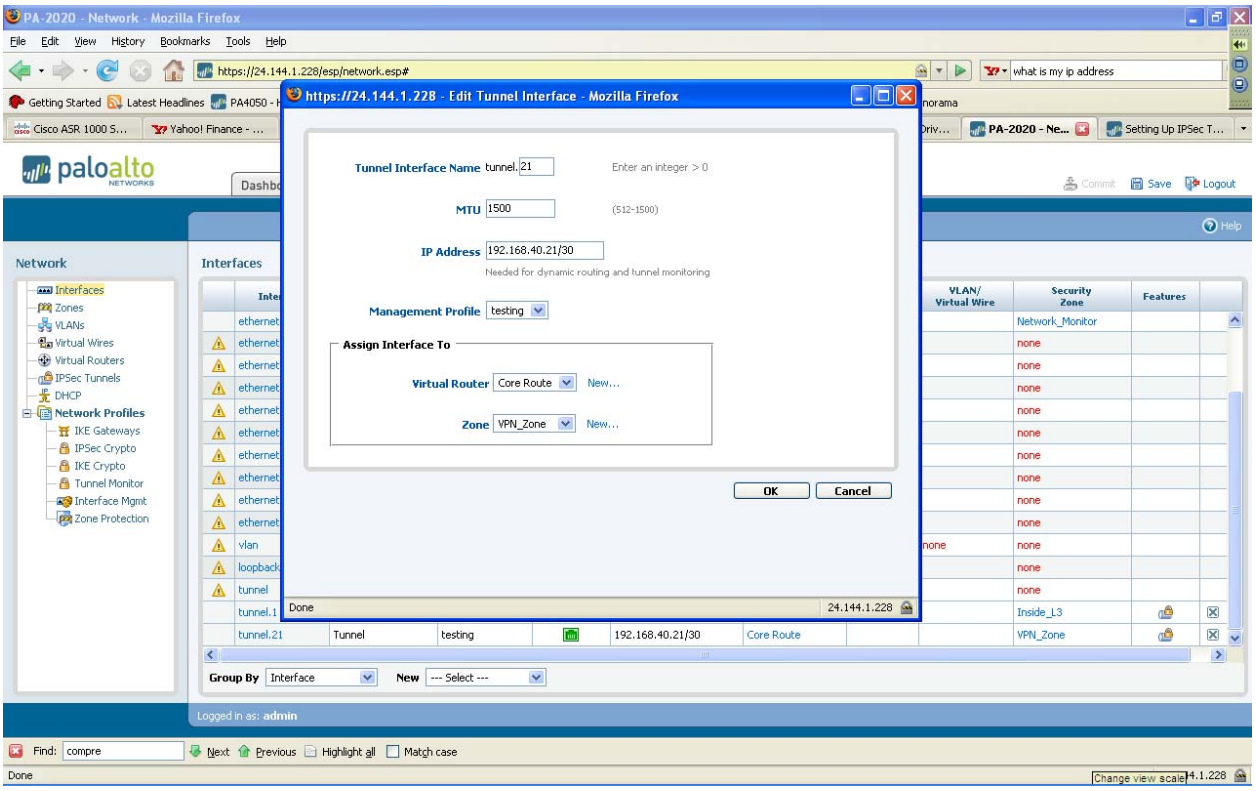
Palo Alto Networks & Watchguard - IPSec Settings

This document describes the common settings on the Palo Alto firewall and Watchguard firewall to create an IPSec tunnel between the two devices. The Palo Alto firewall is a 2020 model running PAN-OS 2.0.3 and the Wathguard is a Firebox X.

