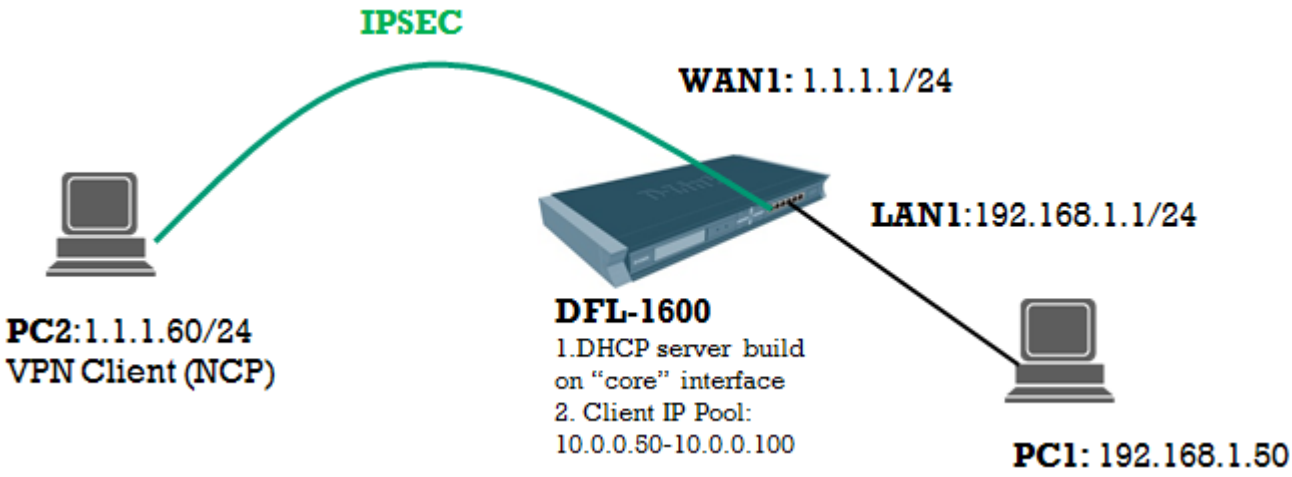
In current scenario, we have to build up a dynamic IPSEC VPN server in Netdefend series for roaming users(the provided software is NCP VPN client). The roaming users have to dynamically get IP address from DHCP server of firewall during the IKE-phase2, it's so-called "IKE-Config-mode".



[Solution]
The settings of DFL-1600
==========
set Interface Ethernet wan1 DHCPEnabled=No
set Address IP4Address InterfaceAddresses/wan1_ip Address=1.1.1.1
set Address IP4Address InterfaceAddresses/wan1net Address=1.1.1.0/24
add Address IP4Address dhcp-server-ipsec Address=127.0.0.1
add PSK ipsec-psk Type=ASCII PSKAscii=testtest

add Interface IPsecTunnel ipsec-if IKEAlgorithms=Medium IPsecAlgorithms=Medium LocalNetwork=InterfaceAddresses/lan1net RemoteNetwork=all-nets AuthMethod=PSK PSK=ipsec-psk AutoInterfaceNetworkRoute=No AddRouteToRemoteNet=Yes

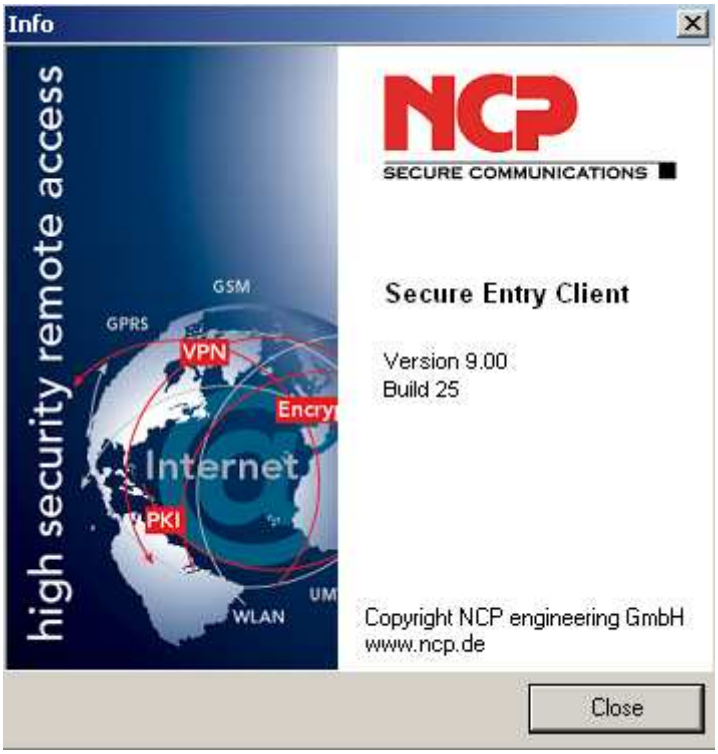
add DHCPServer dhcp-on-ipsec Interface=core IPAddressPool=10.0.0.50-10.0.0.100 Netmask=255.255.255.0 LogEnabled=Yes

add IPPool ippool-for-ike Interface=core DHCPServerType=ServerIP ServerIP=dhcp-server-ipsec
add ConfigModePool IPPoolType=PreDefined IPPool=ippool-for-ike
set Interface IPsecTunnel ipsec-if IKEConfigModePool=ConfigModePool
add Interface InterfaceGroup ipsec-lan1 Members=ipsec-if,lan1

