

# **WatchGuard® Firebox® SOHO 6 Wireless User Guide**

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SOHO 6 firmware version 6.2



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## Using this Guide

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To use this guide you need to be familiar with your computer's operating system. If you have questions about navigating in your computer's environment, please refer to your system user manual.

The following conventions are used in this guide.

| Convention       | Indication                                                                                                                           |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bold</b> type | Menu commands, dialog box options, Web page options, Web page names. For example: "On the System Information page, select Disabled." |
| <b>NOTE</b>      | Important information, a helpful tip or additional instructions.                                                                     |

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## Abbreviations used in this user guide

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|       |                                       |
|-------|---------------------------------------|
| 3DES  | Triple Data Encryption Standard       |
| DES   | Data Encryption Standard              |
| DNS   | Domain Name Service                   |
| DHCP  | Dynamic Host Control Protocol         |
| DSL   | Digital Subscriber Line               |
| IP    | Internet Protocol                     |
| IPSec | Internet Protocol Security            |
| ISDN  | Integrated Services Digital Network   |
| ISP   | Internet Service Provider             |
| MAC   | Media Access Control                  |
| MUVPN | Mobile User Virtual Private Network   |
| NAT   | Network Address Translation           |
| PPP   | Point-to-Point Protocol               |
| PPPoE | Point-to-Point Protocol over Ethernet |
| TCP   | Transfer Control Protocol             |
| UDP   | User Datagram Protocol                |
| URL   | Universal Resource Locator            |
| VPN   | Virtual Private Network               |
| WAN   | Wide Area Network                     |
| WSEP  | WatchGuard Security Event Processor   |

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## Certifications and Notices

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### FCC Certification

This appliance has been tested and found to comply with limits for a Class A digital appliance, pursuant to Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This appliance may not cause harmful interference.
- This appliance must accept any interference received, including interference that may cause undesired operation.

**IMPORANT NOTICE:** Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

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Wireless Internet Firewall with VPN, Model BF4S16E5W

**EU Directive(s):**

Radio & Telecommunications Terminal Equipment (1999/5/EC)  
Low Voltage (73/23/EEC)  
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**Standard(s):**

EN60950 Safety of ITE

ETSI EN 300 328-02 V1.2.1 EMC and Radio Spectrum Matters  
ETSI EN 301 489-17 V1.2.1 EMC and Radio Spectrum Matters  
ETSI EN 301 489-01 V1.4.1 EMC and Radio Spectrum Matters

EN50022 (1998), Class A Emissions for ITE  
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Software Version Number: 6.2

Part No 1230-000

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# Introduction

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This manual shows how to use your WatchGuard® Firebox® SOHO 6 Wireless or SOHO 6tc Wireless security appliance for secure access to the Internet.



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The only difference between these two appliances is the VPN feature. VPN is available as an upgrade option for the SOHO 6 Wireless. The SOHO 6tc Wireless includes the VPN upgrade option.

The SOHO 6 Wireless provides security and wireless networking when your computer is connected to the Internet with a high-speed cable modem, DSL modem, leased line, or ISDN.

The newest installation and user information is available from the WatchGuard Web site:

<http://support.watchguard.com/sohoresources/>

## **Package contents**

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Make sure that the package contains all of these items:

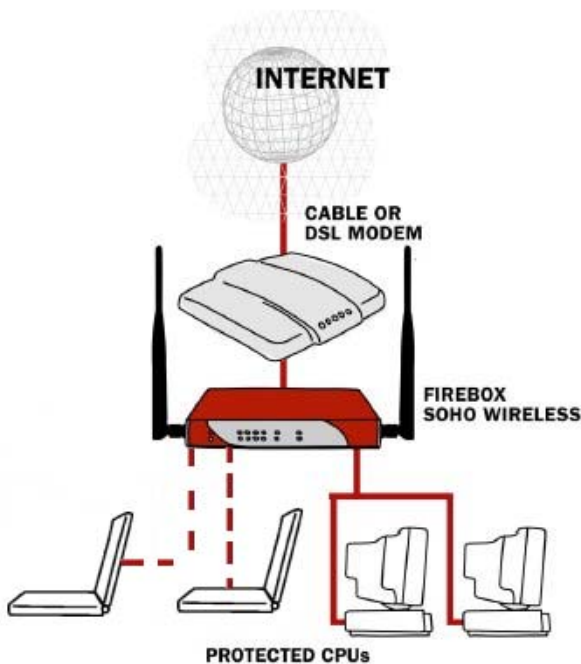
- SOHO 6 Wireless QuickStart Guide
- Wireless User Guide
- LiveSecurity Service® activation card
- Hardware Warranty card
- AC adapter (12 V, 1.2 A)
- Straight-through Ethernet cable
- SOHO 6 Wireless security appliance
- Two 5dBi detachable antennae

## **How does a firewall work?**

---

The Internet connects your network to resources. Some examples of resources are the World Wide Web, email and video/audio

conferencing. A connection to the Internet is dangerous to the privacy and the security of your network. A firewall divides your internal network from the Internet to reduce this danger. The appliances on the trusted side of your SOHO 6 Wireless firewall are protected. The illustration below shows how the SOHO 6 Wireless physically divides your trusted network from the Internet.



The SOHO 6 Wireless controls all traffic between the external network (the Internet) and the trusted network (your computers). All suspicious traffic is stopped. The rules and policies that identify the suspicious traffic are shown in “Configure incoming and outgoing services” on page 71.

---

## How does information travel on the Internet?

The data that is sent through the Internet is divided into packets. To make sure that the packets are received at the destination, information is added to the packets. The protocols for these tasks are called TCP and IP. TCP disassembles and reassembles the data, for example an email message or a program file. IP adds information to the packets, which includes the destination and the handling requirements.

### IP addresses

An IP address identifies a computer on the Internet that sends and receives packets. Each computer on the Internet has an address. The SOHO 6 Wireless is also a computer and has an IP address. When you configure a service behind a firewall, you must include the trusted network IP address for the computer that supplies the service.

A URL (Uniform Resource Locator) identifies each IP address on the Internet. An example of a URL is:

<http://www.watchguard.com/>.

### Protocols

A protocol defines how a packet is assembled and transmitted through a network. The most frequently used protocols are TCP and UDP (User Datagram Protocol). There are other IP protocols that are less frequently used.

### Port numbers

During the communication between computers, port numbers identify which programs or applications are connected.

## **How does the SOHO 6 Wireless process information?**

---

### **Services**

A service is the group of protocols and port numbers for a specified program or type of application. The standard configuration of the SOHO 6 Wireless contains the correct settings for many standard services.

### **Network Address Translation**

All connections from the trusted network to the external network through a SOHO 6 Wireless use dynamic NAT. Dynamic NAT prevents that private IP addresses from your trusted network are sent through the Internet.

The SOHO 6 Wireless replaces the private IP addresses with the public IP address to protect the trusted network. Each packet sent through the Internet contains IP address information. Packets sent through the SOHO 6 Wireless with Dynamic NAT include only the public IP address of the SOHO 6 Wireless and not the private IP address of the computer in the trusted network. Because only the IP address of the SOHO 6 Wireless is sent to the external network, unauthorized access by the computers in the public network to the computers in the trusted network is prevented.

## **How Does Wireless Networking Work?**

---

Wireless networking creates a network by transmitting and receiving data as radio-frequency signals between your computers and the SOHO 6 Wireless using the 802.11b standard defined by

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the Institute of Electrical and Electronics Engineers (IEEE) and is part of a series of wireless standards.

Unless adequately protected, a wireless network is susceptible to access from the outside by unauthorized users to compromise your machine or simply to access a free Internet connection.

Increase your corporate network security by forcing users to authenticate with a Mobile User VPN client, creating a secure IPSec tunnel from the wireless computer to the SOHO 6 Wireless. Separation of the trusted network from the optional network further protects the connection from the wireless computer to the SOHO 6 Wireless. For information on how to configure this, see Chapter 11 “MUVPN Clients” on page 119.

## **SOHO 6 Wireless hardware description**

---

The hardware of the SOHO 6 Wireless uses newer technology than earlier SOHO models.

### ***Faster Processor***

The SOHO 6 Wireless has a new network processor that runs at a speed of 150 MHz. Ethernet and encryption technology are included.

### ***Ethernet ports***

The SOHO 6 Wireless has five 10/100 Base TX ports. The Ethernet ports have the labels 0 through 3 and WAN.

### *Wireless*

Wireless operating range--indoors (these values are approximations):

100 feet at 11 Mbps

165 feet at 5.5 Mbps

230 feet at 2 Mbps

300 feet at 1 Mbps

## **Understanding IEEE 802.11b Wireless Communication**

In general, transmitted RF power and signal bandwidth place an upper limit on the rate that data can be transmitted over a wireless link. The basic equation to determine the maximum data rate is:

Channel Capacity =

Channel Bandwidth  $\times \log_2(1 + \text{Signal Strength/Noise Level})$

This equation says the maximum amount of data (bits/s) that can be transmitted over a given channel depends on:

- The Channel Bandwidth: (22Mbps/s) for 802.11b
- The Signal Strength: (15dBm transmitted) for Soho6 Wireless
- The Noise Level: Depends on the channel environment and the receiver design.

Data rate cannot exceed channel capacity. Channel capacity depends on signal strength, noise, and transmitted power.

---

## Noise Level (watts)

The more in-band RF noise there is the less data can be transmitted over a given channel (wireless link). The noise level is primarily due to three factors:

First, there is a minimum level of background noise due to the ambient temperature of the channel (atmosphere) and the bandwidth.

Second, the 802.11b receiver will have an innate noise level due to its own components operating temperature.

Third, there are many unlicensed transmitters using the same frequency bands as 802.11. Some of these are:

- Cordless phones,
- Other 802.11b devices operating on adjacent channels. Note that only channels 1, 6, and 11 are unique. All other channels overlap because while the center frequencies increment by 5MHz per channel, the bandwidths are 22MHz.
- Microwave ovens,
- Sodium type lighting systems (fusion lamps),
- Arc welders (broadband spark gap transmitters)
- Blue-Tooth transmitters. Note that a Blue-Tooth transmitter operates at lower power levels and would need to be near an 802.11b receiver to interfere with it.
- Industrial, Scientific, and Medical equipment can also use these bands.

## Signal Strength (watts)

The signal strength depends primarily on:

- How much RF signal power is transmitted

- How much directional antenna gain there is at the transmitter and receiver
- The signal attenuation (path-loss) between the transmitter and receiver.

### ***Path Loss:***

The path-loss is directly proportional to line-of-site distance between transmitter and receiver, and inversely proportional to the wavelength of the transmitted signal. The equation for Signal Loss is:

$$\text{Loss} = 20 \times \log_{10}(4\pi \times (\text{Distance}/\text{Wavelength})).$$

- Wavelength = (speed-of-light/ frequency). This means that the higher the frequency the shorter the wavelength and the greater the path-loss will be for a given frequency.
- For an average office environment, a rule-of-thumb is that line-of-sight signal loss will only pertain to about the first 20 feet and will then increase by about 30 dB per 100 feet, due the effect of walls, and cubicles and windows, etc.

