TheGreenBow  VPN Client

Configuration Guide  OpenVPN

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Contact:  support@thegreenbow.com
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1 Introduction

1.1 Goal of this document

This configuration guide describes how to configure TheGreenBow SSL VPN Client software with a OpenVPN VPN router to establish VPN connections for remote access to corporate network.

1.2 VPN Network topology

In our VPN network example (diagram hereafter), we will connect TheGreenBow VPN Client software to the LAN behind the OpenVPN 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 OpenVPN Restrictions

No known restrictions

1.4 OpenVPN VPN Gateway

Our tests and VPN configuration have been conducted with OpenVPN version 2.4.

1.5 OpenVPN VPN Gateway product info

It is critical that users find all necessary information about OpenVPN VPN Gateway. All product info, User Guide and knowledge base for the OpenVPN VPN Gateway can be found on the OpenVPN website: https://openvpn.net/

<table>
<thead>
<tr>
<th>OpenVPN Product page</th>
<th><a href="https://openvpn.net/">https://openvpn.net/</a></th>
</tr>
</thead>
<tbody>
<tr>
<td>OpenVPN FAQ</td>
<td><a href="https://community.openvpn.net/openvpn/wiki/FAQ">https://community.openvpn.net/openvpn/wiki/FAQ</a></td>
</tr>
</tbody>
</table>
2 OpenVPN VPN configuration

This section describes how to build an SSL VPN configuration with your OpenVPN VPN router.

2.1 Server Certificates

Once connected to your OpenVPN VPN gateway, make sure you have Certificate authority configured and these certificates are ready and copied to concerned folders.

- "server.crt" - Certificate of the OpenVPN machine. This file needs to be copied to folder "/etc/openvpn/"

- "server.key" - Certificate private key of the OpenVPN machine. This file needs to be copied to folder "/etc/openvpn/"

- "ca.crt" - Certificate authority certificate for all certificates. This file needs to be copied to folder "/etc/openvpn/"

- "dh.pem" - Diffie Hellman parameters file. This file needs to be copied to folder "/etc/openvpn/"

2.2 Client Certificates

- "client1.crt" - User certificate to be imported to VPN Client.
- "client1.key" - User certificate’s private key to be imported to VPN Client.
- "ca.crt" - CA certificate of user certificate.

It is also possible to create single file "client1.p12" or "client1.pfx" using above 3 files and import to VPN Client.
2.3 Create VPN connections in OpenVPN

Once done, go to terminal command prompt and edit following files. Set the contents as follows.

```
#--------------- Contents of file: /etc/openvpn/server.conf

# Protocol, Port and interface
port 1194
proto udp
dev tun

# Path to files
ca keys/ca.crt
cert keys/server.crt
cert keys/server.key
dh keys/dh1024.pem

# Virtual IP and other configuration
server 10.50.50.0 255.255.255.0
ifconfig-pool-persist ipp.txt
keepalive 10 120
comp-lzo
user nobody
group nogroup
persist-key
persist-tun
status openvpn-status.log
verb 3

# Define the network range to be accessed by VPN Clients.
push "route 192.168.175.0 255.255.250.0"

#--------------- end of file
```

Once the file edited, start OpenVPN server by executing command: "openvpn /etc/openvpn/server.conf"
3 TheGreenBow VPN Client configuration

This section describes the required configuration to connect to an OpenVPN VPN router via VPN connections. To download the latest release of TheGreenBow VPN Client software, please go to www.thegreenbow.com/vpn_down.html.

3.1 VPN Client - SSL Configuration

SSL Main configuration

The remote VPN Gateway IP address is either an explicit IP address or a DNS Name.

Import Certificate
SSL Certificate configuration

This configuration is one example of what can be accomplished in term of User Authentication. You may want to refer to either the OpenVPN router user guide or TheGreenBow VPN Client software User Guide for more details on User Authentication options.
3.2 Open SSL VPN tunnels

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

1/ Select menu "Configuration" and "Save" to take into account all modifications we've made on your VPN Client configuration.

2/ Double Click on your SSL tunnel name or Click "Open" button in Connection panel to open tunnel.

3/ Select menu "Tools" and "Console" if you want to access to the SSL VPN logs. The following example shows a successful connection between TheGreenBow VPN Client and a OpenVPN VPN router.

```
2018-03-11 11:33:31.966 Default initialising daemon
2018-03-11 11:33:32.006 TSSL_TsGateway configuration OK
2018-03-11 11:34:04.440 TSSL_TsGateway VPN connection is opening.
2018-03-11 11:34:04.910 TSSL_TsGateway TLS Handshake completed.
2018-03-11 11:34:04.977 TSSL_TsGateway VPN options and keys received.
2018-03-11 11:34:05.025 TSSL_TsGateway VPN connection established.
2018-03-11 11:34:05.025 TSSL_TsGateway VPN renewal in 3600 seconds [12:34:05]
2018-03-11 11:34:05.039 TSSL_TsGateway [virtualif] Virtual Interface properly configured for instance 2 and index 60.
2018-03-11 11:34:15.180 TSSL_TsGateway VPN traffic reception OK.
```
4 Tools in case of trouble

Configuring an SSL VPN tunnel can be a hard task. One missing parameter can prevent a VPN connection from being established. Some tools are available to find source of troubles during a VPN establishment.

4.1 A good network analyser: Wireshark

Wireshark is a free software that can be used for packet and traffic analysis. It shows IP or TCP packets received on a network card. This tool is available on website www.wireshark.org. It can be used to follow protocol exchange between two devices. For installation and use details, read its specific documentation (www.wireshark.org/docs/).

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<th>Protocol</th>
<th>Message Type</th>
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</table>
5 VPN SSL Troubleshooting

5.1 "Connection aborted" error

20XX1005 11:39:23:757 TSSL_TlsGateway configuration OK
20XX1005 11:39:28:728 TSSL_TlsGateway OVPN 3 attempts to send packet id 0 with no response.
Aborting connection.

Read logs of SSL VPN Router if it received the VPN Client request. SSL requests can be dropped by firewalls. An SSL Client uses UDP port 1194 by default.
Check if the remote server is online.
6 Contacts

News and updates on TheGreenBow website: **www.thegreenbow.com**

Technical support by email at: **support@thegreenbow.com**

Sales contacts by email at: **sales@thegreenbow.com**
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