



VPN Tracker for Mac OS X



How-to:
Interoperability with
DrayTek Vigor

Rev. 1.0

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1. Introduction

This document describes how VPN Tracker can be used to establish a connection between a Macintosh running Mac OS X and a DrayTek Vigor VPN router. The entire DrayTek product range should be compatible with VPN Tracker. equinux has tested the DrayTek Vigor 2200. Please note: The Vigor 2000 has no built-in VPN Server.

The DrayTek Vigor is configured as a router, connecting a company LAN to the Internet.

The example demonstrates a connection scenario, with a dial-in Mac connecting to a DrayTek Vigor.

This paper is only a supplement to, not a replacement for, the instructions that have been included with your DrayTek Vigor. Please be sure to read and understand those instructions before beginning.

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2. Prerequisites

Firstly, you have to make sure that your DrayTek Vigor has VPN support built in. Please refer to your DrayTek Vigor manual for details.

Furthermore, you should use a recent DrayTek firmware version. The latest firmware release for your DrayTek Vigor can be obtained from:

<http://www.DrayTek.com.tw>

For this document, firmware version 2.3.1 has been used.

The type of the VPN Tracker license needed (personal or professional edition) depends on the connection scenario you are using. With a this router you can only connect whit a dial-in Mac without it's own subnet to the DrayTek Vigor so you need the personal edition in all cases.

VPN Tracker is compatible with Mac OS X 10.2 or higher.

Be sure to use VPN Tracker 1.6.1 or higher.¹

¹ All VPN Tracker versions prior to the 1.6.1 did not include a connection type for DrayTek products.

3. Connecting a VPN Tracker Host to a DrayTek Vigor

In this example, the Mac running VPN Tracker is directly connected to the internet via a dialup or PPP connection.² The DrayTek Vigor is configured in NAT mode and has the static WAN IP address 169.1.2.3 and the private LAN IP address 192.168.1.1. The stations in the LAN behind the DrayTek Vigor use 192.168.1.1 as their default gateway and should have a working Internet connection.

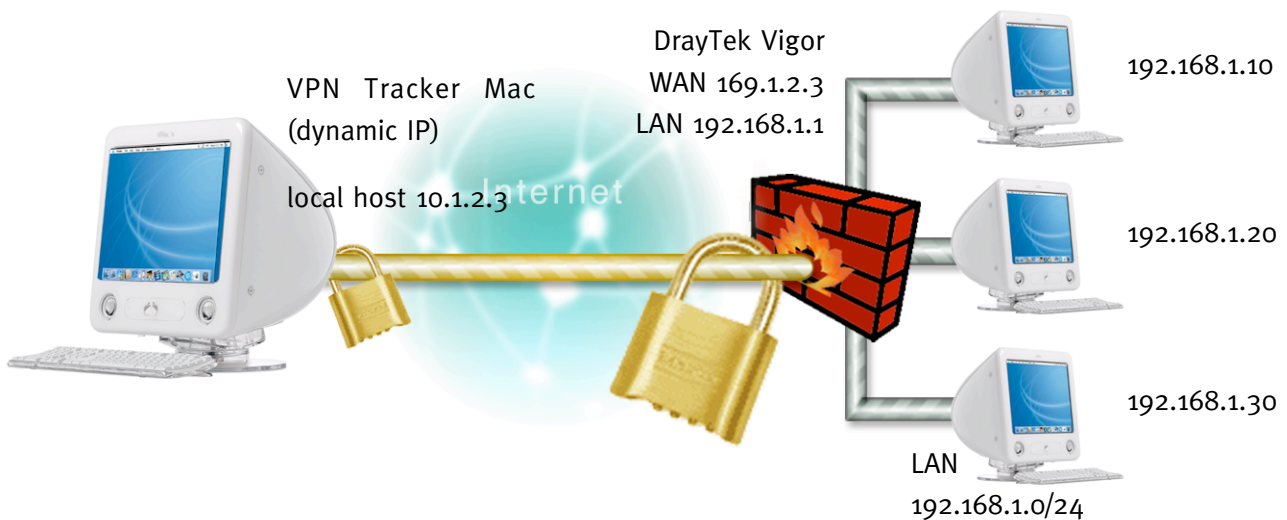


Figure 1: VPN Tracker - DrayTek Vigor connection diagram (host to network)

² Please note that the connection via a router, which uses Network Address Translation (NAT), only works if the NAT router supports „IPSEC passthrough“. Please contact your router’s manufacturer for details.