Second, the signals can arrive by different paths depending on how many surfaces reflect the signal. This is called multi-path. Many surfaces will reflect a signal at 2.4 GHz. The problem is that some combinations of reflected signals will result in cancellation at a given point, thus by moving a receiver by as little as  $\frac{1}{2}$  wavelength, the signal could vary by as much as 30dB. The effect is called fading due to multi-path reflections.

The signal fading effect is highly dependent on antenna position, so the SOHO 6 Wireless uses antenna receiver diversity (2 antennas spaced more than  $\frac{1}{2}$  wavelength apart) to reduce the effect of multi-path fading. On the SOHO 6 Wireless the antenna receiving the stronger signal is selected automatically.

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## NOTE

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Laptop computers typically have one antenna, which is more susceptible to signal fading depending on position. This can lead to a situation where the SOHO 6 Wireless hears the laptop's signal, but the laptop doesn't hear the access point.

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### ***Antenna Directional Gain:***

Antenna Gain is the result of how directional the radiation (transmit/receive signal strength) pattern is. The higher the gain, then the more directional the antenna is.

The SOHO 6 Wireless ships with 5dBi antennas. This means they have a maximum 5 dBi gain pattern perpendicular to the antenna position. A laptop computer antenna gain will vary but might be as low as -10dBi for embedded wireless antennas.

### ***Transmitted Power:***

SOHO 6 Wireless transmits at 15dBm (0.032 watts), which is compatible with US and European and other requirements. In the USA 802.11b devices may transmit at up to (1 watt) and up to (0.1 watt) in Europe. Allocated channels vary for USA and Europe.

Signal strength is a function, both of how much power was transmitted, and how much power was received. This is impacted by the antenna gain at the transmitter and receiver as well as the distance and the environment in between them. Due principally to the effect of cluttered environment, signal loss increases faster in an office building than it would for line-of-sight transmission.

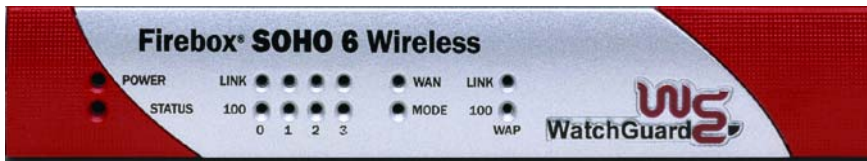
### **Channel Bandwidth:**

This varies with the type of modulation scheme. 802.11b devices use CCK (11 Mbps, 5.5 Mbps), DQPSK (2 Mbps), and DBPSK

(1Mbps). The factor that determines which modulation scheme is used is the Packet Error Rate (PER). The modulation scheme switches automatically to maintain the PER at or below 8% by using slower data rates (different modulation schemes) as necessary.

## SOHO 6 Wireless front and rear views

There are 14 indicator lights on the front panel of the SOHO 6 Wireless. The illustration below shows the front view.



### *PWR*

PWR is lit while the SOHO 6 Wireless is connected to a power supply.

### *Status*

Status is lit while a management connection is in use.

### *Link*

Link indicators are lit while there is an active physical connection to the related Ethernet port. A link indicator flashes when data flows through the Ethernet port.

### *100*

The 100 indicator is lit when a port is in use at 100 Mb. The 100 indicator is not lit when a port is in use at 10 Mb.

---

## **WAN**

WAN is lit while there is an active physical connection to the WAN port. The indicator flashes when data flows through the port.

## ***Mode***

Mode is lit while there is a connection to the Internet.

There are five Ethernet ports, a reset button, and a power input on the rear of the SOHO 6 Wireless. The illustration below shows the rear view.



## ***RESET button***

Push the reset button to reset the SOHO 6 Wireless to the factory default configuration. See “Reset the SOHO 6 Wireless to the factory default settings” on page 32 for more information about this procedure.

## ***WAN port***

The WAN port is for the external interface.

## ***Four numbered ports (0-3)***

These Ethernet ports are for the trusted network connections.

## ***Power input***

Connect the power input to a power supply using the 12 volt 1.2a AC adapter supplied with the SOHO 6 Wireless.

---

The SOHO 6 Wireless protects computers that are connected to it by Ethernet cable or wireless connection. Follow the procedures in this chapter to install the SOHO 6 Wireless and set up the wireless network.

Because WatchGuard is concerned about the security of your network, the wireless feature is turned off on the SOHO 6 Wireless we ship you. This allows you to enable the wireless network after you set up the desired security.

To install the SOHO 6 Wireless, you complete the following steps:

- Identify and record your TCP/IP settings.
- Disable the HTTP proxy setting of your Web browser.
- Enable your computer for DHCP.
- Make the physical connections between the SOHO 6 Wireless and your network.

---

To set up the wireless network, you complete the following steps:

- Set up the Wireless Network
- Set up the Wireless Access Point
- Configure the Wireless Card on your computer

See the SOHO 6 Wireless QuickStart Guide included with the SOHO 6 Wireless for a summary of this information.

## **Before you Begin the Installation**

---

Before you install the SOHO 6, Wireless, make sure you have:

- DSL/cable modem
- Firebox SOHO 6 Wireless with Ethernet cables and power supply
- Computer connected by Ethernet cable to the Firebox SOHO 6 Wireless
- Computer with wireless card (for Wireless)

You also need to follow these steps:

- 1 Make sure there are a 10/100BaseT Ethernet card or an 802.11b wireless networking card installed in your computer.
- 2 Make sure you have a functional Internet connection. If the Internet connection is not functional, call your ISP. The Internet connection must be a cable modem or DSL modem with a 10/100BaseT port, an ISDN router, or a direct LAN connection.
- 3 Make sure there are two straight-through Ethernet network cables with RJ-45 connectors available. Crossover cables, which are often red or orange in color, are not satisfactory. The SOHO 6 Wireless package includes one cable. Make sure that the cables are of sufficient length to connect the modem or

router to the SOHO 6 Wireless and the SOHO 6 Wireless to your computer.

- 4 Attach the two antennae supplied with the SOHO 6 Wireless.

---

**NOTE**

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The SOHO 6 Wireless *must* be installed to provide a separation distance of at least 20 centimeters from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

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- 5 Call your ISP to determine the method of network address assignment. The possible methods are static addressing, DHCP, or PPPoE. This information is necessary during the installation procedure. See “External Network Configuration” on page 37 for more information.
- 6 Make sure that the Web browser program installed on your computer is Netscape Navigator (version 4.77 or higher) or Internet Explorer (version 5.0 or higher).
- 7 Record the SOHO 6 Wireless serial number. The serial number is found on the bottom of the appliance.

## **Examine and record the current TCP/IP settings**

Examine the current TCP/IP settings of your computer, and record the settings in the table below. Follow the instructions for the operating system that is installed on your computer.

### **Microsoft Windows 2000 and Windows XP**

- 1 Click **Start** ⇒ **Programs** ⇒ **Accessories** ⇒ **Command Prompt**.
- 2 At the prompt, type `ipconfig /all`, then press Enter.
- 3 Record the TCP/IP settings in the table provided.
- 4 Click **Cancel**.

---

## **Microsoft Windows NT**

- 1 Click **Start** ⇒ **Programs** ⇒ **Command Prompt**.
- 2 At the default prompt, type `ipconfig /all`, then press Enter.
- 3 Record the TCP/IP settings in the table provided.
- 4 Click **Cancel**.

## **Microsoft Windows 95 or 98 or ME**

- 1 Click **Start** ⇒ **Run**.
- 2 Type: `winipcfg`.
- 3 Click **OK**.
- 4 Select the “Ethernet Adapter”.
- 5 Record the TCP/IP settings in the table provided.
- 6 Click **Cancel**.

## **Macintosh**

- 1 Click the **Apple** menu ⇒ **Control Panels** ⇒ **TCP/IP**.
- 2 Record the TCP/IP settings in the table provided.
- 3 Close the window.

## **Other operating systems (Unix, Linux)**

- 1 Consult your operating system guide to locate the TCP/IP screen.
- 2 Record the TCP/IP settings in the chart provided.
- 3 Exit the TCP/IP configuration screen.

| TCP/IP Setting  |           | Value |   |    |
|-----------------|-----------|-------|---|----|
| IP Address      |           | .     | . | .  |
| Subnet Mask     |           | .     | . | .  |
| Default Gateway |           | .     | . | .  |
| DHCP Enabled    |           | Yes   |   | No |
| DNS Server(s)   | Primary   | .     | . | .  |
|                 | Secondary | .     | . | .  |

**NOTE**

If you must connect more than one computer to the trusted network behind the SOHO 6 Wireless, determine the TCP/IP settings for each computer.

**Enable your computer for DHCP**

To open the configuration pages for the SOHO 6 Wireless, configure your computer to receive its IP address through DHCP. See “Network addressing” on page 37 for more information about network addressing and DHCP.

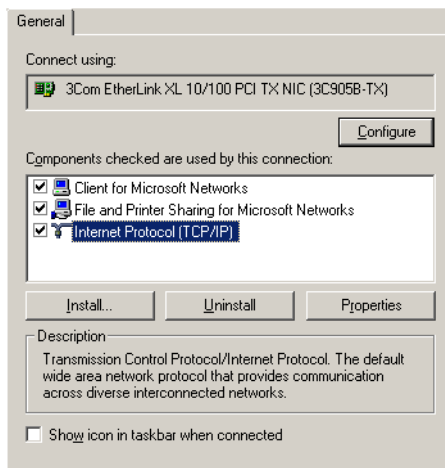
**NOTE**

These configuration instructions are for the Windows 2000® operating system.

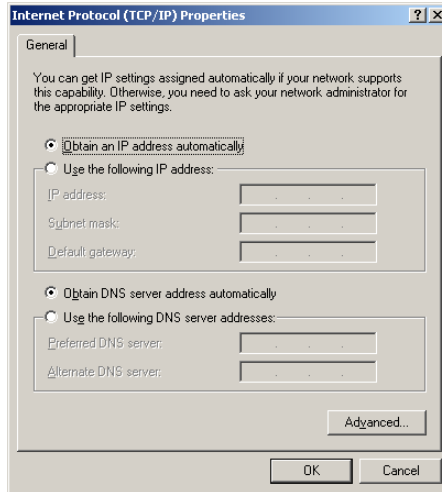
**1 Click **Start** ⇒ **Settings** ⇒ **Control Panel**.**

The control panel window opens.

- 
- 2 Double-click the **Network & Dial-up Connections** icon.
  - 3 Double-click the connection you use to connect to the Internet.  
The network connection dialog box opens.
  - 4 Click **Properties**.  
The network connection properties dialog box opens.



- 5 Double-click the **Internet Protocol (TCP/IP)** component.  
The Internet Protocol (TCP/IP) Properties dialog box opens.