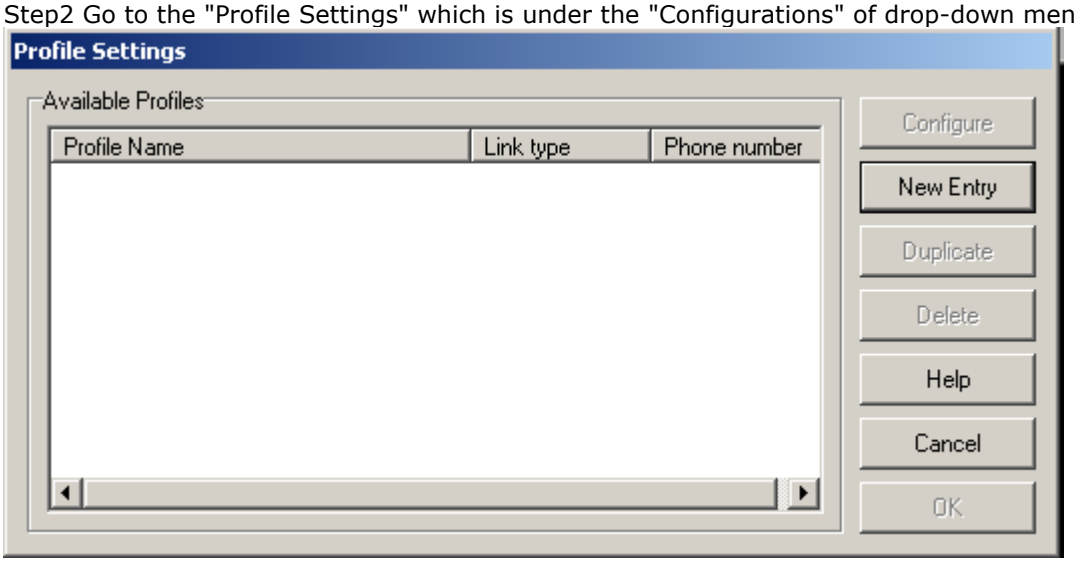
add IPRule Action=Allow SourceInterface=ipsec-lan1 SourceNetwork=all-nets DestinationInterface=ipsec-lan1 DestinationNetwork=all-nets Service=all_services Index=1 LogEnabled=Yes Name=ipsec-lan1-allow

set IPRule 2(ping_fw) SourceInterface=ipsec-lan1 SourceNetwork=all-nets LogEnabled=Yes
==========

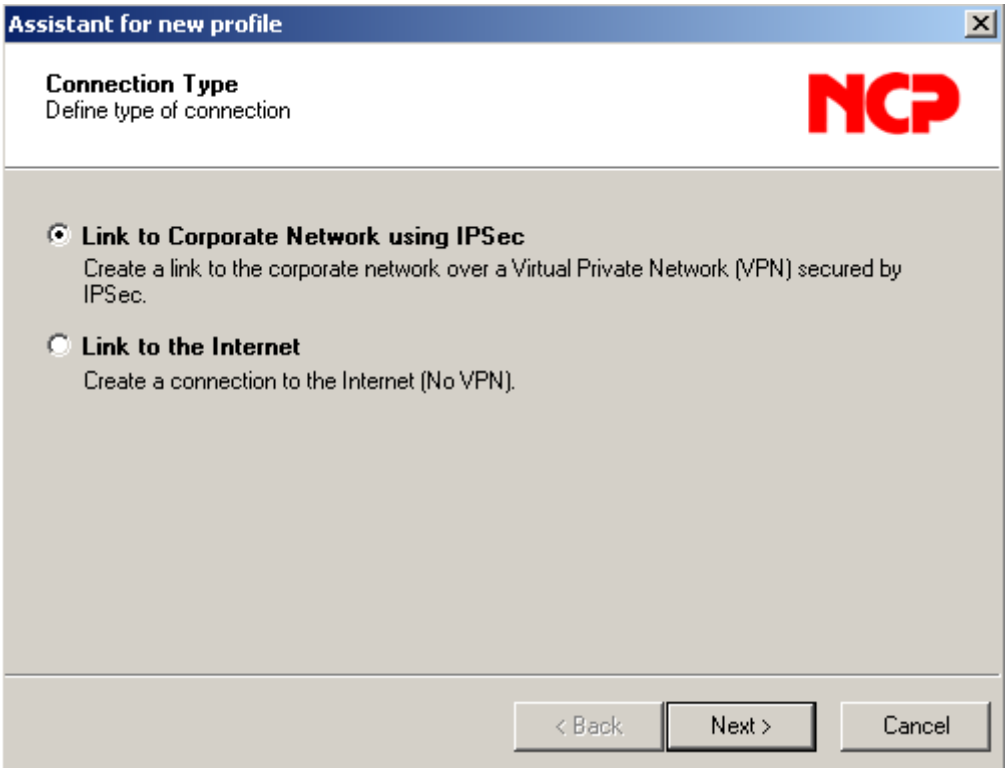
The settings of NCP
==========
Step1. Make sure the NCP software version you have is the same with the current scenario.(NCP.9.00)