3. Connecting a VPN Tracker Host to a DrayTek Vigor

3.1 DrayTek Vigor configuration

The pre-defined VPN Tracker connection type has been created using the default settings on DrayTek Vigor. If you change any of the settings on the DrayTek Vigor VPN router, you will subsequently have to adjust the connection type in VPN Tracker.

Step 1

Enable IPsec VPN Service:

Go to [Advanced Setup -> Remote Access Control Setup] and enable “IPsec VPN Service”



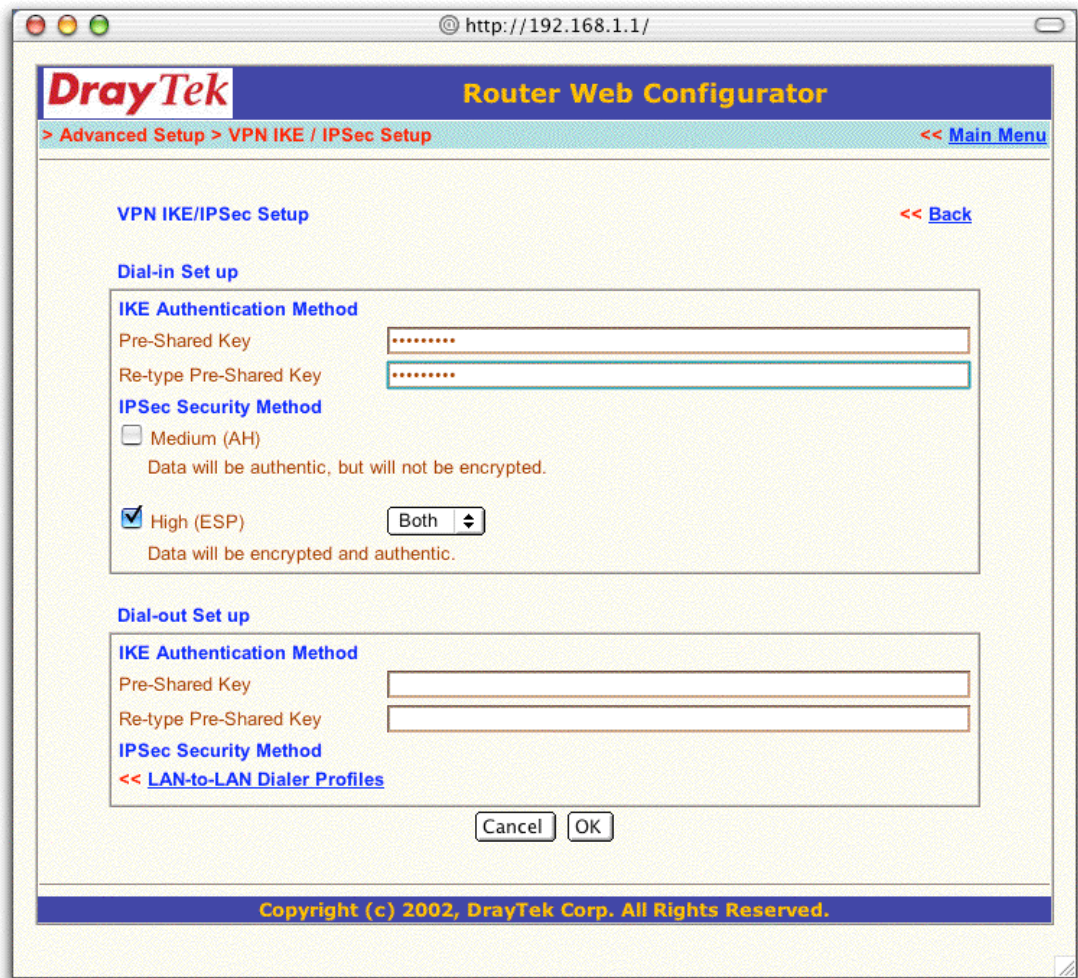
Figure 2: Enable IPsec VPN Service

3. Connecting a VPN Tracker Host to a DrayTek Vigor

Step 2

VPN IKE / IPSec Setup:

Go to [Advanced Setup -> VPN IKE / IPSec Setup]. Enter your Pre-Shared key twice in the Dial-in Setup. Disable “Medium (AH)” and select “High (ESP)” and choose “Both” as ‘IPSec Security method’. You can leave the Pre-Shared Key for the Dial-Out Setup blank. Please Note: Every user uses the same shared key.



The screenshot displays the DrayTek Router Web Configurator interface for the 'VPN IKE / IPSec Setup' page. The browser address bar shows 'http://192.168.1.1/'. The page title is 'DrayTek Router Web Configurator'. The breadcrumb navigation is '> Advanced Setup > VPN IKE / IPSec Setup' with a '<< Main Menu' link. The main heading is 'VPN IKE/IPSec Setup' with a '<< Back' link. The 'Dial-in Set up' section includes 'IKE Authentication Method' with 'Pre-Shared Key' and 'Re-type Pre-Shared Key' fields containing asterisks. The 'IPSec Security Method' section has 'Medium (AH)' unchecked and 'High (ESP)' checked, with a 'Both' dropdown menu. The 'Dial-out Set up' section has empty 'Pre-Shared Key' and 'Re-type Pre-Shared Key' fields. The page also includes a '<< LAN-to-LAN Dialer Profiles' link, 'Cancel' and 'OK' buttons, and a footer with 'Copyright (c) 2002, DrayTek Corp. All Rights Reserved.'

Figure 3: VPN IKE / IPSec Setup

3. Connecting a VPN Tracker Host to a DrayTek Vigor

Step 3

Add a LAN-to-LAN dialer profile:

To add a dialer profile, go to [Advanced Setup -> LAN-to-LAN Dialer Profile Setup]. By clicking on Index '1.' you can create a new dialer profile.

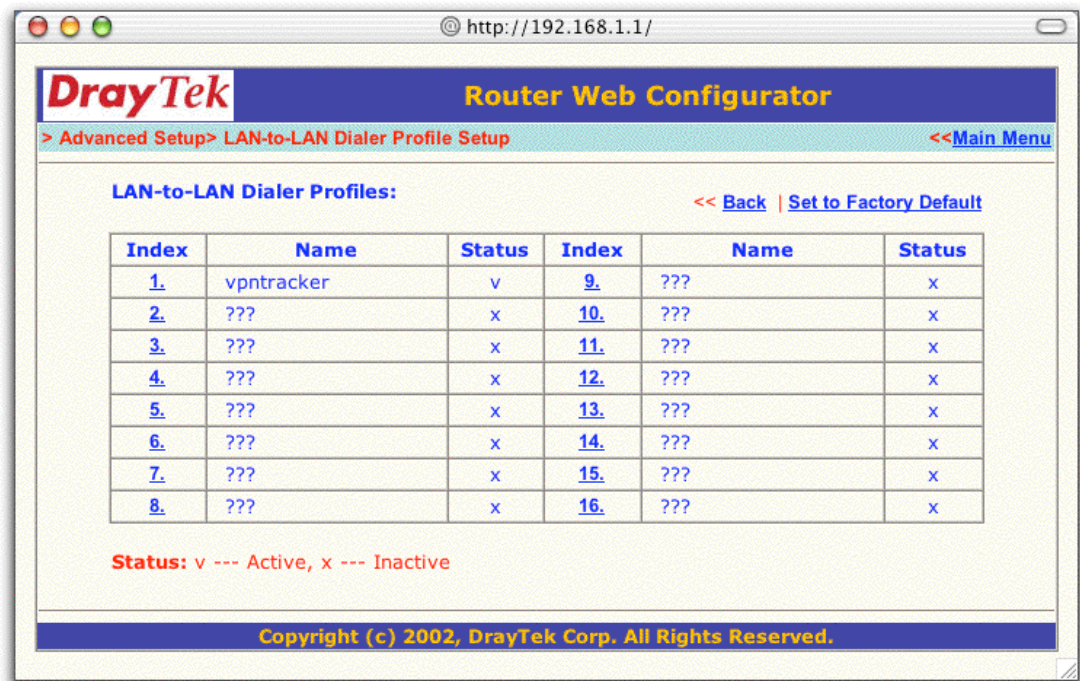


Figure 4: LAN-to-LAN Dialer Profile Setup

Step 4

Edit a LAN-to-LAN dialer Profile Setup:

Enter a name for this profile (e.g. vpntracker) and select “Enable this profile”. Choose ‘Dial-In’ as “Call Direction”.

Please leave the Dial-Out Settings blank.

Enter a username for the Dial-In Setting and leave the password field blank. Make sure that the only allowed dial-in type is ‘IPSec tunnel’.

Enter the same “Remote Network IP” (e.g. 10.1.2.3) that you will use for ‘local host’ in VPN Tracker (figure 8) and change the “Remote Network Mask” to ‘255.255.255.255’. This setting refers to the “Local Host” field in VPN Tracker. Please note: The remote host IP is **not** the same as the dynamic IP from the ISP. Finally please change the “RIP direction” to ‘Disable’.

3. Connecting a VPN Tracker Host to a DrayTek Vigor

DrayTek Router Web Configurator

> Advanced Setup > LAN-to-LAN Dialer Profile Setup << Main Menu

Profile Index : 1 << Back | Clear |

1. Common Settings

Profile Name:

Enable this profile

Call Direction: Both Dial-Out Dial-In

Always on

Idle Timeout: second(s)

Enable PING to keep alive

PING to the IP:

2. Dial-Out Settings

Username:

Password:

Dial Number for ISDN or Server IP/Host Name for VPN.
(such as 5551234, draytek.com or 123.45.67.89)

Type of Server I am calling

ISDN PPTP

IPsec Tunnel

L2TP with IPsec Policy:

Medium(AH)

High(ESP)

DES with Authentication:

Link Type:

PPP Authentication:

VJ Compression: On Off

Scheduler (1-15): , , ,

Callback Function (CBCP)

Require Remote to Callback

Provide ISDN Number to Remote

3. Dial-In Settings

Username:

Password:

Enable CLID Authentication

Peer ISDN Number or Peer VPN Server IP:

Allowed Dial-In Type

ISDN PPTP

IPsec Tunnel

L2TP with IPsec Policy:

Link Type:

PPP Authentication:

VJ Compression: On Off

Callback Function (CBCP)

Enable Callback Function

Use the Following Number to Callback

Callback Number:

Callback Budget: minute(s)

4. TCP/IP Network Settings

My WAN IP:

Remote Gateway IP:

Remote Network IP:

Remote Network Mask:

RIP Direction:

RIP Version:

For NAT operation, treat remote sub-net as:

Change default route to this VPN tunnel

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Figure 5: LAN-to-LAN Dialer Profile Setup

3. Connecting a VPN Tracker Host to a DrayTek Vigor

❖ Multiple VPN Tracker Hosts

Repeat step 4, using different names e.g. vpn2 and a different 'Remote Network IP'. The Vigor 2200/2600 can handle up to 8 simultaneous connections. The Vigor 2300 up to 16.

3.2 VPN Tracker configuration

Step 1

Add a new connection with the following options: Choose „DrayTek Vigor“ as the Connection Type, „Host to Network“ as mode, then type in the remote endpoint (169.1.2.3) and the remote network (192.168.1.0/24). Enter the same “local host” that you typed in in Figure 5, which will be the virtual IP address of your Mac (10.1.2.3).

