How to configure multiple FortiClients (remote VPN users) to a dial-in FortiGate gateway
Step-by-step guide

The following describes how to configure two different VPN remote users to have access to two different networks on separate Fortigate interfaces (Internal and DMZ). A similar configuration could be applied so that the two users access two different subnets on the same Fortigate interface.

The configuration and GUI snapshots are based on FortOS v2.50 and FortiClient v1.0, but could be also applied to v2.80 and v1.2, since the basis of the configuration remains the same. v2.80 introduces some slight GUI changes.

A collection of debug log outputs are also supplied. They were taken simultaneously from both the FortiClient and Fortigate, under situations where connections are unsuccessful. These may assist in troubleshooting connection failures. The following Fortigate CLI commands were used to activate the debugging:

v2.50
set deb en
diag deb appl ike 2

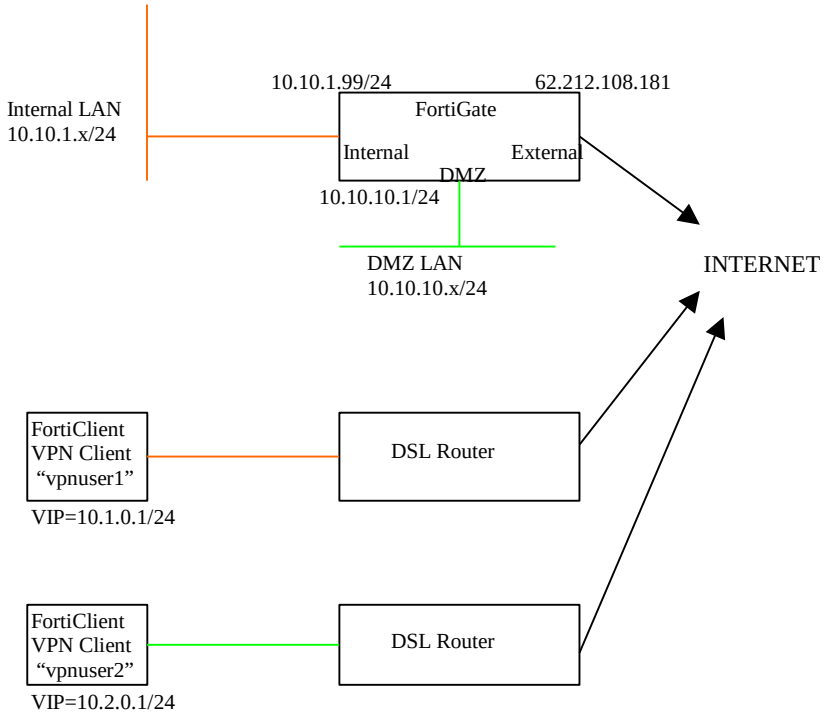
v2.80
diag deb en
diag deb appl ike 2

Each element in the VPN configuration builds upon another. For example, you must create the User before you can add it to the User Group etc.

Because of these dependencies, the order for configuring VPN in the FortiGate is as follows:

1) Users
2) User Groups
3) IPSec Phase 1
4) IPSec Phase 2
5) Firewall Addresses
6) Firewall Policies

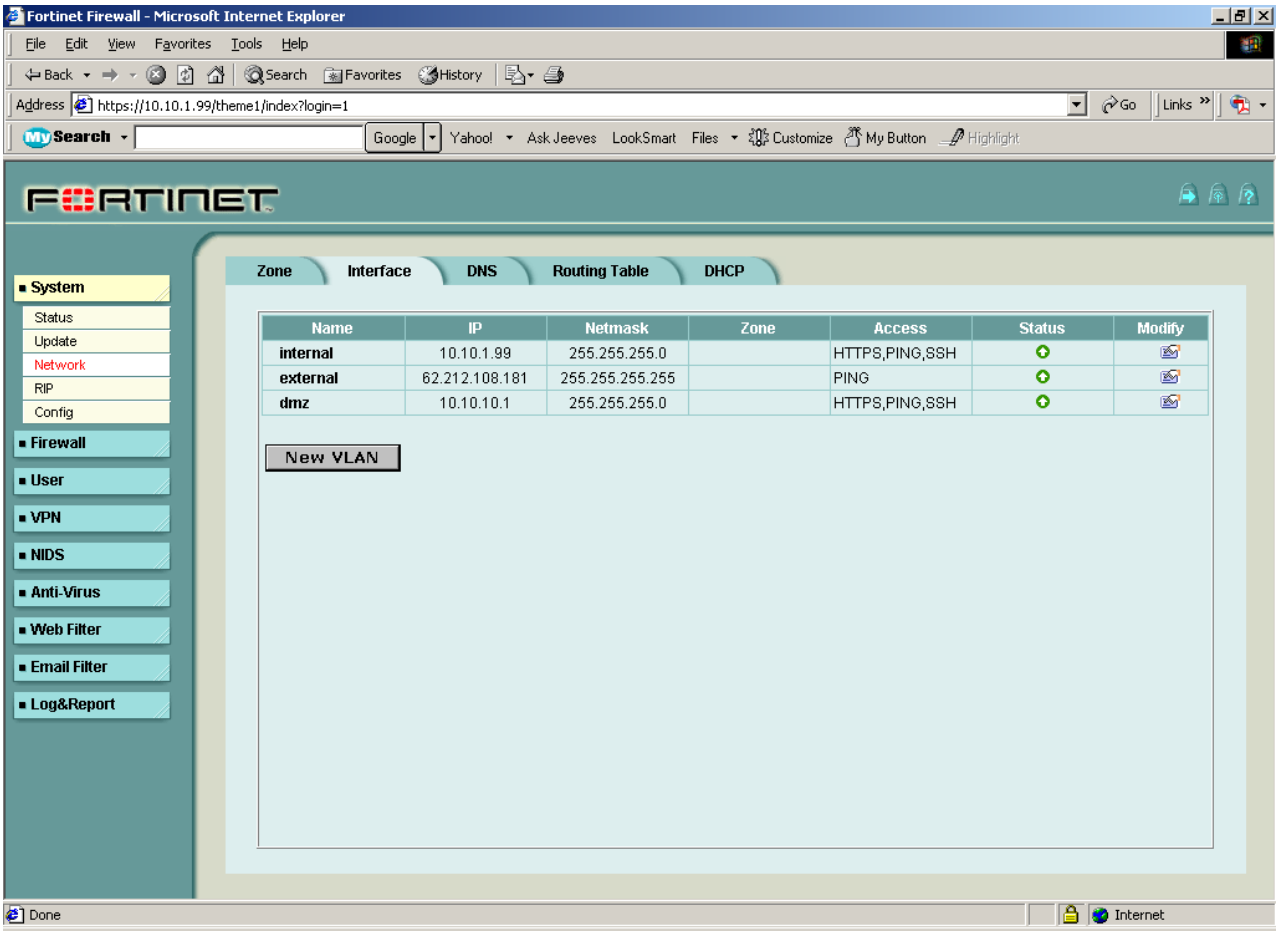
Network diagram of example described below:



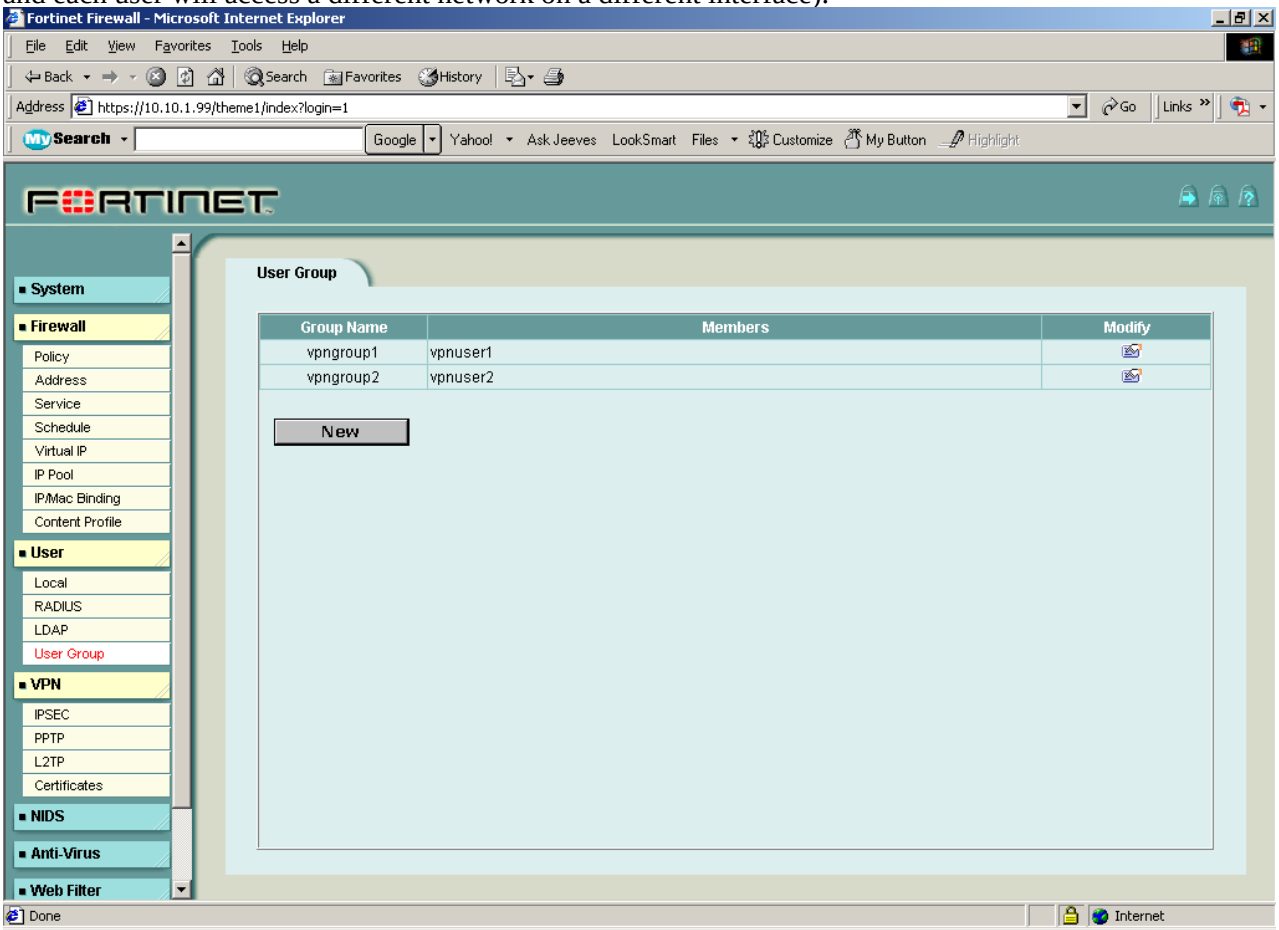
Additional remote clients that are configured, require unique VIP addresses which don't conflict with each other, but that remain within the appropriate subnets.