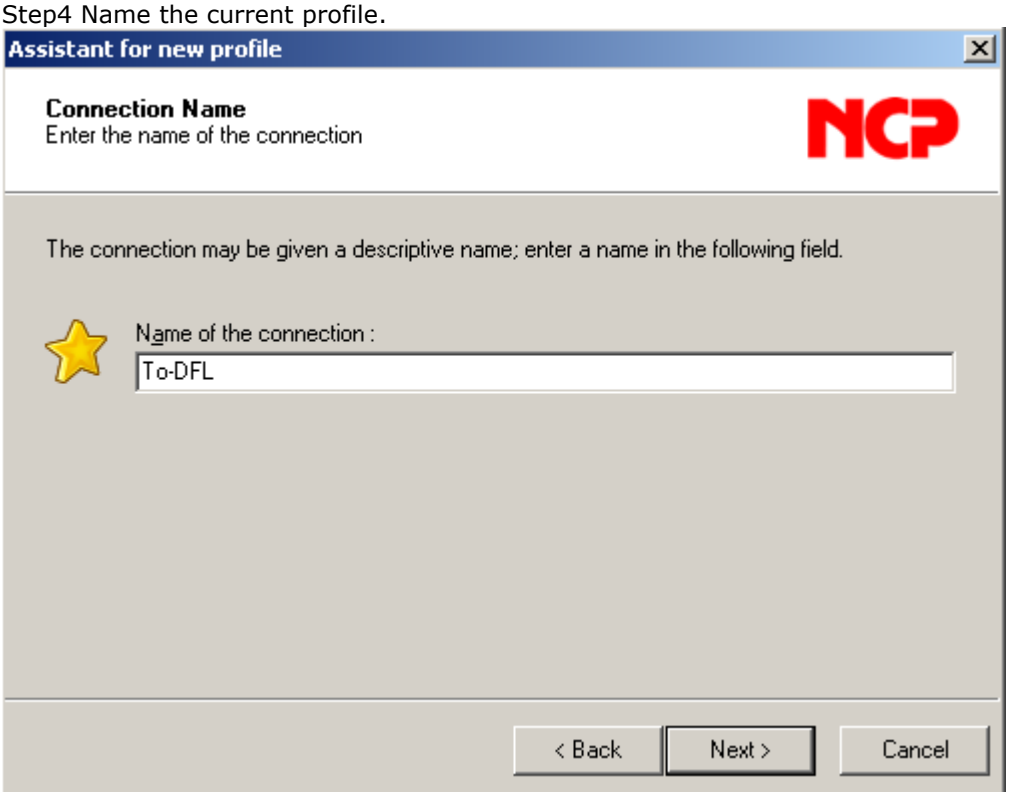
Step2 Go to the "Profile Settings" which is under the "Configurations" of drop-down menu.



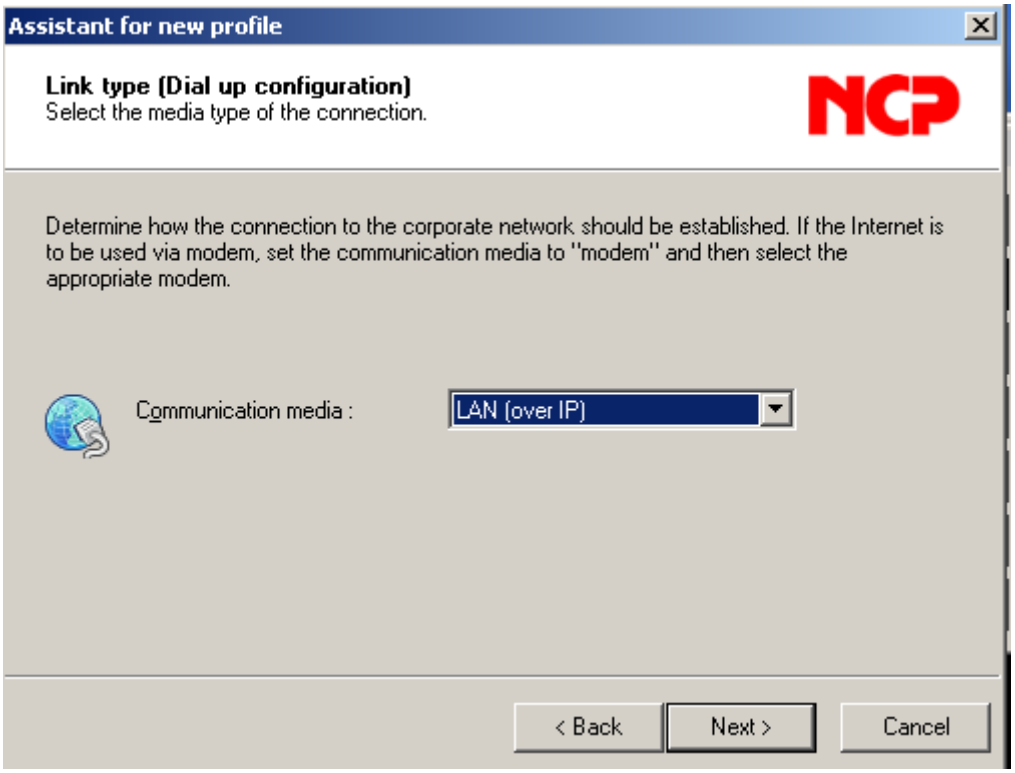
Step3 Create a New Entry and select the "Connection Type" to the first option below:



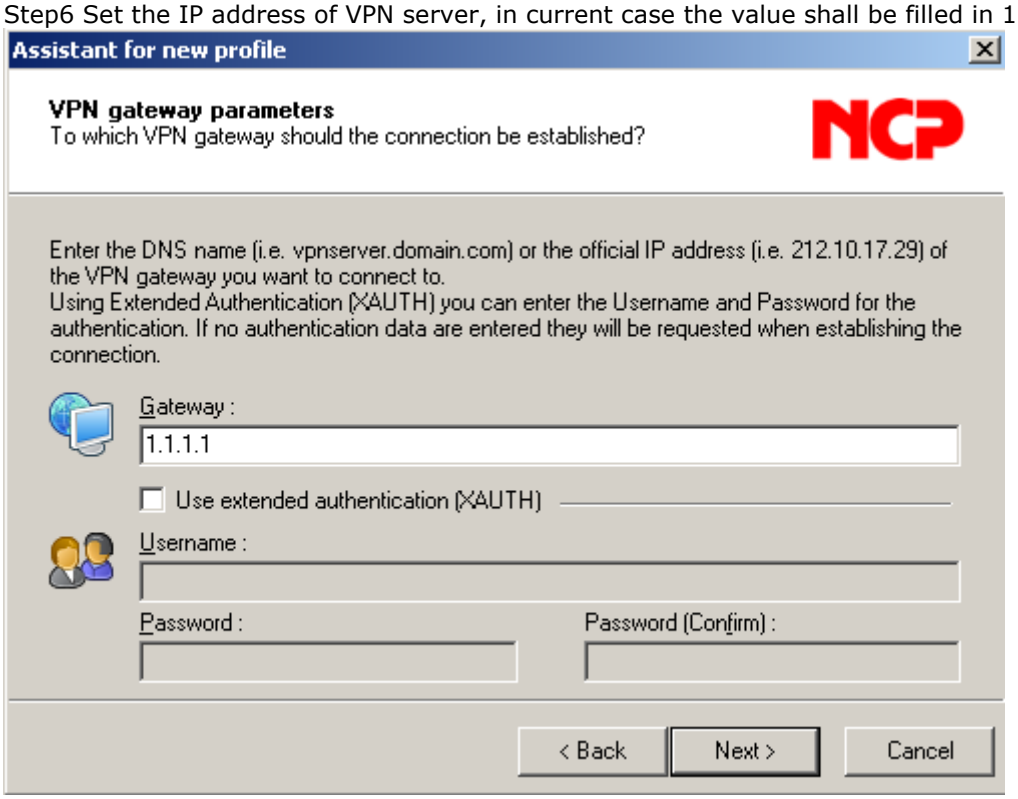
Step4 Name the current profile.