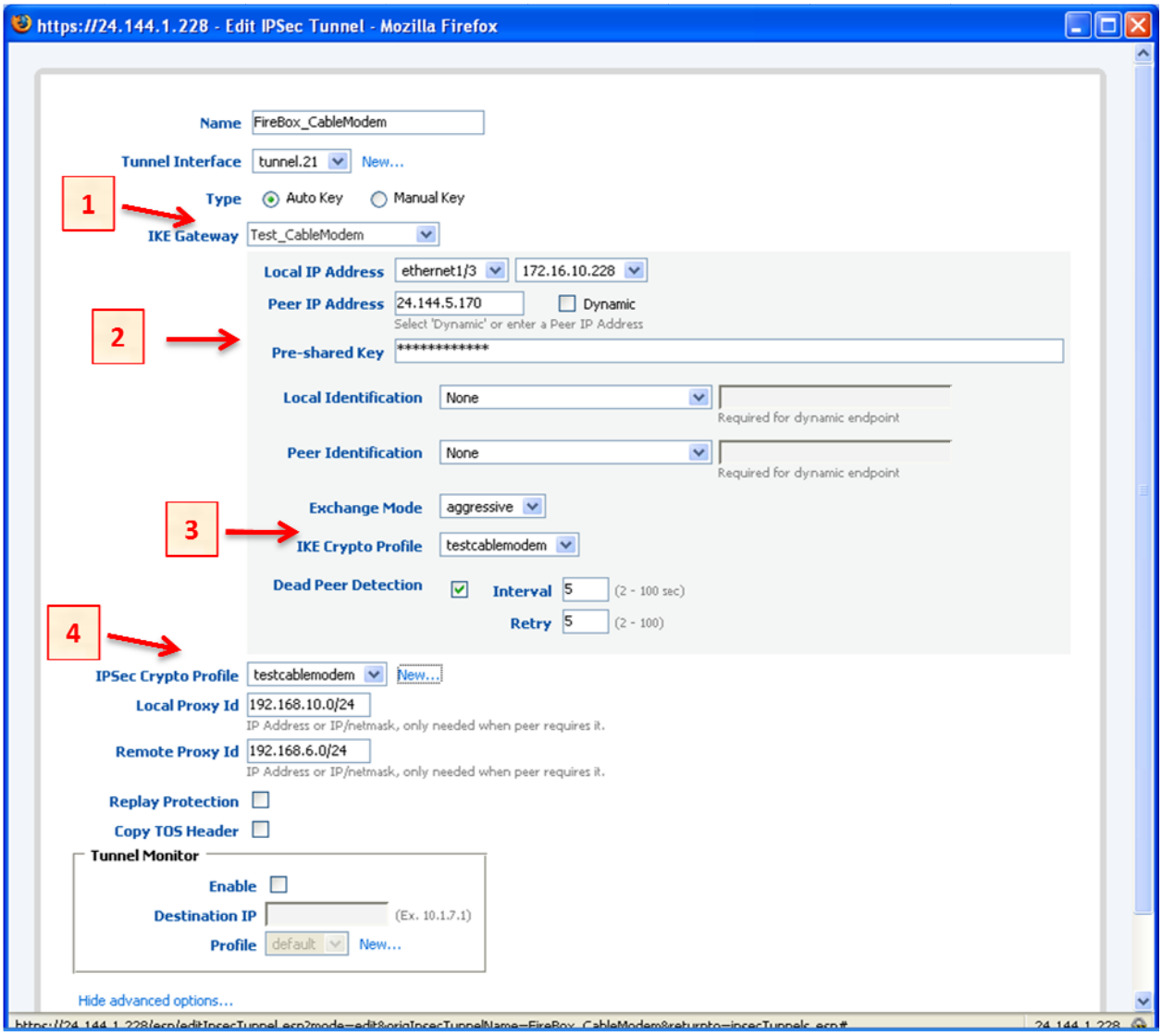
The 1st step is to create a tunnel interface on the Palo Alto. See Figure 1.

Figure 1: New IPSec tunnel on Palo Alto firewall. From GUI, under Network tab ➔ at the bottom, select **New: Tunnel Interface**.



Then edit the IPSec tunnel and configure the settings for the Phase 1 and Phase 2 IPSec parameters. Below are screenshots from both the Palo Alto and the Watchguard.

Figure 2: Settings for the IPSec tunnel on Palo Alto firewall.



1) Define a unique IKE Gateway per tunnel.
2) The **Local IP address** should be the outbound interface (Internet facing interface) where the tunnel will orginate. The **Peer IP Address** = Watchguard's public IP address for tunnel to connect.
   Select a **Pre-shared Key** that matches the '**Shared Key'** on the Watchguard.
3) The **Exchange Mode = aggressive** because there was NAT'ing involved at the upstream. Should work with **Exchange Mode = main**.

   See **IKE Crypto Profile** settings in **Figure 3** below.