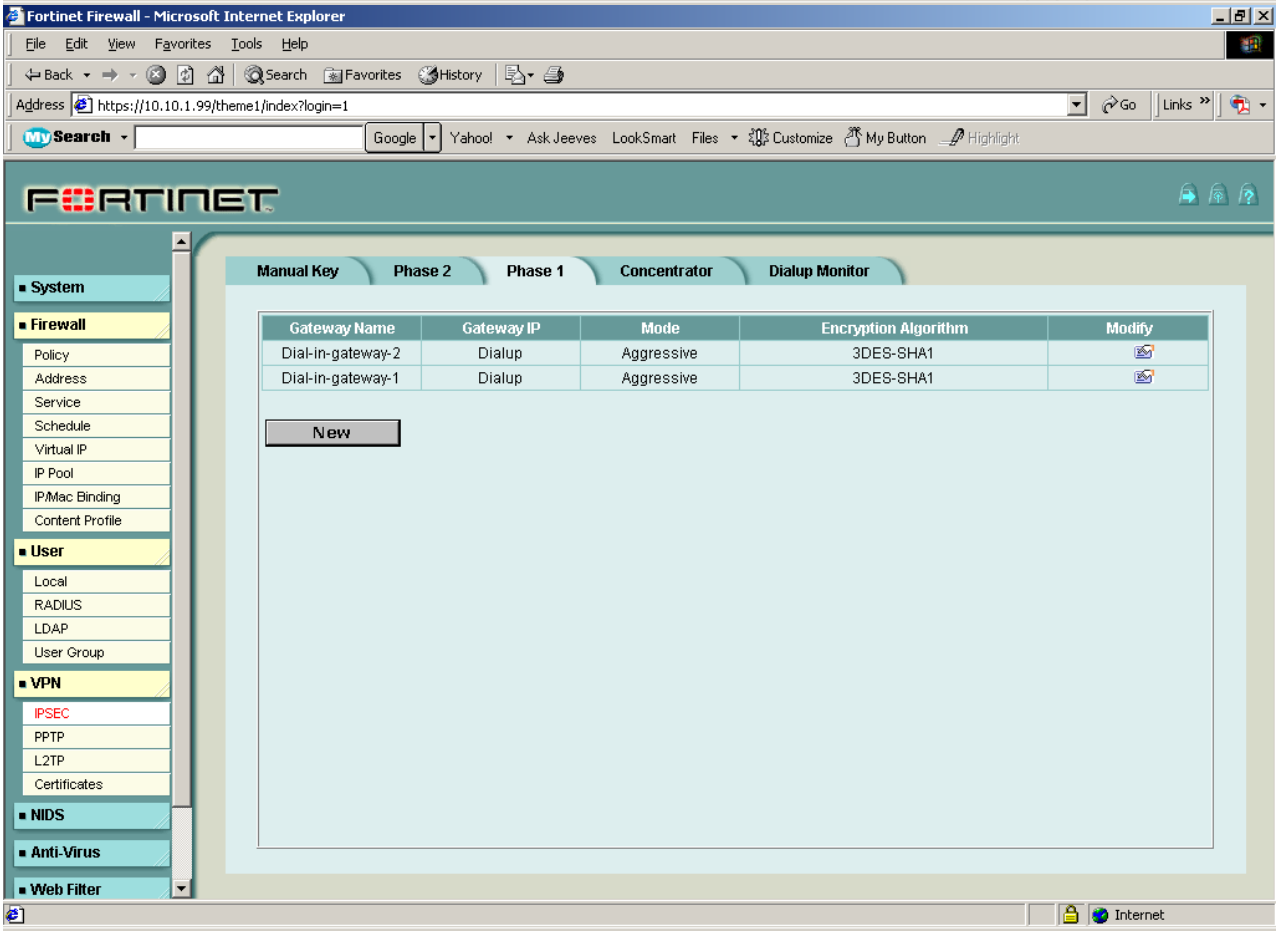
FortiGate dial-in gateway configuration:

Defined network interfaces.

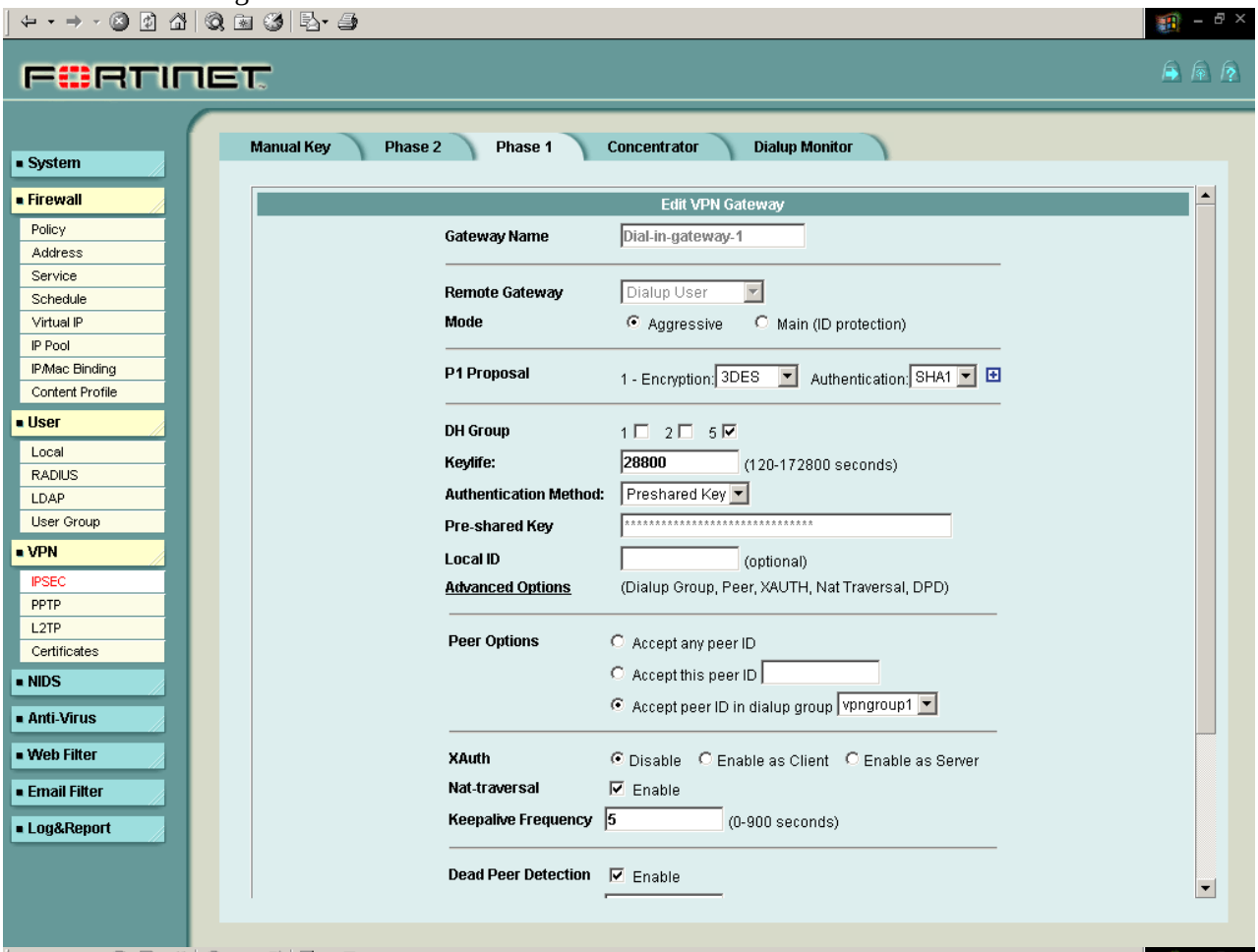


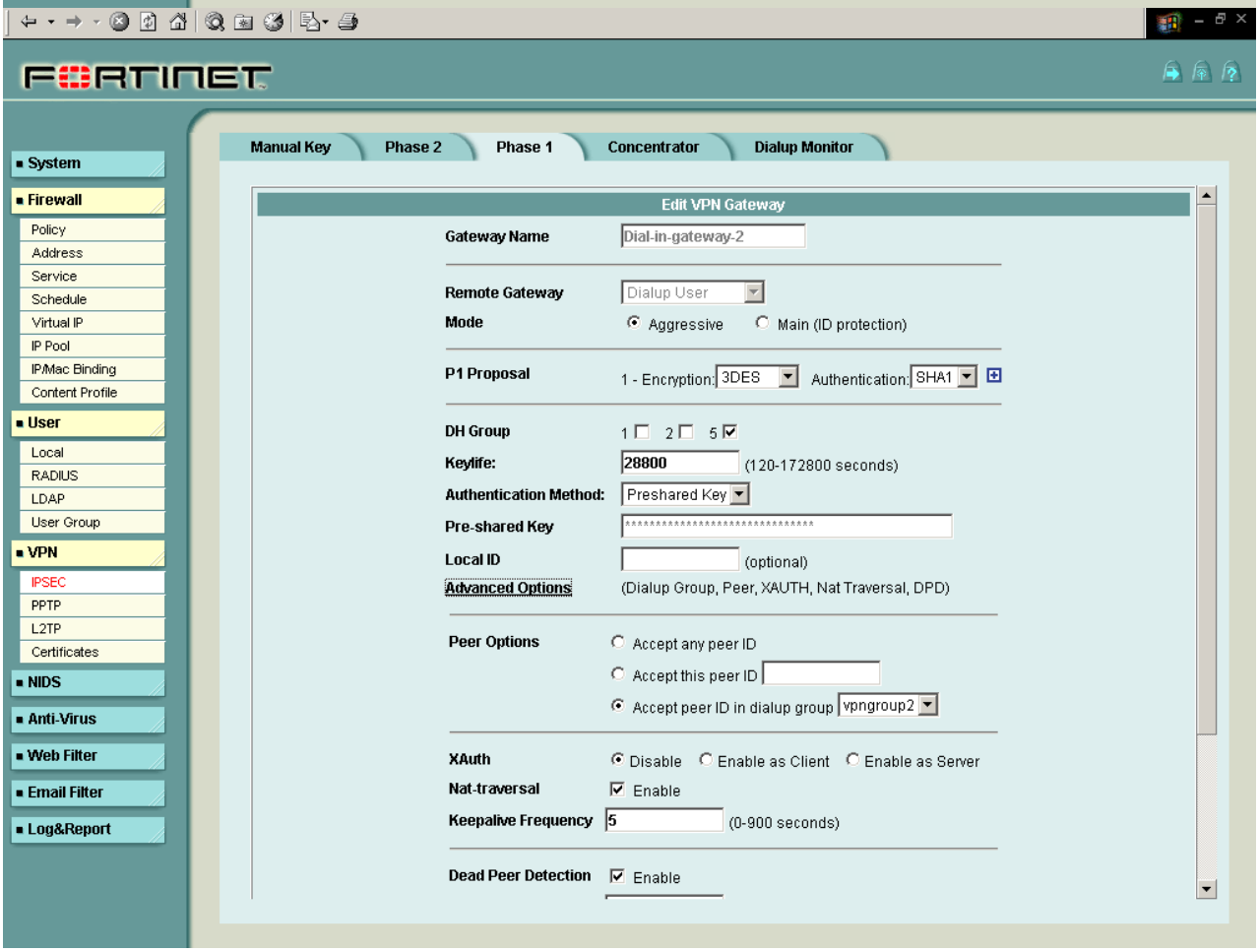
Each Locally defined user is configured with a unique name and password (password = Pre-shared key on VPN client), and each user will access a different network on a different interface).