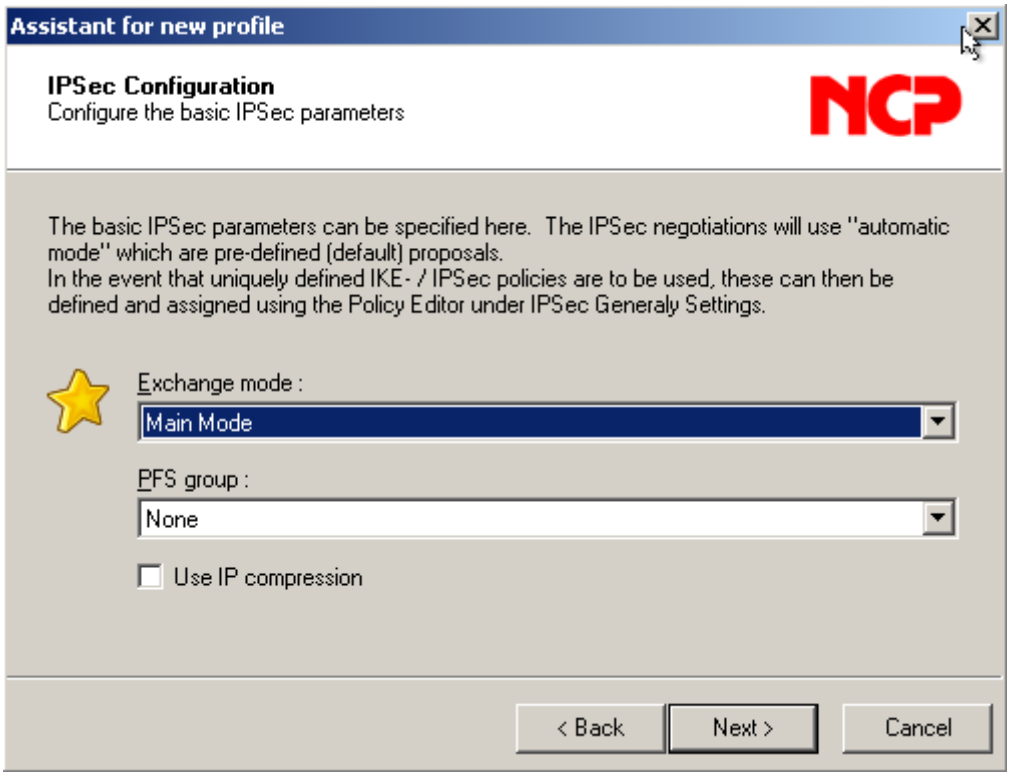
Step5 Select the "Communication Media".



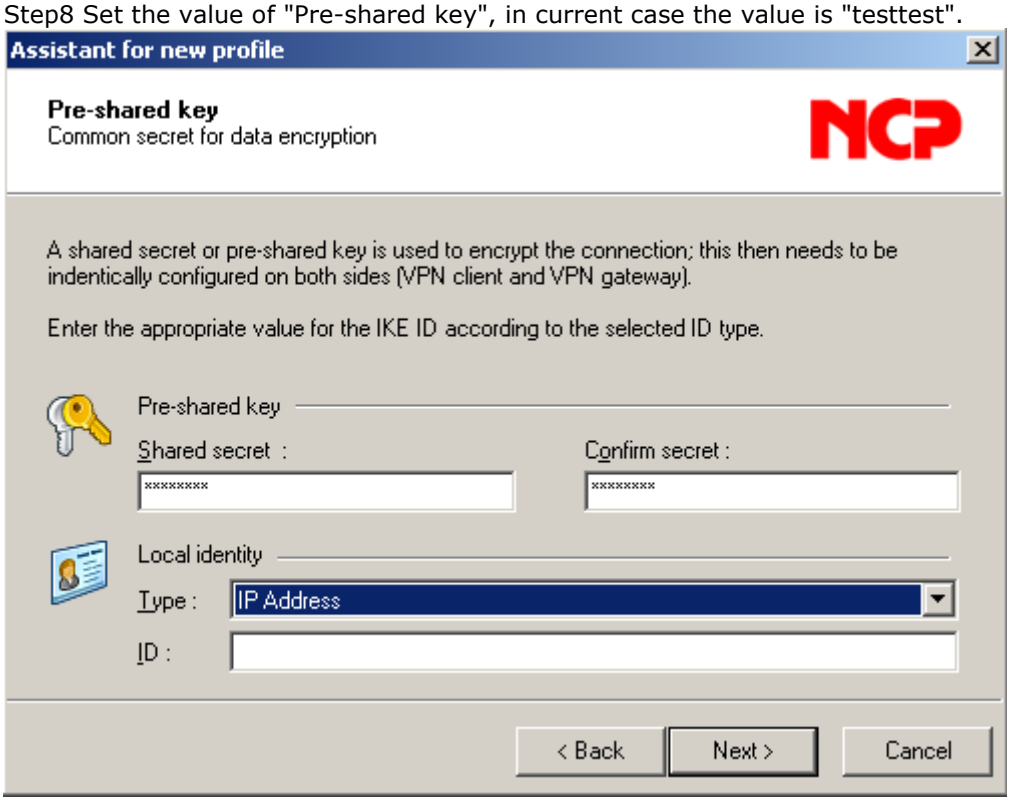
Step6 Set the IP address of VPN server, in current case the value shall be filled in 1.1.1.1.



