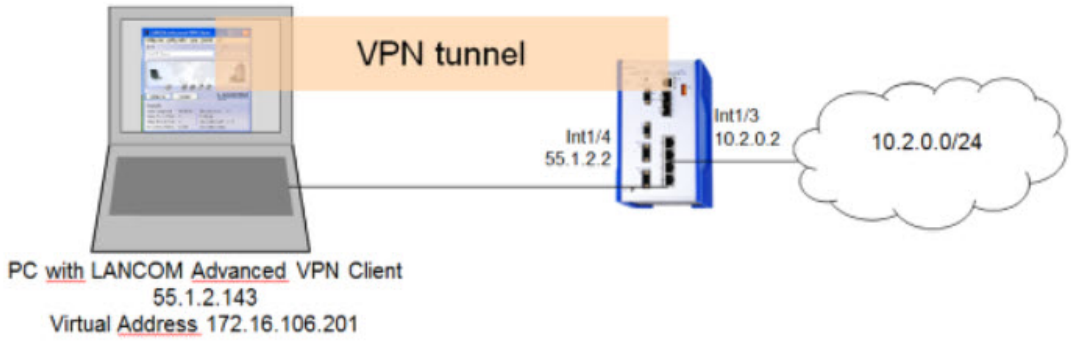
VPN with LANCOM Advanced VPN Client

- 2018-02-22 - HiSecOS

This lesson describes how to configure a VPN using Hirschmann EAGLE20/30 and the LANCOM Advanced VPN Client using x.509 certificates.

Software versions used:
EAGLE20/30 firmware v02.0.01
Lancom Advanced VPN Client v3.00 Build 21499

Network plan

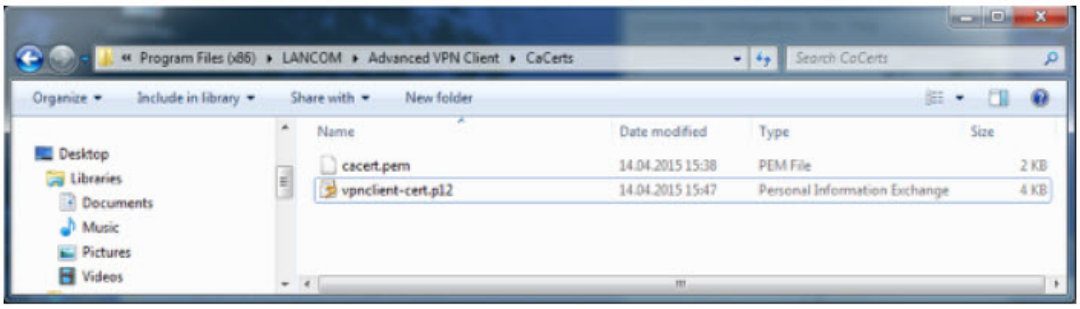


Install and start LANCOM Advanced VPN Client

The LANCOM Client with a 30 day evaluation period can be downloaded from http://www.lancom-systems.de

After installation start the LANCOM VPN Client.

Import Certificates

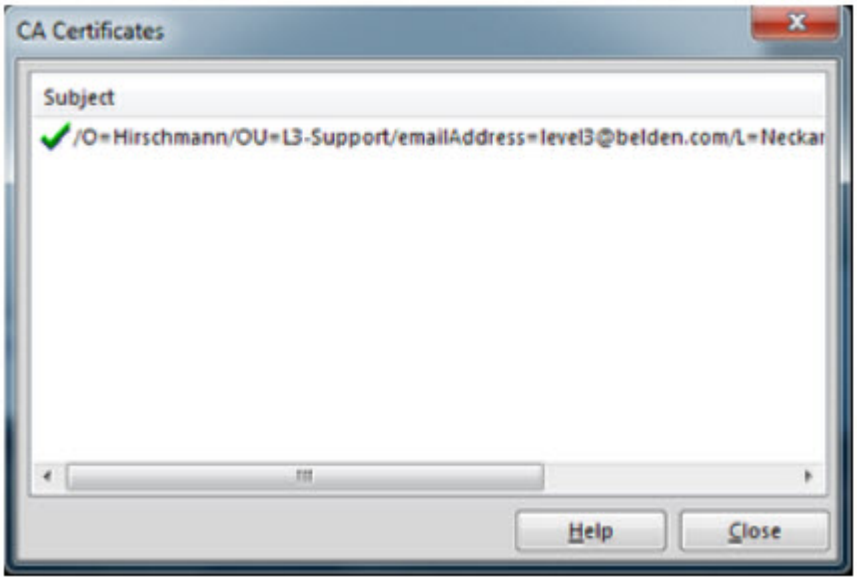


Copy the PEM export of the CA (in our example **cacert.pem**) and the PKCS#12 export of the LANCOM Client certificate (in our example **vpnclient-cert.p12**) in the CaCerts directory:

C:\Program Files (x86)\LANCOM\Advanced VPN Client\CaCerts

Note: The file extension of the CA export must be **.pem** otherwise the LANCOM Client will not find the CA.

CA Certificates



To verify if the LANCOM Client could load the CA, select **Connection** -> **Certificates** -> **Display CA Certificates** from the menu.

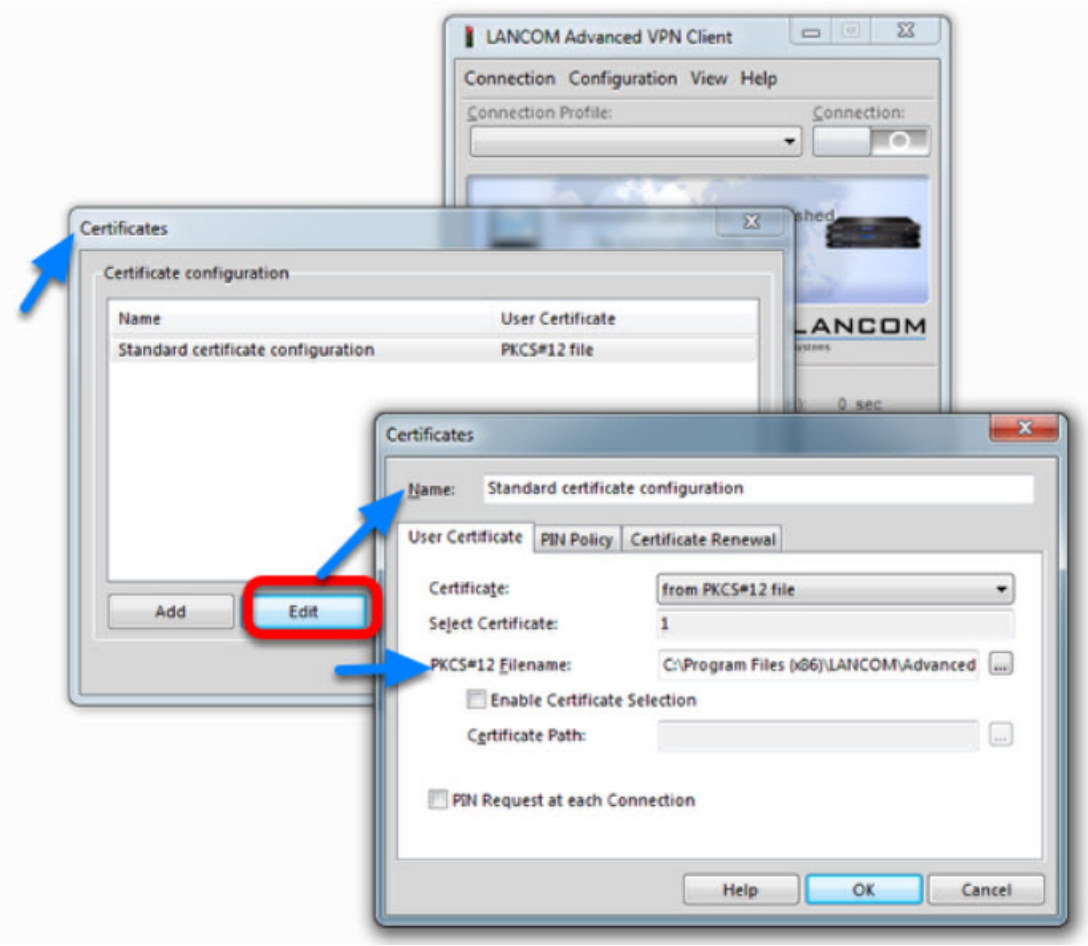
The distinguished name of the CA should be displayed, marked with a green checkmark.

Click **Close**.

Certificates Configuration

Select **Configuration -> Certificates** from the menu.

Certificate Selection



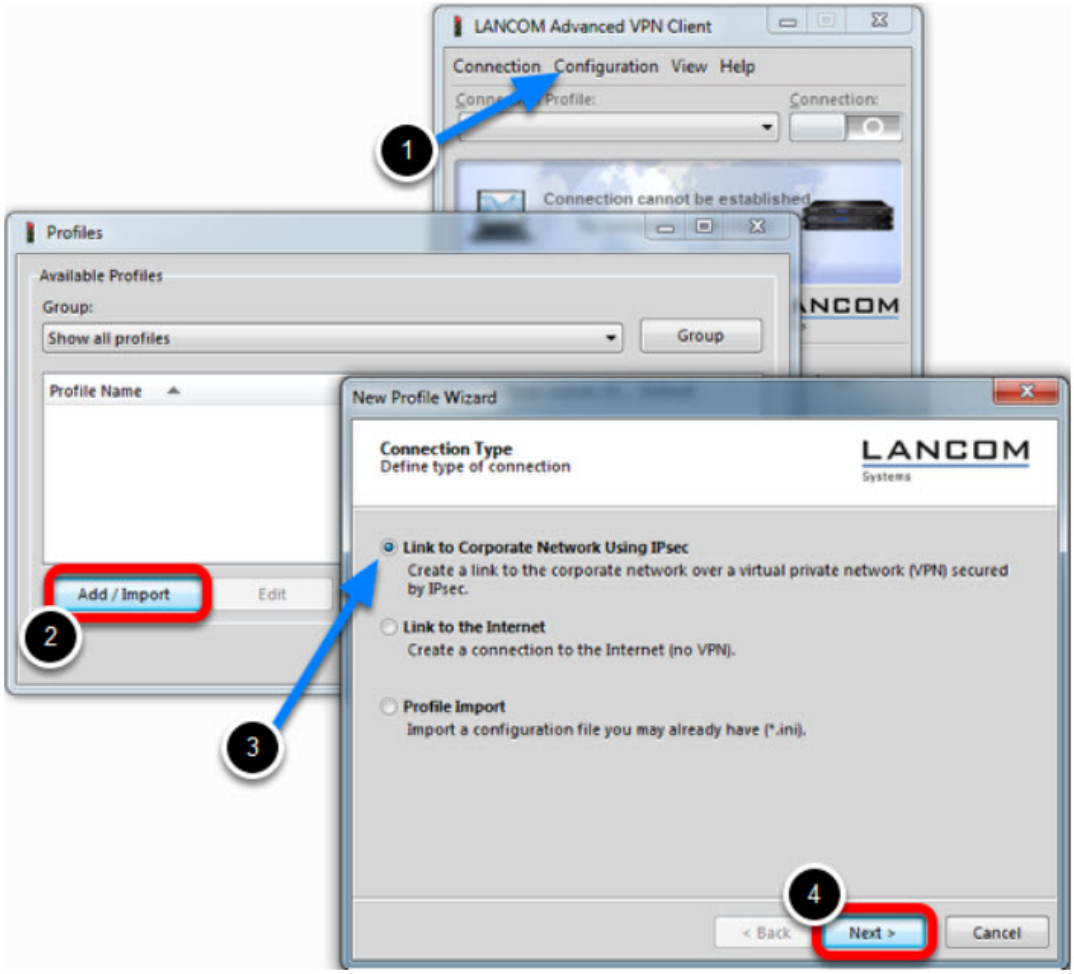
Highlight the **Standard certificate configuration** and click **Edit.**

Set the **PKCS#12 Filename** in our example C:\Program Files (x86)\LANCOM\Advanced VPN Client\CaCerts\vpnclient-cert.p12.