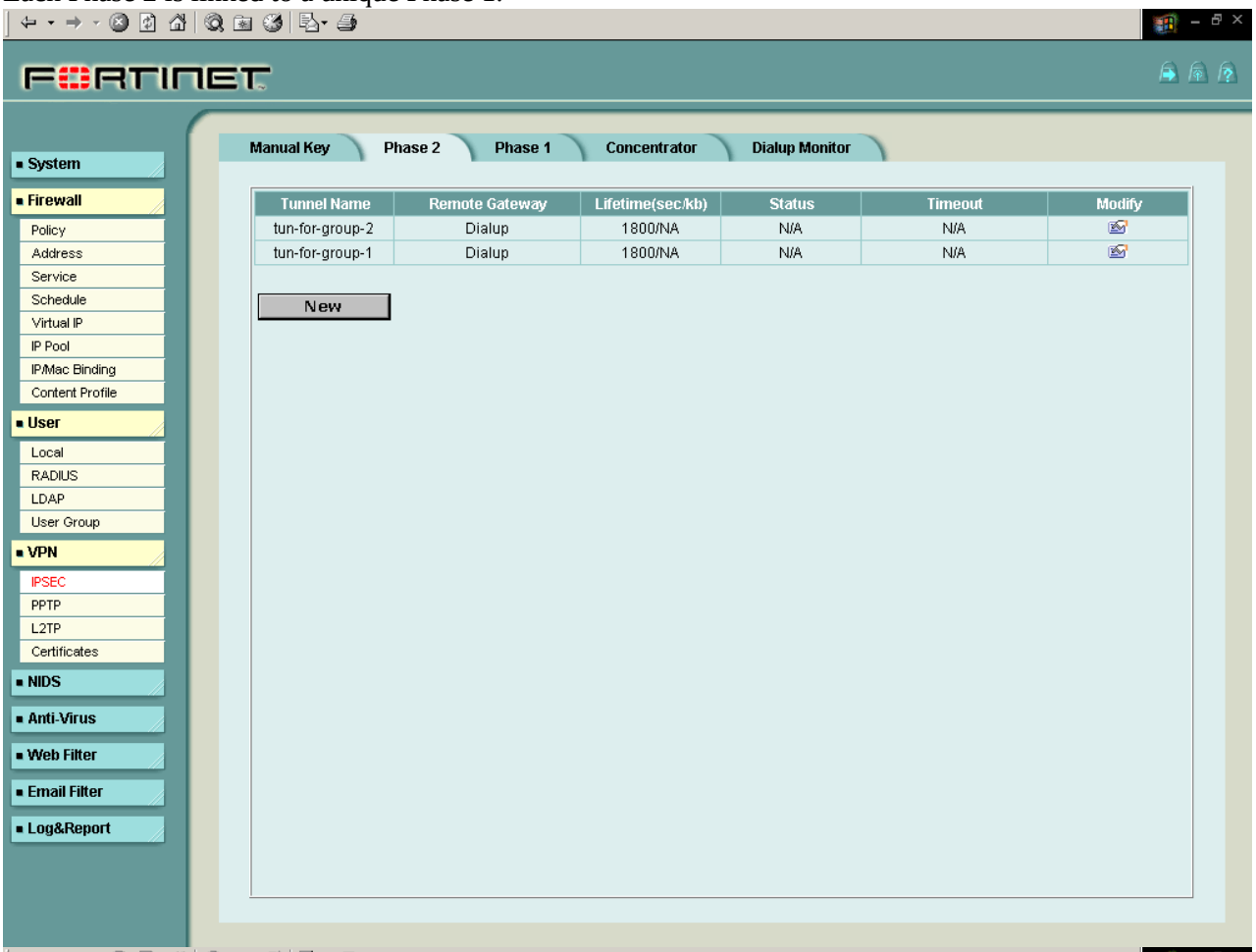


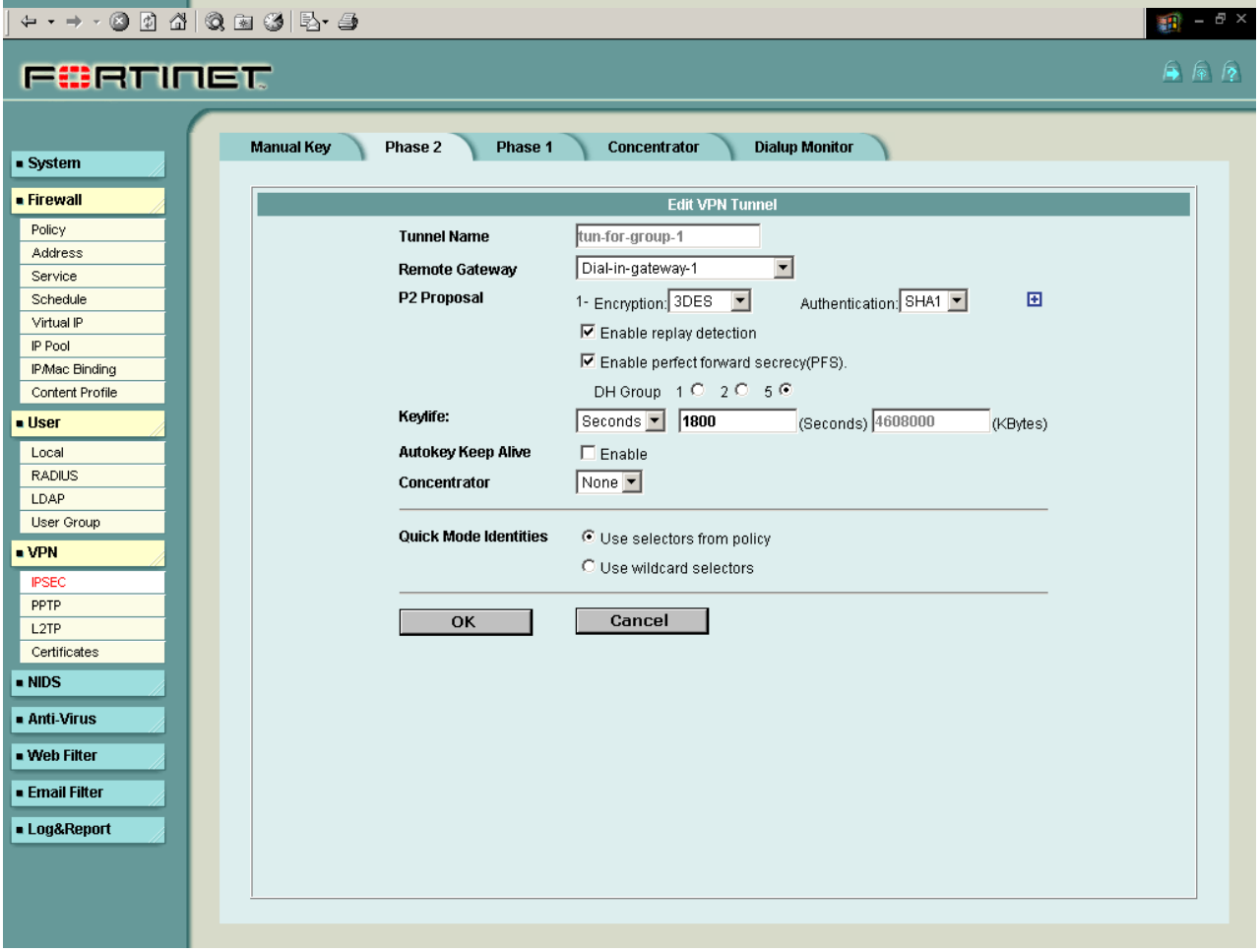
Each Phase 1 is linked to a unique User Group, which is in-turn linked to a unique User. The Pre-shared Key field is greyed-out and not used below, since authentication will be done via a dialup group. There is no need to have more than one Encryption/Authentication and DH proposal in both Phase1 and Phase 2, since we will also configure the VPN clients with the same settings.

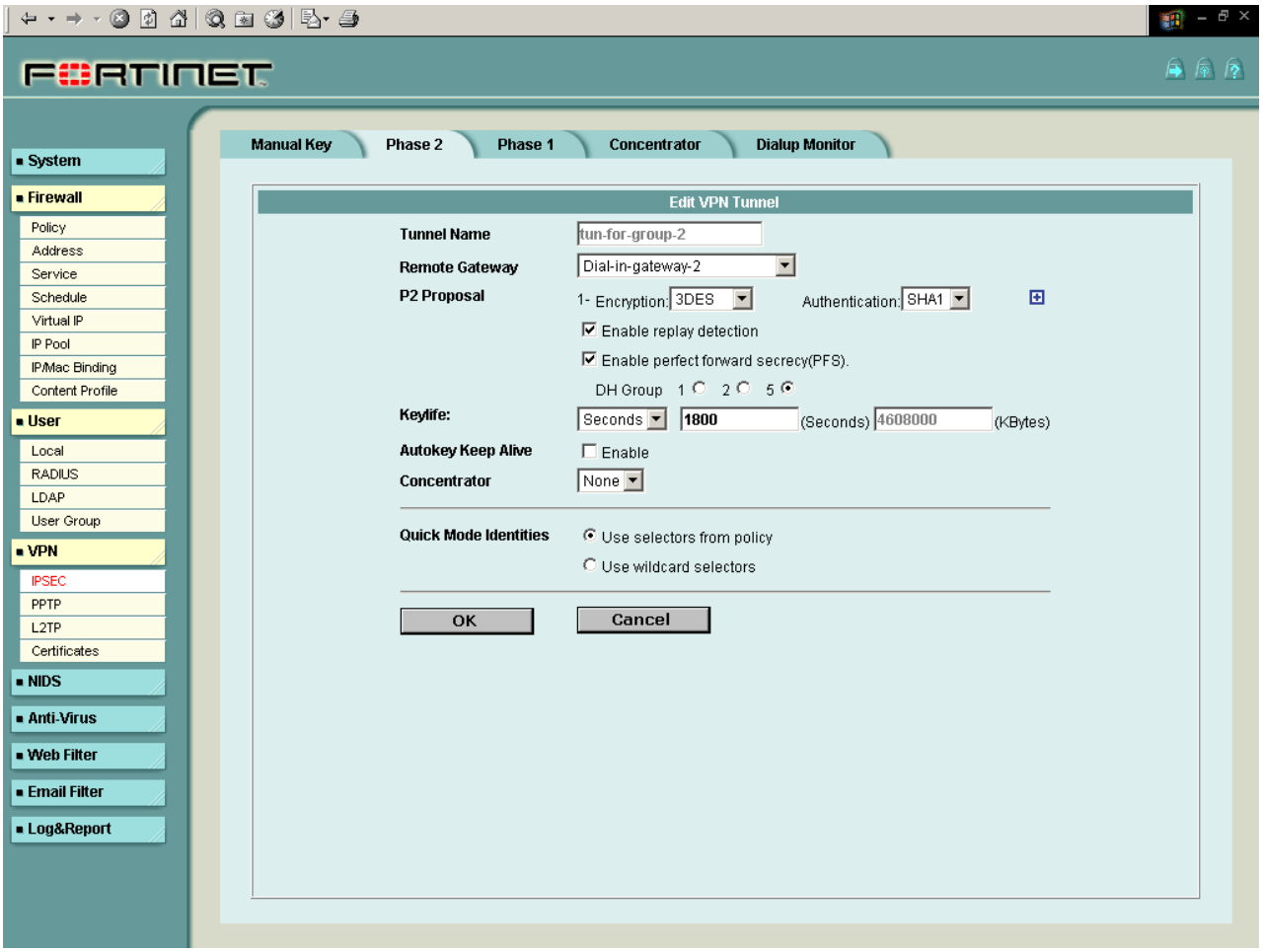




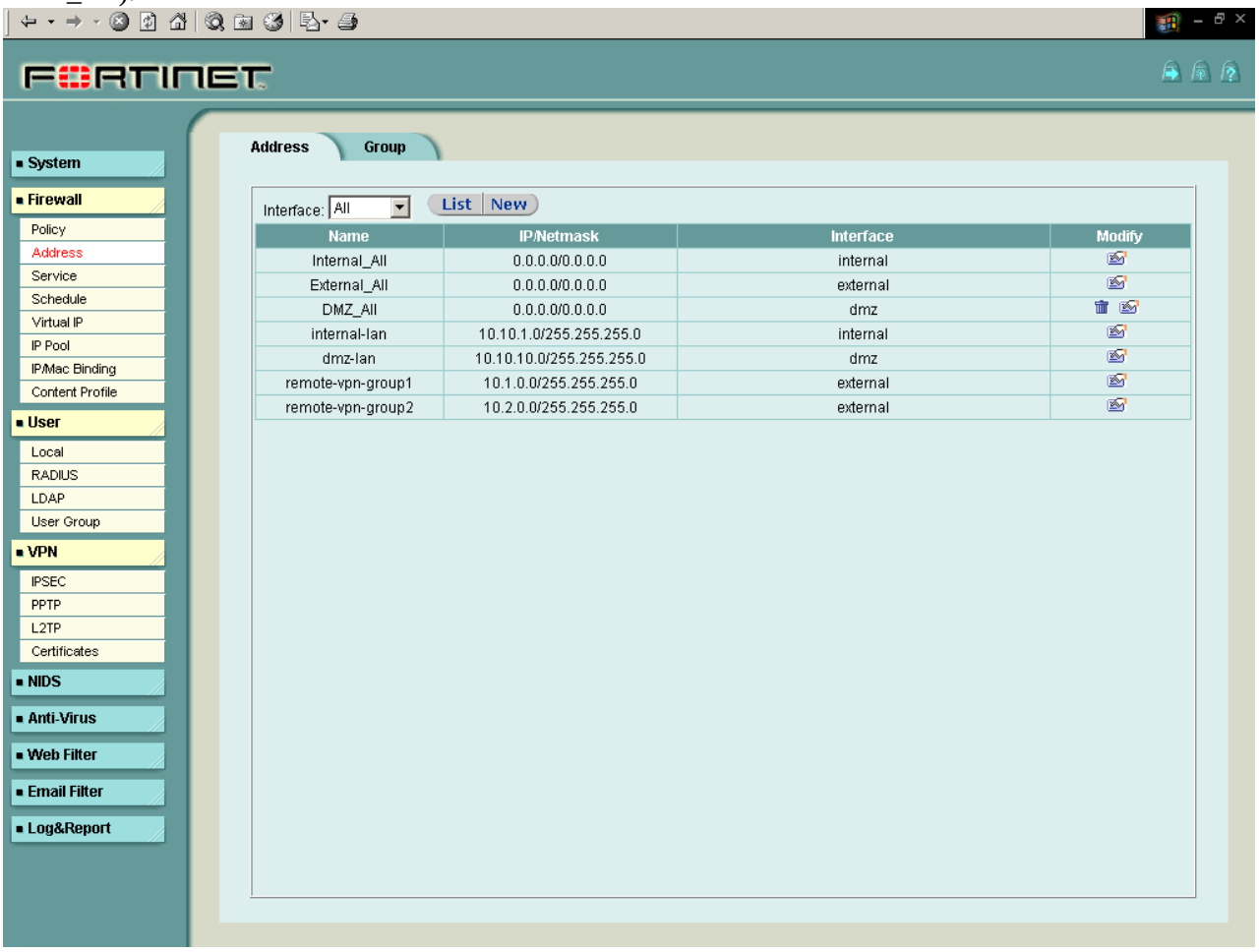
Each Phase 2 is linked to a unique Phase 1.