- 6 Click to select the **obtain an IP address automatically** checkbox.
- 7 Click to select the **Obtain DNS server address automatically** checkbox.
- 8 Click **OK** to close the Internet Protocol (TCP/IP) Properties dialog box.
- 9 Click **OK** again to close the Network Connection Properties dialog box.

## Disable the HTTP proxy setting of your Web browser

To configure a SOHO 6 Wireless, you must access the configuration pages in the SOHO 6 Wireless with your browser. If

---

the HTTP proxy setting in your browser is enabled, you can not open these pages to complete the configuration procedure.

If the HTTP proxy setting is enabled, the browser only sees Web pages found on the Internet, and not pages in other locations. If the HTTP proxy setting is disabled, you can open the configuration pages in the SOHO 6 Wireless and Web pages on the Internet.

The instructions below show how to disable the HTTP proxy setting in three browser applications. If a different browser is used, use the help menus of the browser program to find the necessary information.

### **Netscape 4.7**

- 1 Open Netscape.
- 2 Click **Edit ⇒ Preferences**.  
The Preferences window opens.
- 3 A list of options is shown at the left side of the window. Click the + symbol to the left of the **Advanced** option to expand the list.
- 4 Click **Proxies**.
- 5 Make sure the **Direct Connection to the Internet** option is selected.
- 6 Click **OK** to save the settings.

### **Netscape 6.x**

- 1 Open Netscape.
- 2 Click **Edit ⇒ Preferences**.  
The Preferences window opens.
- 3 A list of options is shown at the left side of the window. Click the arrow symbol to the left of the **Advanced** heading to expand the list.

- 4 Click **Proxies**.
- 5 Make sure the **Direct Connection to the Internet** option is selected.
- 6 Click **OK** to save the settings.

### **Internet Explorer 5.0, 5.5, and 6.0**

- 1 Open Internet Explorer.
- 2 Click **Tools ⇒ Internet Options**.  
The Internet Options window opens.
- 3 Click the **Advanced** tab.
- 4 Scroll down the page to **HTTP 1.1 Settings**.
- 5 Disable all of the check boxes.
- 6 Click **OK** to save the settings.

## **Physically Connect to the SOHO 6 Wireless**

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The SOHO 6 Wireless protects computers that are connected to it by Ethernet cable or wireless connection. This section discusses how to connect computers to the SOHO 6 Wireless by using Ethernet cables.

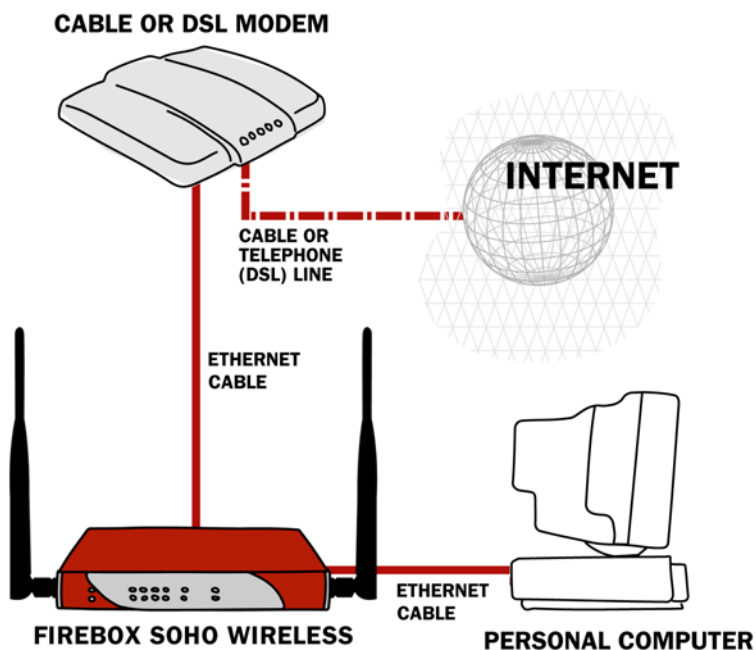
The SOHO 6 Wireless protects one computer or a multi-computer network and can also function as a hub to connect other computers.

If you want to set up a wireless network, you still need to connect a computer to the SOHO 6 using an Ethernet cable. You use this connection to turn on the wireless network. For more information on setting up a wireless network, see Figure , “Setting up the Wireless Network,” on page 26.

---

## Cabling the SOHO 6 Wireless for one to four appliances

A maximum of four computers, printers, scanners, or other network peripherals can connect directly to the SOHO 6 Wireless. These connections use the four trusted network ports (0-3). To connect a maximum of four appliances, use the SOHO 6 Wireless as a network hub.



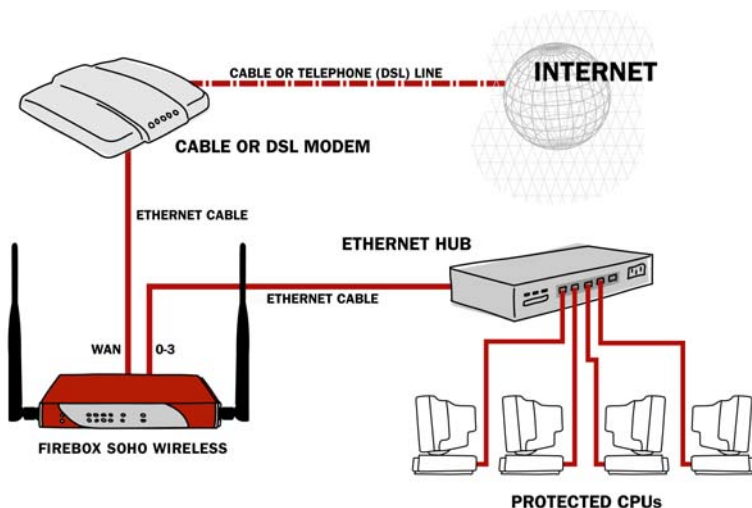
- 1 Shut down your computer.
- 2 If you connect to the Internet through a DSL modem or cable modem, disconnect the power supply to this device.

- 3 Disconnect the Ethernet cable that connects your DSL modem, cable modem or other Internet connection to your computer. Connect this cable to the WAN port on the SOHO 6 Wireless. The SOHO 6 Wireless is connected directly to the modem or other Internet connection.
- 4 Connect one end of the straight-through Ethernet cable supplied with your SOHO 6 Wireless to a trusted network port (0-3) on the SOHO 6 Wireless. Connect the other end to the Ethernet port of your computer. The SOHO 6 Wireless is connected to the Internet and your computer.
- 5 If you connect to the Internet through a DSL modem or cable modem, reconnect the power supply to this device. The indicator lights flash and then stop. The modem is ready for use.
- 6 Attach the AC adapter to the SOHO 6 Wireless. Connect the AC adapter to a power source.
- 7 Restart the computer.

See “Factory default settings” on page 31 for the factory default configuration options. See “External Network Configuration” on page 37 and “Configure the Trusted Network” on page 42 for special configurations.

## **Cabling the SOHO 6 Wireless for more than four appliances**

Although the SOHO 6 Wireless has only four trusted network ports (0-3), you can connect more than four appliances. Use one or more network hubs to make more connections.



The base model SOHO 6 Wireless includes a ten-seat license. This license allows a maximum of ten appliances on the trusted network to connect to the Internet at the same time. There can be more than ten appliances on the trusted network, but the SOHO 6 Wireless will only allow ten Internet connections. A seat is in use when an appliance connects to the Internet and is free when the connection is broken. License upgrades are available from the WatchGuard Web site:

<http://www.watchguard.com/sales/buyonline.asp>

To connect more than four appliances to the SOHO 6 Wireless, these items are necessary:

- an Ethernet hub;
- a straight-through Ethernet cable, with RJ-45 connectors, for each computer;

- a straight-through Ethernet cable to connect each hub to the SOHO 6 Wireless.

- 1 Shut down your computer. If you connect to the Internet through a DSL modem or cable modem, disconnect the power supply from this device.
- 2 Disconnect the Ethernet cable that runs from your DSL modem, cable modem or other Internet connection to your computer. Connect the Ethernet cable to the WAN port on the SOHO 6 Wireless.

The SOHO 6 Wireless is connected directly to the modem or other Internet connection.

- 3 Connect one end of the straight-through Ethernet cable supplied with your SOHO 6 Wireless to one of the trusted network ports (0-3) on the SOHO 6 Wireless. Connect the other end to the uplink port of the Ethernet hub.

The SOHO 6 Wireless is connected to the Internet and your Ethernet hub.

- 4 Connect an Ethernet cable between each of the computers and an uplink port on the Ethernet hub.
- 5 If you connect to the Internet through a DSL modem or cable modem, reconnect the power supply to this device. The indicator lights flash and then stop. The modem is ready for use.
- 6 Attach the AC adapter to the SOHO 6 Wireless. Connect the AC adapter to a power supply.

- 7 Restart your computer.

See “Factory default settings” on page 31 for the factory default configuration options. See “External Network Configuration” on page 37 and “Configure the Trusted Network” on page 42 for special configurations.

---

## Setting up the Wireless Network

---

The SOHO 6 Wireless protects computers that are connected to it by Ethernet cable or wireless connection. Because WatchGuard is concerned about the security of your network, the wireless feature is turned off on the SOHO 6 Wireless we ship you. This allows you to enable the wireless network after you set up the desired security.

Now that you have installed the SOHO 6 Wireless device, you can set up the optional wireless network.

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless.  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **Network => Optional (802.11b)**.  
The Optional Network Configuration page appears.
- 3 Select the **Enable Optional Network** checkbox to turn on the wireless network.
- 4 Type the IP Address and Subnet Mask of the wireless network.  
The default IP Address is 192.168.112.1. The default Subnet Mask is 255.255.255.0.
- 5 Select **Enable DHCP Server on the Optional Network** checkbox.
- 6 Type the First address for DHCP server.  
The default is 192.168.112.2.

For more information on the Optional Network Configuration page, see “Configure the Optional Network for Wireless Networking” on page 46.

## Setting up the Wireless Access Point

---

- 1 From the navigation bar on the left side, select **Network ⇒ Wireless Configuration**.  
The Wireless Network Configuration page appears.
- 2 From the Encryption drop-down list, select **Disabled**.
- 3 From the Authentication drop-down, select **Open System**.
- 4 From Basic Settings, write down the number in the SSID text box for later use.  
The SSID is the wireless devices identification number, and it is used to create the wireless connection. The default SSID is the 5 digit serial number for your SOHO 6 Wireless device.
- 5 Click **Submit**.

For more information on configuring the wireless network, see “Configure the Wireless Network” on page 49.

## Configuring the Wireless Card on your computer

---

The following instructions are for the Windows XP operating system. Refer to the WatchGuard SOHO 6 Wireless User Guide for instruction on other operating systems.

- 1 Click **Start ⇒ Control Panel ⇒ Network Connections**.  
The Network Connections dialog box appears.
- 2 Double-click on the **Wireless Network Connection**.  
The Wireless Network Connection dialog box appears.
- 3 Click **Advanced**.  
The Wireless Network Connection Properties dialog box appears with the Wireless Networks tab selected.
- 4 In the Preferred networks section, click **Add**.  
The Wireless Network Properties dialog box appears.