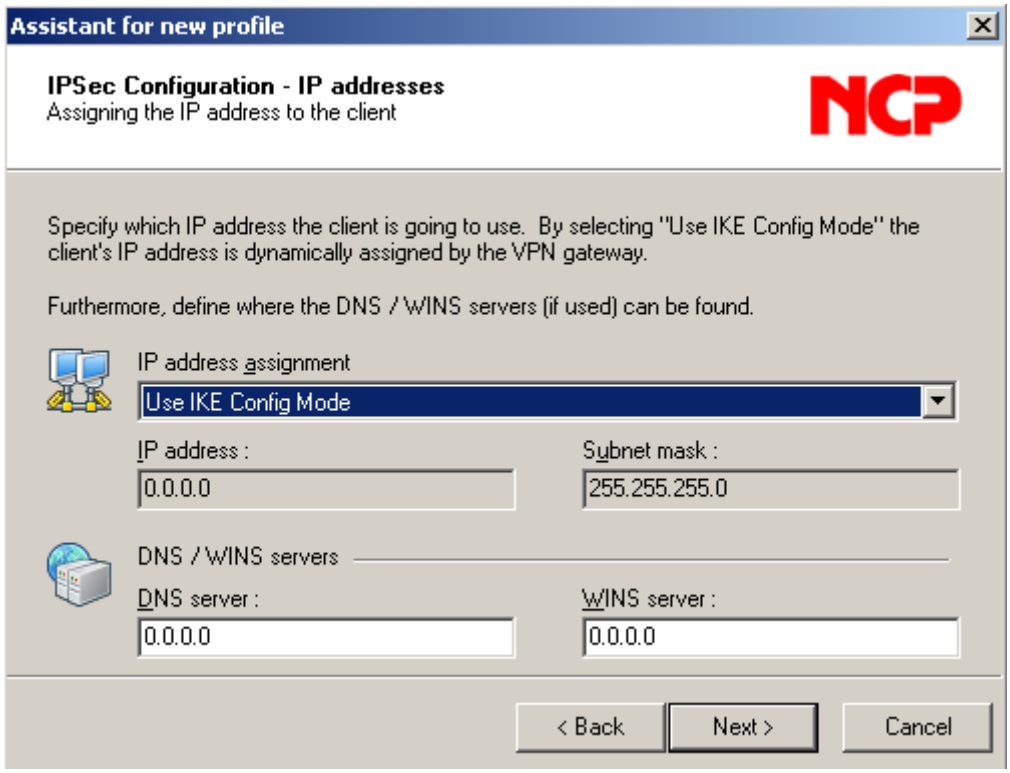
Step7 Set the "Exchange mode" to "Main Mode" and none PFS feature enable.



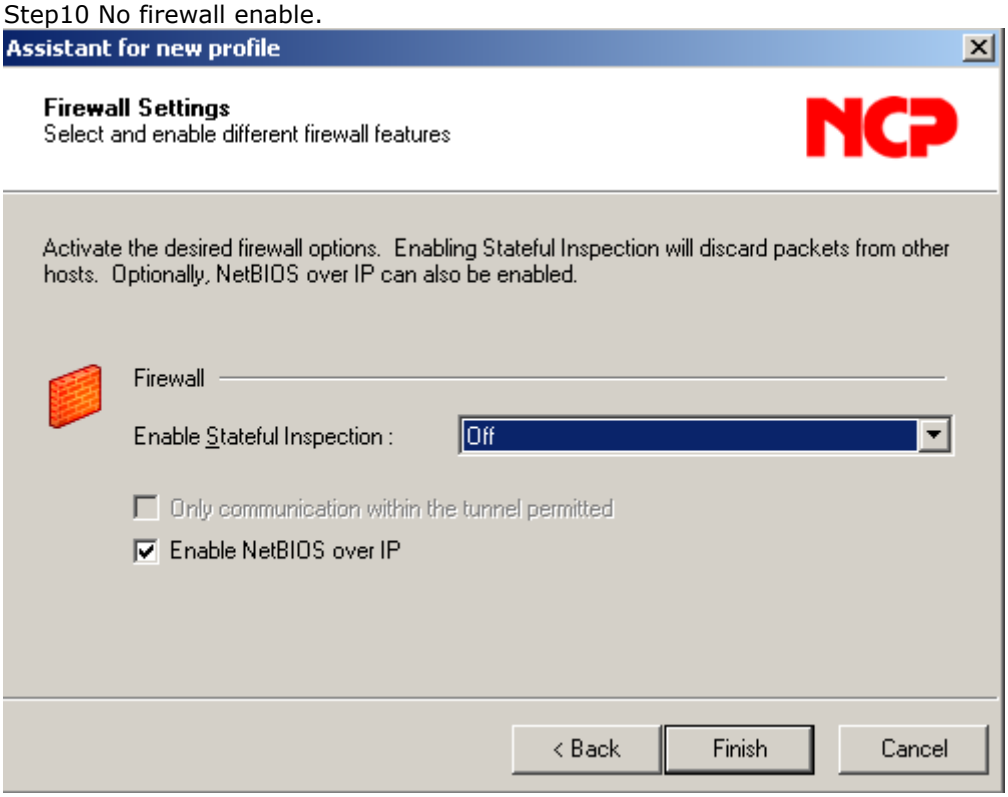
Step8 Set the value of "Pre-shared key", in current case the value is "testtest".