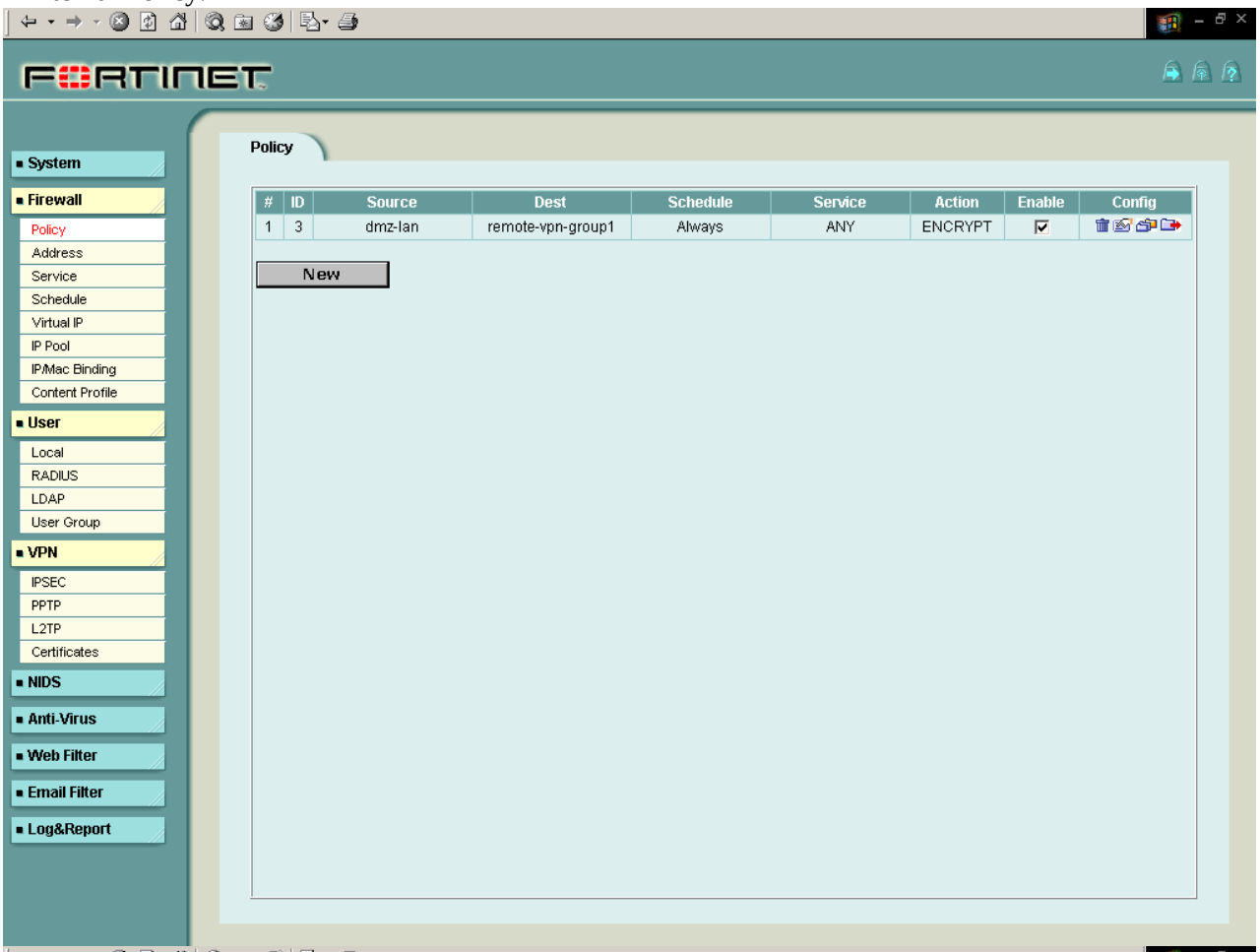


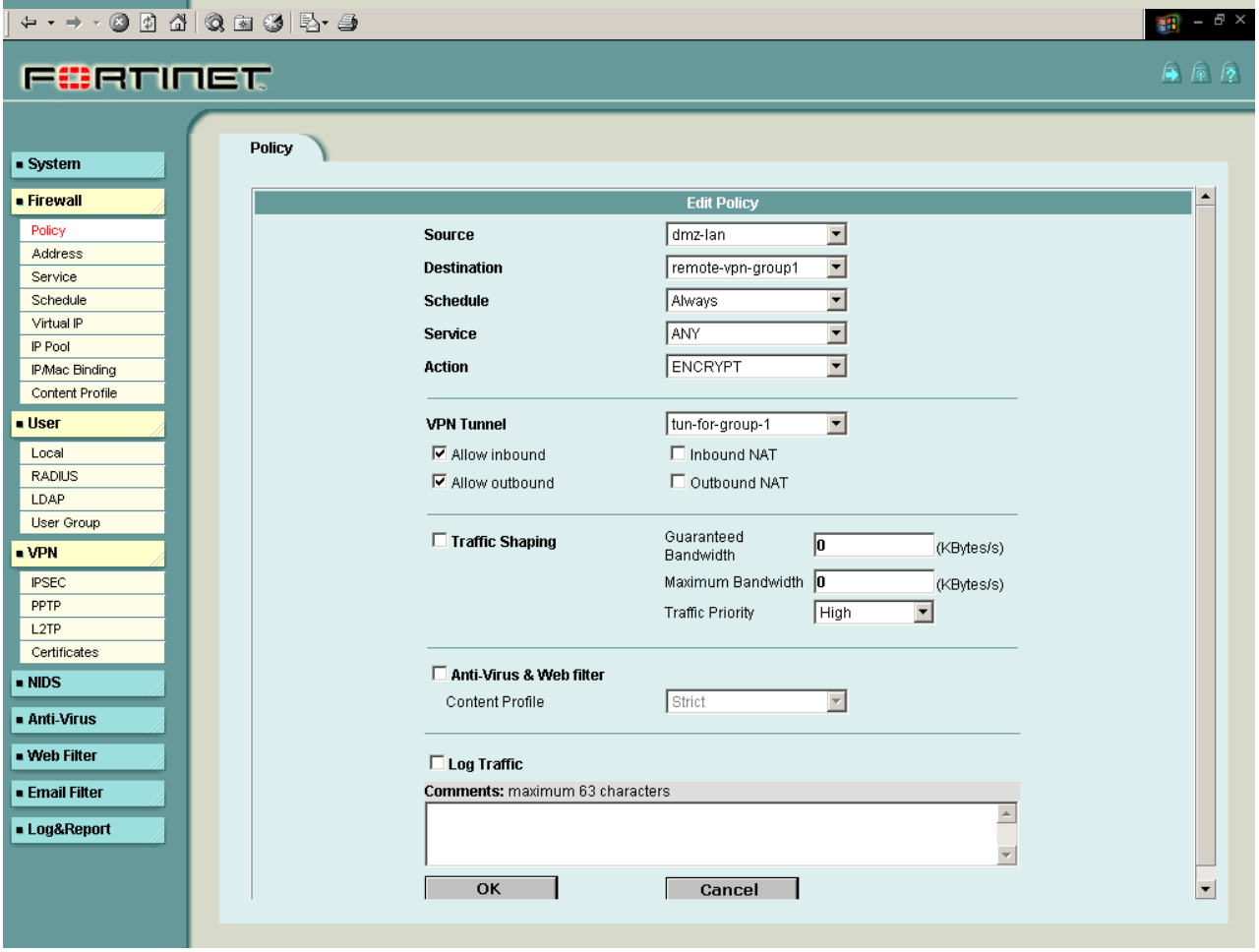


Specific Internal, DMZ and External VIP address ranges must be specified (must not use Internal_All, External_All, or DMZ_All).