Click **OK.**

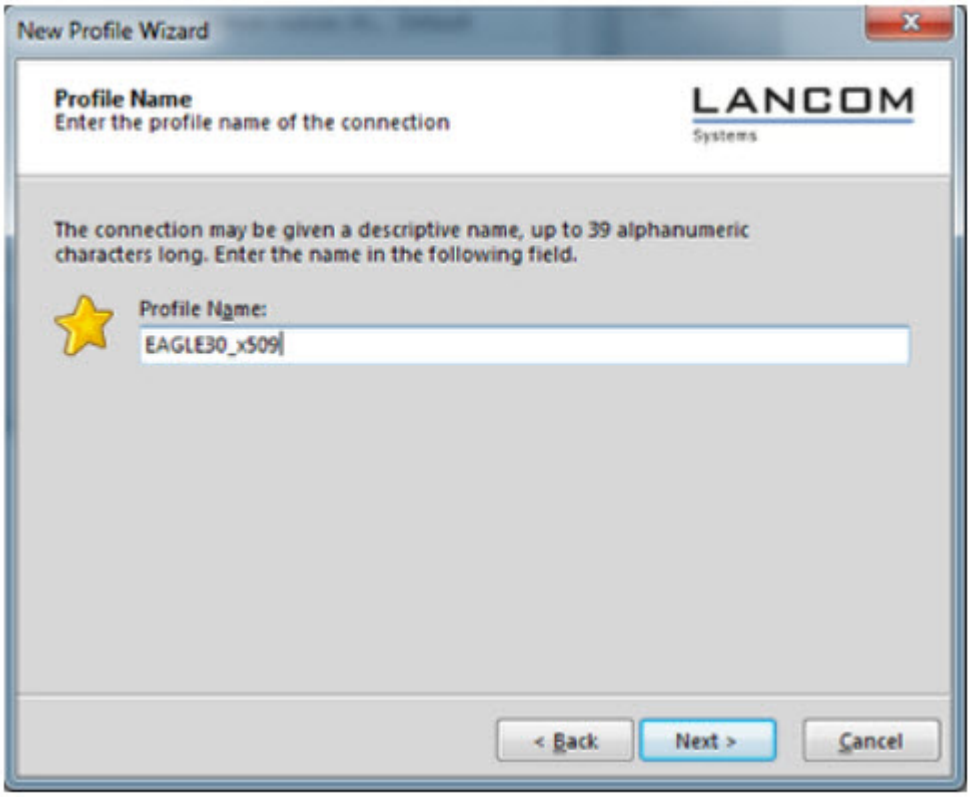
Close the **Certificates** configuration window.

Creating a new profile



1. Select from the menu **Configuration** -> **Profiles**
2. Click **Add / Import** to create a new profile
3. Select **Link to Corporate Network Using IPsec**
4. Click **Next**

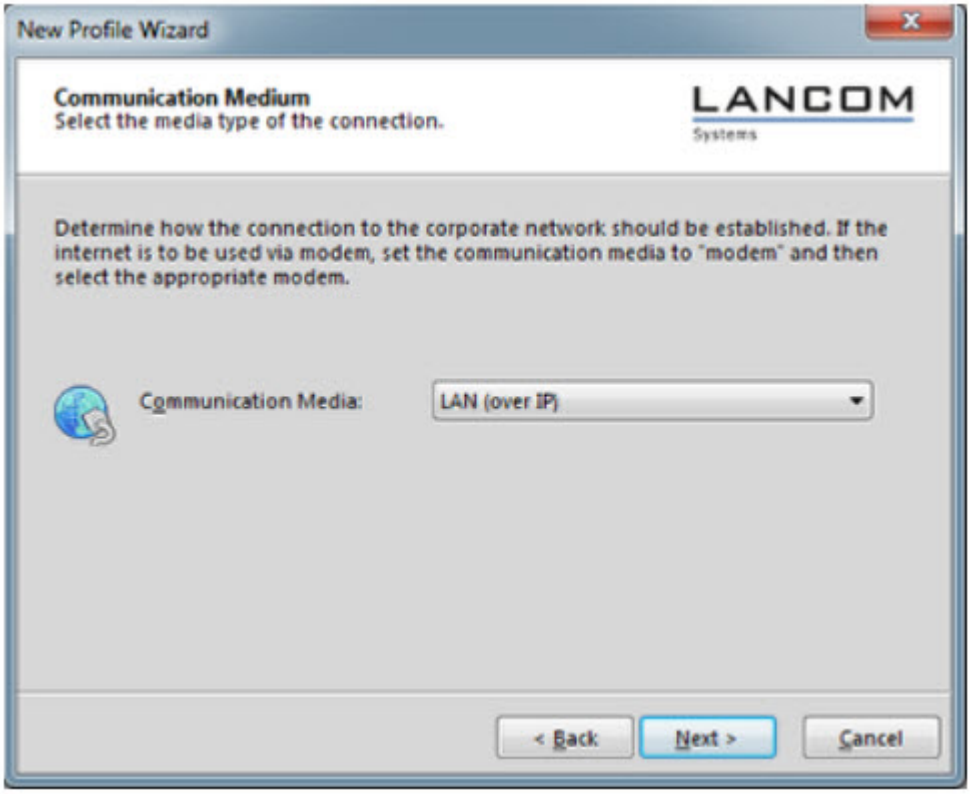
Profile Name



Enter a **Profile Name**

Click **Next**

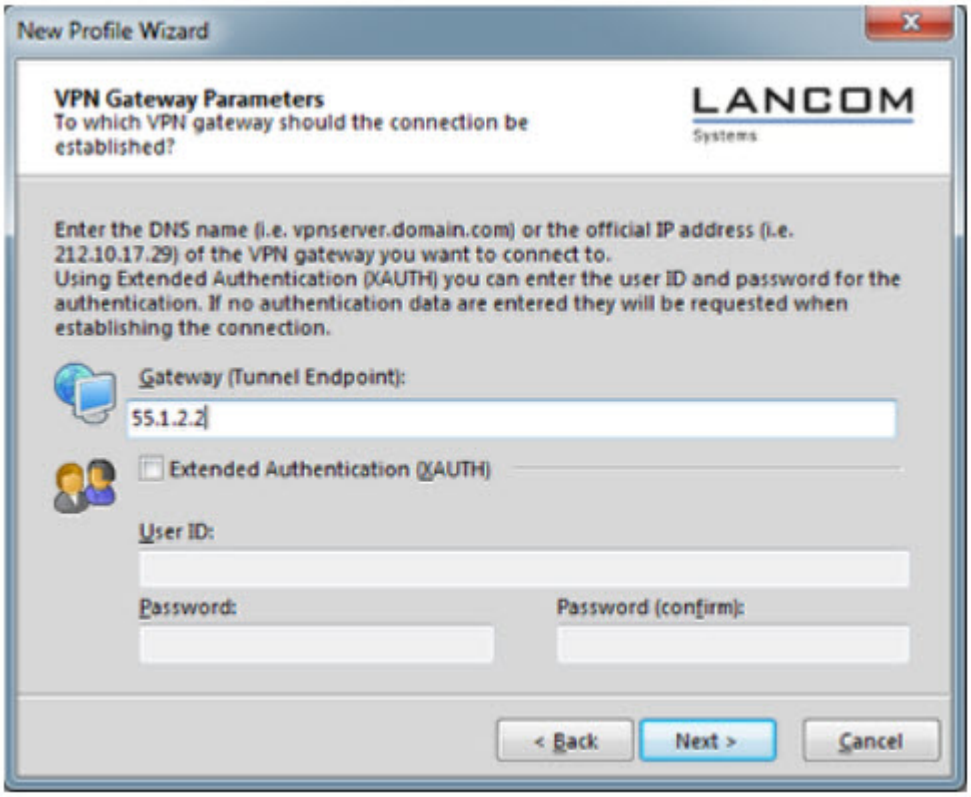
Communication Medium



Select **LAN (over IP)** as communication media

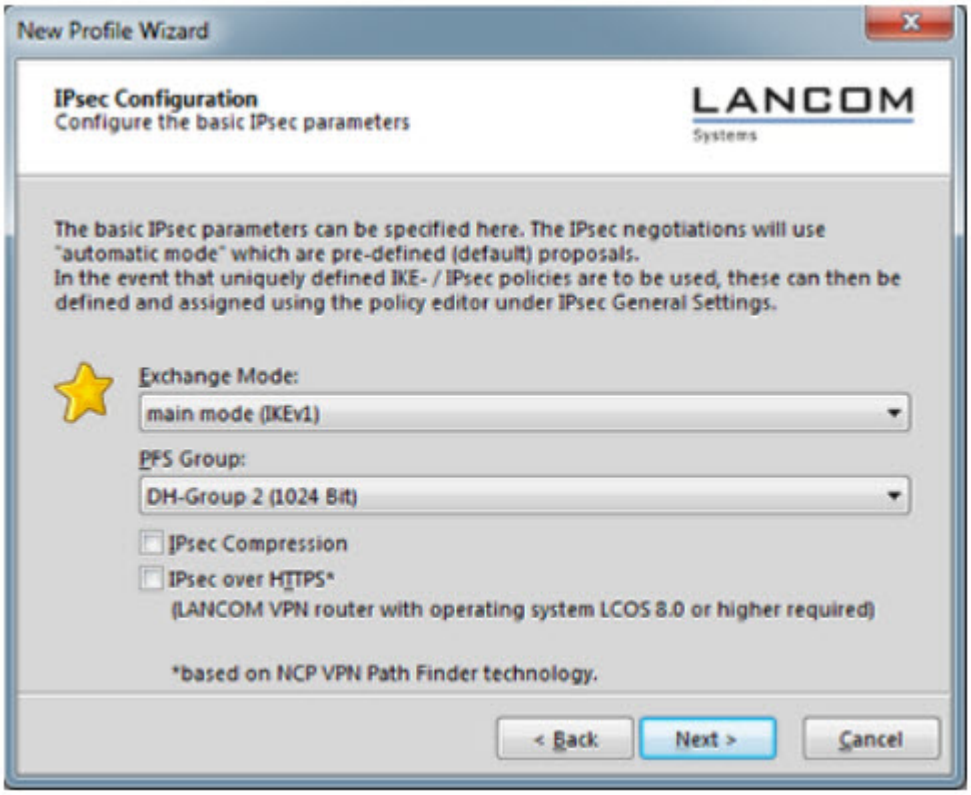
Click **Next**

VPN Gateway Parameters



Enter the **Gateway** to which the connection should be established. Could be an IP address or DynDNS name.

