

This document describes the configuration for the construction of an IPsec connection. This relates to a computer with Windows XP computer software and the first Ethernet port of the router. The IPsec connection schedules at the first Ethernet port and allows the secure connection to a network client behind the second Ethernet port of the router.

### Requirements

- Weidmueller *miniRouter* with two Ethernet ports (IE-ARM-E)
- Firmware **3.3.0** (please use „appl-note\_router-update-EN.pdf“ for updates)

### Accomplishment

(1) Configuration of the router

- The IPsec settings of the router are in the menu VPN --> IPsec/L2TP. To be able to configure the router, the check box „Activate IPsec/L2TP“ has to become activated first.

activate IPsec/L2TP server

**IPSec**

IPsec interface: Ethernet 1

Target address: 0.0.0.0 enabled IP addresses

IP address of PPP device: 192.168.2.101 the router's IPsec address

PPP address range from: 192.168.2.110 range start for delivered addresses

PPP address range to: 192.168.2.120 range end for delivered addresses

**Access**

Preshared Key: [masked] re-enter: [masked]

User name: admin user name for the VPN connection

Password: [masked] re-enter: [masked]

Cancel Apply

- The meanings of the settings shown in screen shot are as follows:

### **IPsec**

Target address: Field for the IP address of the IPsec client which is allowed to log on to the router. The address „0.0.0.0“ is a placeholder and permits the dial-in of all IP addresses.

Interface: Describes to which port of the router the IPsec connection shall become established. (for example Ethernet 1).

IP address of PPP device: This is the address to which the router is allocated after the construction of the IPsec connection. Here, it is possible to achieve this certain router later.

PPP address range from and to: IP address interval, from which the VPN client receives a new IP address after the successful establishment of the connection.

### **Access**

Preshared Key: Here, one has to enter the „key of authentication“ of the IPsec settings which belongs to Windows (see further down in this document).

This key still has to be used later on. Therefore, it is a good idea to take a note of the key.

User name: User name of the VPN connection

Password: Password of the VPN user

User name and Password have to be entered under Windows later.

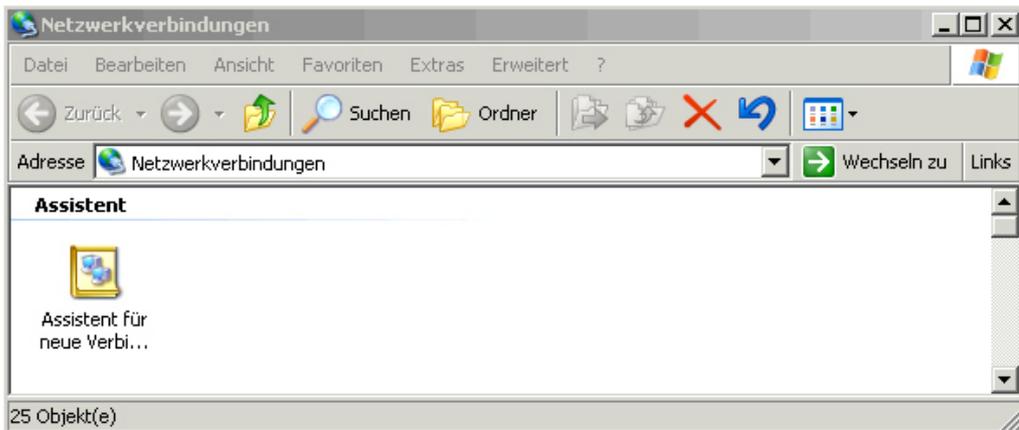
### **Notes:**

In this instruction it is described how an IPsec connection to the first Ethernet port of the miniRouter becomes established. After the dial-in into the router via IPsec, a new virtual network consisting of the dialed-in IPsec clients and the clients of the second network behind the router is constructed. So, „*IPsec address*“ and „*Address range from and to*“ are always IP addresses of the second router-network (port: Ethernet 2) and should not be occupied there.

Default network address at the second Ethernet port: 192.168.2.0.

The new settings have to be taken over in the IPsec menu. In the menu „Actions“ one has to select „Save all settings“. **Afterwards, the router has to become rebooted once!**