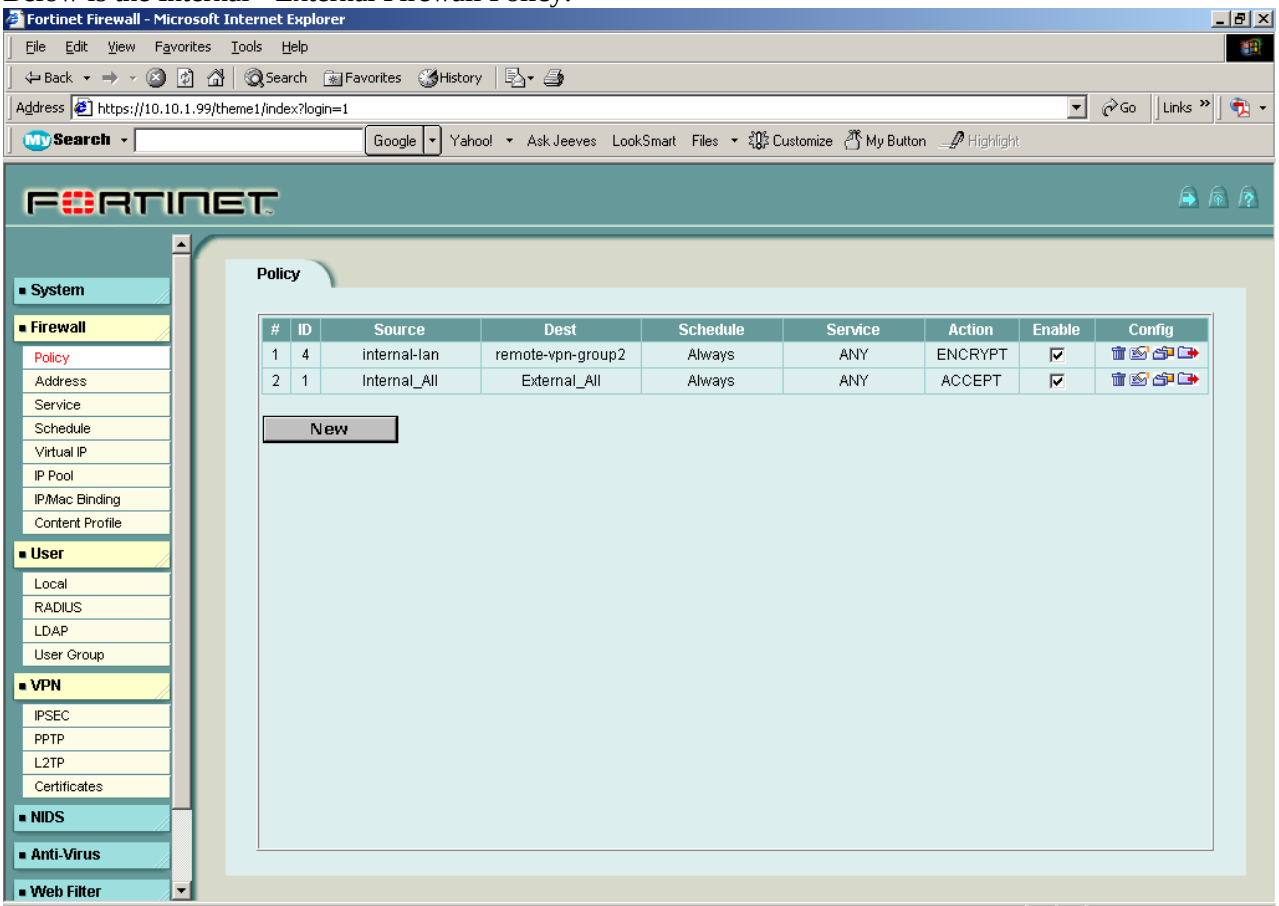


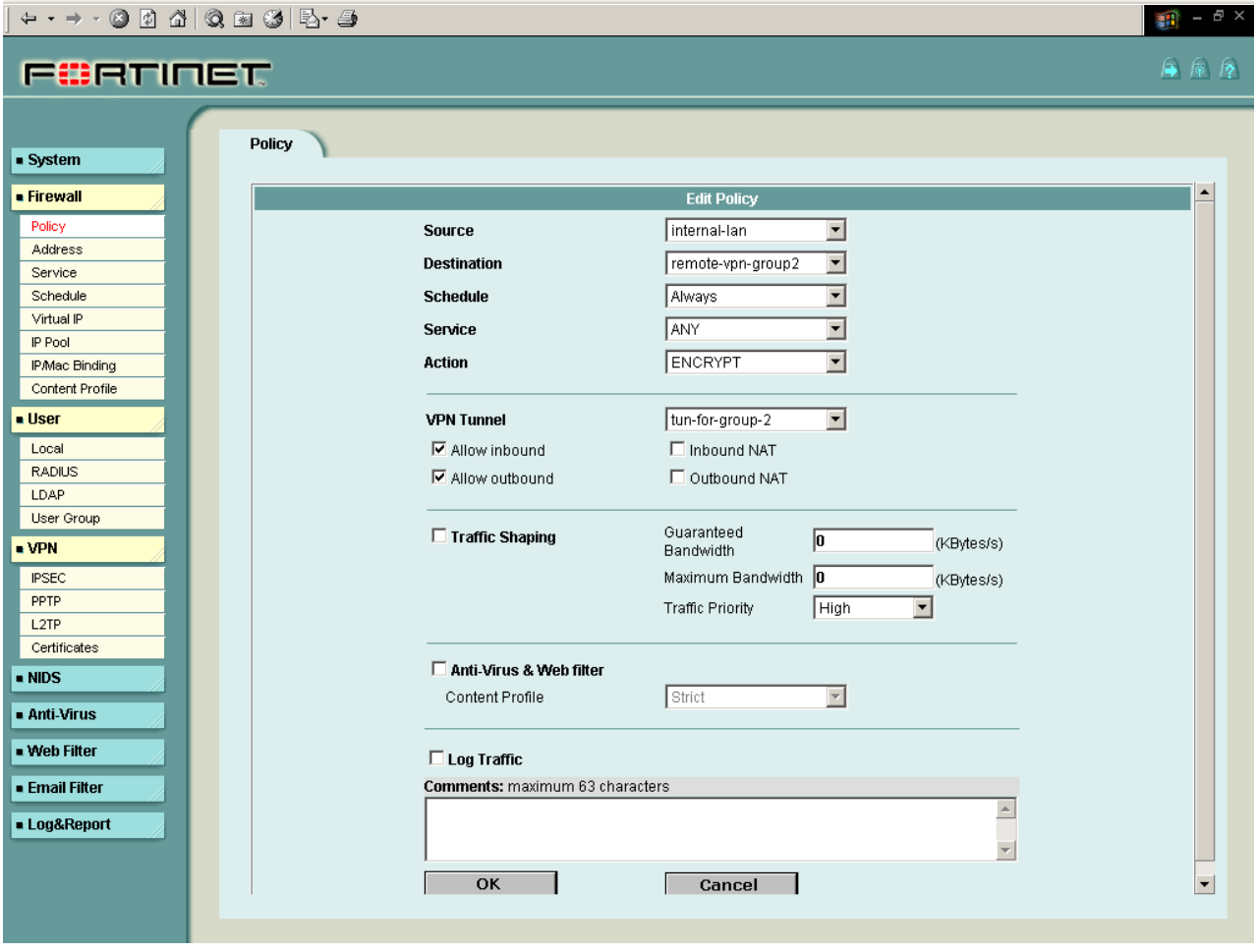
Each Firewall Policy is linked to a unique Phase 2 and a unique Address range (or interface). Below is the DMZ->External Policy.





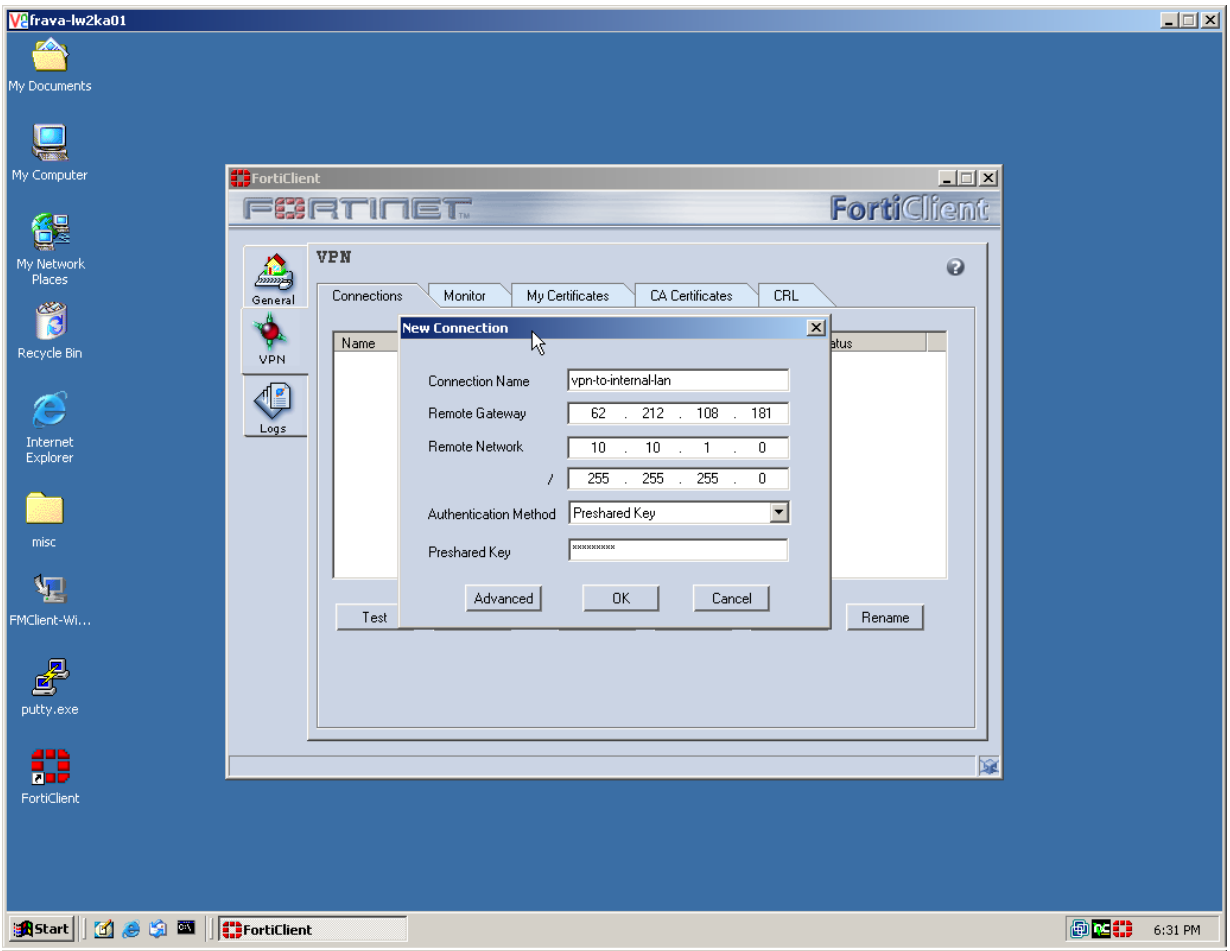
Below is the Internal->External Firewall Policy.