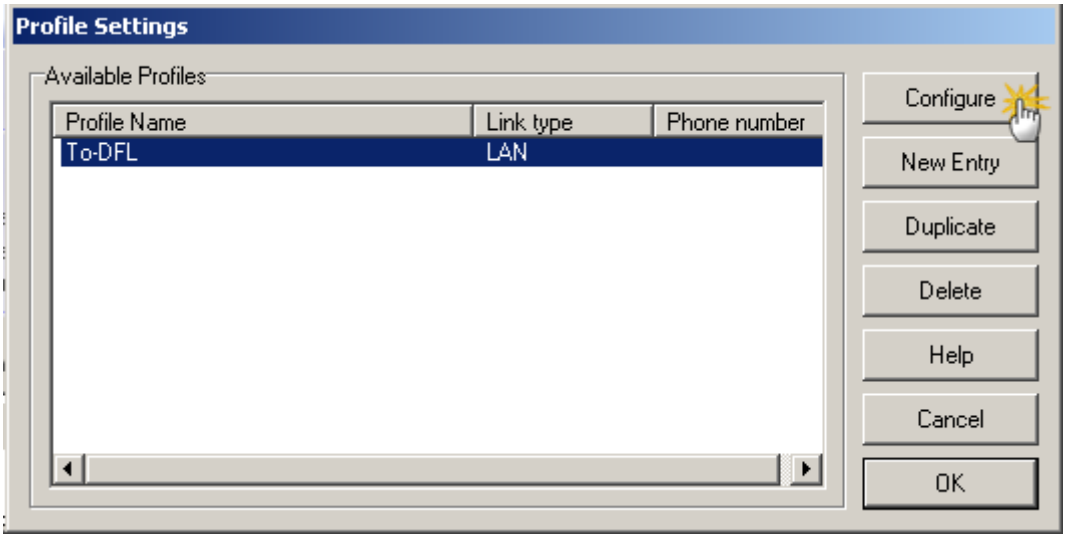
Step9 Set "Use IKE Config Mode" here.



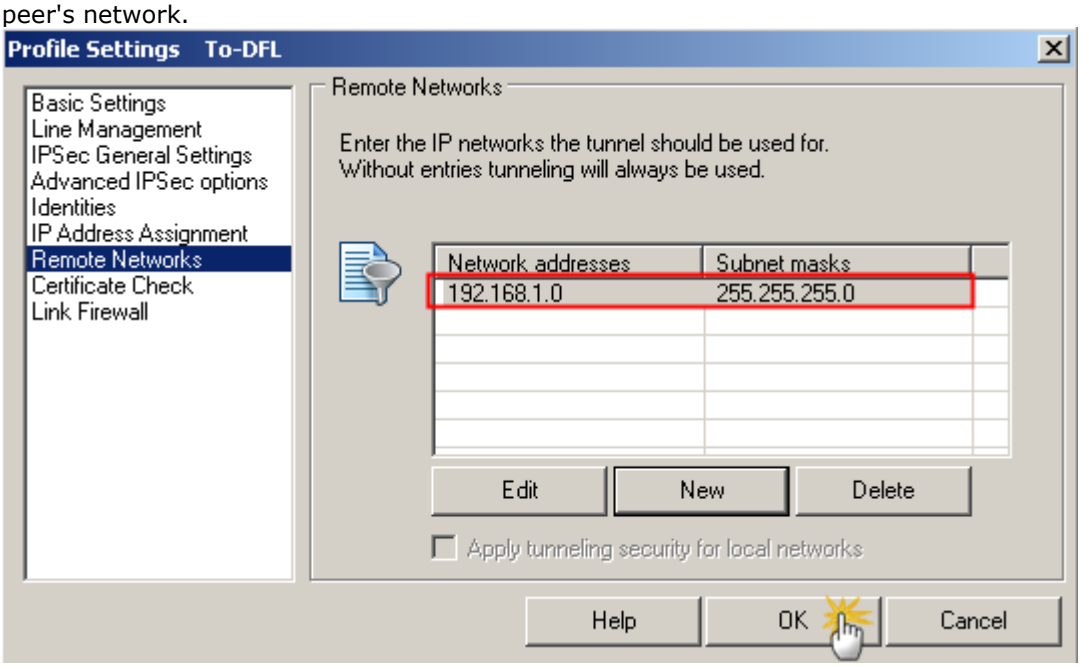
Step10 No firewall enable.



Step11 Enter into the created object: "To-DFL" in order to set the "Remote network".