- 
- 5 Type the SSID that you wrote down from the Wireless Network Configuration page into the **Network Name (SSID)** text box.
  - 6 Click **OK** to close the Wireless Network Properties dialog box.
  - 7 Click **Refresh**.

The operating system looks for all wireless connections and list them in the Available Networks text box. Select the SSID of the wireless computer that you configured to access the SOHO 6 Wireless.
  - 8 Click **OK** to enable the wireless connections.

The wireless network connection should now show that your wireless network is active.
  - 9 Set up the wireless computer to use DHCP. For information on setting up DHCP, see Figure , “Enable your computer for DHCP,” on page 17.

Your Windows operating system should automatically look for the wireless connection, and if more than one wireless network is found, a dialog box will appear listing all wireless devices in the area. Select the wireless computer that you configured to access the SOHO 6 Wireless device.

Your SOHO 6 Wireless is now protecting wired and wireless computers from security hazards. To learn how to enhance your security setting, see “Configure the Wireless Network” on page 49.

# SOHO 6 Wireless basics

---

The configuration of the SOHO 6 Wireless is made through Web pages contained in the software of the SOHO 6 Wireless. You can connect to these configuration page with your Web browser.

## SOHO 6 Wireless System Status page

---

Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: <http://192.168.111.1>

The System Status page opens.



## SOHO 6 Configuration

[LiveSecurity](#) | [Help](#) | [Support](#) | [About Us](#) | [Contact Us](#)

### System Status

- Network
  - External
  - Trusted
  - Optional (802.11b)
  - Wireless Configuration
  - Routes
  - Network Statistics
  - Dynamic DNS
- Administration
  - System Security
  - VPN Manager Access
  - Update
  - Upgrade
  - View Configuration File
- Firewall
  - Incoming
  - Outgoing
  - Custom Service
  - Blocked Sites
  - Firewall Options
  - Pass Through
- Logging
  - WSEP Logging
  - Syslog Logging
  - System Time

### System Status

Welcome to the SOHO configuration site. The standard configuration provides basic protection against network security attacks. Through this site you can customize the SOHO to meet your specific security needs.

If you need assistance, review the [Help pages](#) for information about this release or review the [Online Documentation](#).

| Component     | Version           | Feature                            | Status               |                           |
|---------------|-------------------|------------------------------------|----------------------|---------------------------|
| Firewall      | Jun 2 2003        | <a href="#">WSEP Logging</a>       | Disabled             | <a href="#">Configure</a> |
| Boot ROM      | 4.2               | <a href="#">VPN Manager Access</a> | Disabled             | <a href="#">Configure</a> |
| Platform      | WatchGuard SOHO 6 | <a href="#">Syslog</a>             | Disabled             | <a href="#">Configure</a> |
| Serial Number | 006100000285E     | <a href="#">Pass Through</a>       | Disabled             | <a href="#">Configure</a> |
|               |                   | Option                             | Status               |                           |
|               |                   | <a href="#">User Licenses</a>      | 10                   | <a href="#">Upgrade</a>   |
|               |                   | <a href="#">Managed VPN</a>        | Disabled             | <a href="#">Configure</a> |
|               |                   | <a href="#">Manual VPN</a>         | 0 configured (max 6) | <a href="#">Configure</a> |
|               |                   | <a href="#">MLVPN Clients</a>      | 1 configured (max 6) | <a href="#">Configure</a> |
|               |                   | <a href="#">WebBlocker</a>         | Disabled             | <a href="#">Configure</a> |
|               |                   | <a href="#">Dual ISP</a>           | Not installed        | <a href="#">Upgrade</a>   |
|               |                   | <a href="#">Wireless</a>           | Enabled              | <a href="#">Configure</a> |



[Reboot](#)
[Update](#)

Trusted Network

Firewall

External Network

The System Status page is the main configuration page of the SOHO 6 Wireless. A display of information about the SOHO 6 Wireless configuration is shown. This information includes the following:

- The firmware version
- The serial number of the appliance
- The status of the following SOHO 6 Wireless features:
  - WSEP Logging
  - VPN Manager Access
  - Syslog
  - Pass Through
- The status of the upgrade options;

- Configuration information for the trusted network and the external network
- Configuration information for firewall settings (incoming services and outgoing services)
- A reboot button to restart the SOHO 6 Wireless

---

### NOTE

---

If the external network is configured to use the PPPoE protocol, the System Status page displays a connect button or a disconnect button. Use these buttons to start or terminate the PPPoE connection.

---

## Factory default settings

---

The default network settings and configuration settings for the SOHO 6 Wireless:

### *External network*

The external network settings use DHCP.

### *Trusted network*

The default IP address of the trusted interface is 192.168.111.1.

The IP addresses for the computers on the trusted network are assigned through DHCP.

### *Firewall settings*

All incoming services are blocked.

An outgoing service allows all outbound traffic.

All of the firewall options are disabled.

The DMZ pass-through is disabled.

---

### *System Security*

The System Security is disabled. The system administrator name and system administrator passphrase are not set. All computers on the trusted network can access the configuration pages.

SOHO 6 Wireless Remote Management is disabled.

VPN Manager Access is disabled.

The remote logging is not configured.

### *WebBlocker*

The WebBlocker is disabled and the settings are not configured.

### *Upgrade Options*

The upgrade options are disabled until the license keys are entered into the configuration page.

## **Reset the SOHO 6 Wireless to the factory default settings**

Reset the SOHO 6 Wireless to the factory default settings if it is not possible to correct a configuration problem. A reset to the factory default settings is required if the system security passphrase is unknown or the firmware of the SOHO 6 Wireless is damaged by a power interruption. Follow these steps to reset the SOHO 6 Wireless to the factory default settings:

- 1 Disconnect the power supply.
- 2 Press and hold the reset button.
- 3 Connect the power supply.
- 4 Continue holding the button until the red LED on the front of the SOHO 6 Wireless goes on and then off.
- 5 Disconnect the power supply.

6 Connect the power supply.

The PWR indicator is on and the reset is complete.

## The base model SOHO 6 Wireless

The base model SOHO 6 Wireless includes a ten-seat license. This license allows a maximum of ten computers on the trusted network to connect to the Internet at the same time. There can be more than ten computers on the trusted network, but the SOHO 6 Wireless will only allow ten Internet connections. See “Cabling the SOHO 6 Wireless for more than four appliances” on page 23 for additional information.

## Register your SOHO 6 Wireless and activate the LiveSecurity Service

---

After the SOHO 6 Wireless is installed and configured, register the SOHO 6 Wireless and activate your LiveSecurity Service subscription. LiveSecurity Service provides threat alert notifications, security advice, free virus protection, software updates, technical support by Web or telephone, and access to online help resources and the WatchGuard user forum. A subscription to the LiveSecurity Service is required to get the license keys for the upgrades that you purchase.

You must have the serial number of your SOHO 6 Wireless to register. The SOHO 6 Wireless serial number is located on the bottom of the appliance. Record the serial number in the table below:

|                |  |
|----------------|--|
| Serial Number: |  |
|----------------|--|

---

Register you SOHO 6 Wireless with the LiveSecurity Service at the WatchGuard Web site:

<http://www.watchguard.com/activate>

---

**NOTE**

---

To activate the LiveSecurity Service, your browser must have JavaScript enabled.

---

If you have a user profile on the WatchGuard Web site, enter your user name and password. If you do not have a user profile on the WatchGuard Web site, create a new account. Select your product and follow the instructions for product activation.

Record your LiveSecurity Service user profile information in the table below:

|            |  |
|------------|--|
| User name: |  |
| Password:  |  |

Keep this information confidential.

---

## Reboot the SOHO 6 Wireless

---

To reboot a SOHO 6 Wireless located on the local network, use one of these methods:

---

### NOTE

---

The SOHO 6 Wireless requires 30 seconds to reboot. The Mode indicator on the front of the SOHO 6 Wireless will go off and then come on.

---

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: <http://192.168.111.1>

- 2 Click **Reboot**.

or

- 2 Disconnect and reconnect the power supply.

To reboot a SOHO 6 Wireless located on a remote system, use one of these methods:

---

### NOTE

---

The remote SOHO 6 Wireless must be configured to allow incoming HTTP (Web) or FTP traffic from the Internet. See "Configure incoming and outgoing services" on page 71 for information about how to configure a SOHO 6 Wireless to receive incoming traffic.

---

- 3 Type the external network IP address of the remote SOHO 6 Wireless in your browser window to connect to the System Status page of the remote SOHO 6 Wireless.

- 4 Click **Reboot**.

or

- 4 Send an FTP command to the remote SOHO 6 Wireless. Use an FTP program to connect to the remote SOHO 6 Wireless, and enter the command:  
quote rebt



# Configure the Network Interfaces

---

## External Network Configuration

---

When you configure the external network, you select the method of communication between the SOHO 6 Wireless and the ISP. Make this selection based on the method of network address distribution in use by your ISP. The possible methods are static addressing, DHCP, or PPPoE.

### Network addressing

To connect to a TCP/IP network, each computer must have an IP address. The assignment of IP addresses is dynamic or static.

- If the assignment is dynamic, the ISP assigns a different IP address to a computer each time the computer connects to the network. When the computer disconnects, the IP address is made available to a different computer.

- 
- If the assignment is static, all computers on the network have a permanently assigned IP address. There are no computers that have the same IP address.

Most ISPs make dynamic IP address assignments through DHCP (Dynamic Host Configuration Protocol). When a computer connects to the network, a DHCP server at the ISP assigns that computer an IP address. The manual assignment of IP addresses is not necessary with this system.

Some ISPs assign the IP addresses through PPPoE (Point-to-Point Protocol over Ethernet). PPPoE emulates a standard dial-up connection to provide some of the features of Ethernet and PPP. This system allows the ISP to use the billing, authentication, and security systems designed for dial-up, DSL modem and cable modem service. When the SOHO 6 Wireless is configured to use PPPoE, a button on the System Status page controls the connection to the external network.

Your ISP can tell you how their system assigns the IP addresses.

## **Configure the SOHO 6 Wireless external network for dynamic addressing**

The default configuration sets the SOHO 6 Wireless to get the external address information through DHCP. If your ISP supports this method, the SOHO 6 Wireless gets IP address information from the ISP when the SOHO 6 Wireless reboots and connects to the Internet. The SOHO 6 Wireless does not require any additional configuration.

## **Configure the SOHO 6 Wireless external network for static addressing**

If your ISP assigns static IP address, you must move the IP address data from your computer to the SOHO 6 Wireless. This

configuration causes the ISP to communicate with the SOHO 6 Wireless and not your computer.

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: <http://192.168.111.1>

- 2 From the navigation bar on the left side, select **Network** ⇒ **External**.

The External Network configuration page opens.

- 3 From the Configuration Mode drop-down list, select **Manual Configuration**.

The page refreshes.

