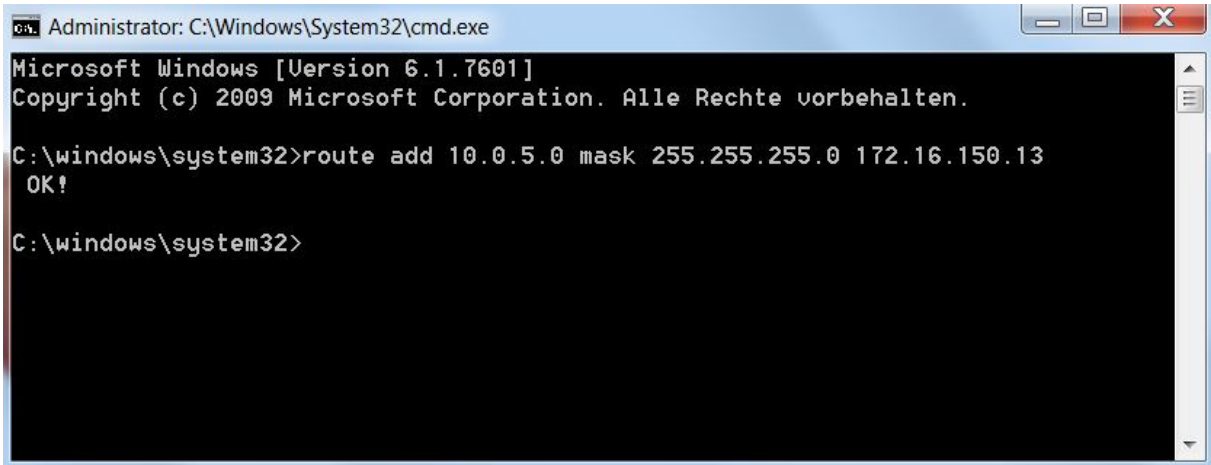
Further on, a route pointing to the machine network has to be added. Therefore we open a command shell using "START/EXECUTE" typing in "CMD". Now we enter the "route add" command as shown.



```
Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. Alle Rechte vorbehalten.

C:\windows\system32>route add 10.0.5.0 mask 255.255.255.0 172.16.150.13
```

Has the „route add“ comand been executed and the route was added properly we are able to see “OK!” message inside the comand shell..



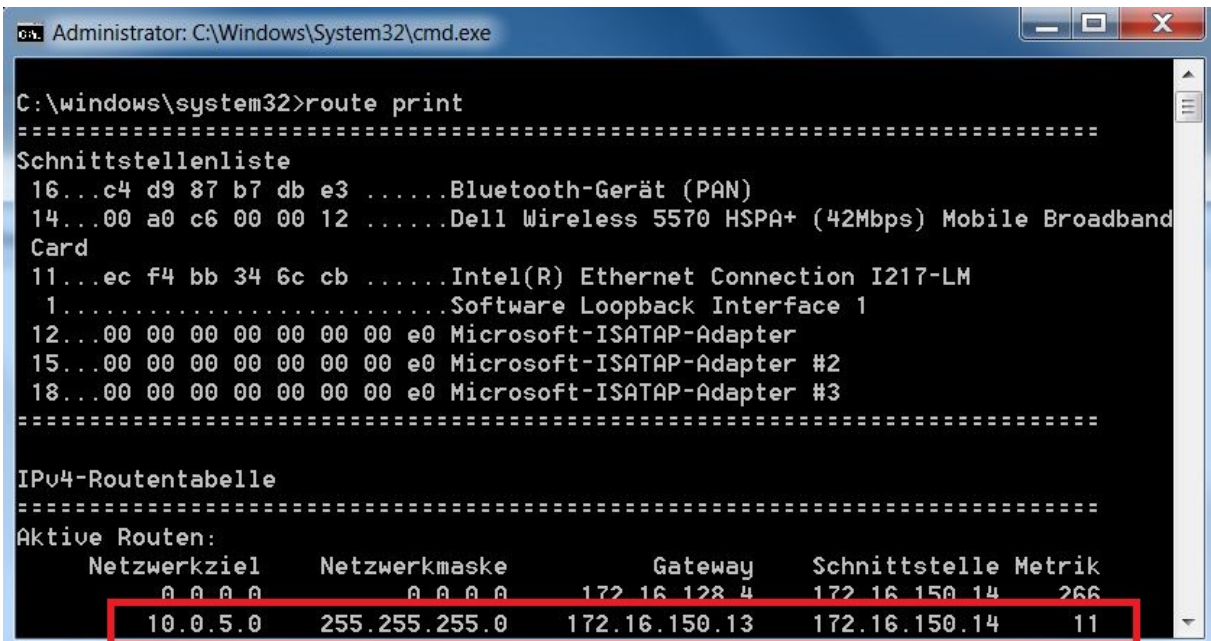
```

Administrator: C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. Alle Rechte vorbehalten.

C:\windows\system32>route add 10.0.5.0 mask 255.255.255.0 172.16.150.13
OK!

C:\windows\system32>
  