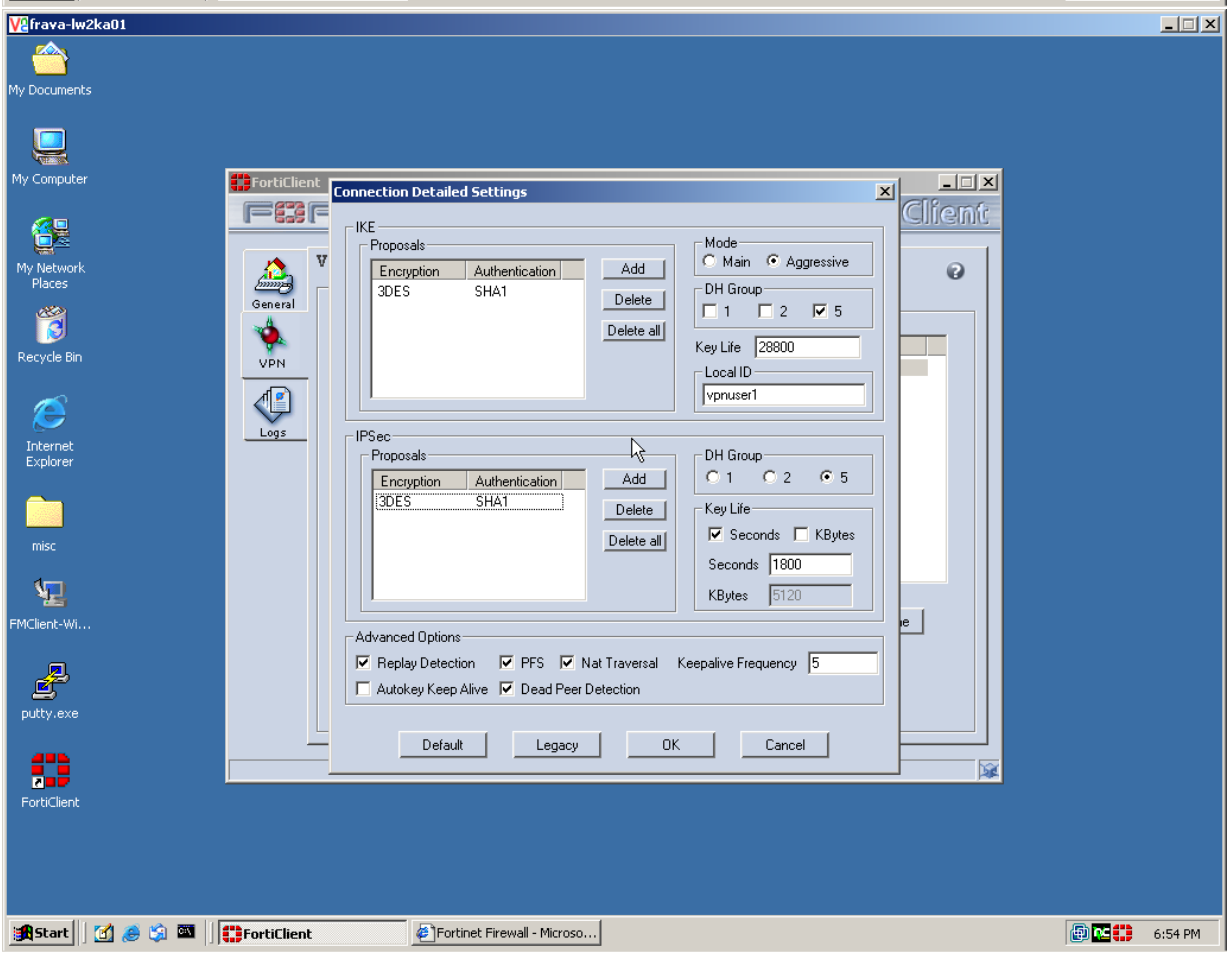




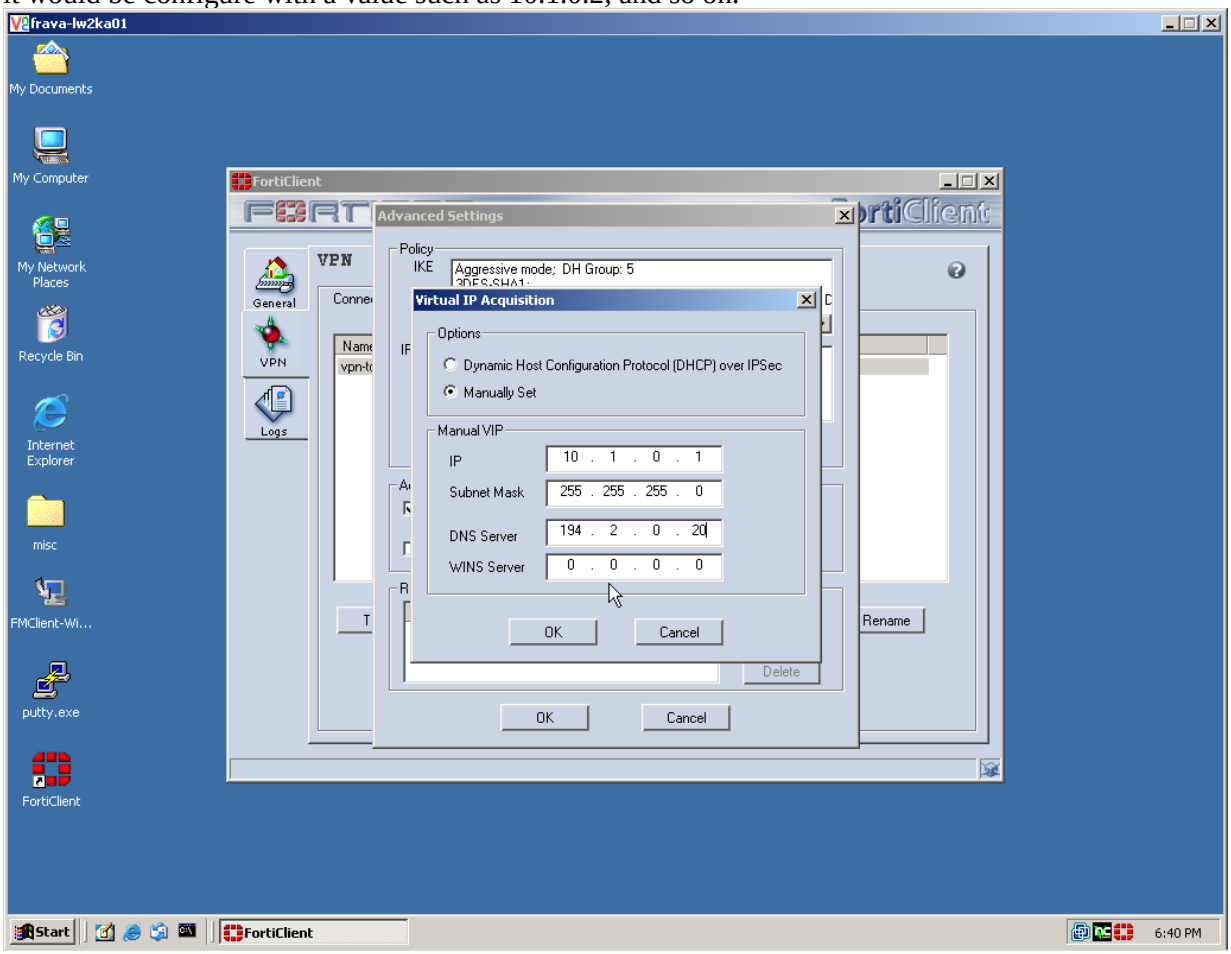
FortiClient remote VPN user configuration:

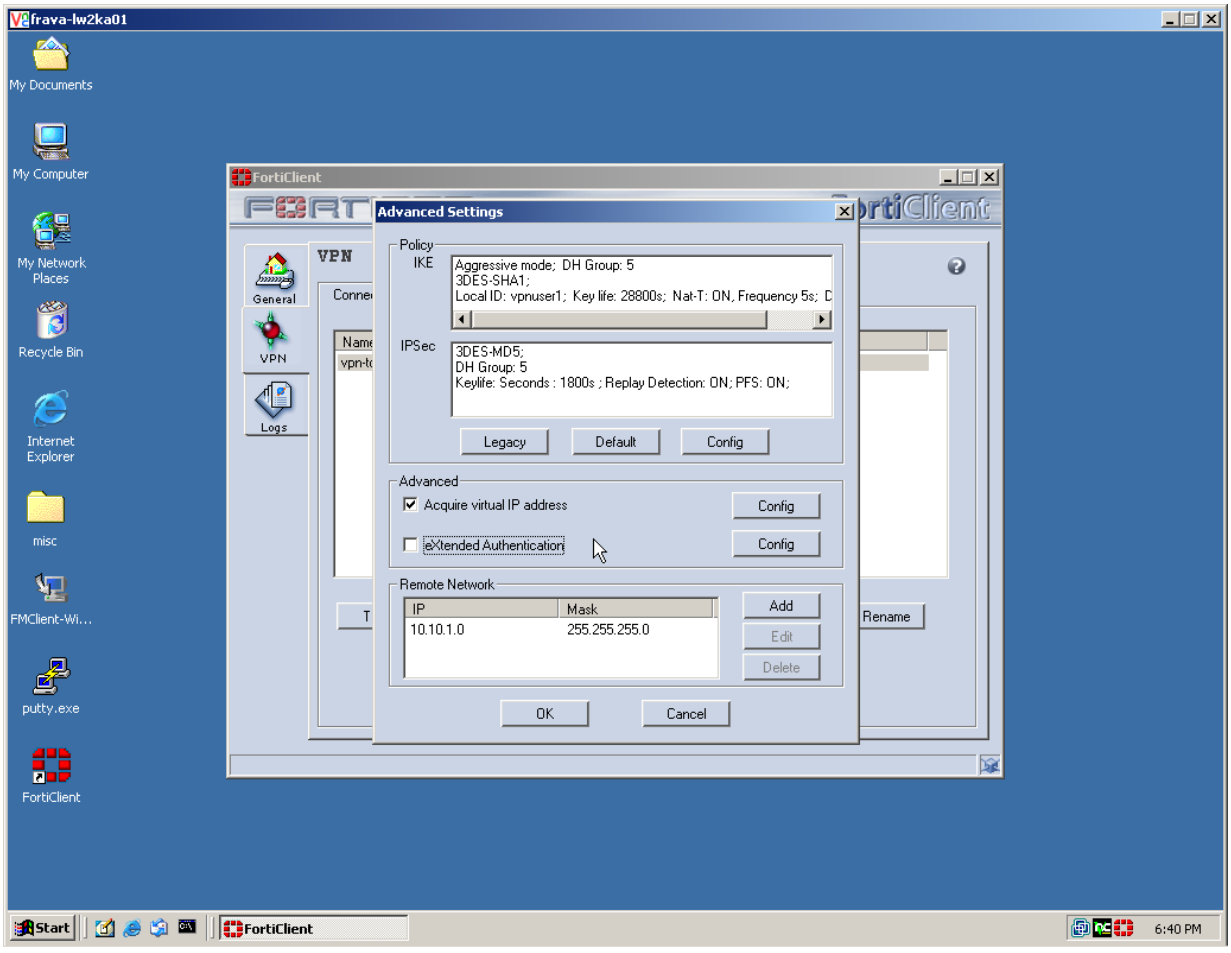
Finally, each remote VPN user will be defined with a “Virtual IP” (VIP) value which is within the corresponding “remote-vpn-groupx” address range shown above, and a “Remote Access” network value which matches the defined Internal or DMZ network ranges (not Internal_All and not DMZ_All). The example of “vpnuser1” which accesses the Internal network is shown below.





This first user is configured with a VIP of 10.1.0.1. If an additional user is required to access the same internal network, it would be configure with a value such as 10.1.0.2, and so on.





// End of configuration samples.

// FortiClient log outputs collected using the TEST button. FortiClient v1.0.210 is connecting to a FGT200 v2.50-MR8

//#1
// Log below is when an incorrect user ID is configured on the FC (ID mismatch)

```
In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Detect local gateway for peer: 62.212.108.181
Get sa_connect message...10.30.30.8->62.212.108.181:0, natt_mode=0
Using new connection...natt_mode=0
Set connection name = vpn-to-internal-lan.
Adding timer #1... expiry=3600, data=9731984
Adding to bucket 3 at index 1
Tunnel 10.30.30.8 ---> 62.212.108.181:500,natt_en=1 is starting negotiation
Will negotiate a normal SA
Initiator:aggressive mode is sending 1st message...
Initiator:aggressive mode set dh=1536.
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Sending NATT VID payload (draft3 and draft1)....
Initiator: sent 62.212.108.181 aggressive mode message #1 (OK)
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
set retransmit: st=1, timeout=10.
Adding timer #2... expiry=10, data=9733288
Adding to bucket 1 at index 10
Next_time = 10 sec

In run_timer_list, jiffies=0000000A, skipped = 10
tvecs[1]->bits is 3, tvecs[n]->index is 0
No response from the peer, retransmit (st=1)....
set retransmit: st=1, timeout=20.
Adding timer #2... expiry=20, data=9733288
Adding to queue
Adding timer #3... expiry=20, data=9733288
Adding to bucket 1 at index 30
Next_time = 20 sec

In run_timer_list, jiffies=0000001E, skipped = 20
tvecs[1]->bits is 3, tvecs[n]->index is 0
No response from the peer, retransmit (st=1)....
set retransmit: st=1, timeout=20.
Adding timer #2... expiry=20, data=9733288
Adding to queue
Adding timer #3... expiry=20, data=9733288
Adding to bucket 1 at index 50
Next_time = 20 sec

In run_timer_list, jiffies=00000032, skipped = 20
tvecs[1]->bits is 3, tvecs[n]->index is 0
Retransmit reaches maximum count (st=1)...delete it!
Next_time = 3550 sec
```

//#2
// Log below is when the user ID is OK, but there is a mismatch on the Phase 1 Encryption/Authentication proposals.

```
In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Detect local gateway for peer: 62.212.108.181
Get sa_connect message...10.30.30.8->62.212.108.181:0, natt_mode=0
Using new connection...natt_mode=0
Set connection name = vpn-to-internal-lan.
Adding timer #1... expiry=3600, data=9731984
Adding to bucket 3 at index 1
Tunnel 10.30.30.8 ---> 62.212.108.181:500,natt_en=1 is starting negotiation
```

```
Will negotiate a normal SA
Initiator:aggressive mode is sending 1st message...
Initiator:aggressive mode set dh=1536.
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Sending NATT VID payload (draft3 and draft1)....
Initiator: sent 62.212.108.181 aggressive mode message #1 (OK)
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
set retransmit: st=1, timeout=10.
Adding timer #2... expiry=10, data=9733288
Adding to bucket 1 at index 10
Next_time = 10 sec

In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Comes 62.212.108.181:500->10.30.30.8:500,ifindex=0, ....
Exchange Mode = 5, Message id = 0x75FC11C9, Len = 40
#######  ISAKMP INFO ##########
Received Payloads= Notif
------Receive Information Payload------
   protocol_id=1, notify_msg=14 (NO_PROPOSAL_CHOSEN), ispi_size=0
Negotiate SA Error: protocol_id=1, notify_msg=14 (NO_PROPOSAL_CHOSEN), ispi_size=0
 [43]


Next_time = 10 sec
```

//#3
// Log below is when the user ID is OK, Phase 1 OK, but a mismatch on the Phase 2 Encryption/Authentication proposals.

```
In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Detect local gateway for peer: 62.212.108.181
Get sa_connect message...10.30.30.8->62.212.108.181:0, natt_mode=0
Using new connection...natt_mode=0
Set connection name = vpn-to-internal-lan.
Adding timer #1... expiry=3600, data=9731984
Adding to bucket 3 at index 1
Tunnel 10.30.30.8 ---> 62.212.108.181:500,natt_en=1 is starting negotiation
Will negotiate a normal SA
Initiator:aggressive mode is sending 1st message...
Initiator:aggressive mode set dh=1536.
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Sending NATT VID payload (draft3 and draft1)....
Initiator: sent 62.212.108.181 aggressive mode message #1 (OK)
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
set retransmit: st=1, timeout=10.
Adding timer #2... expiry=10, data=9733288
Adding to bucket 1 at index 10
Next_time = 10 sec

In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Comes 62.212.108.181:500->10.30.30.8:500,ifindex=0, ....
Exchange Mode = 4, I_COOKIE = 0x68BEAFBC393FD64E, Len = 440
Received Payloads= SA KE NONCE ID VID VID VID 130 130 HASH
Initiator:aggressive mode get 1st response...
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
```

```
        type=OAKLEY_HASH_ALG, val=SHA.
        type=AUTH_METHOD, val=PRESHARED_KEY.
        type=OAKLEY_GROUP, val=1536.
Proposal_id = 1:
   Protocol_id = ISAKMP:
      trans_id = KEY_IKE.
      encapsulation = 0 (unknown)
        type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
        type=OAKLEY_HASH_ALG, val=SHA.
        type=AUTH_METHOD, val=PRESHARED_KEY.
        type=OAKLEY_GROUP, val=1536.
Negotiate Result
Proposal_id = 1:
   Protocol_id = ISAKMP:
      trans_id = KEY_IKE.
      encapsulation = 0 (unknown)
        type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
        type=OAKLEY_HASH_ALG, val=SHA.
        type=AUTH_METHOD, val=PRESHARED_KEY.
        type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Negotiate Success.(No echo).
test the peer keepalive status....
The peer is non-keepalive fortigate.
testing the peer DPD status....
The peer supports DPD draft 2.
test the peer natt status....
The peer supports natt draft3.
Using IPS_NAT_MODE_KEEPALIVE.
set gw: 009484A8, timeout=28800.
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
Adding timer #2... expiry=28800, data=9731984
Adding to bucket 4 at index 1
Initiator: sent 62.212.108.181 aggressive mode message #2 (DONE)
confirmed nat-t draft3
My id: 10.1.0.1 255.255.255.0
Adding timer #3... expiry=28800, data=9736160
Adding to bucket 4 at index 1
Initiator:quick mode set pfs=1536...
Try to negotiate with 1800 life seconds.
confirmed nat-t draft3
Initiator: sent 62.212.108.181 quick mode message #1 (OK)
set retransmit: st=2, timeout=10.
Adding timer #3... expiry=10, data=9736160
Adding to bucket 1 at index 10


Next_time = 10 sec

In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Comes 62.212.108.181:4500->10.30.30.8:4500,ifindex=0, ....
Exchange Mode = 5, Message id = 0x87D1BBA3, Len = 68
#######  ISAKMP INFO ##########
Received Payloads= HASH Notif
######### Receive Information Payload(Protected)#########
   protocol_id=1, notify_msg=14 (NO_PROPOSAL_CHOSEN), ispi_size=0
Negotiate SA Error: protocol_id=1, notify_msg=14 (NO_PROPOSAL_CHOSEN), ispi_size=0
 [43]


Next_time = 10 sec
```