## (2) Configuration of Windows XP



Under  
„Network

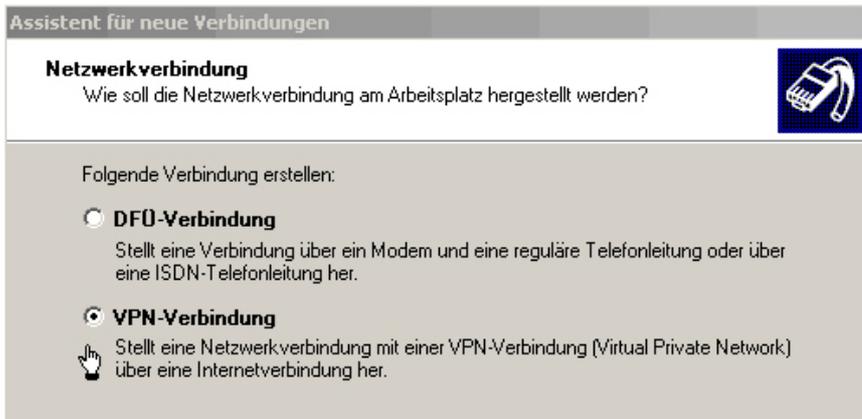
Connections“ in Windows XP you have to start the „Assistant for new connections“

- Select „Establish connection with the network at *My computer*“

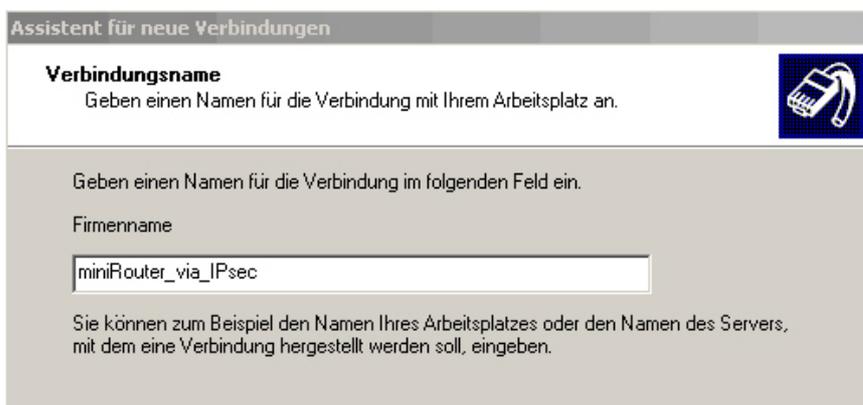




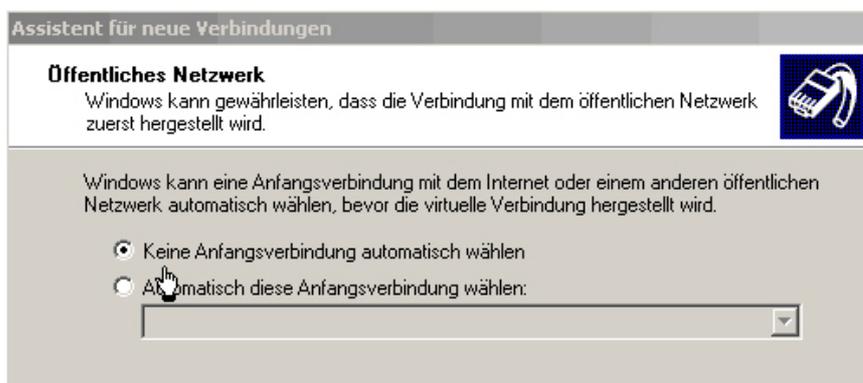
- Afterwards, select „VPN connection“



- Enter an arbitrary name (company name) of the VPN connection

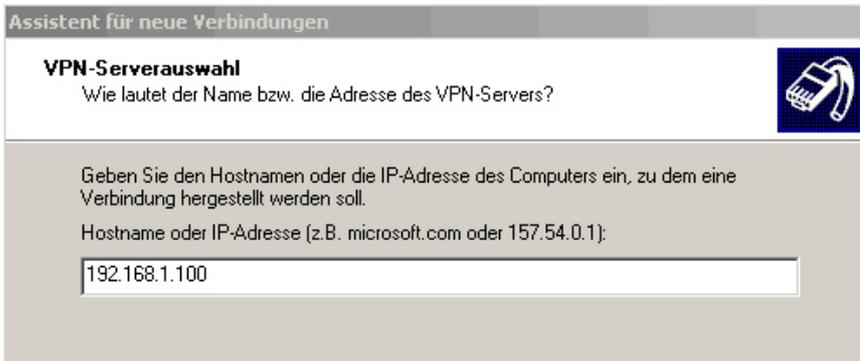


- Do not allow an automatic dial-in of the initial connection

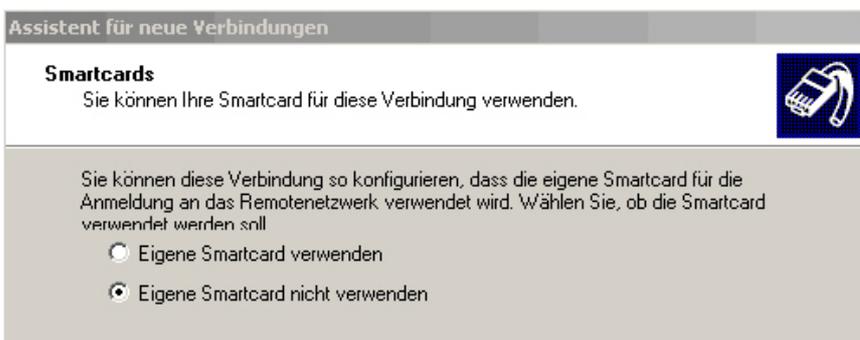


- Now the IP address of the first Ethernet port (Ethernet 1) of the router to which the VPN connection finally should be established has to become entered. This is the case when in the IPsec menu of the router the interface “Ethernet 1” was chosen (see this example)