```

Now the “route print” comand can be used to display the computer’s routing configuration. The route entry marked in the red coloured box shows the route, we’ve just added above.



```

Administrator: C:\Windows\System32\cmd.exe

C:\windows\system32>route print
=====
Schnittstellenliste
16...c4 d9 87 b7 db e3 .....Bluetooth-Gerät (PAN)
14...00 a0 c6 00 00 12 .....Dell Wireless 5570 HSPA+ (42Mbps) Mobile Broadband
Card
11...ec f4 bb 34 6c cb .....Intel(R) Ethernet Connection I217-LM
1.....Software Loopback Interface 1
12...00 00 00 00 00 00 00 e0 Microsoft-ISATAP-Adapter
15...00 00 00 00 00 00 00 e0 Microsoft-ISATAP-Adapter #2
18...00 00 00 00 00 00 00 e0 Microsoft-ISATAP-Adapter #3
=====

IPv4-Routentabelle
=====
Aktive Routen:
      Netzwerkziel      Netzwerkmaske      Gateway      Schnittstelle Metrik
      -----
      0 0 0 0          0 0 0 0          172.16.128.4    172.16.150.14    266
      10.0.5.0          255.255.255.0    172.16.150.13  172.16.150.14    11
  
```

ATTENTION:

Routes created by “route add” comand will be lost after restarting the computer. If you wish to add a permanent route, the comand “route add” with the extension “-p” has to be used.

The comand should look like this, then: ***route add -p 10.0.5.0 mask 255.255.255.0 172.16.150.13***

2.3 TM-H Router

LAN IP address of the TM-H

Ethernet LAN Connection		
Address Setup	Static	Mac Address: 00:03:27:40:6b:e2
IP address	10.0.5.153	
Subnet mask	255.255.255.0	

Update

WAN IP address of the TM-H

Ethernet WAN Connection		
Address Setup	Static	Mac Address: 00:03:27:00:6b:e2
IP address	172.16.150.13	
Subnet mask	255.255.224.0	
Default gateway	172.16.128.4	
DNS Setup		
Primary DNS IP address	172.16.128.24	Leave blank (or 0.0.0.0) if no DNS
Secondary DNS IP address	172.16.128.20	

Update

2.4 Routing configuration des TM-H

2.4.1 Routing NAT+TF on WAN

Routing settings of the TM-H have to be set to „NAT & TF on WAN“, if:

- Devices inside the machine LAN should be allowed to use TM-H as an internet gateway.
- None of the devices inside the office network needs to request data from devices located inside the machine network. Proceed clicking “Update”.

NOTE:

A shared folder located inside the office network can be reached from machine network now. Vice versa, a webserver located inside machine network cannot be reached from within office network! (NAT -> WAN!)

Routing setup

Special rules

Route all gateway traffic through VPN ☒ When VPN interface is active

NAT and TF (Transparent Forwarding)

Apply NAT and TF to connection NAT and TF on WAN NAT on LAN provides LAN device access without configuring eWON as gateway in the device.