//#4

// Log below is when the user ID is OK, Phase 1 and 2 OK, but a mismatch on the Pre-Shared key

```
In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Detect local gateway for peer: 62.212.108.181
Get sa_connect message...10.30.30.8->62.212.108.181:0, natt_mode=0
Using new connection...natt_mode=0
Set connection name = vpn-to-internal-lan.
Adding timer #1... expiry=3600, data=9731984
Adding to bucket 3 at index 1
Tunnel 10.30.30.8 ---> 62.212.108.181:500,natt_en=1 is starting negotiation
Will negotiate a normal SA
Initiator:aggressive mode is sending 1st message...
Initiator:aggressive mode set dh=1536.
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Sending NATT VID payload (draft3 and draft1)....
Initiator: sent 62.212.108.181 aggressive mode message #1 (OK)
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
set retransmit: st=1, timeout=10.
Adding timer #2... expiry=10, data=9733288
Adding to bucket 1 at index 10
Next_time = 10 sec

In run_timer_list, jiffies=00000001, skipped = 1
tvecs[1]->bits is 3, tvecs[n]->index is 0
Comes 62.212.108.181:500->10.30.30.8:500,ifindex=0, ....
Exchange Mode = 4, I_COOKIE = 0xA5EE24F2C86F37AA, Len = 440
Received Payloads= SA KE NONCE ID VID VID VID 130 130 HASH
Initiator:aggressive mode get 1st response...
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Negotiate Result
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Negotiate Success.(No echo).
test the peer keepalive status....
The peer is non-keepalive fortigate.
testing the peer DPD status....
The peer supports DPD draft 2.
test the peer natt status....
The peer supports natt draft3.
Using IPS_NAT_MODE_KEEPALIVE.
Negotiate SA Error: Authentication failed for pre-shared key [43]
Initiator: parsed 62.212.108.181 aggressive mode message #1 (ERROR)
```

Next_time = 3599 sec

//#5
// Log below taken when ID, Phase 1 & 2, and Pre-Shared Key are OK, but the VIP address on FortiClient does not match FGT policy

```
In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Detect local gateway for peer: 62.212.108.181
Get sa_connect message...10.30.30.8->62.212.108.181:0, natt_mode=0
Using new connection...natt_mode=0
Set connection name = vpn-to-internal-lan.
Adding timer #1... expiry=3600, data=9731984
Adding to bucket 3 at index 1
Tunnel 10.30.30.8 ---> 62.212.108.181:500,natt_en=1 is starting negotiation
Will negotiate a normal SA
Initiator:aggressive mode is sending 1st message...
Initiator:aggressive mode set dh=1536.
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Sending NATT VID payload (draft3 and draft1)....
Initiator: sent 62.212.108.181 aggressive mode message #1 (OK)
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
set retransmit: st=1, timeout=10.
Adding timer #2... expiry=10, data=9733288
Adding to bucket 1 at index 10
Next_time = 10 sec

In run_timer_list, jiffies=00000001, skipped = 1
tvecs[1]->bits is 3, tvecs[n]->index is 0
Comes 62.212.108.181:500->10.30.30.8:500,ifindex=0, ....
Exchange Mode = 4, I_COOKIE = 0x7C5A0EC363D827CD, Len = 440
Received Payloads= SA KE NONCE ID VID VID VID 130 130 HASH
Initiator:aggressive mode get 1st response...
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Negotiate Result
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Negotiate Success.(No echo).
test the peer keepalive status....
The peer is non-keepalive fortigate.
testing the peer DPD status....
```

The peer supports DPD draft 2.
test the peer natt status....
The peer supports natt draft3.
Using IPS_NAT_MODE_KEEPALIVE.
set gw: 009484A8, timeout=28800.
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
Adding timer #2... expiry=28800, data=9731984
Adding to bucket 4 at index 1
Initiator: sent 62.212.108.181 aggressive mode message #2 (DONE)
confirmed nat-t draft3
My id: 10.1.0.1 255.255.255.0
Adding timer #3... expiry=28800, data=9736160
Adding to bucket 4 at index 1
Initiator:quick mode set pfs=1536...
Try to negotiate with 1800 life seconds.
confirmed nat-t draft3
Initiator: sent 62.212.108.181 quick mode message #1 (OK)
set retransmit: st=2, timeout=10.
Adding timer #3... expiry=10, data=9736160
Adding to bucket 1 at index 11

Next_time = 10 sec

//#6
// Log below is when everything is OK. A successful VPN test connection.

In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Detect local gateway for peer: 62.212.108.181
Get sa_connect message...10.30.30.8->62.212.108.181:0, natt_mode=0
Using new connection...natt_mode=0
Set connection name = vpn-to-internal-lan.
Adding timer #1... expiry=3600, data=9731984
Adding to bucket 3 at index 1
Tunnel 10.30.30.8 ---> 62.212.108.181:500,natt_en=1 is starting negotiation
Will negotiate a normal SA
Initiator:aggressive mode is sending 1st message...
Initiator:aggressive mode set dh=1536.
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Sending NATT VID payload (draft3 and draft1)....
Initiator: sent 62.212.108.181 aggressive mode message #1 (OK)
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
set retransmit: st=1, timeout=10.
Adding timer #2... expiry=10, data=9733288
Adding to bucket 1 at index 10
Next_time = 10 sec

In run_timer_list, jiffies=00000000, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
Comes 62.212.108.181:500->10.30.30.8:500,ifindex=0, ...
Exchange Mode = 4, I_COOKIE = 0xCB18DD8CF237CE0D, Len = 440
Received Payloads= SA KE NONCE ID VID VID VID 130 130 HASH
Initiator:aggressive mode get 1st response...
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Proposal_id = 1:

```
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Negotiate Result
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Negotiate Success.(No echo).
test the peer keepalive status....
The peer is non-keepalive fortigate.
testing the peer DPD status....
The peer supports DPD draft 2.
test the peer natt status....
The peer supports natt draft3.
Using IPS_NAT_MODE_KEEPALIVE.
set gw: 009484A8, timeout=28800.
Adding timer #2... expiry=28800, data=9733288
Adding to bucket 4 at index 1
Adding timer #2... expiry=28800, data=9731984
Adding to bucket 4 at index 1
Initiator: sent 62.212.108.181 aggressive mode message #2 (DONE)
confirmed nat-t draft3
My id: 10.1.0.1 255.255.255.0
Adding timer #3... expiry=28800, data=9736160
Adding to bucket 4 at index 1
Initiator:quick mode set pfs=1536...
Try to negotiate with 1800 life seconds.
confirmed nat-t draft3
Initiator: sent 62.212.108.181 quick mode message #1 (OK)
set retransmit: st=2, timeout=10.
Adding timer #3... expiry=10, data=9736160
Adding to bucket 1 at index 10


Next_time = 10 sec

In run_timer_list, jiffies=00000001, skipped = 1
tvecs[1]->bits is 3, tvecs[n]->index is 0
Comes 62.212.108.181:4500->10.30.30.8:4500,ifindex=0, ....
Exchange Mode = 32, Message id = 0xD6E01AF3, Len = 348
Received Payloads= HASH SA NONCE KE ID ID
Initiator:quick mode get 1st response
Proposal_id = 1:
  Protocol_id = IPSEC_ESP:
    trans_id = ESP_3DES.
    encapsulation = UDP_ENCAPSULATION_MODE_TUNNEL
      type=AUTH_ALG, val=SHA1.
Proposal_id = 1:
  Protocol_id = IPSEC_ESP:
    trans_id = ESP_3DES.
    encapsulation = 0 (unknown)
      type=AUTH_ALG, val=SHA1.
Negotiate Result
Proposal_id = 1:
  Protocol_id = IPSEC_ESP:
    trans_id = ESP_3DES.
    encapsulation = UDP_ENCAPSULATION_MODE_TUNNEL
      type=AUTH_ALG, val=SHA1.
```

Phase2 esp lifetimes=1800
Using udp tunnel mode.
Negotiate Success.(No echo).
Initiator:Prepare to install sa.
Set sa life soft seconds=1777.
Set sa life hard seconds=1800.
dport = 4500. tunnel.name = vpn-to-internal-lan.
Detect local gateway for peer: 62.212.108.181. Next hop: 10.30.30.1
Initializing sa OK.
Initiator: sent 62.212.108.181 quick mode message #2 (DONE)
expire: st=2, timeout=120.
Adding timer #3... expiry=120, data=9736160
Adding to bucket 1 at index 121
confirmed nat-t draft3
confirmed nat-t draft3

Next_time = 120 sec

In run_timer_list, jiffies=00000001, skipped = 0
tvecs[1]->bits is 3, tvecs[n]->index is 0
confirmed nat-t draft3

IKE daemon stopped

// <u>FortGate v2.50-MR8 debug outputs collected using "diag debug appli ike 2". FortiClient v1.0.210 is connecting to this unit.</u>

//#1
// Debug below is when an incorrect user ID is configured on the FC (ID mismatch)

Fortigate-200 #

Fortigate-200 # Comes 81.255.3.99:53522->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x8995EF78BC454916, Len = 388
The peer id is joe.
Can not find the remote_gwy, exit.

Comes 81.255.3.99:53522->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x8995EF78BC454916, Len = 388
The peer id is joe.
Can not find the remote_gwy, exit.

Comes 81.255.3.99:53522->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x8995EF78BC454916, Len = 388
The peer id is joe.
Can not find the remote_gwy, exit.

//#2
// Debug below is when the user ID is OK, but there is a mismatch on the Phase 1 Encryption/Authentication proposals.

Fortigate-200 # Comes 81.255.3.99:54164->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x9D7B55324D933E35, Len = 392
The peer id is vpnuser1.
Set connection name = Dial-in-gateway.
Received Payloads= SA KE NONCE ID VID VID VID VID
Responder:aggressive mode get 1st message...
test the peer keepalive status....
test the peer natt status....
The peer supports natt draft3.
testing the peer DPD status....
The peer supports DPD draft 2.