IPsec Configuration

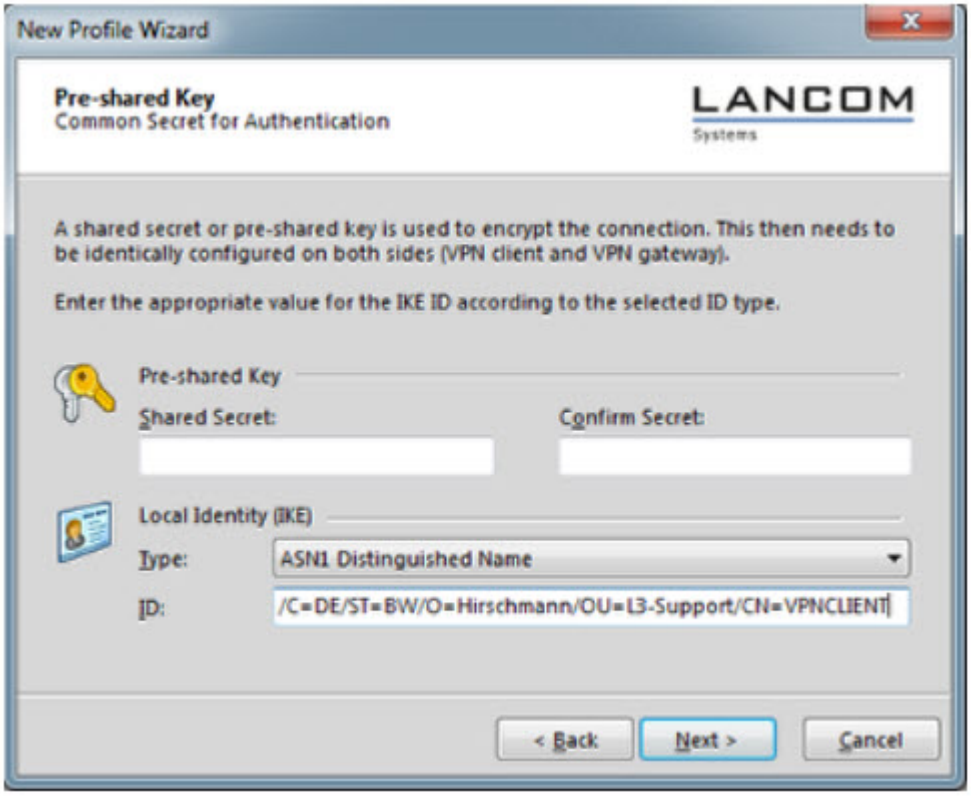


Set the **Exchange Mode** to **main mode (IKEv1)**

Set **PFS Group** to **DH-Group 2 (1024 Bit)**

Click **Next**

Local Identity (IKE)



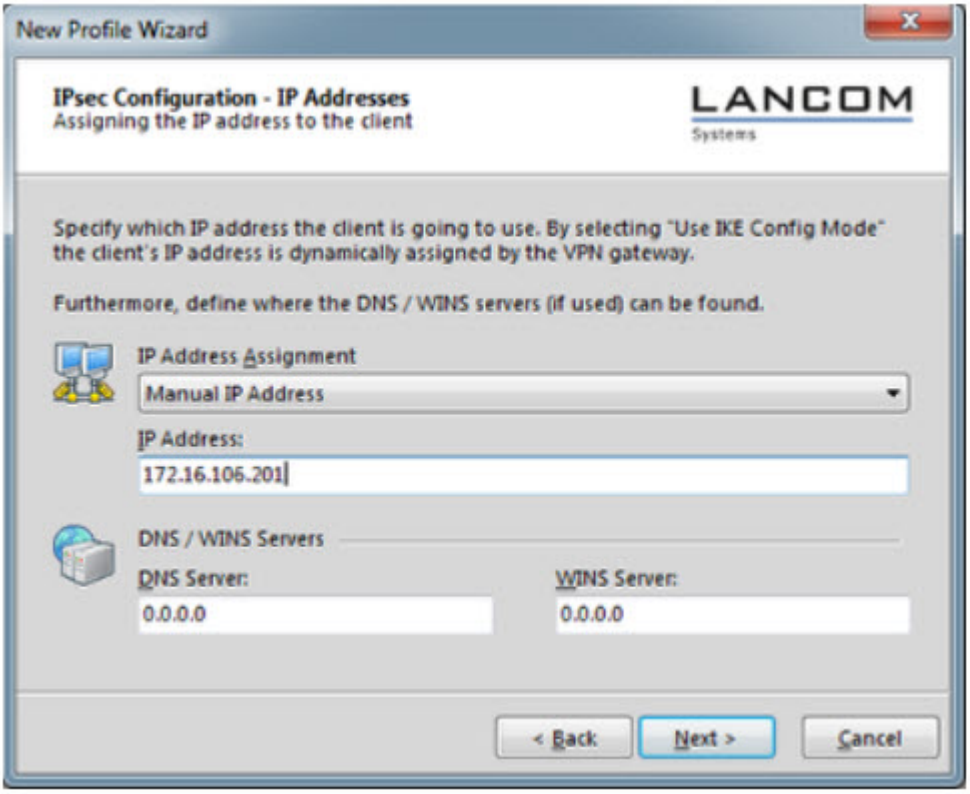
Delete the pre-shared keys

Set the Type to **ASN1 Distinguished Name**

Using the test certificates, copy the DN **/C=DE/ST=BW/O=Hirschmann/OU=L3-Support/CN=VPNCLIENT** in the **ID** field

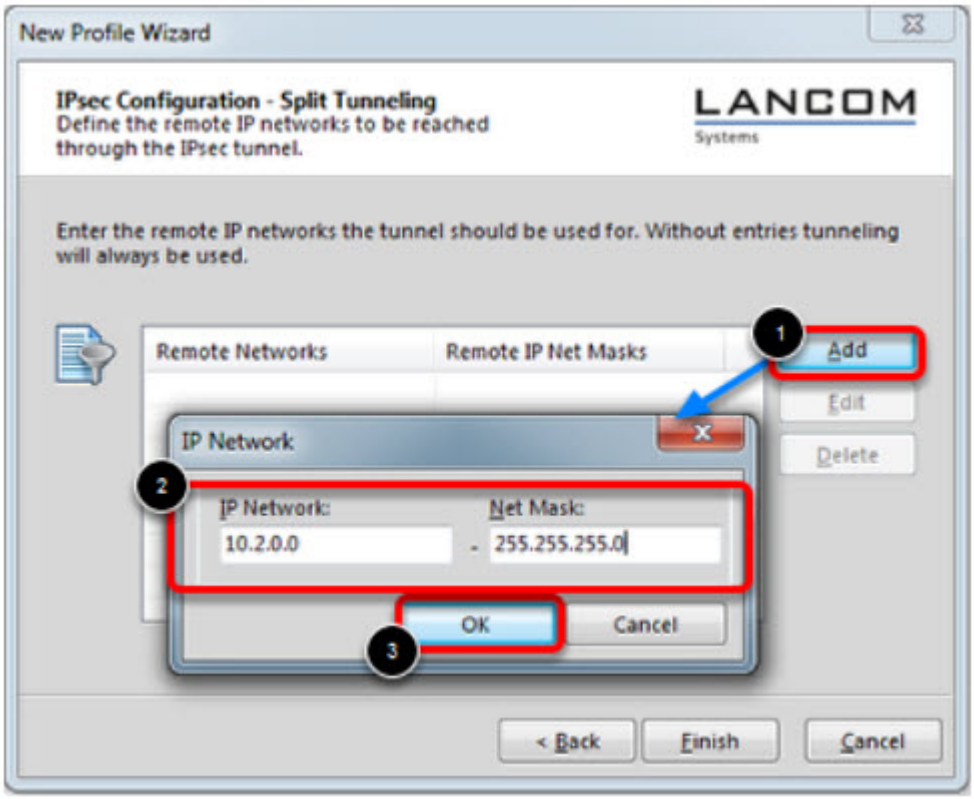
Click **Next**

IPsec Configuration - IP Addresses



Set the **IP Address Assignment** to **Manual IP Address.**

IPsec Configuration - Split Tunneling

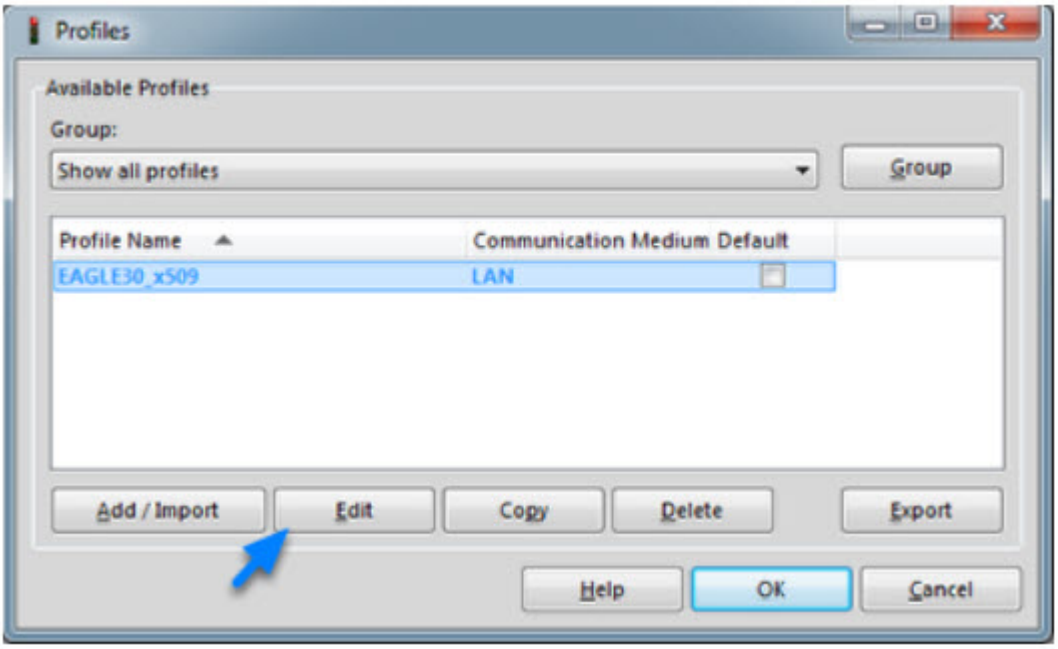


Define the remote IP network to be reached through the IPsec tunnel.

In our example 10.2.0.0/24.

Click Finish.