Enable transparent forwarding ☒

Static routes table

	Destination	Mask	Gateway	Hops	Clear
Route 1	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear
Route 2	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear
Route 3	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear

These changes will be effective from next WAN connection

Update

2.4.2 Routing by adding a static route

Routing settings have to be switched to “NAT & TF disabled”, if devices inside machine network should also be accessible for office network's devices. Proceed clicking “Update”.

Routing setup

Special rules

Route all gateway traffic through VPN ☒ When VPN interface is active

NAT and TF (Transparent Forwarding)

Apply NAT and TF to connection NAT and TF disabled NAT on LAN provides LAN device access without configuring eWON as gateway in the device.

Static routes table

	Destination	Mask	Gateway	Hops	Clear
Route 1	172.16.128.0	255.255.224.0	10.0.5.153	3	Clear
Route 2	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear
Route 3	0.0.0.0	0.0.0.0	0.0.0.0	0	Clear

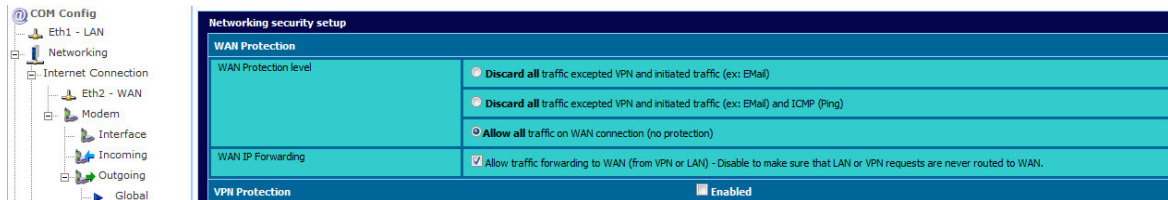
These changes will be effective from next WAN connection

Update

2.5 Security settings of the TM-H:

The security settings of your teleservice device have to be modified as shown below.

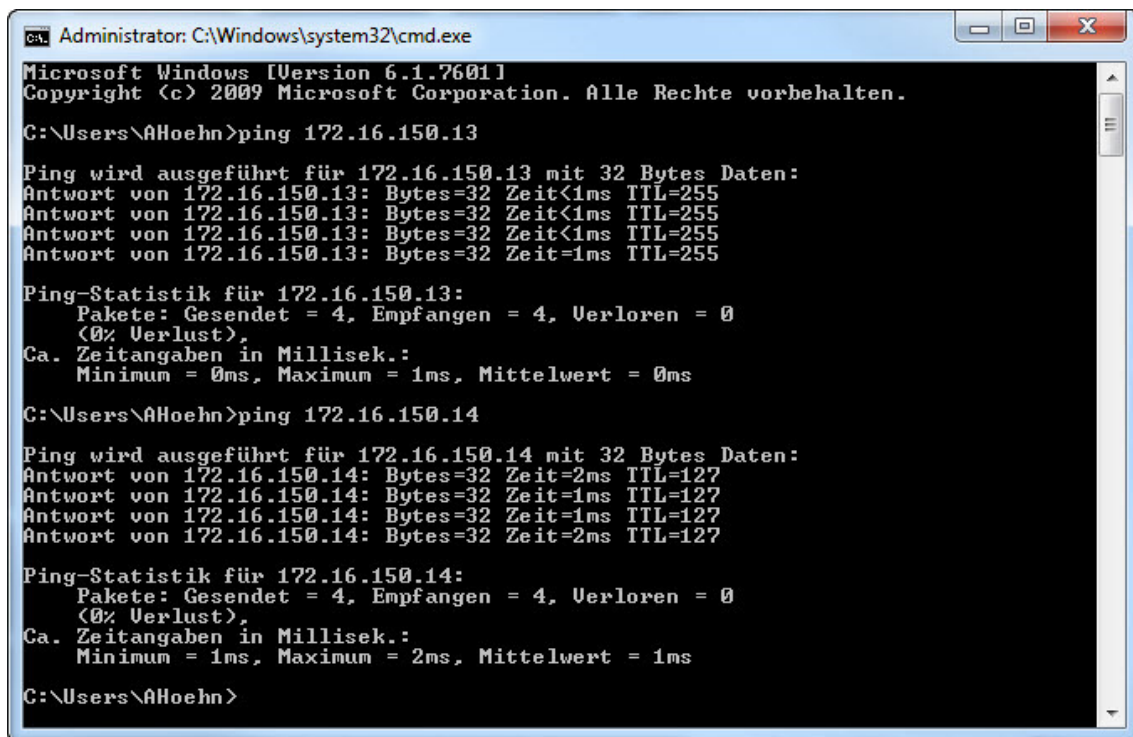
Switch WAN Protection level to “Allow all traffic” and activate WAN IP forwarding by checking the box to allow traffic forwarding from LAN or VPN to WAN. Proceed clicking “Update”.