#### Network

#### External Network Configuration

---

|                    |                                                   |
|--------------------|---------------------------------------------------|
| Configuration Mode | <input type="text" value="Manual Configuration"/> |
| IP Address         | <input type="text" value="192.168.203.61"/>       |
| Subnet Mask        | <input type="text" value="255.255.255.0"/>        |
| Default Gateway    | <input type="text" value="192.168.203.33"/>       |
| Primary DNS        | <input type="text" value="216.231.0.146"/>        |
| Secondary DNS      | <input type="text" value="0.0.0.0"/>              |
| DNS Domain Suffix  | <input type="text"/>                              |

---

- 4 Type the TCP/IP settings you recorded from your computer during the installation process. Refer to the table, “Examine and record the current TCP/IP settings” on page 15.

---

5 Click **Submit**.

The configuration change is saved to the SOHO 6 Wireless.

## **Configure the SOHO 6 Wireless external network for PPPoE**

If your ISP assigns IP addresses through PPPoE, your PPPoE login name and password are required to configure the SOHO 6 Wireless.

To configure the SOHO 6 Wireless for PPPoE:

- 1 Open your Web browser and click **Stop**.  
Because the Internet connection is not configured, the browser can not load your home page from the Internet. The browser can open the configuration pages in the SOHO 6 Wireless.
- 2 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 3 From the navigation bar on the left side, select **Network ⇒ External**.  
The External Network configuration page opens.
- 4 From the Configuration Mode drop-down list, select **PPPoE Client**.  
The page refreshes.

## Network External Network Configuration

---

Configuration Mode PPPoE Client

Name

Domain

Password

Inactivity Timeout (minutes)

☐ Automatically restore lost connections

☐ Enable pppoe debug trace

---

Submit Reset

- 5 Type the PPPoE login name and domain supplied by your ISP.
- 6 Type the PPPoE password supplied by your ISP.
- 7 Type the time delay before inactive TCP connections are disconnected.
- 8 **Click Automatically restore lost connections.**

This option keeps a constant flow of traffic between the SOHO 6 Wireless and the PPPoE server. This option allows the SOHO 6 Wireless to keep the PPPoE connection open during a period of frequent packet loss. If the flow of traffic stops, the SOHO 6 Wireless reboots. A reboot frequently restores the connection. The ISP sees this constant flow of traffic as a continuous connection. The regulations and billing policy of the ISP determine if you can use this option. Watchguard Technical Support uses this feature as a solution to some problems.
- 9 **Click Enable PPPoE debug trace** to activate PPPoE debug trace.
- 10 **Click Submit.**

The configuration change is saved to the SOHO 6 Wireless.

---

## Configure the Trusted Network

---

The DHCP Server option sets the SOHO 6 Wireless to assign IP addresses to the computers on the trusted network. The SOHO 6 Wireless uses DHCP to make the assignments. When the SOHO 6 Wireless receives a request from a new computer on the trusted network, the SOHO 6 Wireless assigns the computer an IP address. If you use a DHCP server to assign IP addresses, enable the DHCP Relay option. This option causes the SOHO 6 Wireless to forward the DHCP request to the specified DHCP server.

## Configure DHCP server and DHCP relay

To configure DHCP server:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 2 From the navigation bar on the left side, select **Network ⇒ Trusted**.  
The Trusted Network configuration page opens.

Network**Trusted Network Configuration**

---

|                                                                |                                            |
|----------------------------------------------------------------|--------------------------------------------|
| IP Address                                                     | <input type="text" value="192.168.111.1"/> |
| Subnet Mask                                                    | <input type="text" value="255.255.255.0"/> |
| <input type="checkbox"/> Enable DHCP Server on Trusted Network |                                            |
| First address for DHCP server                                  | <input type="text" value="192.168.111.2"/> |
| WINS Server Address                                            | <input type="text"/>                       |
| DNS Server Address                                             | <input type="text"/>                       |
| Secondary DNS Server Address                                   | <input type="text"/>                       |
| DNS Domain Suffix                                              | <input type="text"/>                       |
| <input type="checkbox"/> Enable DHCP Relay                     |                                            |
| DHCP relay server                                              | <input type="text"/>                       |

---

|                                       |                                      |
|---------------------------------------|--------------------------------------|
| <input type="button" value="Submit"/> | <input type="button" value="Reset"/> |
|---------------------------------------|--------------------------------------|

- 3 Type the IP address and the subnet mask in the applicable fields.
- 4 Click to select the **Enable DHCP Server on the Trusted Network** check box.
- 5 Type the first IP address that is available for the computers that connect to the trusted network.
- 6 Type the WINS Server address, DNS Server primary address, DNS Server secondary address, and DNS Domain server suffix.
- 7 Click **Submit**.
- 8 Reboot the SOHO 6 Wireless if necessary.

---

To configure the DHCP relay server:

- 1 From the Trusted Network configuration page, click the **Enable DHCP Relay** checkbox.
- 2 Type the IP address of the DHCP relay server.
- 3 Click **Submit**.
- 4 Reboot the SOHO 6 Wireless.

The SOHO 6 Wireless receives a DHCP request from a computer on the trusted network. The request is sent from the SOHO 6 Wireless to the remote DHCP server. The SOHO 6 Wireless receives the IP address sent from the DHCP server. The IP address is sent from the SOHO 6 Wireless to the computer that made the request. If the SOHO 6 Wireless can not contact the remote DHCP server in less than 30 seconds, the SOHO 6 Wireless uses its internal DHCP server to respond to the computer on the trusted network.

## **Configure additional computers on the trusted network**

The SOHO 6 Wireless accepts the direct connection of a maximum of four computers, printers, scanners, or other network peripherals. The use of one or more 10BaseT Ethernet hubs with RJ-45 connectors allows the connection of additional appliances.

Follow these steps to add a computer to the trusted network:

- 1 Make sure that the computer has an Ethernet card installed.
- 2 Shut down the computer.
- 3 Connect the computer to the network as shown in section “Cabling the SOHO 6 Wireless for more than four appliances” on page 23.
- 4 Restart the computer.
- 5 Set the computer to get its address through DHCP as shown in section “Enable your computer for DHCP” on page 17.

- 6 Shut down and restart the computer.

## Configure the trusted network with static addresses

To disable the SOHO 6 Wireless DHCP server and make static address assignments, follow these steps:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **Network** ⇒ **Trusted**.  
The Trusted Network configuration page opens.

### Network

#### Trusted Network Configuration

---

|                                                                |                                            |
|----------------------------------------------------------------|--------------------------------------------|
| IP Address                                                     | <input type="text" value="192.168.111.1"/> |
| Subnet Mask                                                    | <input type="text" value="255.255.255.0"/> |
| <input type="checkbox"/> Enable DHCP Server on Trusted Network |                                            |
| First address for DHCP server                                  | <input type="text" value="192.168.111.2"/> |
| WINS Server Address                                            | <input type="text"/>                       |
| DNS Server Address                                             | <input type="text"/>                       |
| Secondary DNS Server Address                                   | <input type="text"/>                       |
| DNS Domain Suffix                                              | <input type="text"/>                       |
| <input type="checkbox"/> Enable DHCP Relay                     |                                            |
| DHCP relay server                                              | <input type="text"/>                       |

---

- 
- 3 Type the IP address and the subnet mask in the applicable fields.
  - 4 Reset the **Enable DHCP Server on the Trusted Network** check box.
  - 5 Click **Submit**
  - 6 Reboot the SOHO 6 Wireless as necessary.
  - 7 Configure the appliances on the trusted network with static addresses.

## **Configure the Optional Network for Wireless Networking**

---

To turn on the wireless network, you must enable the optional network.

Follow these instructions to complete the configuration:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>

- From the navigation bar on the left side, select **Network** ⇒ **Optional (802.11b)**.

The Optional Network Configuration page opens.

Network

### Optional Network Configuration

---

☒ Enable Optional Network

IP Address

Subnet Mask

☐ Enable DHCP Server on Optional Network

First address for DHCP server

WINS Server Address

DNS Server Address

Secondary DNS Server Address

DNS Domain Suffix

☐ Enable DHCP Relay on Optional Network

DHCP relay server

☐ Allow traffic between Optional Network and Trusted Network

☐ Require encrypted MUPVN connections on this interface

---

- Click the **Enable Optional Network** checkbox.  
To turn on the wireless network, you need to enable the optional network.
- Type the IP address and subnet mask of the optional network.  
The default IP Address is 192.168.112.1. The default Subnet Mask is 255.255.255.0.

- 
- 5 Select **Enable DHCP Server on the Optional Network** checkbox.
  - 6 Type the First address for DHCP server.  
The default is 192.168.112.2.
  - 7 Type the WINS Server address, DNS Server primary address, DNS Server secondary address, and DNS Domain server suffix.
  - 8 To enable the DHCP Relay on the optional network, click **Enable DHCP Relay** checkbox and enter the IP address of the DHCP relay server in the text box.
  - 9 To allow traffic between the optional network and trusted network, click the **Allow traffic between Optional Network and Trusted Network** checkbox.  
If you select this checkbox, all wireless devices that are connected to the optional network can access the computers on your trusted network.
  - 10 To require encrypted MUVPN connections through the wireless interface, click to select the **Requires Encrypted MUVPN connections on this interface** checkbox.  
You may want to enable this feature after the initial connection between your wireless computers and the SOHO 6 Wireless. This feature secures your network from unauthorized users using your wireless network. If this checkbox is enabled, only computer with the MUVPN software can access your SOHO 6 Wireless network. You need to configure the MUVPN software on the SOHO 6 Wireless device and wireless computer. For more information on configuring MUVPN, see Chapter 11 "MUVPN Clients" on page 119.
  - 11 Click **Submit**.

## Configure the Wireless Network

---

Once you turned on the wireless network by enabling the optional network, you can set up the security setting for your wireless connection.

### Configure Security

The SOHO 6 Wireless uses the industry standard security protocol, Wired Equivalent Privacy (WEP), specified by the IEEE standard 802.11b. WEP is designed to provide a wireless local area network (WLAN) with a level of security and privacy comparable to that usually expected of a wired local area network (LAN). A wired LAN is generally protected by physical security, such as login credentials, that are only effective for a controlled physical environment, because the radio transmissions of a WLAN are not bound by the walls containing the network. WEP achieves security by encrypting the data transmitted over the WLAN. Data encryption protects the vulnerable wireless connection between computers and access points; once this measure has been taken, other typical LAN security mechanisms such as password protection, virtual private networks (VPNs), and authentication can be used to ensure privacy.

Follow these instructions to set up wireless security:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: <http://192.168.111.1>

- 
- 2 From the navigation bar on the left side, select **Network** ⇒ **Wireless Configuration**.

The Wireless Network Configuration page appears.

Network  
Wireless Network Configuration

---

**Security**

Encryption 40/64 bit WEP ▼

Key #1

Key #2

Key #3

Key #4

Default Key 1 (default) ▼

Authentication Open System ▼

**Basic Settings**

SSID 0285E

Channel 11 (default) ▼

**Access Point Options**

Restrict Access by Hardware Address Disabled ▼ Edit...