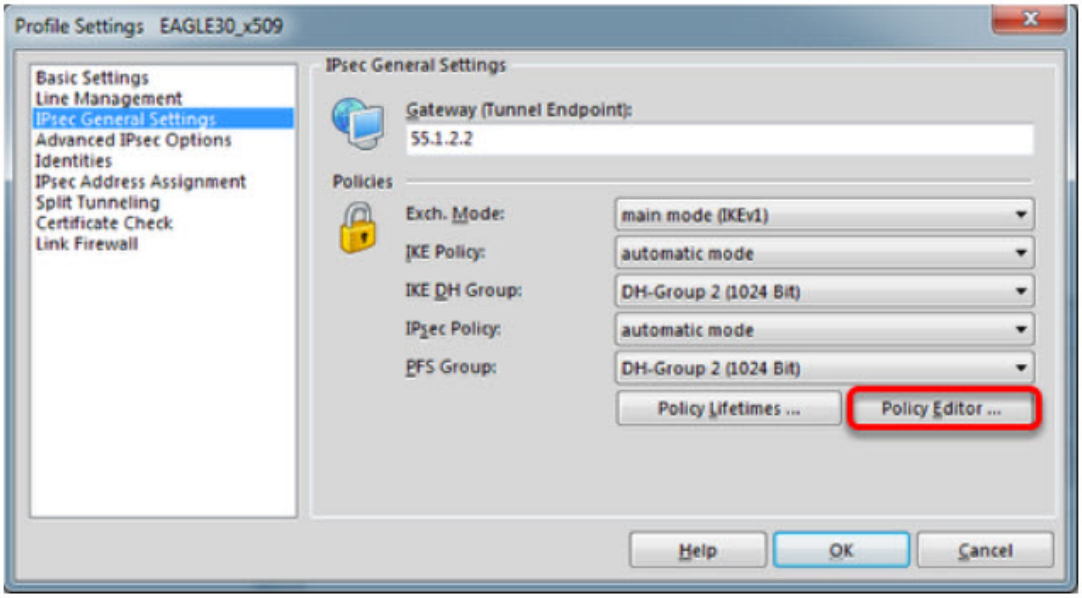
Profile Window



The new profile is created and displayed in the **Profile** window

Highlight the profile and click **Edit.**

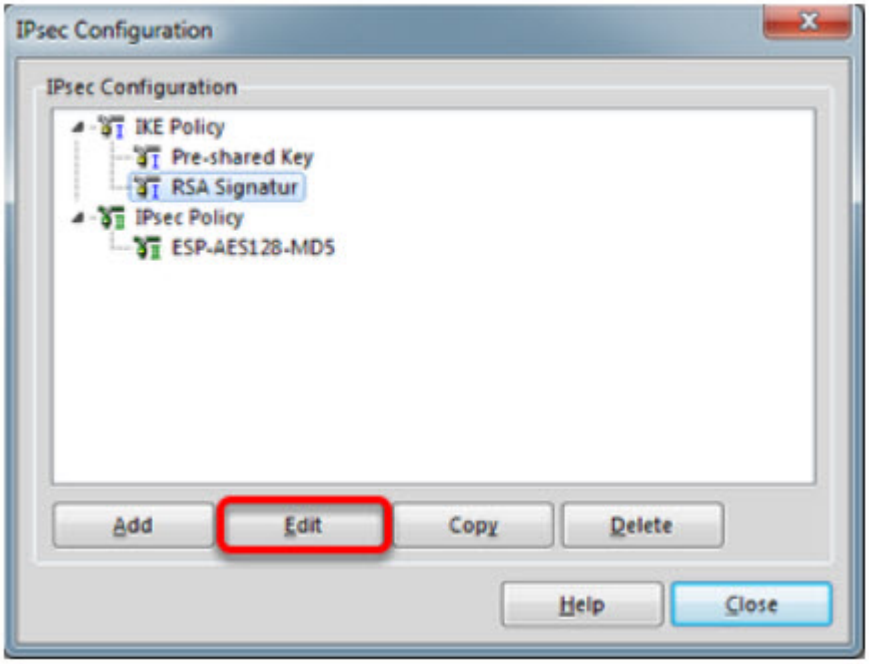
Profile Settings



Highlight **IPsec General Settings** in the left pane.

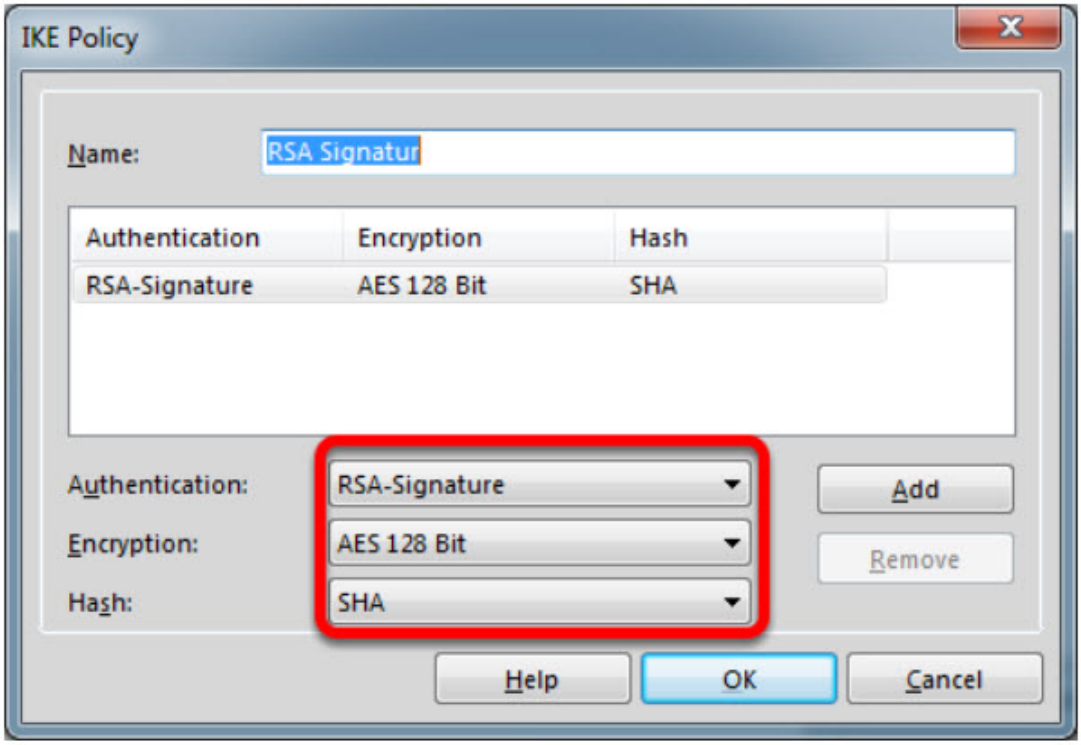
Click **Policy Editor**

IKE Policy Settings



Highlight **RSA Signature** in the IKE Policy

Click **Edit**

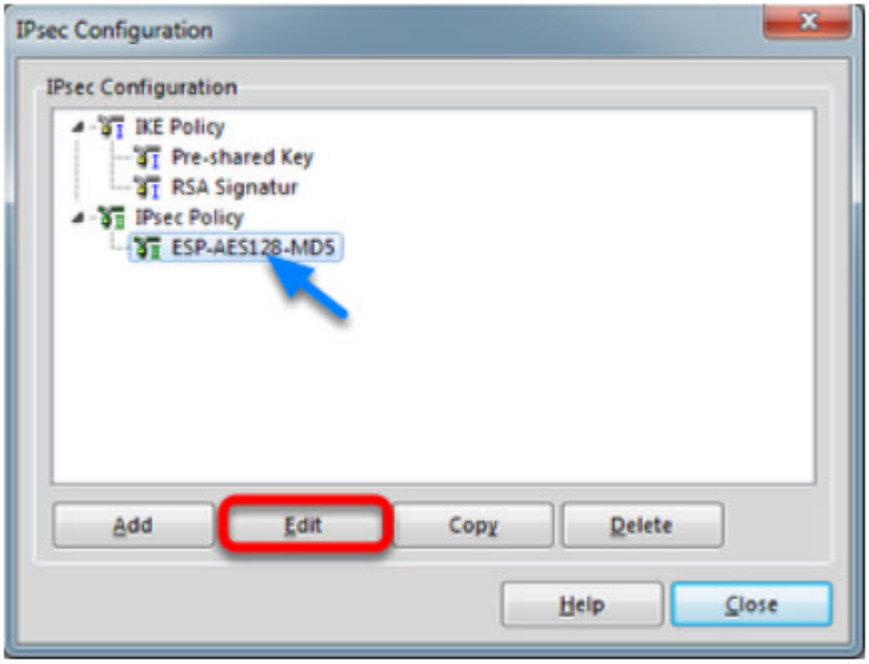


Set **Encryption** to **AES 128 Bit.**

Set **Hash** to **SHA.**

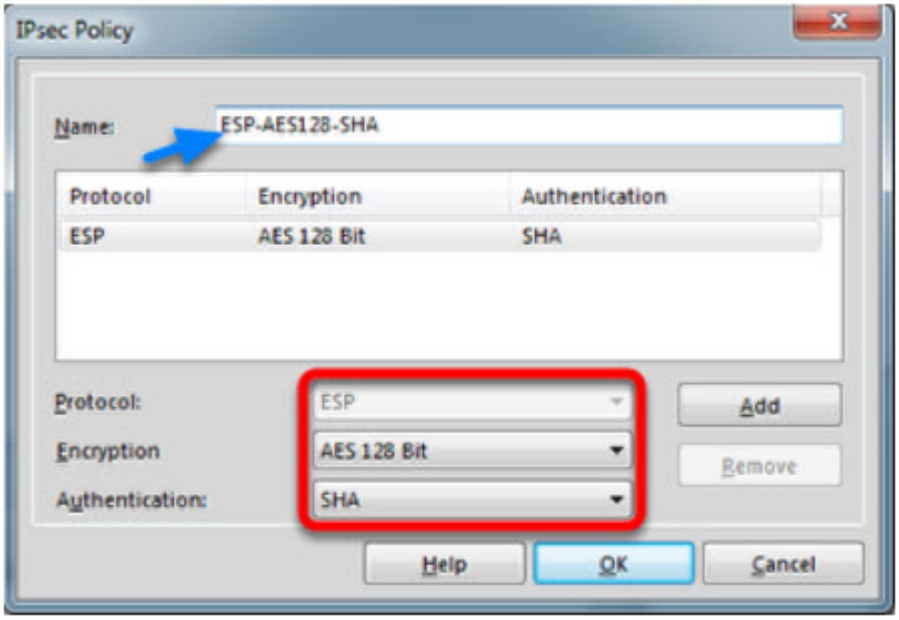
Note: The specified encryption and hash algorithms must correspond to the settings in the EAGLE

IPsec Policy Settings



Highlight the entry **ESP-AES128-MD5** in the **IPsec Policy** tree.
Click **Edit.**

IPSec Policy



Change the **Name** to **ESP-AES128-SHA.**

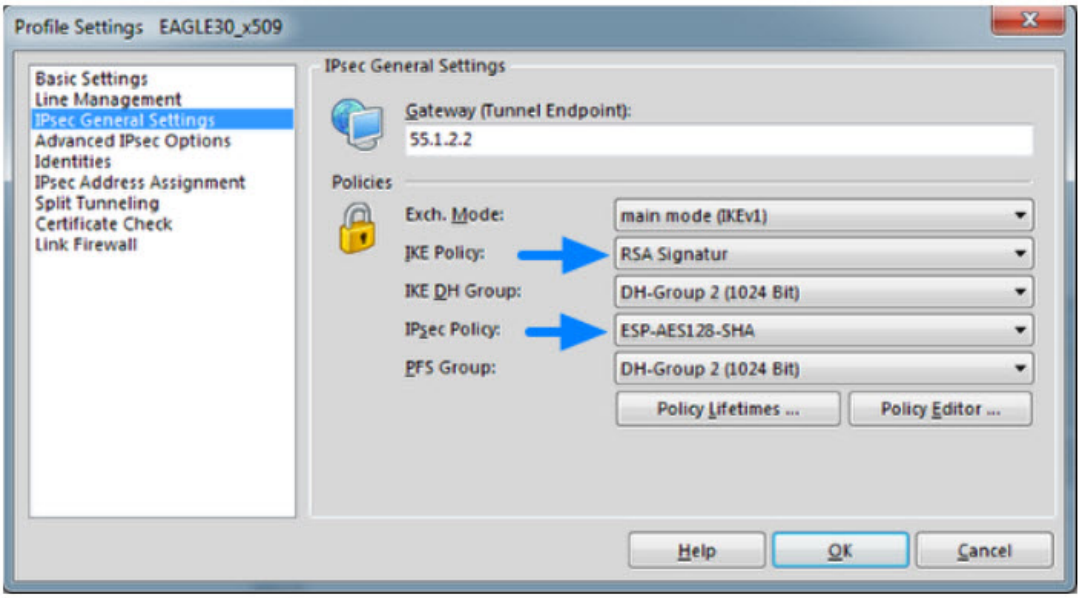
Set **Encryption to AES-128 Bit.**

Set **Authentication** to **SHA.**

Click **OK.**

Close the IPsec Configuration window.

