TheGreenBow IPSec VPN Client

Configuration Guide

NetGear FVS 318

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1 Introduction

1.1 Goal of this document

This configuration guide describes how to configure TheGreenBow IPSec VPN Client with a Netgear FVS318 router.

1.2 VPN Network topology

In our VPN network example (diagram hereafter), we will connect TheGreenBow IPSec VPN Client to the LAN behind the Netgear FVS318 router. The VPN client is connected to the Internet with a DSL connection or through a LAN. All the addresses in this document are given for example purpose.

1.3 Netgear FVS318 Restrictions

No known restriction.
2 NetGear FVS 318 VPN Configuration

This section describes how to build an IPSec VPN configuration with your Netgear FVS318 VPN router.

Once connected to your Netgear VPN gateway, you must select "VPN Setting" link in order to change NetGear FVS318 VPN configuration.

The first settings show:

- Phase 1 identities (Local and Remote IPSec Identifier)
- Phase 2 identities (LAN IP address and Remote LAN IP address).

The "Tunnel can be accessed" value is local LAN behind the Netgear FVS318. You must select "a subnet of local address". This setting is the VPN Client's target.

The "Tunnel can access" value is the VPN Client's address. You must select "a single remote address" and "0.0.0.0".

The following screen contains information about algorithms used during IKE and by ESP.

Note: Diffie-Hellman Group2 is also known as Diffie-Hellman 1024 (DH 1024) and Diffie-Hellman Group1 as Diffie-Hellman 768.
3 TheGreenBow IPSec VPN Client configuration

3.1 VPN Client Phase 1 (IKE) Configuration

![VPN Client Phase 1 (IKE) Configuration](image)
3.2 VPN Client Phase 2 (IPSec) Configuration

3.3 Open IPSec VPN tunnels

Once both Netgear FVS318 router and TheGreenBow IPSec VPN Client have been configured accordingly, you are ready to open VPN tunnels. First make sure you enable your firewall with IPSec traffic.

1. Click on “Save & Apply” to take into account all modifications we’ve made on your VPN Client configuration
2. Click on “Open Tunnel”, or generate traffic that will automatically open a secure IPsec VPN Tunnel (e.g. ping, IE browser)
3. Select “Connections” to see opened VPN Tunnels
4. Select “Console” if you want to access to the IPSec VPN logs and adjust filters to display less IPSec messaging.
4 VPN IPSec Troubleshooting

4.1 « PAYLOAD MALFORMED » error

114920 Default (SA FVS318-P1) SEND phase 1 Main Mode [SA][VID]
114920 Default (SA FVS318-P1) RECV phase 1 Main Mode [NOTIFY]
114920 Default exchange_run: exchange_validate failed
114920 Default dropped message from 195.100.205.114 port 500 due to notification
type PAYLOAD_MALFORMED
114920 Default SEND Informational [NOTIFY] with PAYLOAD_MALFORMED error

If you have an « PAYLOAD MALFORMED » error you might have a wrong Phase 1 [SA], check if the encryption
algorithms are the same on each side of the VPN tunnel.

4.2 « INVALID COOKIE » error

115933 Default message_recv: invalid cookie(s) 5918ca0c2634288f 7364e3486e49105
115933 Default dropped message from 195.100.205.114 port 500 due to notification
type INVALID_COOKIE
115933 Default SEND Informational [NOTIFY] with INVALID_COOKIE error

If you have an « INVALID COOKIE » error, it means that one of the endpoint is using a SA that is no more in use.
Reset the VPN connection on each side.

4.3 « no keystate » error

115315 Default (SA FVS318-P1) SEND phase 1 Main Mode [SA][VID]
115317 Default (SA FVS318-P1) RECV phase 1 Main Mode [SA][VID]
115317 Default (SA FVS318-P1) SEND phase 1 Main Mode [KEY][NONCE]
115319 Default (SA FVS318-P1) RECV phase 1 Main Mode [KEY][NONCE]
115319 Default (SA FVS318-P1) SEND phase 1 Main Mode [ID][HASH][NOTIFY]
115319 Default ipsec_get_keystate: no keystate in ISAKMP SA 00B57C50

Check if the preshared key is correct or if the local ID is correct (see « Advanced » button). You should have
more information in the remote endpoint logs.

4.4 « received remote ID other than expected » error

120348 Default (SA FVS318-P1) SEND phase 1 Main Mode [SA][VID]
120349 Default (SA FVS318-P1) RECV phase 1 Main Mode [SA][VID]
120349 Default (SA FVS318-P1) SEND phase 1 Main Mode [KEY][NONCE]
120351 Default (SA FVS318-P1) RECV phase 1 Main Mode [KEY][NONCE]
120351 Default (SA FVS318-P1) SEND phase 1 Main Mode [ID][HASH][NOTIFY]
120351 Default ike_phase_1_recv_ID: received remote ID other than expected
support@thegreenbow.fr

The « Remote ID » value (see « Advanced » Button) does not match what the remote endpoint is expected.
4.5 « NO PROPOSAL CHOSEN » error