In order to make the changes of the configuration take effect, now please perform a reboot of the device by dis –and reconnecting the power supply. Allow 5 seconds between dis –and reconnection.

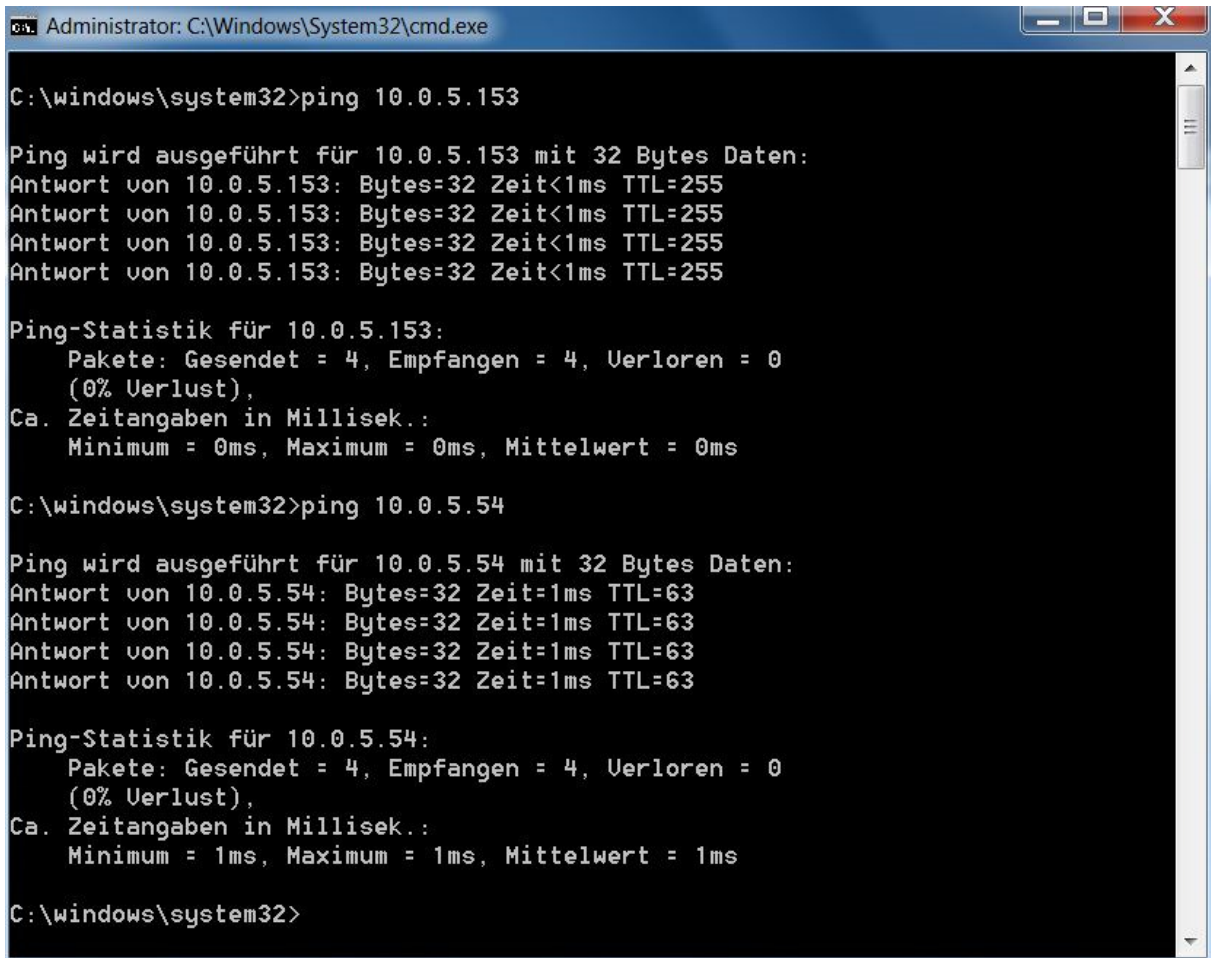
2.6 Testing the reachability of the devices located within the office network