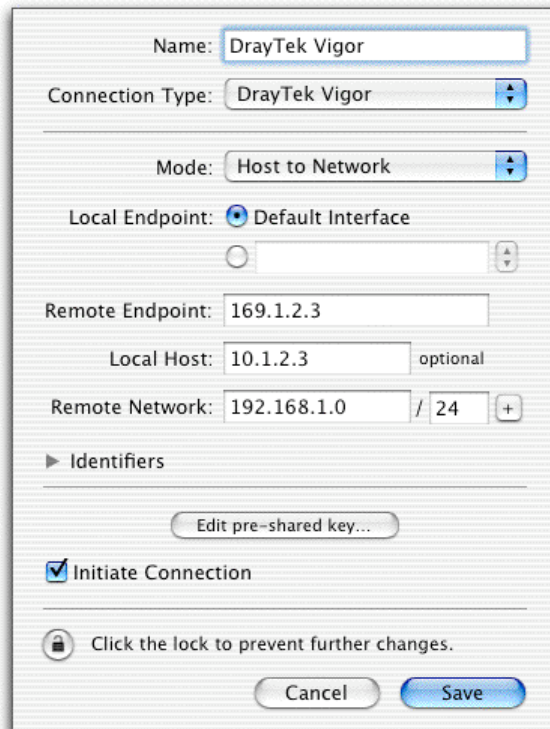


Figure 6: VPN Tracker connection dialog

Step 2

Click „Edit pre-shared key“ and type in the shared secret key that you typed-in in the DrayTek Vigor (Figure 2).

3. Connecting a VPN Tracker Host to a DrayTek Vigor

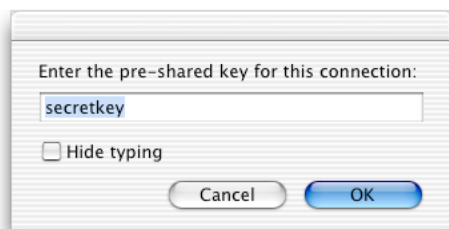


Figure 7: Shared key dialog

Step 3

Save the connection and Click „Start IPsec“ in the VPN Tracker main window.

You're done. After 10-20 seconds the red status indicator for the connection should change to green, which means you're securely connected to the DrayTek Vigor. After IPsec has been started, you may quit VPN Tracker. The IPsec service will keep running.

Now to test your connection simply ping a host in the DrayTek Vigor network from the dialed-in Mac in the "Terminal" utility:

```
ping 192.168.1.10
```

And from the DrayTek Vigor network (192.168.1.0/24) you can:

```
ping 10.1.2.3
```

❖ Debugging

If the status indicator does not change to green please have a look at the log file on both sides. You can define the amount of information available in the log file in the VPN Tracker preferences.

4. Connecting a VPN Tracker host to a DrayTek Vigor with dynamic DNS

The majority of users don't receive a fixed IP-Address from a provider without a leased line. In most cases of PPOE you will be disconnected from the network after 24 hours at the latest, and a new IP- Address will be assigned. Firstly, make sure that the configuration with static IP addresses (Chapter 3) works properly, then begin testing with dynamic DNS.

A known IP address is the requirement for a VPN server. There are special DynDNS services available online to avoid entering the address each time. The DynDNS service providers translate a domain name like vpntracker.dyndns.org to the appropriate IP-Address. The Vigor-Router automatically informs the DynDNS-service after every change made. However, you have to restart your VPN connection on the Mac side to access the server again.

To use this feature, set up a DynDNS account on your router as described in the DrayTek Vigor users guide. In VPN Tracker just replace the IP-Address in the field "Remote Endpoint" in the VPN Tracker connection dialog (e.g. 169.1.2.3) with the hostname of your DynDNS host (e.g. vpntracker.dyndns.org).

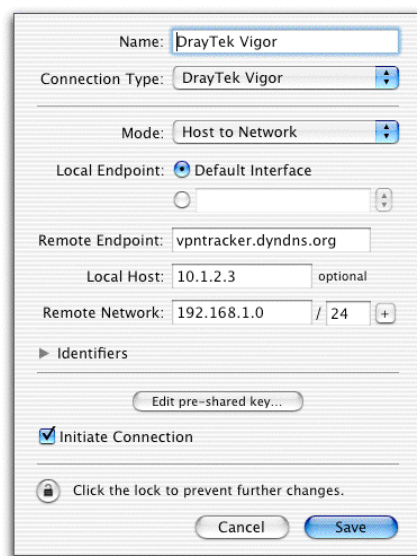


Figure 8: VPN Tracker connection dialog