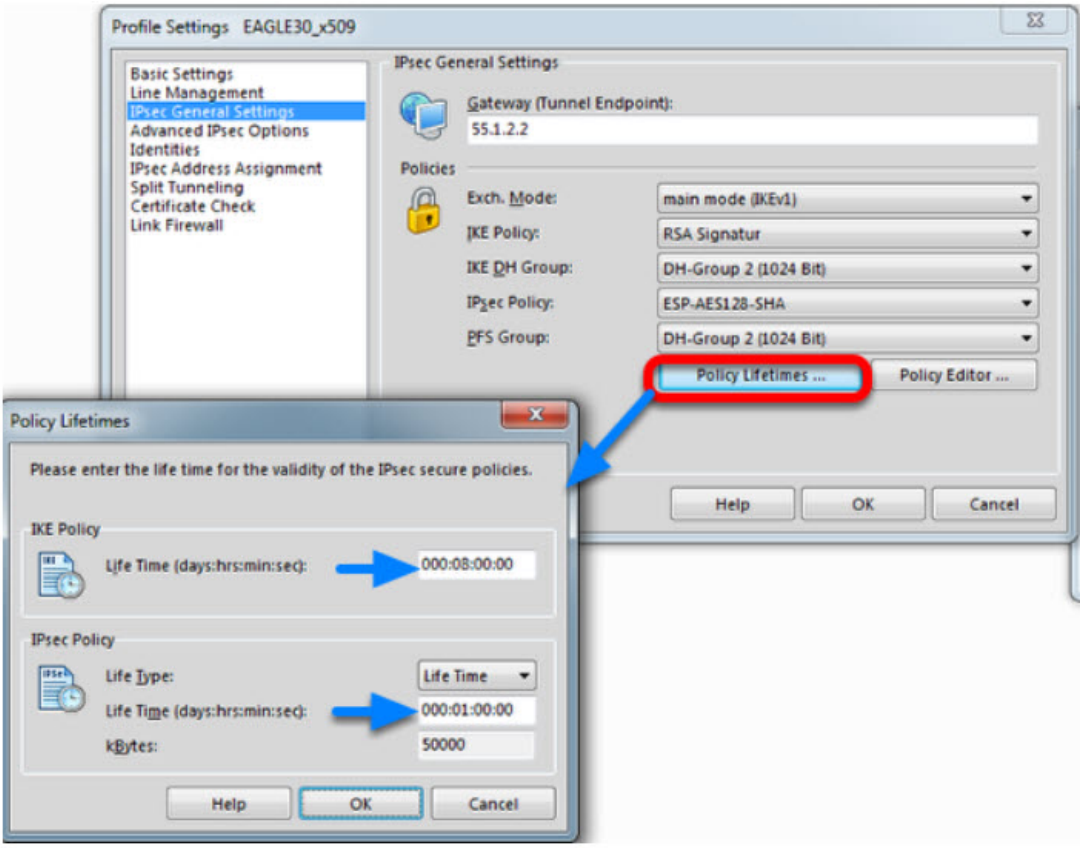
Select IKE and IPsec Policy



Set the IKE Policy to **RSA Signature**

Set the IPsec Policy to **ESP-AES 128-SHA**

Policy Lifetimes



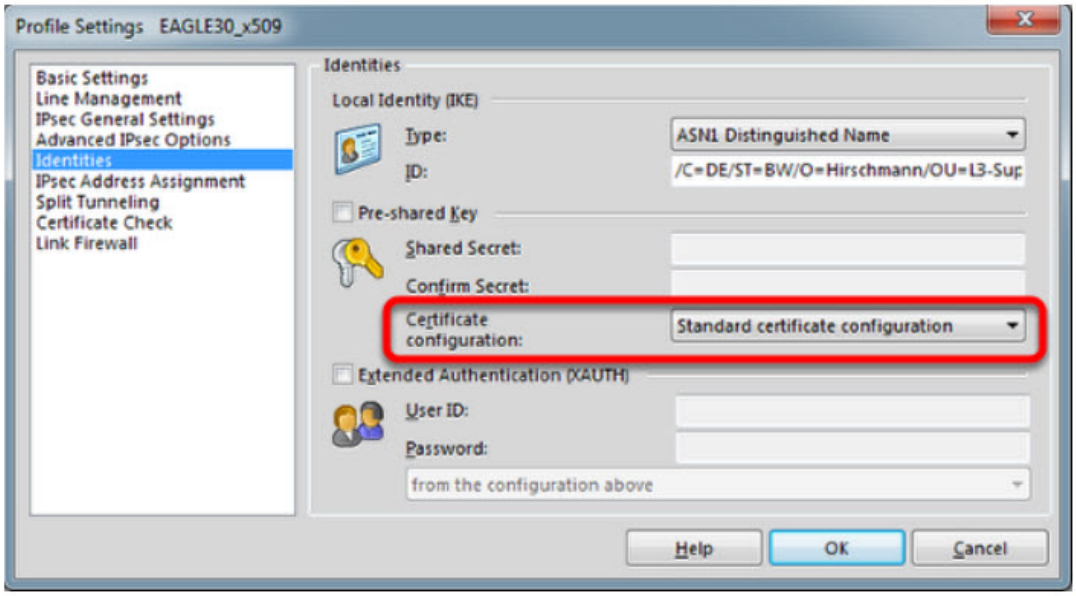
Click the button **Policy Lifetimes.**

Change the **IKE Policy Life Time** to 8 hours

Change the **IPsec Policy Life Time** to **1 hour.**

Click **OK.**

Profile Settings - Identities



Navigate to **Identities.**

Select **Standard certificate configuration.**

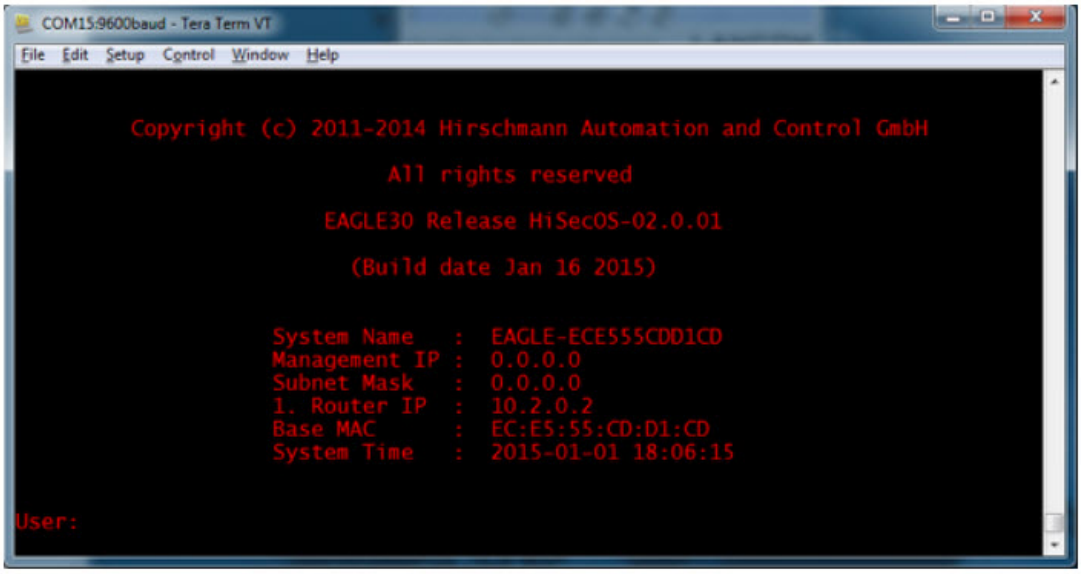
Click **OK.**

Click **Ok** to close the **Profile** Window.

LANCOM Client configured

The LANCOM Client configuration is finished

EAGLE20 Configuration



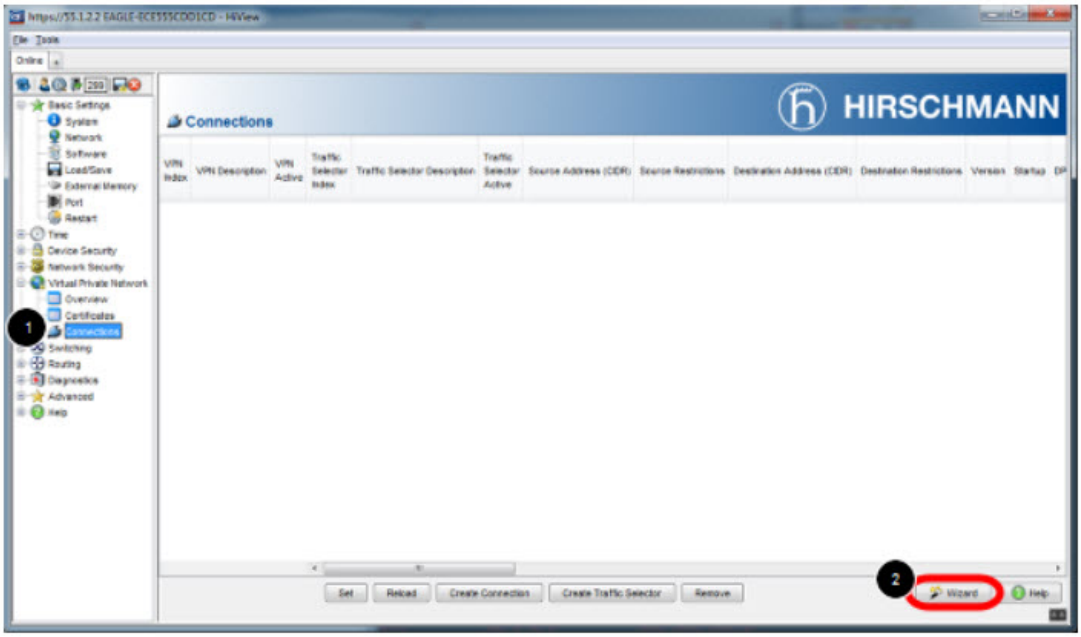
1. Set IP addresses of the router interfaces accordingly.
In our example: Int1/3 10.2.0.2/24; Int1/4: 55.1.2.2/24
2. Switch the EAGLE30 into router mode