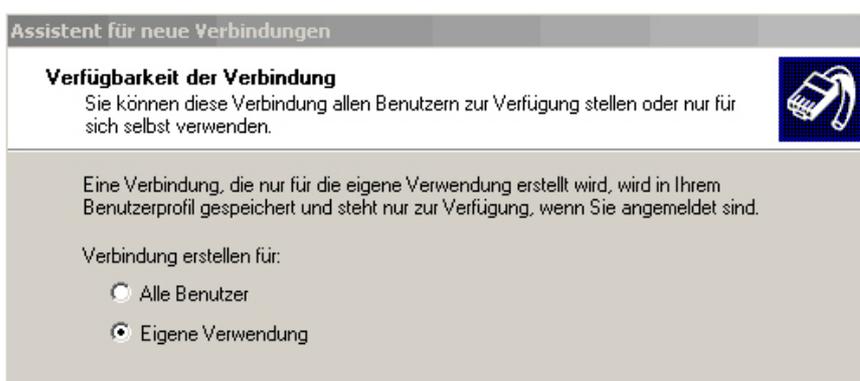
The default address of the router at the first Ethernet port is: 192.168.1.100. If addresses are used which differ from the default settings, please do the following: check General -> Base -> IP address Ethernet 1 and enter the modified IP address here



- A Smartcard should not be used. It is possible that this window does not appear in all Windows XP versions.



- Afterwards, a selection can be made: here is stated which Windows XP users will be allowed to use the VPN connection.



- After having finished the assistant it is suggestive to add a shortcut to the desktop.

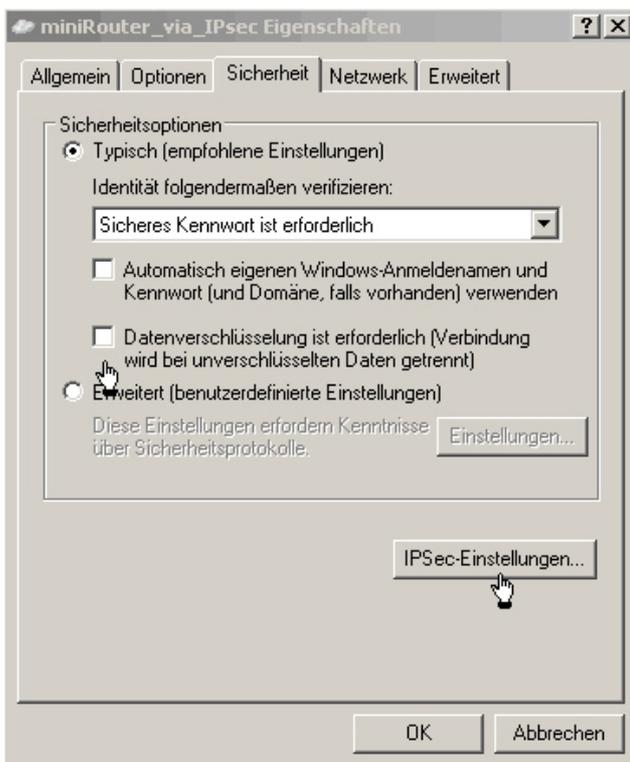


- On the desktop an extra icon, called „miniRouter\_via\_IPsec“ can be found now. After clicking on it, the following window appears (see below). User name and password are the same as in the L2TP (menu: IPsec) of the router.

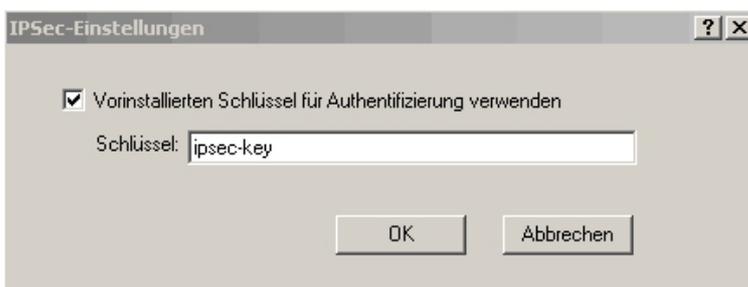


- For a smooth performance, two more changes have to be made under “settings”

In the menu “settings” and the tabfolder “security” one has to deactivate the check box “Data encryption necessary”. This data encryption relates to the L2TP connection to which the IPsec implementation of Microsoft attaches. As the IPsec connection is encoded already, it is not necessary to encode the data for L2TP.