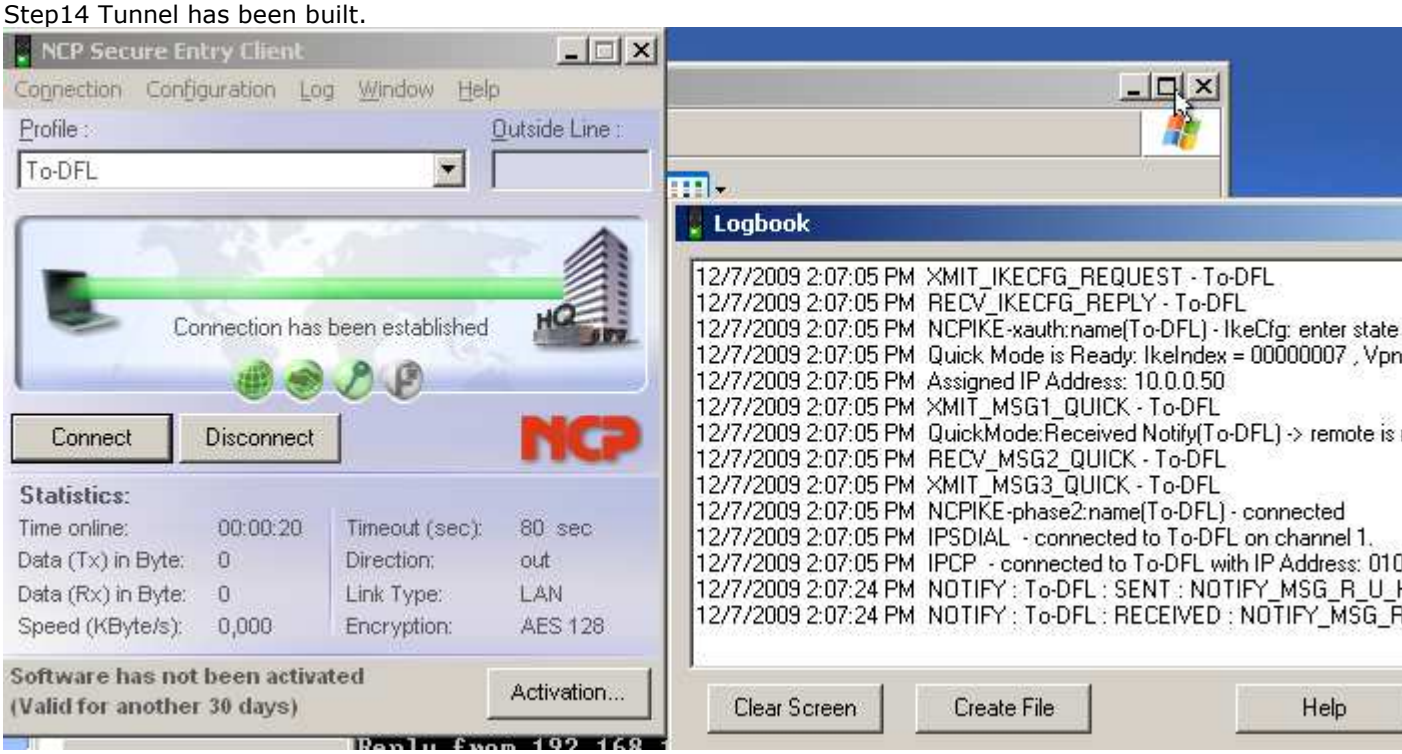


Step12 Go to the setting page of "Remote Networks", and add a new entry which points to remote peer's network.



Step13 After end of above settings, try to build up a VPN tunnel to firewall.

Step14 Tunnel has been built.



==========

[Troubleshooting]
Via CLI in DFL:
==========
Before the tunnel establish.

DFL-1600:/> ippool -show -verbose
ippool-for-ike:
  In progress:
    0 instances

```
  Free maintained in pool:
    10.0.0.50/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
    10.0.0.53/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
    10.0.0.52/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
    10.0.0.51/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
  Used by subsystems:

DFL-1600:/> dhcpserver -show
Active DHCP sessions:
Rule Iface          Client MAC      Client IP       Expire
---- -------------- --------------  --------------  ------
1    core           *00-00-00-00-00-00  10.0.0.50       85978
1    core           *00-00-00-00-00-00  10.0.0.51       85980
1    core           *00-00-00-00-00-00  10.0.0.52       85980
1    core           *00-00-00-00-00-00  10.0.0.53       85980
```

After tunnel established.

```
DFL-1600:/> routes -verbose
Flags Network           Iface         Gateway        Local IP       Metric
----- ----------------- ------------- -------------- -------------- ------
D     10.0.0.50         ipsec-if                             0
      Originator: IPsec interface with automatically added client routes
      1.1.1.0/24        wan1                                 100
      192.168.120.0/24  wan2                                 100
      172.17.100.0/24   dmz                                  100
      192.168.1.0/24    lan1                                 100
      192.168.2.0/24    lan2                                 100
      192.168.3.0/24    lan3                                 100
      0.0.0.0/0         wan1                                 100


DFL-1600:/> ippool -show -verbose
ippool-for-ike:
  In progress:
    0 instances
  Free maintained in pool:
    10.0.0.53/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
    10.0.0.52/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
    10.0.0.51/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
  Used by subsystems:
    10.0.0.50/255.255.255.0 (00-00-00-00-00-00) (BCAST:10.0.0.255)
DFL-1600:/> dhcpserver -show
Active DHCP sessions:
Rule Iface          Client MAC      Client IP       Expire
---- -------------- --------------  --------------  ------
1    core           *00-00-00-00-00-00  10.0.0.50       85415
1    core           *00-00-00-00-00-00  10.0.0.51       85417
1    core           *00-00-00-00-00-00  10.0.0.52       85417
1    core           *00-00-00-00-00-00  10.0.0.53       85417
DFL-1600:/>
================================
```