Starting from a default configuration the CLI commands to configure the device via serial connection are:

!(EAGLE)>enable*
!(EAGLE)#configure*
!(EAGLE)(Config)#interface 1/3*
!(EAGLE)((Interface)1/3)#ip address primary 10.2.0.2 255.255.255.0*
!(EAGLE)((Interface)1/3)#ip routing*
!(EAGLE)((Interface)1/3)#exit*
!(EAGLE)(Config)#interface 1/4*
!(EAGLE)((Interface)1/4)#ip address primary 55.1.2.2 255.255.255.0*
!(EAGLE)((Interface)1/4)#ip routing*
!(EAGLE)((Interface)1/4)#exit*
!(EAGLE)(Config)#ip routing*

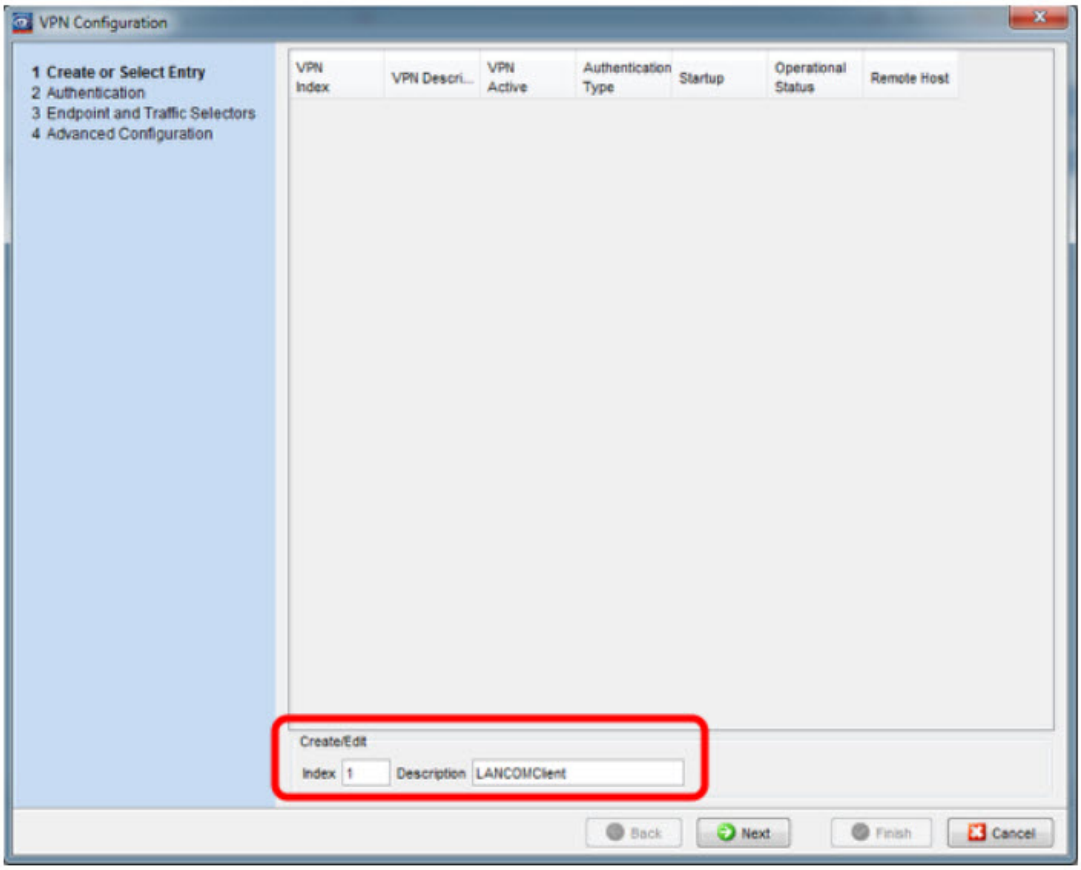
3. Login to the webinterface of the EAGLE30 from the int1/3 (IP 10.2.0.2)

VPN Configuration Web Interface



1. Navigate in the web interface tree to **Virtual Private Network -> Connections**.
2. Open the Wizard

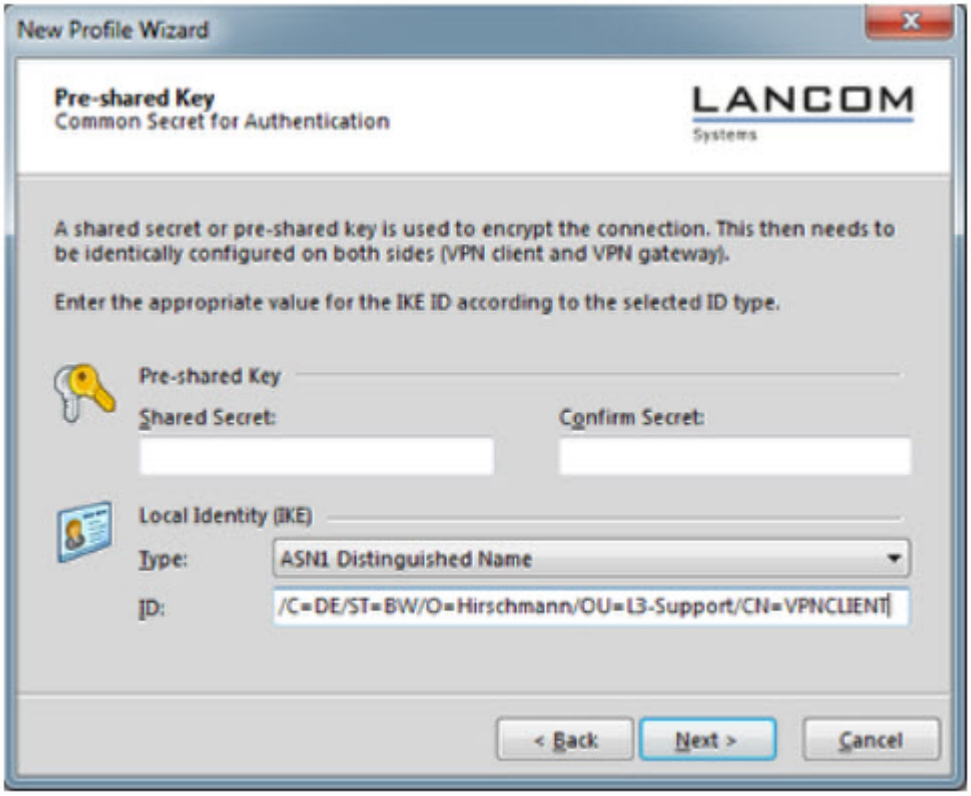
VPN - Basic Settings



Specify the index and description of the VPN connection.

Click Next

Upload Certificate/Key

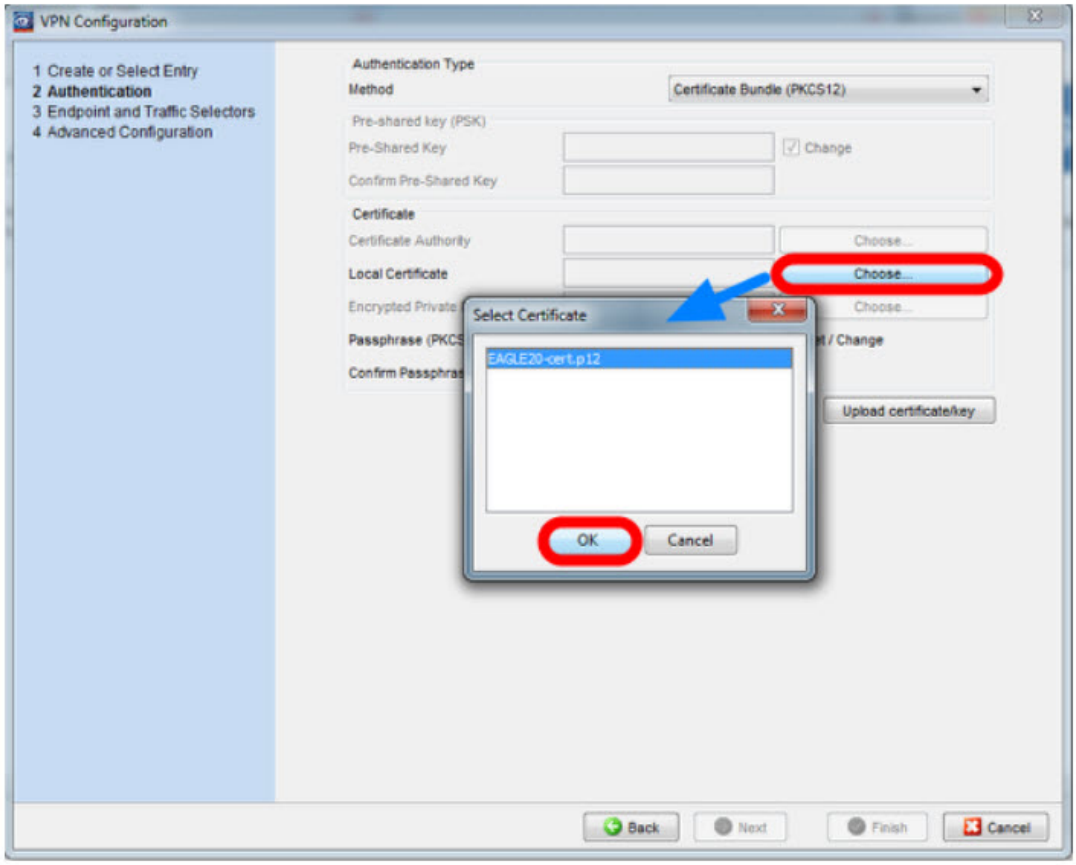


1. Select **Certificate Bundle (PKCS12)** from the Authentication Method drop-down box.
2. Click on **Upload certificate/key**
3. Specify the location of PKCS12 file and passphrase. The passphrase of the test certificate is 'vpnclient'.
4. Click OK