4) Watchguard uses the Remote Network ID as the static route. If all traffic is to use the IPSec tunnel, then set 'Remote Network' on Watchguard to 0.0.0.0/0 which is equivalent to default route. On Palo Alto, Local Proxy ID=0.0.0.0/0 to denote default route.

See **IPSec Crypto Profile** settings in **Figure 4** below.

Palo Alto's **Local Proxy ID** ← (matches) → Watchguard's **Remote Network**

Palo Alto's **Remote Proxy ID** ← (matches) → Watchguard's **Local Network**

Figure 3: **IKE Crypto Profile** settings (Phase 1).

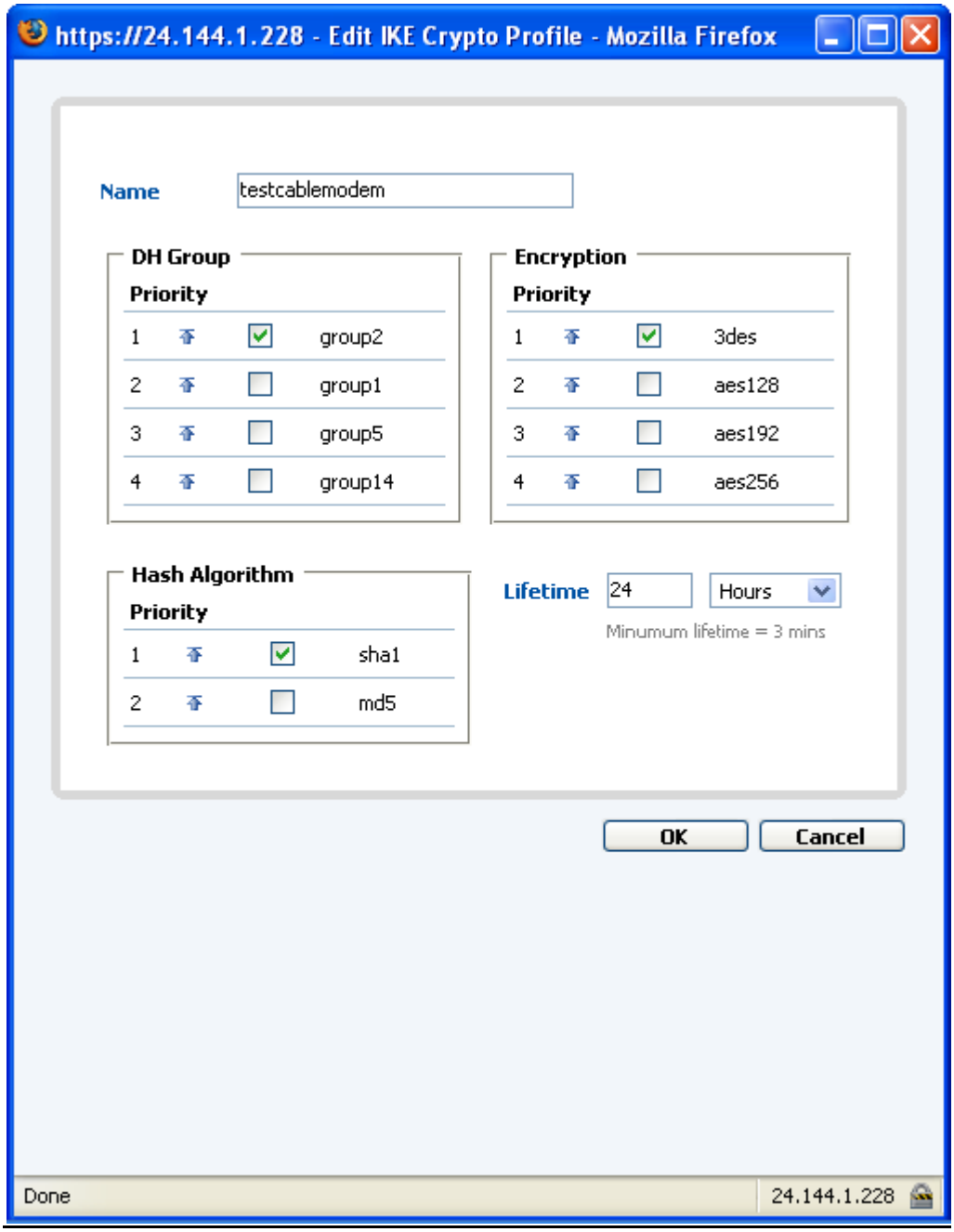
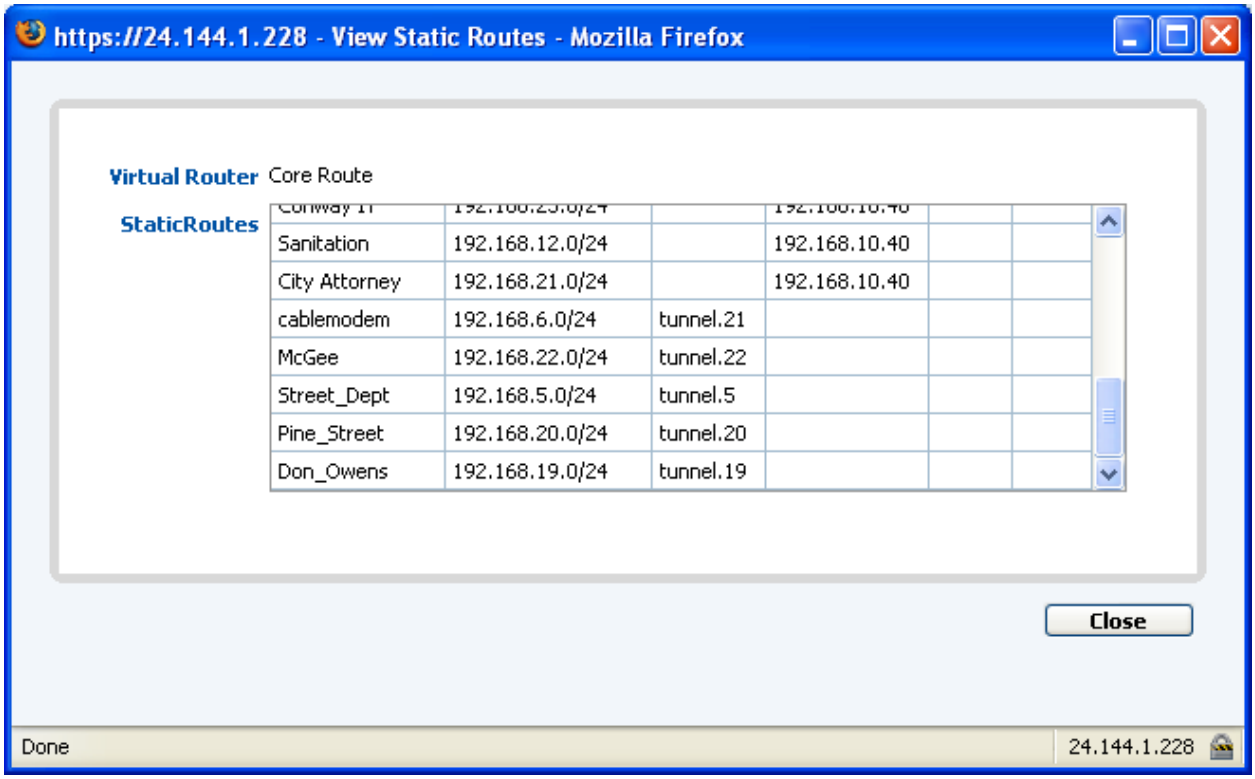