AP Beacon Rate (ms) 100

Broadcast SSID in AP Beacon Frames Enabled ▼

Respond to SSID Query Requests Enabled ▼

Log Authentication Events Enabled ▼

**Advanced Settings**

Maximum Transmit Rate 11 ▼ Mbits/Sec

Fragmentation Threshold 2304

---

- 3 From the **Encryption** drop-down list, select the level of encryption you want applied to your wireless connections. The options are Disabled, 40/64 bit WEP, and 128 bit WEP.

### ***Disabled***

The default is Disabled, and you should use this option for the initial connection. Your wireless connection is not using WEP when Disabled is selected.

### ***40/64 bit WEP or 128 bit WEP***

Once you complete the initial connection between your wireless computer and SOHO 6 Wireless, you can change this option to add WEP. Select either 40/64 bit or 128 bit based on what the wireless card in your computer supports.

- 4 If you are using WEP encryption, type a hexadecimal number in the Key text boxes.  
You can type up to four keys that the wireless network will use to connect. If you have 40/64 bit WEP, the key can be up to 10 characters. If you have 128 bit WEP, the key can be up to 26 characters.
- 5 If you typed more than one key, select which key you want to use as the default key from the **Default Key** drop-down list.
- 6 Select the **Authentication** mode you want to use for your wireless network connection.  
The options are Open System, Shared Key, and Both.

### ***Open System***

This option does not support shared keys. If you disable encryption, this is the only option.

### ***Shared Key***

This option supports shared keys. If you enabled WEP, this option is enabled.

## **Change the Basic Settings**

The SSID is the SOHO 6 Wireless identification number, and it is used to create the wireless connection with the wireless computers.

---

To change the SSID of the SOHO 6 Wireless:

- In the Basic Settings section, type a new identification in **SSID** text box.

The default SSID is the 5 digit serial number for your SOHO 6 Wireless device. The first four digits of the serial number are the product code and are not part of the SSID. The next five digits after the product code are the serial number. The remaining characters are an encoded hash for security uses. The maximum identification length is 20 characters.

To change the Channel:

- From the **Channel** drop-down list, select the channel you want to use in your wireless connection.

## Restrict Access by Hardware Address

You can change the settings of how the SOHO 6 Wireless communicates with your wireless computer and other settings.

- 1 If you want to restrict access to the SOHO 6 Wireless by the computer hardware address, select **Enabled** in the **Restrict Access by Hardware Address** drop-down list.
- 2 Click **Edit**  
The Allowed Hardware Addresses page appears.
- 3 Type the **MAC Address** of the computer you want to connect to the SOHO 6 Wireless.
- 4 Click **Submit**.

OR

- 1 If you do not want to restrict access to the SOHO 6 Wireless by the computer hardware address, select **Disabled**.

## Configure the Beacon Rate

- 1 In the **AP Beacon Rate** text box, type the beacon rate in milliseconds (100 through 10,000) that you want the SOHO 6 Wireless to use.  
The beacon rate is the rate the SOHO 6 Wireless sends out broadcasts so that the wireless computers can find it.
- 2 If you want the SOHO 6 Wireless to broadcast a beacon rate, select **Enabled** from the **Broadcast SSID in AP Beacon Frames**. If you do not want to broadcast the beacon rate, select **Disabled**.
- 3 If you want the SOHO 6 Wireless to respond to request from the wireless computers, select **Enabled** in the **Respond to SSID Query Requests**. If you do not want the SOHO 6 Wireless to respond, select **Disabled**.  
The wireless computers send out query requests to find if there are any wireless access points that it can connect to.

## Log Authentication Events

If you want the SOHO 6 Wireless to log when a wireless computer tries to access it, select **Enabled**. If you do not want to log authentication events, select **disabled**.

## Set Advanced Settings

You can change Maximum Transmit Rate and Fragmentation Threshold.

- To change the Maximum Transmit Rate, select the rate per Mbits per second from the **Maximum Transmit Rate** drop-down list.
- To change the Fragmentation Threshold, type a value of 256 to 4096 in the **Fragmentation Threshold** text box.

---

## Configure static routes

---

To send the specified packets to different segments of the trusted network connected through a router or switch, configure static routes.

Follow these instructions to configure static routes:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: <http://192.168.111.1>

- 2 From the navigation bar on the left side, select **Network** ⇒ **Routes**.

The Routes page opens.

Network  
Routes

---

| Address |  | Gateway |
|---------|--|---------|
|         |  |         |

Add...

Remove

- 3 Click Add.

The Add Route page opens.

Network > Routes  
**Add Route**

---

Type  ▼

Address

Gateway

---

- 4 From the Type drop-down list, select either **Host** or **Network**.
- 5 Type the IP address and the gateway of the route in the applicable fields.  
The gateway of the route is the local interface of the router.
- 6 Click **Submit**.

To remove a route, select the route and click **Remove**.

## View network statistics

---

The Network Statistics page gives information about network performance. This page is useful during troubleshooting.

Follow these instructions to access the Network Statistics page:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`

- 
- From the navigation bar on the left side, select **Network** ⇒ **Network Statistics**.  
The Network Statistics page opens.

#### Network Statistics

---

##### IP

```
IP:      Up for 2 days 3 hours 46 minutes 38 seconds
Network Buffers Allocated/Total (9/40) Memory Total/Largest Block (8091408/7970480)
Sockets Allocated/Total (11/80) NAT Ports Avail (1000) RAM Disk (2069504)
Tx: packets (1173)
Rx: packets (980) delivered (980)
```

---

##### External Network

```
eth0:    Link encap:Ethernet  HWaddr 00:90:7f:0f:1f:12 inet addr:192.168.203.61
RX packets:991 errors:0 bcast:55 disc:0 unk:0
TX packets:1228 errors:0 bcast:0
```

---

##### Trusted Network

```
eth1:    Link encap:Ethernet  HWaddr 00:90:7f:0f:1f:11 inet addr:192.168.111.1
RX packets:0 errors:0 bcast:0 disc:0 unk:0
TX packets:0 errors:0 bcast:0
```

---

## Configure the dynamic DNS Service

---

This feature allows you to register the external IP address of the SOHO 6 Wireless with the dynamic DNS (Domain Name Server) service DynDNS.org. A dynamic DNS service makes sure that the IP address attached to your domain name is changed when your ISP assigns you a new IP address.

- Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>

---

## NOTE

---

WatchGuard is not affiliated with dyndns.org.

---

- 2 From the navigation bar on the left side, select **Network** ⇒ **DynamicDNS**.  
The Dynamic DNS client page opens.

### Network Dynamic DNS client

---

☐ Enable Dynamic DNS client

Domain

Name

Password

---

- 3 Select the **Enable Dynamic DNS client** checkbox.
- 4 Type the domain, name, and password in the applicable fields.
- 5 Click **Submit**.



# Administrative options

---

Use the SOHO 6 Wireless Administration page to configure access to the SOHO 6 Wireless. The System Security, SOHO 6 Wireless Remote Management™ feature, and VPN Manager Access are configured from the Administration page. The firmware updates, upgrade activation, and display of the SOHO 6 Wireless configuration file in a text format are done from the Administration page.

## The System Security page

---

The System Security page contains the settings that control access to the configuration of the SOHO 6 Wireless. Set a system administrator name and passphrase to limit access to the configuration pages. Enable remote management to allow the configuration of the SOHO 6 Wireless from the external network.

---

## System security

A passphrase prevents access to the configuration of the SOHO 6 Wireless by an unauthorized user on the trusted network. The use of a passphrase is important to the security of your network.

---

### NOTE

---

Record the system administrator name and passphrase in a safe location. When system security is enabled, the system administrator name and passphrase are required to access the configuration pages. If the system administrator name and passphrase are unknown, you must reset the SOHO 6 Wireless to the factory default settings. See "Factory default settings" on page 31 for additional information.

---

Change the System Administrator passphrase every month. Select a combination of eight letters, numbers, and symbols. Do not use a word. Use at least one special symbol, a number, and a mixture of upper-case and lower-case letters for increased security.

Follow these instructions to enable system security:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **Administration** ⇒ **System Security**.  
The System Security page opens.

## Administration

### System Security

---

HTTP Server Port

☐ Enable System Security

System Administrator Name

System Passphrase

Confirm System Passphrase

☐ Enable SOHO Remote Management

Virtual IP Address

Authentication Algorithm  ▼

Encryption Algorithm  ▼

VPN Client Type  ▼

---

- 3 Verify that the **HTTP Server Port** is set to 80.
- 4 Click to select the **Enable System Security** check box.
- 5 Type a **System Administrator Passphrase** and then type it again to confirm.
- 6 Click **Submit**.

## SOHO 6 Wireless Remote Management

Both the SOHO 6 Wireless and SOHO 6tc Wireless come equipped with the SOHO 6 Wireless Remote Management feature. This feature uses the MUVPN client or Pocket PC to establish a secure

---

connection, using Internet Protocol Security (IPSec), over an unsecured network from your remote computer in order to remotely manage your SOHO 6 Wireless.

For example, the MUVPN client is installed and configured on your computer. You then establish a standard Internet connection and activate the MUVPN client. The MUVPN client creates an encrypted tunnel to your SOHO 6 Wireless. You can now access the SOHO 6 Wireless configuration pages without compromising security. Another way to remotely manage your SOHO 6 Wireless, is using a Pocket PC. First you establish a standard Internet connection using your Pocket PC, and then you can access the SOHO 6 Wireless configuration page.

- 1 First, follow the steps above to configure System Security.
- 2 Enable the checkbox labeled **Enable SOHO 6 Wireless Wireless Remote Management**.
- 3 Type the Virtual IP address which will be used by the remote management computer when connecting to the SOHO 6 Wireless in the appropriate field.
- 4 In the **Authentication Algorithm** drop list, specify the authentication: MD5-HMAC (128-bit authentication) or SHA1-HMCA (160-bit authentication).
- 5 In the **Encryption Algorithm** drop list, specify the type of encryption: DES-CBC or 3DES-CBC.
- 6 In the **VPN Client Type** drop list, specify the type of VPN client: Mobile User (MUVPN) or Pocket PC.
- 7 Click **Submit**.
- 8 Next, you must install and configure the MUVPN client on your remote computer.  
For this information, see Chapter 10, "MUVPN Clients" on page 119.
- 9 Once you have installed and configured the MUVPN client, establish an Internet connection through either Dial-Up

Networking or directly through a local area network (LAN) or wide area network (WAN).

From the Windows desktop system tray:

- 10 Verify the MUVPN client status—it *must* be activated. If it is not, right-click the icon and select **Activate Security Policy**.  
For information on how to determine the status of the MUVPN icon, see Chapter 11, “The Mobile User VPN client icon” on page 148.