Upload successful

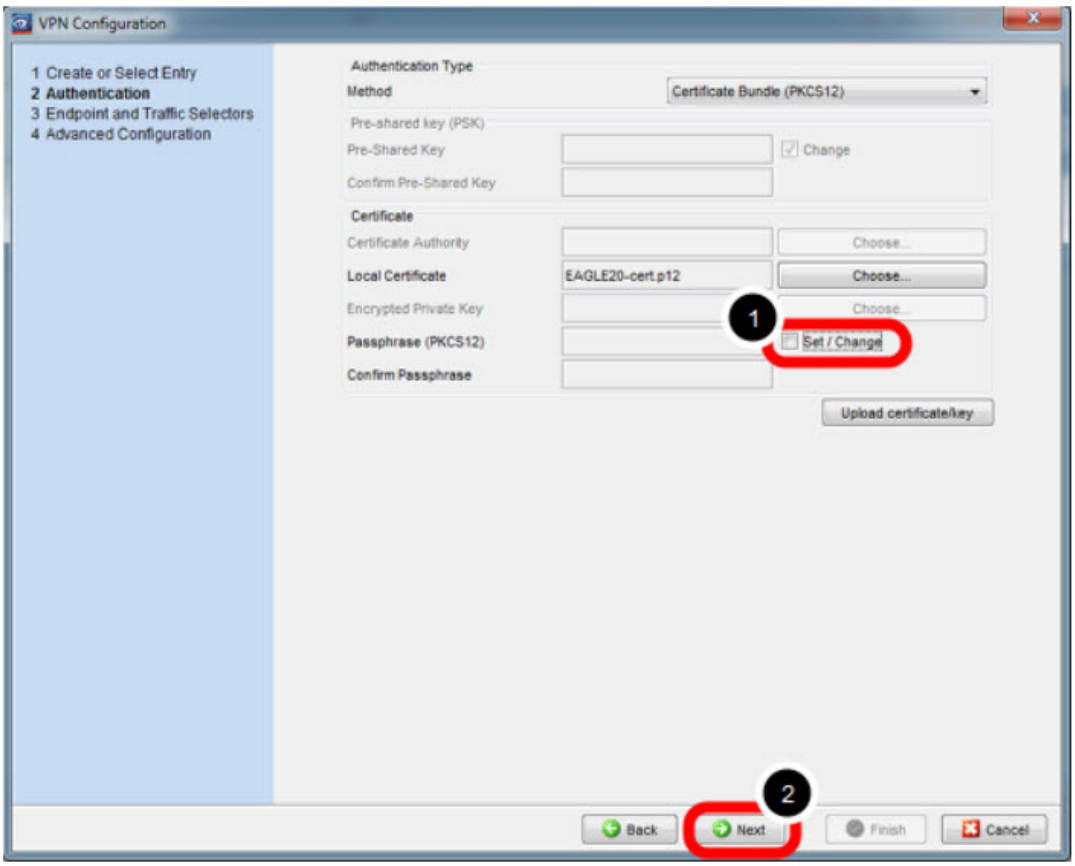
If the certificate file was uploaded successfully you see a confirmation message.
Click ok.

Select Local Certificate



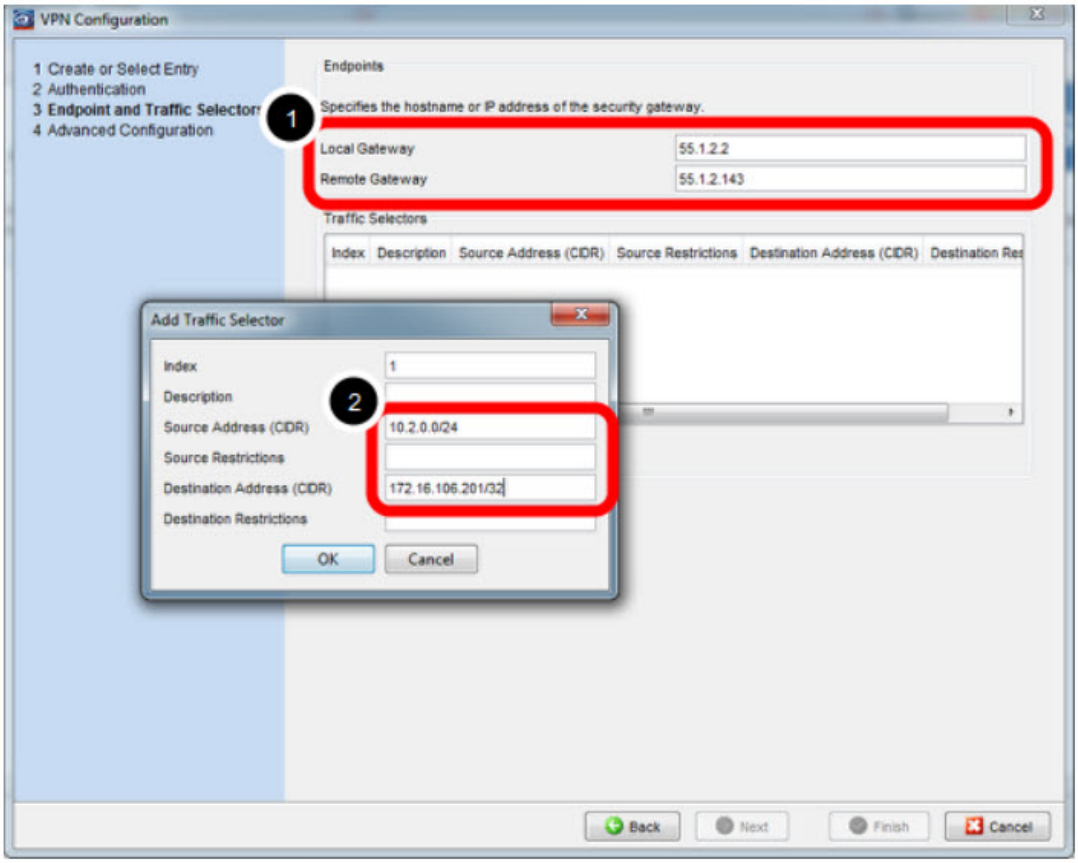
Click **choose** and select the local certificate.

Uncheck Set/Change Passphrase



1. uncheck **Set/Change**
2. click **Next**

Endpoint and Traffic Selectors



1. Specify local and remote gateway addresses.

In our example

Local Gateway: 55.1.2.2

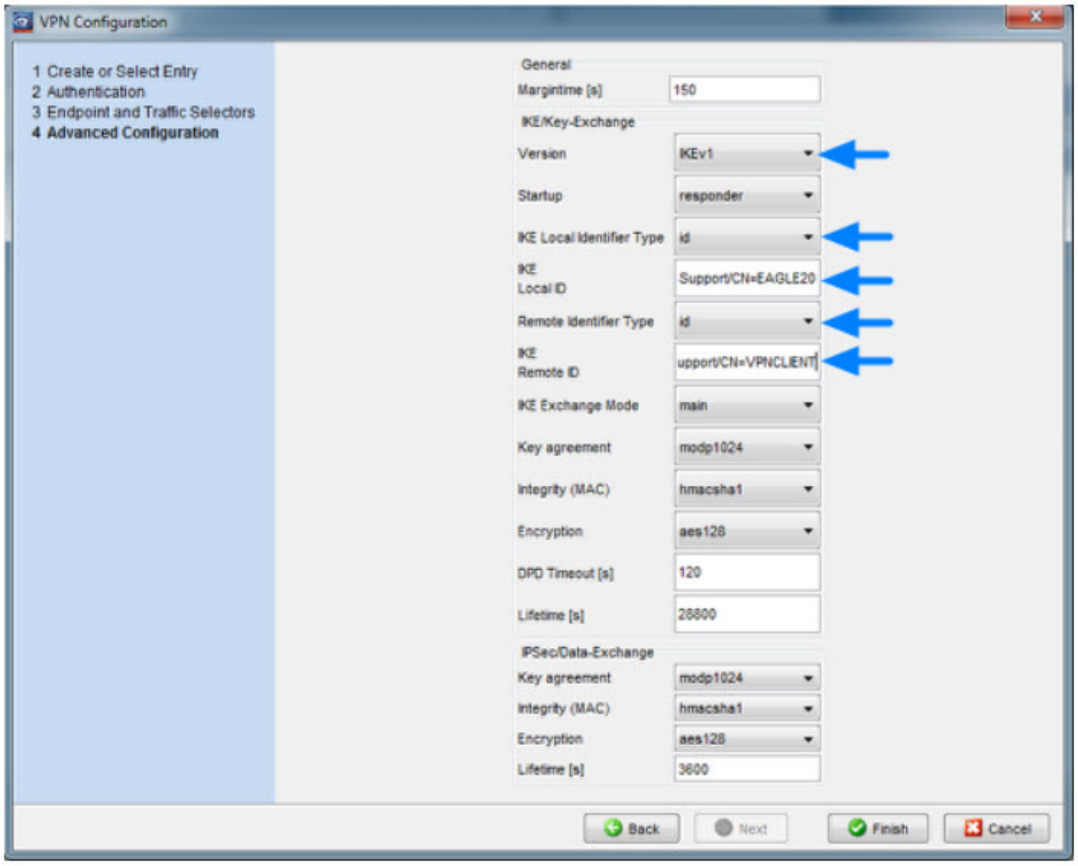
Remote Gateway 55.1.2.143

2. Add Traffic Selector with

Source Address (CIDR): 10.2.0.0/24

Destionation Address (CIDR): 172.16.106.201/32 (virtual address)

Advanced Configuration

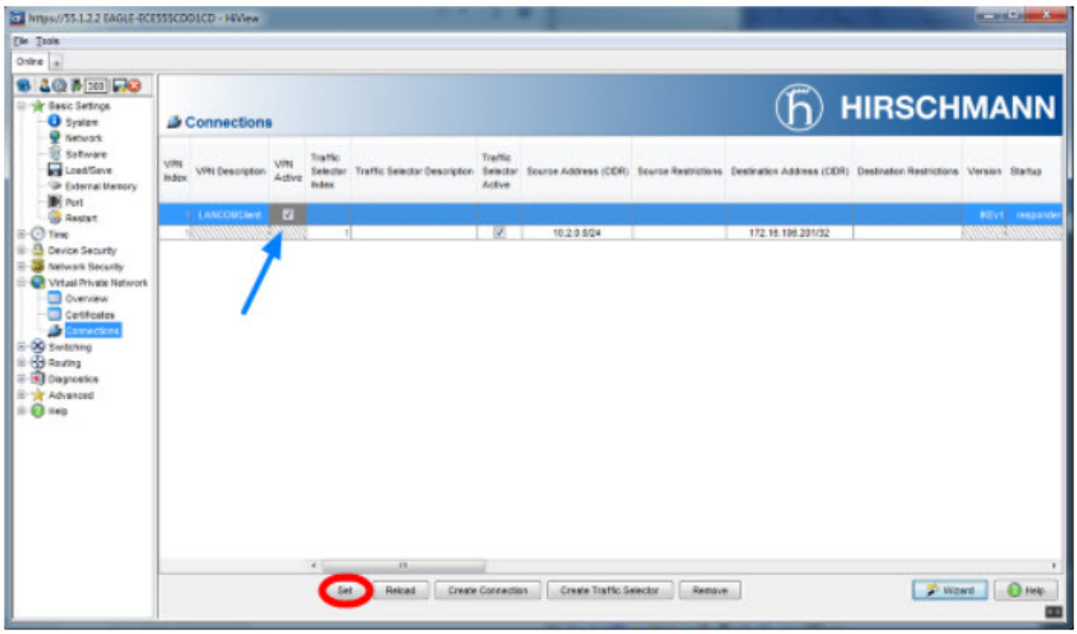


Set IKE Version 1 and specify the local and remote IDs (ASN1 DN of the certificates -see certindex.txt)