Incoming proposal:
Proposal_id = 1:

```
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=DES_CBC.
      type=OAKLEY_HASH_ALG, val=MD5.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.

My proposal:
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Cannot negotiate successfully
Negotiate SA Error: No proposal can be chosen. [2361]
Negotiate Error.
sending INFO message NO_PROPOSAL_CHOSEN to peer
Send IKE Packet(Info Mode):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=40
transmitted 40 bytes
Responder: parsed 81.255.3.99 aggressive mode message #1 (ERROR)


Comes 81.255.3.99:54164->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x9D7B55324D933E35, Len = 392
The peer id is vpnuser1.
Received Payloads= SA KE NONCE ID VID VID VID VID
Responder:aggressive mode get 1st message...
test the peer keepalive status....
test the peer natt status....
The peer supports natt draft3.
testing the peer DPD status....
The peer supports DPD draft 2.

Incoming proposal:
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=DES_CBC.
      type=OAKLEY_HASH_ALG, val=MD5.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.

My proposal:
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Cannot negotiate successfully
Negotiate SA Error: No proposal can be chosen. [2361]
Negotiate Error.
sending INFO message NO_PROPOSAL_CHOSEN to peer
Send IKE Packet(Info Mode):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=40
transmitted 40 bytes
Responder: parsed 81.255.3.99 aggressive mode message #1 (ERROR)


Comes 81.255.3.99:54164->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x9D7B55324D933E35, Len = 392
The peer id is vpnuser1.
```

```
Received Payloads= SA KE NONCE ID VID VID VID VID
Responder:aggressive mode get 1st message...
test the peer keepalive status....
test the peer natt status....
The peer supports natt draft3.
testing the peer DPD status....
The peer supports DPD draft 2.

Incoming proposal:
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=DES_CBC.
      type=OAKLEY_HASH_ALG, val=MD5.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.

My proposal:
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Cannot negotiate successfully
Negotiate SA Error: No proposal can be chosen. [2361]
Negotiate Error.
sending INFO message NO_PROPOSAL_CHOSEN to peer
Send IKE Packet(Info Mode):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=40
transmitted 40 bytes
Responder: parsed 81.255.3.99 aggressive mode message #1 (ERROR)
```

//#3
// Debug below is when the user ID is OK, Phase 1 OK, but a mismatch on the Phase 2 Encryption/Authentication proposals.

```
Fortigate-200 # Comes 81.255.3.99:54164->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x68BEAFBC393FD64E, Len = 392
The peer id is vpnuser1.
Set connection name = Dial-in-gateway.
Received Payloads= SA KE NONCE ID VID VID VID VID
Responder:aggressive mode get 1st message...
test the peer keepalive status....
test the peer natt status....
The peer supports natt draft3.
testing the peer DPD status....
The peer supports DPD draft 2.
Negotiate Result
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Responder: sent 81.255.3.99 aggressive mode message #1 (OK)
Send IKE Packet(STF_REPLY):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=440
set retransmit: st=16, timeout=10.
```

Comes 81.255.3.99:54256->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x68BEAFBC393FD64E, Len = 100
Received Payloads= 130 130 HASH
Responder:aggressive mode get 2nd response...
Using IPS_NAT_MODE_SILENT.
set gw: 0x8137208, timeout=28800.
Responder: parsed 81.255.3.99 aggressive mode message #2 (DONE)

Comes 81.255.3.99:54256->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 32, Message id = 0x490C22CC, Len = 348
Received Payloads= HASH SA NONCE KE ID ID
Responder:quick mode get 1st message...
his proposal ids: peer:10.1.0.1(255.255.255.255), me:10.10.1.0(255.255.255.0)
my policy ids: src:10.10.1.0(255.255.255.0), dst:10.1.0.0(255.255.255.0)
Got it
Found Dial-in-gateway:0.0.0.0.
Matched an IPsec tunnel(tunnel-to-internal), kernel_comm.c,440
Dialup tunnel-to-internal.
Dialup proxyid: peer:10.1.0.1(255.255.255.255),me:10.10.1.0(255.255.255.0)

Incoming proposal:
Proposal_id = 1:
  Protocol_id = IPSEC_ESP:
    trans_id = ESP_DES.
    encapsulation = UDP_ENCAPSULATION_MODE_TUNNEL
      type=AUTH_ALG, val=MD5.

My proposal:
Proposal_id = 1:
  Protocol_id = IPSEC_ESP:
    trans_id = ESP_3DES.
    encapsulation = 0 (unknown)
      type=AUTH_ALG, val=SHA1.
Cannot negotiate successfully
Negotiate SA Error: No proposal can be chosen. [2361]
Negotiate Error.
sending INFO message NO_PROPOSAL_CHOSEN to peer
confirmed nat-t draft3
Send IKE Packet(Info Mode):62.212.108.181:4500(if8) -> 81.255.3.99:54256, len=68
transmitted 68 bytes
Responder: parsed 81.255.3.99 quick mode message #1 (ERROR)

Comes 81.255.3.99:54256->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 32, Message id = 0x490C22CC, Len = 348

Comes 81.255.3.99:54256->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 5, Message id = 0x663E4B0F, Len = 84
####### ISAKMP INFO ##########
Received Payloads= HASH Delete
######### Receive Information Payload(Protected)#########
  spi_size=16, spi_number=1
  No. 0 spi=68beafbc393fd64e07ee417c0c3e09a8
confirmed nat-t draft3
Send IKE Packet(delete notify):62.212.108.181:4500(if8) -> 81.255.3.99:54256, len=84

//#4
// Debug below is when the user ID is OK, Phase 1 and 2 OK, but a mismatch on the Pre-Shared key

Fortigate-200 # Comes 81.255.3.99:54164->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0xA5EE24F2C86F37AA, Len = 392
The peer id is vpnuser1.
Set connection name = Dial-in-gateway.
Received Payloads= SA KE NONCE ID VID VID VID VID
Responder:aggressive mode get 1st message...

test the peer keepalive status....
test the peer natt status....
The peer supports natt draft3.
testing the peer DPD status....
The peer supports DPD draft 2.
Negotiate Result
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Responder: sent 81.255.3.99 aggressive mode message #1 (OK)
Send IKE Packet(STF_REPLY):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=440
set retransmit: st=18, timeout=10.

sched: timer is overdue by 1 seconds.
No response from the peer, retransmit (st=18)....
Send IKE Packet(EVENT_RETRANSMIT):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=440
set retransmit: st=18, timeout=20.
No response from the peer, retransmit (st=18)....
Send IKE Packet(EVENT_RETRANSMIT):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=440
set retransmit: st=18, timeout=40.
Retransmit reaches maximum count (st=18)...delete it!

//#5
// Debug below taken when ID, Phase 1 & 2, and Pre-Shared Key are OK, except that the VIP address on FortiClient does not
// match FGT policy

Fortigate-200 # Comes 81.255.3.99:36374->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x7C5A0EC363D827CD, Len = 392
The peer id is vpnuser1.
Set connection name = Dial-in-gateway-1.
Received Payloads= SA KE NONCE ID VID VID VID VID
Responder:aggressive mode get 1st message...
test the peer keepalive status....
test the peer natt status....
The peer supports natt draft3.
testing the peer DPD status....
The peer supports DPD draft 2.
Negotiate Result
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Responder: sent 81.255.3.99 aggressive mode message #1 (OK)
Send IKE Packet(STF_REPLY):62.212.108.181:500(if8) -> 81.255.3.99:36374, len=440
set retransmit: st=180, timeout=10.

Comes 81.255.3.99:36375->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0x7C5A0EC363D827CD, Len = 100

Received Payloads= 130 130 HASH
Responder:aggressive mode get 2nd response...
Using IPS_NAT_MODE_SILENT.
set gw: 0x8137208, timeout=28800.
Responder: parsed 81.255.3.99 aggressive mode message #2 (DONE)

Comes 81.255.3.99:36375->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 32, Message id = 0xECD9037F, Len = 348
Received Payloads= HASH SA NONCE KE ID ID
Responder:quick mode get 1st message...
his proposal ids: peer:10.1.0.1(255.255.255.255), me:10.99.99.0(255.255.255.0)
my policy ids: src:10.10.1.0(255.255.255.128), dst:10.1.0.0(255.255.255.0)
Got it failure .....
No matching IPsec tunnel found, kernel_comm.c,435
retrieve_ike_policy error.
sending INFO message INVALID_ID_INFORMATION to peer
confirmed nat-t draft3
Send IKE Packet(Info Mode):62.212.108.181:4500(if8) -> 81.255.3.99:36375, len=68
transmitted 68 bytes
Responder: parsed 81.255.3.99 quick mode message #1 (ERROR)

Comes 81.255.3.99:36375->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 32, Message id = 0xECD9037F, Len = 348

Comes 81.255.3.99:36375->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 32, Message id = 0xECD9037F, Len = 348

//#6
// Debug below is when everything is OK. A successful VPN dial-in connection.

Fortigate-200 # Retransmit reaches maximum count (st=19)...delete it!
Comes 81.255.3.99:54164->62.212.108.181:500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0xCB18DD8CF237CE0D, Len = 392
The peer id is vpnuser1.
Received Payloads= SA KE NONCE ID VID VID VID VID
Responder:aggressive mode get 1st message...
test the peer keepalive status....
test the peer natt status....
The peer supports natt draft3.
testing the peer DPD status....
The peer supports DPD draft 2.
Negotiate Result
Proposal_id = 1:
  Protocol_id = ISAKMP:
    trans_id = KEY_IKE.
    encapsulation = 0 (unknown)
      type=OAKLEY_ENCRYPT_ALG, val=3DES_CBC.
      type=OAKLEY_HASH_ALG, val=SHA.
      type=AUTH_METHOD, val=PRESHARED_KEY.
      type=OAKLEY_GROUP, val=1536.
Phase1 lifetimes=28800
Sending DPD VID payload....
Sending VID payload....
Sending NATT VID payload (draft3)....
Responder: sent 81.255.3.99 aggressive mode message #1 (OK)
Send IKE Packet(STF_REPLY):62.212.108.181:500(if8) -> 81.255.3.99:54164, len=440
set retransmit: st=20, timeout=10.

Comes 81.255.3.99:54695->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 4, I_COOKIE = 0xCB18DD8CF237CE0D, Len = 100
Received Payloads= 130 130 HASH
Responder:aggressive mode get 2nd response...
Using IPS_NAT_MODE_SILENT.

```
set gw: 0x8137208, timeout=28800.
Responder: parsed 81.255.3.99 aggressive mode message #2 (DONE)


Comes 81.255.3.99:54695->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 32, Message id = 0xD6E01AF3, Len = 348
Received Payloads= HASH SA NONCE KE ID ID
Responder:quick mode get 1st message...
his proposal ids: peer:10.1.0.1(255.255.255.255), me:10.10.1.0(255.255.255.0)
my policy ids: src:10.10.1.0(255.255.255.0), dst:10.1.0.0(255.255.255.0)
Got it
Found Dial-in-gateway:0.0.0.0.
Matched an IPsec tunnel(tunnel-to-internal), kernel_comm.c,440
Dialup tunnel-to-internal.
Dialup proxyid: peer:10.1.0.1(255.255.255.255),me:10.10.1.0(255.255.255.0)
Negotiate Result
Proposal_id = 1:
  Protocol_id = IPSEC_ESP:
    trans_id = ESP_3DES.
    encapsulation = UDP_ENCAPSULATION_MODE_TUNNEL
      type=AUTH_ALG, val=SHA1.
Phase2 esp lifetimes=1800
negotiate:set pfs=1536.
Using udp tunnel mode.
Responder:quick mode set pfs=1536.
quick mode:idci type=1, len=4, chunk=0a010001
quick mode:idcr type=4, len=8, chunk=0a0a0100ffffff00
Responder: sent 81.255.3.99 quick mode message #1 (OK)
confirmed nat-t draft3
Send IKE Packet(STF_REPLY):62.212.108.181:4500(if8) -> 81.255.3.99:54695, len=348
set retransmit: st=21, timeout=10.


Comes 81.255.3.99:54695->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 32, Message id = 0xD6E01AF3, Len = 52
Received Payloads= HASH
Replay protection enable.
Set sa life soft seconds=1750.
Set sa life hard seconds=1800.
dport = 54695.adding dialup. peer:10.1.0.1(255.255.255.255), me:10.10.1.0(255.255.255.0)
Add dialup tunnel.tun=tunnel-to-internal, remote_gwy=81.255.3.99
Initializing sa OK.
Responder:quick mode done !


Responder: parsed 81.255.3.99 quick mode message #2 (DONE)
expire: st=21, timeout=120.


Comes 81.255.3.99:54695->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 5, Message id = 0x1BCFA1EA, Len = 76
#######  ISAKMP INFO ##########
Received Payloads= HASH Delete
######### Receive Information Payload(Protected)#########
  spi_size=4, spi_number=2
  No. 0 spi=9e54da5a
  No. 1 spi=37692f07
Deleting: dst=81.255.3.99,spi=9e54da5a
Deleting: dst=81.255.3.99,spi=37692f07


Comes 81.255.3.99:54695->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
Exchange Mode = 5, Message id = 0x1FA0A422, Len = 84
#######  ISAKMP INFO ##########
Received Payloads= HASH Delete
######### Receive Information Payload(Protected)#########
  spi_size=16, spi_number=1
  No. 0 spi=cb18dd8cf237ce0dac56f63b544ea211
```

confirmed nat-t draft3
Send IKE Packet(delete notify):62.212.108.181:4500(if8) -> 81.255.3.99:54695, len=84

SA hard expired. 81.255.3.99:54695

// Note: Debug output below is caused by NATT Keepalives. This is normal.

Comes 62.212.107.74:41051->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
packet is bad: len=1.

Comes 62.212.107.74:41051->62.212.108.181:4500,ifindex=8, ppp0, vf_id=0....
packet is bad: len=1.