On the computer, which is located inside the machine LAN, we will now open a command shell by using START/EXECUTE and entering “cmd”. Then we will “ping” the IP address of TM-H’s WAN interface as well as the interface of the computer containing the shared folder. Both interfaces should answer the “ping” command now.



2.7 Testing the reachability of the devices located within the machine network

On the computer, which is located inside the office network, we will now open a command shell by using START/EXECUTE and entering "cmd". Then we will "ping" the IP address of TM-H's LAN interface as well as the interface of the PLC located inside the machine network. Both interfaces should answer the "ping" command now.



```
Administrator: C:\Windows\System32\cmd.exe

C:\windows\system32>ping 10.0.5.153

Ping wird ausgeführt für 10.0.5.153 mit 32 Bytes Daten:
Antwort von 10.0.5.153: Bytes=32 Zeit<1ms TTL=255
Antwort von 10.0.5.153: Bytes=32 Zeit<1ms TTL=255
Antwort von 10.0.5.153: Bytes=32 Zeit<1ms TTL=255
Antwort von 10.0.5.153: Bytes=32 Zeit<1ms TTL=255

Ping-Statistik für 10.0.5.153:
    Pakete: Gesendet = 4, Empfangen = 4, Verloren = 0
    (0% Verlust),
    Ca. Zeitangaben in Millisek.:
        Minimum = 0ms, Maximum = 0ms, Mittelwert = 0ms

C:\windows\system32>ping 10.0.5.54

Ping wird ausgeführt für 10.0.5.54 mit 32 Bytes Daten:
Antwort von 10.0.5.54: Bytes=32 Zeit=1ms TTL=63
Antwort von 10.0.5.54: Bytes=32 Zeit=1ms TTL=63
Antwort von 10.0.5.54: Bytes=32 Zeit=1ms TTL=63
Antwort von 10.0.5.54: Bytes=32 Zeit=1ms TTL=63

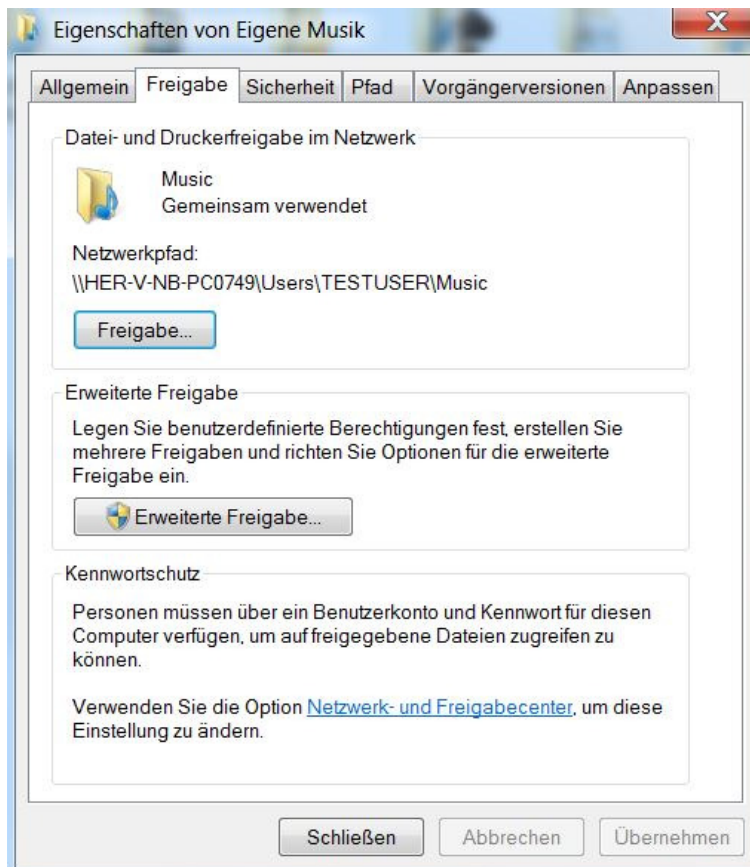
Ping-Statistik für 10.0.5.54:
    Pakete: Gesendet = 4, Empfangen = 4, Verloren = 0
    (0% Verlust),
    Ca. Zeitangaben in Millisek.:
        Minimum = 1ms, Maximum = 1ms, Mittelwert = 1ms

C:\windows\system32>
```