<table>
<thead>
<tr>
<th>Time</th>
<th>Message</th>
</tr>
</thead>
<tbody>
<tr>
<td>115911</td>
<td>Default (SA FVS318-P1) SEND phase 1 Main Mode [SA] [VID]</td>
</tr>
<tr>
<td>115913</td>
<td>Default (SA FVS318-P1) RECV phase 1 Main Mode [SA] [VID]</td>
</tr>
<tr>
<td>115913</td>
<td>Default (SA FVS318-P1) SEND phase 1 Main Mode [KEY] [NONCE]</td>
</tr>
<tr>
<td>115915</td>
<td>Default (SA FVS318-P1) RECV phase 1 Main Mode [KEY] [NONCE]</td>
</tr>
<tr>
<td>115915</td>
<td>Default (SA FVS318-P1) SEND phase 1 Main Mode [ID] [HASH] [NOTIFY]</td>
</tr>
<tr>
<td>115915</td>
<td>Default (SA FVS318-P1) RECV phase 1 Main Mode [ID] [HASH] [NOTIFY]</td>
</tr>
<tr>
<td>115915</td>
<td>Default phase 1 done: initiator id c364cd70: 195.100.205.112, responder id c364cd72: 195.100.205.114, src: 195.100.205.112 dst: 195.100.205.114</td>
</tr>
<tr>
<td>115915</td>
<td>Default (SA FVS318-FVS318-P2) SEND phase 2 Quick Mode [SA] [KEY] [ID] [HASH] [NONCE]</td>
</tr>
<tr>
<td>115915</td>
<td>Default RECV Informational [HASH] [NOTIFY] with NO_PROPOSAL_CHOSEN error</td>
</tr>
<tr>
<td>115915</td>
<td>Default RECV Informational [HASH] [DEL]</td>
</tr>
<tr>
<td>115915</td>
<td>Default FVS318-P1 deleted</td>
</tr>
</tbody>
</table>

If you have an « NO PROPOSAL CHOSEN » error, check that the « Phase 2 » encryption algorithms are the same on each side of the VPN Tunnel.

Check « Phase 1 » algorithms if you have this:

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<td>Default (SA FVS318-P1) SEND phase 1 Main Mode [SA] [VID]</td>
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<td>Default RECV Informational [NOTIFY] with NO_PROPOSAL_CHOSEN error</td>
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</table>

4.6 « INVALID ID INFORMATION » error

<table>
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<tr>
<th>Time</th>
<th>Message</th>
</tr>
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<tbody>
<tr>
<td>122623</td>
<td>Default (SA FVS318-P1) SEND phase 1 Main Mode [SA] [VID]</td>
</tr>
<tr>
<td>122625</td>
<td>Default (SA FVS318-P1) RECV phase 1 Main Mode [SA] [VID]</td>
</tr>
<tr>
<td>122625</td>
<td>Default (SA FVS318-P1) SEND phase 1 Main Mode [KEY] [NONCE]</td>
</tr>
<tr>
<td>122626</td>
<td>Default (SA FVS318-P1) RECV phase 1 Main Mode [KEY] [NONCE]</td>
</tr>
<tr>
<td>122626</td>
<td>Default (SA FVS318-P1) SEND phase 1 Main Mode [ID] [HASH] [NOTIFY]</td>
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<td>122626</td>
<td>Default phase 1 done: initiator id c364cd70: 195.100.205.112, responder id c364cd72: 195.100.205.114, src: 195.100.205.112 dst: 195.100.205.114</td>
</tr>
<tr>
<td>122626</td>
<td>Default (SA FVS318-FVS318-P2) SEND phase 2 Quick Mode [SA] [KEY] [ID] [HASH] [NONCE]</td>
</tr>
<tr>
<td>122626</td>
<td>Default RECV Informational [HASH] [NOTIFY] with INVALID_ID_INFORMATION error</td>
</tr>
<tr>
<td>122626</td>
<td>Default RECV Informational [HASH] [DEL]</td>
</tr>
<tr>
<td>122626</td>
<td>Default FVS318-P1 deleted</td>
</tr>
</tbody>
</table>

If you have an « INVALID ID INFORMATION » error, check if « Phase 2 » ID (local address and network address) is correct and match what is expected by the remote endpoint.

Check also ID type (“Subnet address” and “Single address”). If network mask is not check, you are using a IPV4_ADDR type (and not a IPV4_SUBNET type).

4.7 I clicked on “Open tunnel”, but nothing happens.

Read logs of each VPN tunnel endpoint. IKE requests can be dropped by firewalls. An IPSec Client uses UDP port 500 and protocol ESP (protocol 50).

4.8 The VPN tunnel is up but I can’t ping!

If the VPN tunnel is up, but you still cannot ping the remote LAN, here are a few guidelines:

- Check Phase 2 settings: VPN Client address and Remote LAN address. Usually, VPN Client IP address should not belong to the remote LAN subnet
- Once VPN tunnel is up, packets are sent with ESP protocol. This protocol can be blocked by firewall. Check that every device between the client and the VPN server does accept ESP
- Check your VPN server logs. Packets can be dropped by one of its firewall rules.
- Check your ISP support ESP
• If you still cannot ping, follow ICMP traffic on VPN server LAN interface and on LAN computer interface (with Ethereal for example). You will have an indication that encryption works.
• Check the “default gateway” value in VPN Server LAN. A target on your remote LAN can receive pings but does not answer because there is no “Default gateway” setting.
• You cannot access to the computers in the LAN by their name. You must specify their IP address inside the LAN.
• We recommend you to install ethereal (http://www.ethereal.com) on one of your target computer. You can check that your pings arrive inside the LAN.
5 Contacts

News and updates on TheGreenBow web site: [http://www.thegreenbow.com](http://www.thegreenbow.com)

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