Then, from the Windows desktop system tray:

- 11 Right-click the icon and select **Connect**.  
The WatchGuard Mobile User Connect window appears.
- 12 Click the **Yes** button.
- 13 Finally, enter the IP address of the external network in your browser window to connect to the System Status page of the SOHO 6 Wireless.

## Set up VPN manager access

---

The VPN Manager Access page configures the SOHO 6 Wireless to allow remote configuration of the SOHO 6 Wireless by the WatchGuard VPN Manager software. The WatchGuard VPN Manager software configures and manages VPN tunnels.

The VPN Manager software is a separate product and must run on a WatchGuard Firebox II/III. Additional information about the VPN Manager product is available on the WatchGuard Web site:

<https://www.watchguard.com/products/vpnmanager.asp>

Follow these instructions to configure VPN Manager access:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>

- 
- 2 From the navigation bar on the left side, select **Administration** ⇒ **VPN Manager Access**.

The VPN Manager Access page opens.

Administration

**VPN Manager Access**

---

☐ Enable VPN Manager Access

Status Passphrase

Confirm Status Passphrase

Configuration Passphrase

Confirm Configuration Passphrase

---

- 3 Select **Enable VPN Manager Access**.
- 4 Type the **Status Passphrase**.
- 5 Type the **Status Passphrase** again to confirm.
- 6 Type the **Configuration Passphrase**.
- 7 Type the **Configuration Passphrase** again to confirm.

### **NOTE**

These passphrases must match the passphrases used in the VPN Manager software or the connection will fail.

- 8 Click **Submit**.

## Update the firmware

---

Check regularly for SOHO 6 Wireless firmware updates on the WatchGuard Web site:

<http://support.watchguard.com/sohoresources/>

Download the .exe or .wgd files that contain the firmware update. The .exe file is an installer and the .wgd file is a binary file. The .wgd file is an advanced installation method.

---

### NOTE

---

The .exe file is not available for firmware previous to the 6.0 release.

---

To install the .exe file:

- 1 Save the .exe file to your computer.
- 2 Double-click the .exe file.  
The installer will install the updated firmware.

To install the .wgd file:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 2 Click **Update**.

---

### NOTE

---

If you configure your SOHO 6 Wireless from a computer that does not use the Windows operating system, for example Macintosh or Linux, you must update your firmware with this procedure.

---

- 3 Read the End-User License Agreement. Then set the **I accept the above license agreement** check box at the bottom of the page.

---

☐ I accept the above license agreement.

Select file

---

- 4 Type the location of the .wgd firmware files on your computer.  
OR
- 4 Click **Browse** and locate the .wgd firmware files on your computer.

---

**NOTE**

---

Check your SOHO 6 Wireless firewall settings to make sure that your firewall allows .wgd files.

---

- 5 Click **Update**.  
Follow the instructions provided by the update wizard.

---

**NOTE**

---

The update wizard requests a user name and password. Type the system administrator name and passphrase configured on the System Security page. The default values are "user" and "pass".

---

## Activate the SOHO 6 Wireless upgrade options

---

Every SOHO 6 Wireless includes the software for all upgrade options. To activate an upgrade option, you must enter a license key in the configuration of the SOHO 6 Wireless. To receive a license key, purchase and activate an upgrade option at the

LiveSecurity Service Web site. See “Register your SOHO 6 Wireless and activate the LiveSecurity Service” on page 33 for more information.

Follow these steps to activate an upgrade option:

- 1 Go to the upgrade page of the WatchGuard Web site:  
<http://www.watchguard.com/upgrade>
- 2 Type your **User Name** and **Password**.
- 3 Click **Log In**.
- 4 Follow the instructions provided on the Web site to activate your license key.
- 5 Copy the license key from the LiveSecurity Service Web site.
- 6 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 7 From the navigation bar on the left side, select **Administration** ⇒ **Upgrade**.  
The Upgrade page opens.

Administration  
**Upgrade**

---

Feature Key

---

- 8 Paste the license key in the applicable field.
- 9 Click **Submit**.

---

## Upgrade options

### *Seat licenses*

A seat license upgrade allows more connections between the trusted or optional network and the external network. A wired connection goes to the trusted and the wireless connection goes to the optional. For example, a 25-seat license allows 25 wired or wireless connections instead of the standard 10 connections.

### *IPSec Virtual Private Networking (VPN)*

The VPN upgrade is necessary to configure virtual private networking. The SOHO 6tc Wireless includes a VPN upgrade license key. The SOHO 6 Wireless does not include a VPN upgrade license key.

### *WebBlocker*

The WebBlocker upgrade enables the Web filtering option.

### *MUVPN Client*

The MUVPN Client upgrade allows remote users to connect to the SOHO 6 Wireless through a secure (IPSec) VPN tunnel. The MUVPN client creates an encrypted tunnel to your trusted or optional network depending on if it is a wired or wireless connection. A wired connection goes to the trusted and the wireless connection goes to the optional. If you have a wireless network, you can configure the wireless network to require wireless computers to have an encrypted MUVPN connection to access the SOHO 6 Wireless. The SOHO 6 Wireless includes several MUVPN client licenses. You can add more MUVPN connections with the MUVPN Client upgrade. For more information on configuring a wireless network to require MUVPN connections, see “Configure the Optional Network for Wireless Networking” on page 46.

### *LiveSecurity Service subscription renewals*

Purchase a LiveSecurity subscription renewal for a period of one or two years from your reseller or the WatchGuard online store. Go to the renew page of the WatchGuard Web site to purchase or activate a subscription renewal:

<http://www.watchguard.com/renew/>

Follow the instructions on the Web site.

## **View the configuration file**

---

The contents of the SOHO 6 Wireless configuration file is available in text format from the View Configuration File page.

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 2 From the navigation bar on the left side, select **Administration ⇒ View Configuration File**.  
The View Configuration File page opens.



# Configure the Firewall Settings

---

## Firewall settings

---

The configuration settings of the SOHO 6 Wireless control the flow of traffic between the trusted network and the external network. The configuration you select depends on the types of risks that are acceptable for the trusted network.

The SOHO 6 Wireless lists many standard services on the configuration page. A service is the combination of protocol and port numbers for a type of application or type of communication.

## Configure incoming and outgoing services

---

The default configuration of the SOHO 6 Wireless prevents the transmission of all packets from the external network to the trusted network. Change the configuration to select the types of traffic that

---

are permitted. For example, to operate a Web server behind the SOHO 6 Wireless, add an incoming Web service.

Select carefully the number and the types of services that you add. The added services decrease the security of your network. Compare the value of access to each service against the security risk caused by that service.

## Common services

Follow these steps to change the configuration of the incoming filters for common services:

- 1 From the navigation bar on the left side, select **Firewall** ⇒ **Incoming** or **Outgoing**.  
The Filter Incoming Traffic page opens.

Firewall

**Filter Incoming Traffic**

---

### Common Services

| Filter    |                                                                                     | Service    | Service Host |
|-----------|-------------------------------------------------------------------------------------|------------|--------------|
| No Rule ▾ |    | CU-SeeMe   | 0.0.0.0      |
| No Rule ▾ |    | DNS        | 0.0.0.0      |
| No Rule ▾ |  | FTP        | 0.0.0.0      |
| No Rule ▾ |  | HTTP       | 0.0.0.0      |
| No Rule ▾ |  | HTTPS      | 0.0.0.0      |
| No Rule ▾ |  | ILS        | 0.0.0.0      |
| No Rule ▾ |  | IPSec      | 0.0.0.0      |
| No Rule ▾ |  | NetMeeting | 0.0.0.0      |
| No Rule ▾ |  | NNTP       | 0.0.0.0      |

- 2 Locate a pre-configured service, such as FTP, Web, or Telnet, then select either **Allow** or **Deny** from the drop-down list.  
The illustration shows the HTTP service configured to allow incoming traffic.
- 3 Type the trusted network IP address of the computer to which this rule applies.  
The illustration shows the HTTP service configured to allow incoming traffic to the computer with IP address 192.168.111.2.
- 4 Click **Submit**.

## Create a custom service

If you need to allow a service that is not listed in the common services, configure a custom service based on a TCP port, a UDP port, or a protocol.

Follow these steps to configure a custom service:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **Firewall ⇒ Custom Service**.  
The Custom Service page opens.

---

## Firewall Custom Service

---

Service Name

Protocol Settings

| Protocol    | Port        |
|-------------|-------------|
| <div></div> | <div></div> |

TCP Port  To

Incoming Filter

Service Host

From 

Any

Host IP Address

Outgoing Filter

- 3 Type a name for the service in the **Service name** field.
- 4 Select **TCP Port**, **UDP Port**, or **Protocol** from the drop-down list below the **Protocol Settings**.  
The Custom Service page refreshes.
- 5 In the fields separated by the word **To**, enter the port number or the range of port numbers, or enter the protocol number.

### NOTE

For a TCP port or a UDP port, specify a port number. For a protocol, specify a protocol number. You cannot specify a port number for a protocol.

---

6 Click **Add**.

The following steps determine how the service is filtered.

7 Select **Allow** or **Deny** from the **Incoming Filter** and **Outgoing Filter** drop-down lists.

8 Select **Host IP Address**, **Network IP Address**, or **Host Range** from the drop-down list at the bottom of the page.

The Custom Service page refreshes.

9 Type a single host IP address, a network IP address, or the start and end of a range of host IP addresses in the address field.

10 Click **Add**.

Repeat the previous three steps until all of the address information for this custom service is set.

11 Click **Submit**.

## Block external sites

---

The default configuration of the SOHO 6 Wireless:

- allows the transmission of all packets from the trusted network to the external network;
- prevents the transmission of all packets from the external network to the trusted network.

You can change the configuration to prevent access to specified Internet sites. Follow these steps to configure the blocked sites:

1 From the navigation bar on the left side, select **Firewall** ⇒ **Blocked Sites**.

The Blocked Sites page opens.

---

## Firewall Blocked Sites

Blocked Sites

Remove

Host IP Address ▼ 0.0.0.0 Add

Submit Reset

- 2 Select either **Host IP Address**, **Network IP Address**, or **Host Range** from the drop-down list.  
The Blocked Sites page refreshes.
- 3 Type a single host IP address, a network IP address, or the start and end of a range of host IP addresses in the address field.  
The illustration shows the selection Host IP Address and the IP address 207.68.172.246.
- 4 Click **Add**.  
The address information appears in the Blocked Sites field.
- 5 Click **Submit**.

## Firewall options

---

The previous sections described how to allow or deny complete classes of services. The Firewall Options page allows the configuration of general security policies.

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **Firewall** ⇒ **Firewall Options**.  
The Firewall Options page opens.

### Firewall

#### Firewall Options

- 
- ☐ Do not respond to PING requests received on External Network.
  - ☐ Do not allow FTP access to Trusted Network interface.
  - ☐ Disable SOCKS proxy.
  - ☐ Log All Allowed Outbound Access.
- 

- ☐ Enable override MAC address for the External Network.

External Network override MAC address

---

---

## **Ping requests received from the external network**

You can configure the SOHO 6 Wireless to deny all ping packets received on the external interface.