3 Connecting the network drive

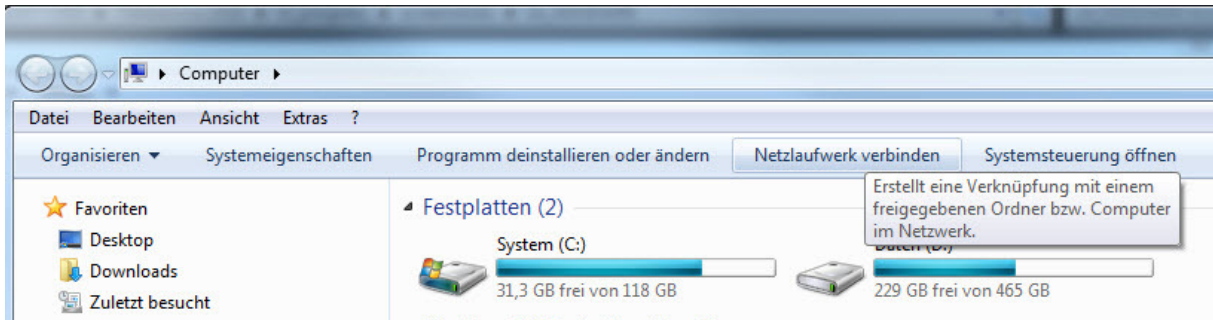
3.1 Properties of the shared folder

On the computer containing the shared folder, we will now check its properties. Below the TAB "SHARE" we can find the network path of the shared folder. We will need that later on, to be able to enter the path at the computer in machine network, in order to connect the network drive.