Figure 4: **IPSec Crypto Profile** settings (Phase 2). Note the **DH group = no-pfs**.

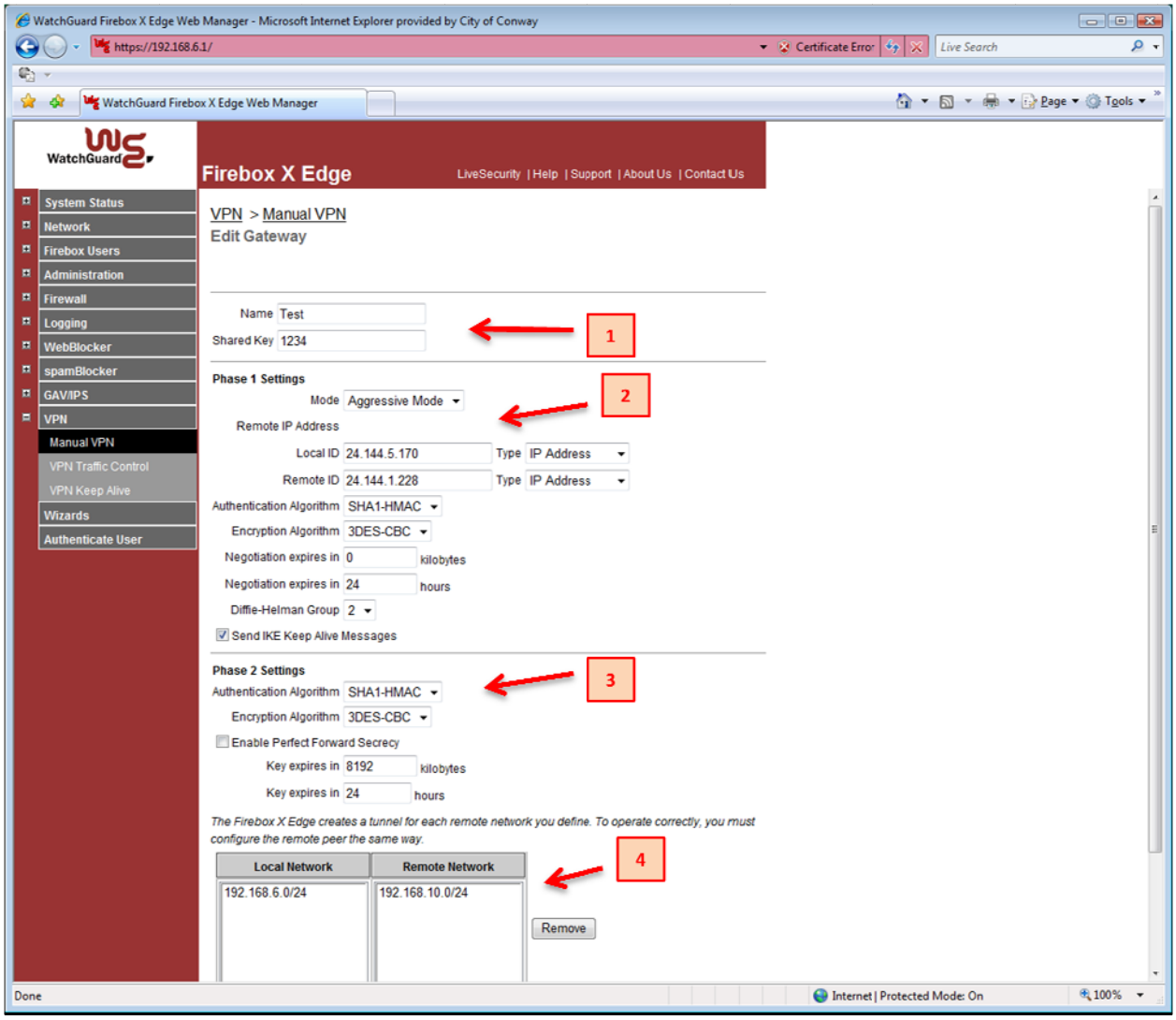
Make sure you have defined the routes to the remote IP network on the other side of the IPSec tunnel. In Figure 5, the static route for IP network 192.168.6.0/24 is reachable across tunnel.21.

Figure 5: Static routes for networks across tunnels.



Below is the IPSec configuration on the Watchguard as depicted in Figure 6.

Figure 6: Manual IPSec VPN settings.



1) Define the **Shared Key** to match the '**Pre-shared Key'** on Palo Alto.
2) Configure the Phase 1 Settings to match Palo Alto.
3) Configure the Phase 2 Settings to match Palo Alto. Note there is no Diffie-Helman group setting, which matches setting '**DH group = no-pfs**' on Palo Alto.
4) **Local Network 192.168.6.0/24** matches Palo Alto's **Remote Proxy ID**. Remote Network 192.168.10.0/24 matches Palo Alto's **Local Proxy ID**. This value can be set 0.0.0.0/0 as the default route and all traffic will use the IPSec tunnel.