Furthermore, in the tabfolder “security” the IPsec settings have to become adjusted. In the field “key (Schlüssel)” one has to enter the *Preshared Key* of the IPsec data of the router menu.



Afterwards, it has to become activated.

With this, the IPsec configuration under Windows XP is finished.

The two last windows can be closed by clicking *OK*. In the window „Establish connection with router“ one has to click on *Connect*. To construct the IPsec connection, the previously mentioned windows can be selected by the router.



### (3) IPsec connection

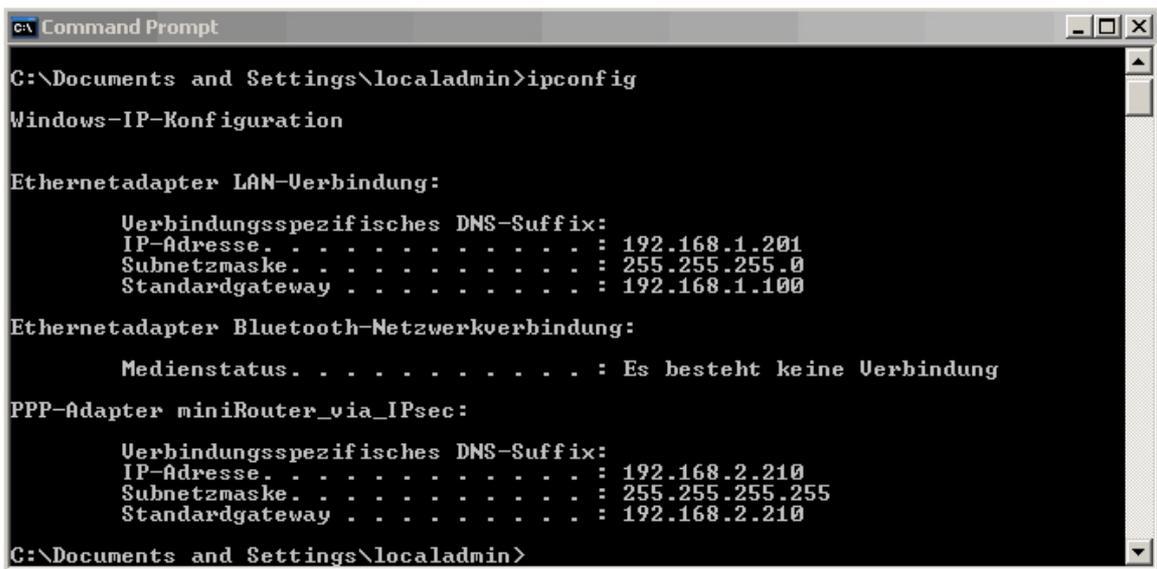
The established IPsec connection can be checked in the „**Command**“ prompt of Windows:

Start -> Run -> type: cmd

or:

Start -> Programs -> Accessories -> Command Prompt

If "ipconfig" is entered in the **command prompt** one receives an overview of the available network settings in the system.



```
C:\Documents and Settings\localadmin>ipconfig

Windows-IP-Konfiguration

Ethernetadapter LAN-Verbindung:

    Verbindungsspezifisches DNS-Suffix:
    IP-Adresse. . . . . : 192.168.1.201
    Subnetzmaske. . . . . : 255.255.255.0
    Standardgateway. . . . . : 192.168.1.100

Ethernetadapter Bluetooth-Netzwerkverbindung:

    Medienstatus. . . . . : Es besteht keine Verbindung

PPP-Adapter miniRouter_via_IPsec:

    Verbindungsspezifisches DNS-Suffix:
    IP-Adresse. . . . . : 192.168.2.210
    Subnetzmaske. . . . . : 255.255.255.255
    Standardgateway. . . . . : 192.168.2.210

C:\Documents and Settings\localadmin>
```

Under *PPP-Adapter miniRouter\_via\_IPsec* the IP address of Windows for the IPsec connection can be seen: 192.168.2.210. Windows has received this address automatically from the router during the establishment of the IPsec connection. The IP address is from the address interval *Address range from/to* of the router (menu: IPsec/L2TP).

Now, the Windows computer is a part of the network behind the second Ethernet port of the router. Moreover, the data transfer to the router becomes encrypted by the IPsec connection. Only in the second network behind the router, the data transfer takes place unencrypted again.