Version: **IKEv1**
IKE Local Identifier Type: **id**
IKE Local ID: **/C=DE/ST=BW/O=Hirschmann/OU=L3-Support/CN=EAGLE20**
IKE Remote Identifier Type: **id**
IKE Remote ID: **/C=DE/ST=BW/O=Hirschmann/OU=L3-Support/CN=VPNCLIENT**

Click Finish

Activate the VPN Connection



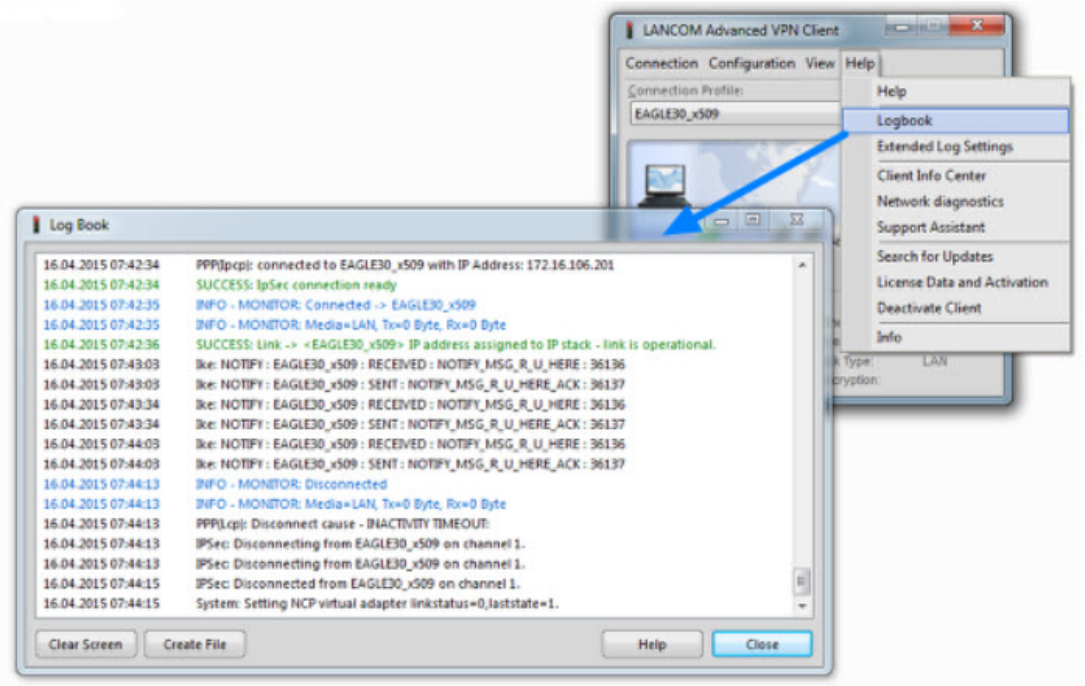
Activate the VPN connection

Click Set

Initialize Tunnel Setup

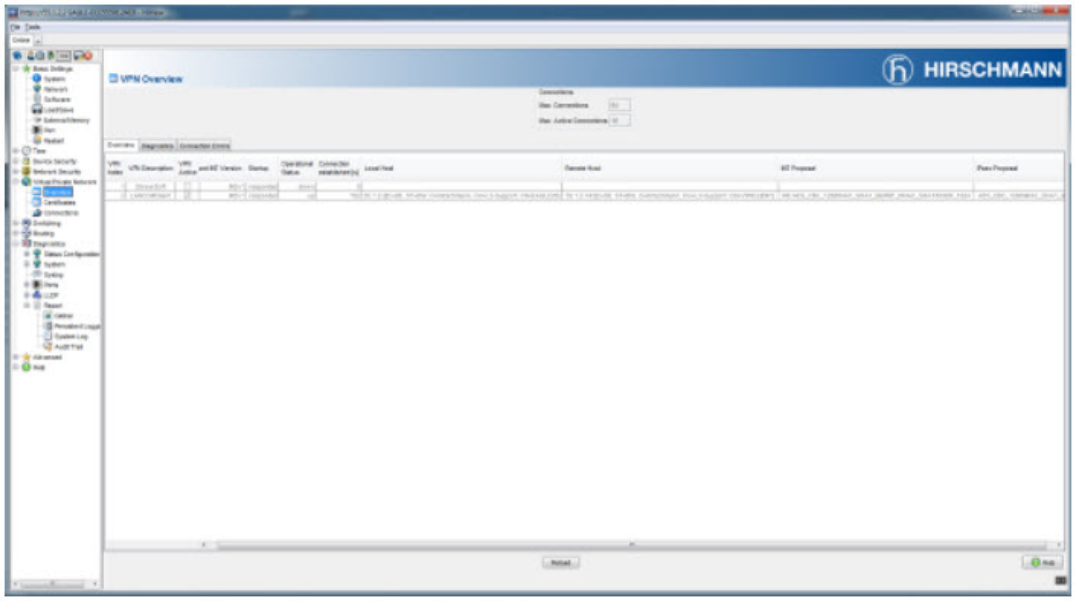
1. Move the Connection slide to the right to initialize the tunnel setup. You will get prompted to enter the certificate's pin. In our example 'test'
2. The connection should be established successfully.

LANCOM Advanced VPN Client - Log



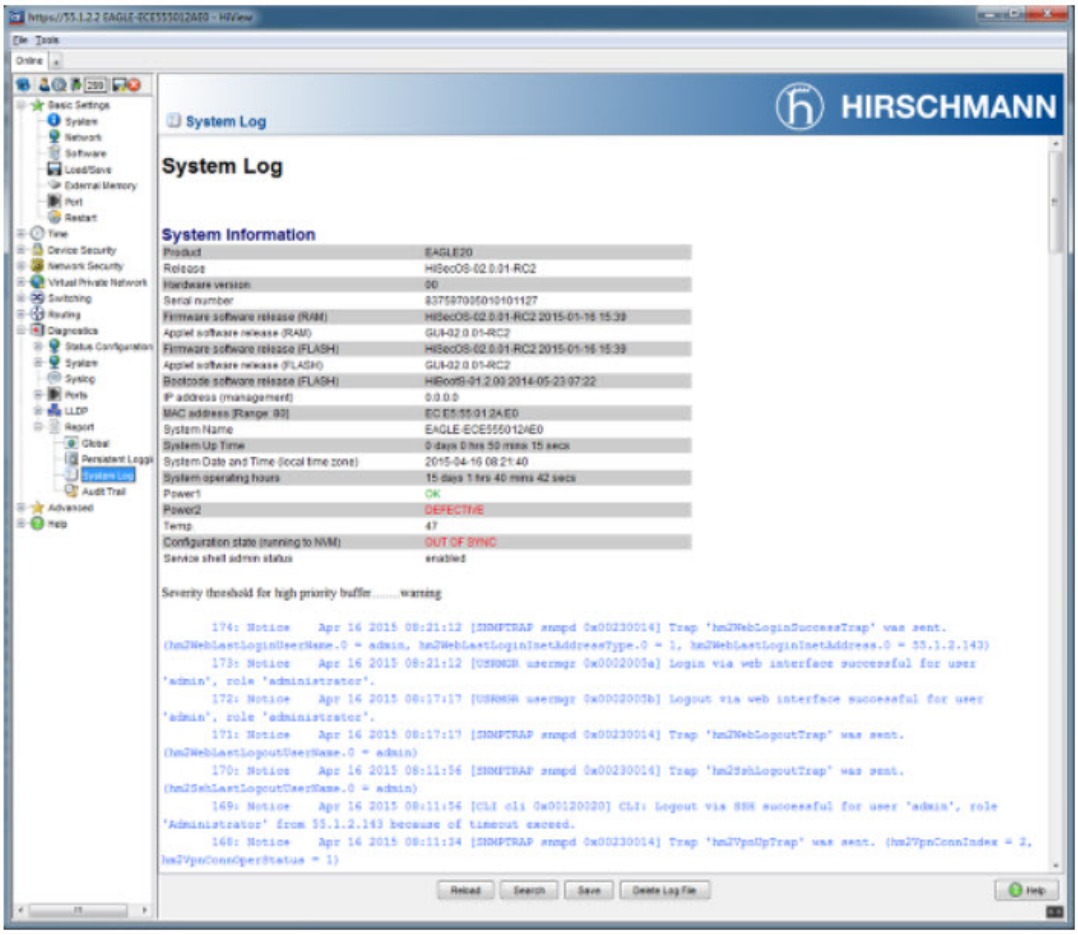
Select Log -> Logbook

VPN Overview



In the EAGLE20/30 web interface navigate to **Virtual Private Network - Overview** to check if the VPN connection is up.

EAGLE20/30 Event Log


System Log
HIRSCHMANN
System Log
System Information
Product EAGLE20
Release HiSecOS-02.0.01-RC2
Hardware version 00
Serial number 837597005010101127
Firmware software release (RAM) HiSecOS-02.0.01-RC2 2015-01-16 15:39
Applet software release (RAM) GUI-02.0.01-RC2
Firmware software release (FLASH) HiSecOS-02.0.01-RC2 2015-01-16 15:39
Applet software release (FLASH) GUI-02.0.01-RC2
Bootcode software release (FLASH) HiBoot5-01.2.00 2014-05-23 07:22
IP address (management) 0.0.0.0
MAC address [Range: 80] EC:E5:55:01:2A:E0
System Name EAGLE-ECE555012AE0
System Up Time 0 days 0 hrs 50 mins 15 secs
System Date and Time (local time zone) 2015-04-16 08:21:40
System operating hours 15 days 1 hrs 40 mins 42 secs
Power1 OK
Power2 DEFECTIVE
Temp 47
Configuration state (running to NVM) OUT OF SYNC
Service shell admin status enabled
Severity threshold for high priority buffer.....warning
174: Notice Apr 16 2015 08:21:12 [SNMPTRAP snmpd 0x00230014] Trap 'hm2WebLoginSuccessTrap' was sent. (hm2WebLastLoginUserName.0 = admin, hm2WebLastLoginInetAddressType.0 = 1, hm2WebLastLoginInetAddress.0 = 55.1.2.143)
173: Notice Apr 16 2015 08:21:12 [USRMGR usermgr 0x0002003a] Login via web interface successful for user 'admin', role 'administrator'.
172: Notice Apr 16 2015 08:17:17 [USRMGR usermgr 0x0002003b] Logout via web interface successful for user 'admin', role 'administrator'.
171: Notice Apr 16 2015 08:17:17 [SNMPTRAP snmpd 0x00230014] Trap 'hm2WebLogoutTrap' was sent. (hm2WebLastLogoutUserName.0 = admin)
170: Notice Apr 16 2015 08:11:56 [SNMPTRAP snmpd 0x00230014] Trap 'hm2SshLogoutTrap' was sent. (hm2SshLastLogoutUserName.0 = admin)
169: Notice Apr 16 2015 08:11:56 [CLI cli 0x00120020] CLI: Logout via SSH successful for user 'admin', role 'Administrator' from 55.1.2.143 because of timeout exceed.
168: Notice Apr 16 2015 08:11:34 [SNMPTRAP snmpd 0x00230014] Trap 'hm2VpnUpTrap' was sent. (hm2VpnConnIndex = 2, hm2VpnConnOperStatus = 1)
Reload
Search
Save
Delete Log File
Help