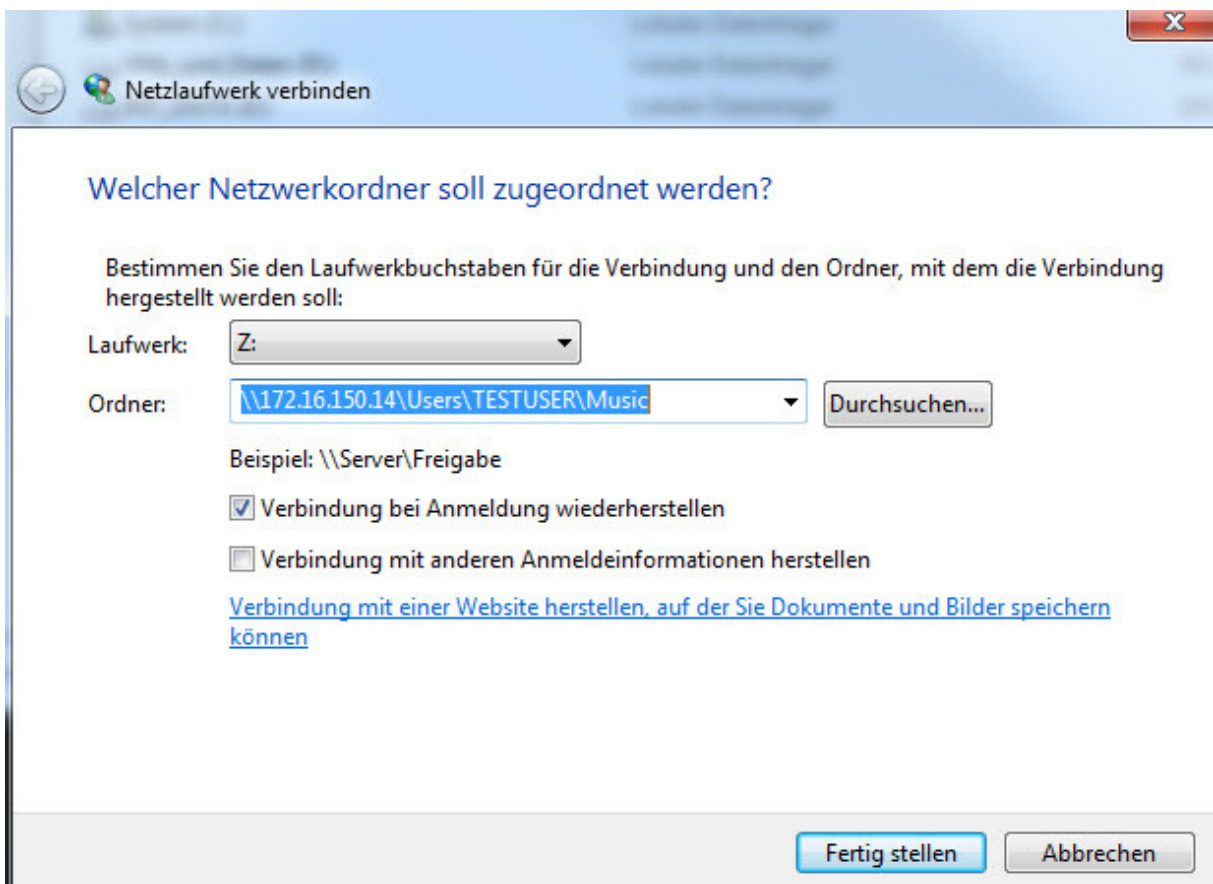


3.2 Connect network drive

On the computer inside machine network, we will now start the connection procedure by choosing “connect network drive” in WINDOWS EXPLORER



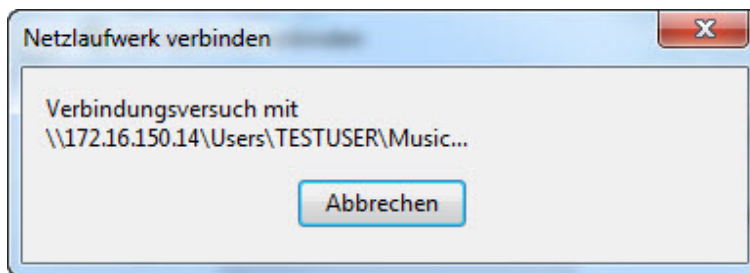
The next dialog asks us to enter the network path of the destination folder for the network drive. It can be found, as mentioned in topic 3.1, inside the properties of the shared folder in TAB “SHARE”.



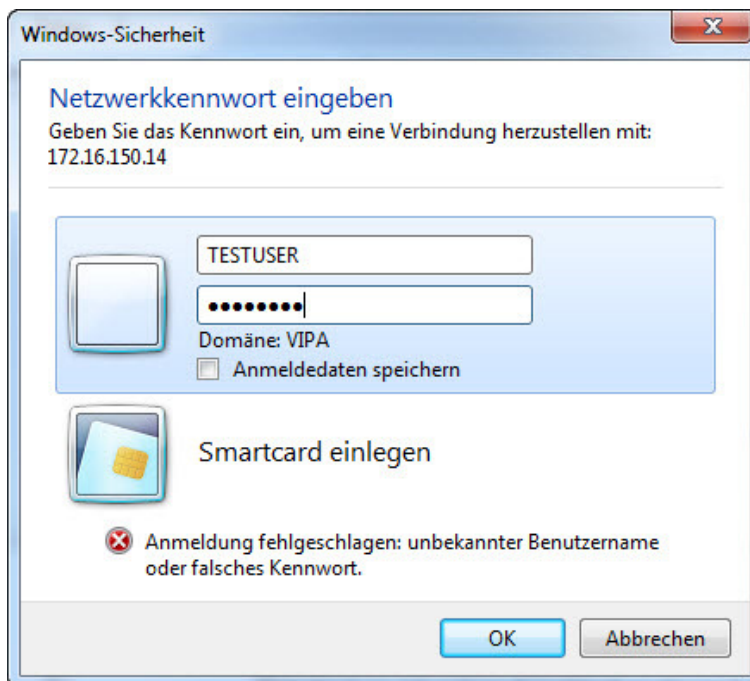
IMPORTANT:

Either hostname or IP-adress of the desination computer may be used in this dialog!

After proceeding by choosing “Finish”, the computer tries to connect to the destination folder.

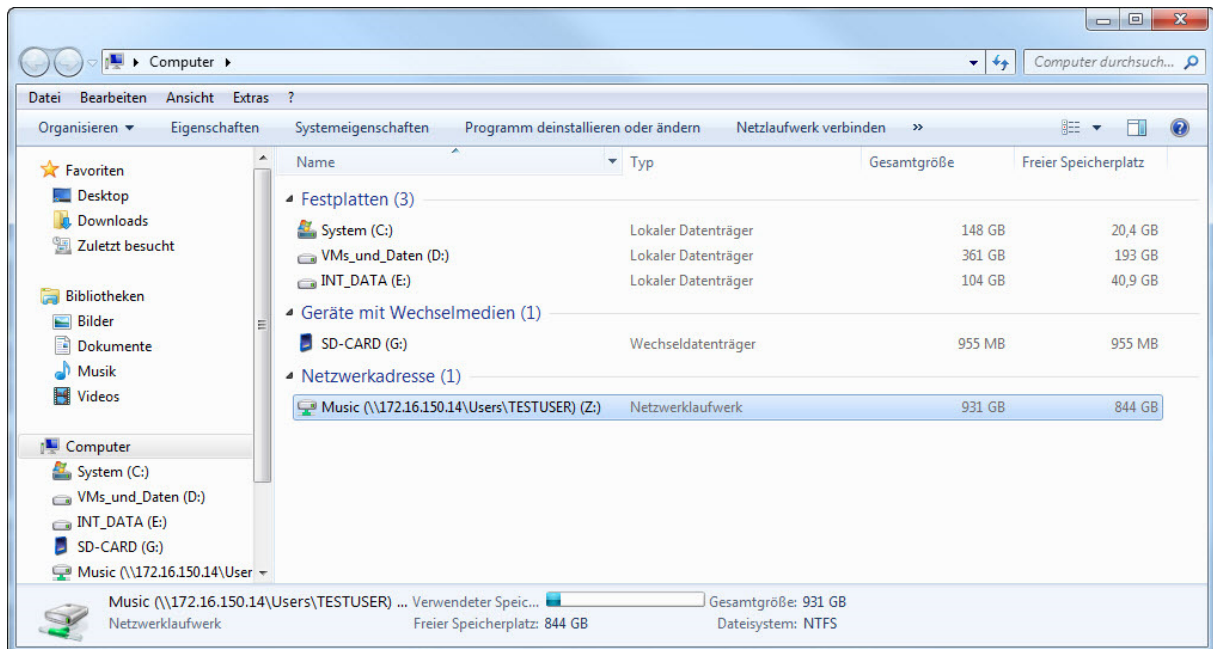


If the network path pointing at the shared folder has been entered correctly, the folder will be connected as a network drive after the next step. Now we need to enter the username and the password of the user, who did share the folder on the destination computer..



In our example, the user “TESTUSER” who has also the password “TESTUSER” did share the folder to the office network. To finish the connection procedure select „OK.“

Now, that we entered proper user and password data, the shared folder on an office network computer has successfully been connected to the machine network computer as a network drive.



4 Revision History

4.1 Changes:

DATE	CHANGES	REVISER
8/30/2017	Issue document	A Hoehn