- 1 Set the **Do not respond to PING requests received on External Network** check box.
- 2 Click **Submit**.

## **Denying FTP access to the trusted network interface**

You can configure the SOHO 6 Wireless to prevent FTP access to the computers on the trusted network by the computers on the external network.

- 1 Set **Do not allow FTP access to Trusted Network** check box.
- 2 Click **Submit**.

## **SOCKS implementation for the SOHO 6 Wireless**

The SOHO 6 Wireless functions as a SOCKS network proxy server. An application that uses more than one socket connection and implements the SOCKS version 5 protocol can communicate through the SOHO 6 Wireless. SOCKS supplies a secure, two-way communication channel between a computer on the external network and a computer on the trusted network. To use a SOCKS-compatible application, configure the application with the necessary information about the SOHO 6 Wireless.

The SOHO 6 Wireless supports SOCKS version 5 only. The SOHO 6 Wireless does not support authentication or DNS (Domain Name System) resolution.

---

**NOTE**

---

Configure the SOCKS-compatible application to connect to IP addresses and not to domain names. Applications that can only reference domain names are not compatible with the SOHO 6 Wireless.

---

Some SOCKS-compatible applications that function correctly when used through the SOHO 6 Wireless are ICQ, IRC, and AOL Messenger.

---

**NOTE**

---

When a computer in the trusted network uses a SOCKS-compatible application, other users on the trusted network have free access to that computer. Disable SOCKS on the SOHO 6 Wireless to prevent this security risk. See "Disabling SOCKS on the SOHO 6 Wireless" on page 81.

---

## **Configuring your SOCKS application**

To allow a SOCKS-compatible application on a computer in the trusted network to communicate with a computer on the external network, configure the application as described below. To make these settings, refer to the users guide for the application.

---

**NOTE**

---

The SOHO 6 Wireless uses port 1080 to communicate with a computer that uses a SOCKS-compatible application. Make sure that port 1080 is not in use by other applications on the computer.

---

- If there is a selection of protocols or SOCKS versions, select SOCKS version 5.
- Select port 1080.

- 
- Set the SOCKS proxy to the URL or IP address of the SOHO 6 Wireless. The default IP address is: `http://192.168.111.1`.

## Disabling SOCKS on the SOHO 6 Wireless

After a SOCKS-compatible application has connected through the SOHO 6 Wireless, the SOCKS port stays open. After the application terminates, the SOCKS port is available to anyone on your trusted network. The following steps prevent this security problem.

When the SOCKS-compatible application is not in use:

- 1 Set the **Disable SOCKS proxy** check box.  
This disables the SOCKS proxy feature of the SOHO 6 Wireless.
- 2 Click **Submit**.

To use the SOCKS-compatible application:

- 1 Reset the **Disable SOCKS proxy** check box.  
This enables the SOHO 6 Wireless SOCKS proxy server.
- 2 Click **Submit**.  
This disables the SOHO 6 Wireless SOCKS proxy server.

## Logging all allowed outbound traffic

When in the default configuration, the SOHO 6 Wireless only records unusual events. For example, all denied traffic is recorded in the log file. You can change the configuration of the SOHO 6 Wireless to record all outbound traffic events.

---

### NOTE

---

This option records an large number of log entries. WatchGuard recommends that you use this option as a problem solving aid only.

---

Follow these steps to enable this option:

- 1 Select **Log All Allowed Outbound Access**.
- 2 Click **Submit**.

---

## Enable override MAC address for the external network

---

If your ISP requires a MAC address, enable this option. The SOHO 6 Wireless will use its own MAC address for the trusted network. You can enter a new MAC address for use on the external network.

Follow these steps to enable this option:

- 1 Set the **Enable override MAC address for the External Network** check box.
- 2 Type the new MAC address for the SOHO 6 Wireless external network.
- 3 Click **Submit**.

---

### NOTE

---

If the **MAC address for the external network** field is cleared and the SOHO 6 Wireless is rebooted, the SOHO 6 Wireless is reset to the factory-default MAC address for the external network.

---

To prevent MAC address collisions, the SOHO 6 Wireless searches the external network periodically for the override MAC address. If the SOHO 6 Wireless finds a device that uses the same MAC address, the SOHO 6 Wireless resets to the factory-default external MAC address and reboots.

## Create an Unrestricted Pass Through

---

The SOHO 6 Wireless can allow traffic to flow from the external network to a computer on the trusted network that has a public IP address.

Follow these steps to configure a pass through:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: `http://192.168.111.1`

- 2 From the navigation bar on the left side, select **Firewall** ⇒ **Pass Through**.

The Unrestricted Pass Through IP Address page opens.

### Firewall

#### Unrestricted Pass Through IP Address

---

☐ Enable pass through address

Address to pass through

---

- 3 Set the **Enable pass through address** check box.
- 4 Type the IP address of the computer to connect to the pass through. This must be a public IP address.  
The illustration shows a pass through address of 206.253.208.103.
- 5 Click **Submit**.

---

### NOTE

A pass through connection decreases the security of the trusted network, because the computer with the pass through connection is on the same Ethernet segment as the trusted network. Do not use a pass through connection unless the effect of the pass through connection on the security of the trusted network is known.

---



# Configure logging

---

The SOHO 6 Wireless logging feature records a log of the events related to the security of the trusted network. Communication with the WatchGuard WebBlocker database and incoming traffic are examples of events that are recorded. The log records the events that show possible security problems. A denied packet is the most important type of event to log. A sequence of denied packets can show that an unauthorized person tried to access your network.

---

## NOTE

---

The records in the SOHO 6 Wireless log are erased if the power supply is disconnected.

---

---

## View SOHO 6 Wireless log messages

---

The SOHO 6 Wireless event log records a maximum of 150 log messages. If a new entry is added when the event log is full, the oldest log message is removed.

The log messages include the time synchronizations between the SOHO 6 Wireless and the WatchGuard Time Server, packets discarded because of a packet handling violation, duplicate messages, return error messages, and IPSec messages.

The following procedure shows how to view the event log:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: `http://192.168.111.1`

- 2 From the navigation bar on the left side, select **Logging**.  
The Logging page opens with the Event Log at the bottom of the page.

### Logging

| Logging Options                            |                     |               |         |                           |
|--------------------------------------------|---------------------|---------------|---------|---------------------------|
| <u>WSEP Logging</u>                        | Disabled            | WSEP Log Host | None    | <a href="#">Configure</a> |
| <hr/>                                      |                     |               |         |                           |
| <u>Syslog Logging</u>                      | Disabled            | Syslog Host   | 0.0.0.0 | <a href="#">Configure</a> |
| <hr/>                                      |                     |               |         |                           |
| <u>System Time</u>                         |                     |               |         | <a href="#">Configure</a> |
| Time Zone                                  |                     |               |         |                           |
| DST                                        | Disabled            |               |         |                           |
| Time Source                                | NTP Server          |               |         |                           |
| Current Time                               | 2003-06-03-05:26:48 |               |         |                           |
| <a href="#">Sync Time With Browser Now</a> |                     |               |         |                           |

---

## NOTE

---

The newest entry is shown at the top of the event log.

---

This option synchronizes the clock of the SOHO 6 Wireless to your computer:

- Click **Sync Time with Browser now**.

The SOHO 6 Wireless synchronizes the time at startup.

---

## Set up logging to a WatchGuard Security Event Processor log host

---

The WSEP (WatchGuard Security Event Processor) is an application that is available with the WatchGuard Firebox System package used by a Firebox II/III. The WSEP application runs on a computer that functions as the log host. The WSEP application records log messages sent from the Firebox II/III. If you have a Firebox II/III, configure the WSEP to accept the log messages from your SOHO 6 Wireless. Then follow these instructions to send your event logs to the WSEP.

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 2 From the navigation bar on the left side, select **Logging ⇒ WSEP Logging**.  
The WatchGuard Security Event Processor page opens.

---

## Logging

### WatchGuard Security Event Processor Logging

---

☐ Enable WatchGuard Security Event Processor Logging

Log Host IP Address

Log Encryption Key

Confirm Key

---

Submit

Reset

- 3 Select **Enable WatchGuard Security Event Processor Logging**.
- 4 Type the IP address of the WSEP server that is your log host in the applicable field.  
In the illustration, the IP address is 192.168.111.5.
- 5 Type a passphrase in the **Log Encryption Key** field.
- 6 Confirm the passphrase in the **Confirm Key** field.
- 7 Click **Submit**.

---

#### NOTE

Use the same encryption key recorded in the WSEP application.

---

## Set up logging to a Syslog host

This option sends the SOHO 6 Wireless log entries to a Syslog host.

Follow these steps to configure a Syslog Host:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: `http://192.168.111.1`

- 2 From the navigation bar on the left side, select

**Logging ⇒ Syslog Logging.**

The Syslog Logging page opens.

Logging

**Syslog Logging**

---

☐ Enable syslog output

Address of syslog host

☐ Include local time in syslog message

---

- 3 Set the **Enable syslog output** check box.
- 4 Type the IP address of the Syslog server.  
In the illustration, the IP address is 206.253.208.100.
- 5 Click **Submit**.

This option includes the local time from your browser in the Syslog messages:

- Select **Include local time in Syslog message**.

---

### NOTE

---

Syslog traffic is not encrypted. Syslog messages that are sent through the Internet decrease the security of the trusted network. Use a VPN tunnel to increase the security of Syslog message traffic. If the Syslog messages

---

are sent through a VPN tunnel, the data is encrypted with IPSec technology.

---

## Set the system time

---

The SOHO 6 Wireless records the time of each log entry.

| Event Log           |          |                                                                                             |
|---------------------|----------|---------------------------------------------------------------------------------------------|
| Time                | Category | Message                                                                                     |
| 2002-05-23-17:16:09 | IP       | Packet allowed from 192.168.42.204 port 3577 to 192.168.42.160 port 80 (TCP)(allow by HTTP) |
| 2002-05-23-17:16:08 | MONITOR  | Administrator access allowed from 192.168.42.204                                            |
| 2002-05-23-17:16:08 | IP       | Packet allowed from 192.168.42.204 port 3576 to 192.168.42.160 port 80 (TCP)(allow by HTTP) |

The time recorded in the log entries is from the SOHO 6 Wireless system clock.

Follow these steps to set the system time:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: <http://192.168.111.1>

- From the navigation bar on the left side, select **Logging ⇒ System Time**.  
The System Time page opens.

Logging  
**System Time**

---

**Time Source**

NTP Servers

**Time Zone**

(GMT-12:00) Eniwetok, Kwajalein ▼

☐ Adjust for daylight savings time

---

Submit

Reset

This step synchronizes the system time with the WatchGuard Time Server:

- Select **Get Time From WatchGuard Time Server**.

This step synchronizes the system time with a TCP Port 37 Time Server:

- Select **Get Time From TCP Port 37 Time Server at**.
- Type the IP address of the time server in the applicable field.
- Click **Submit**.

This step sets the SOHO 6 Wireless to adjust for daylight savings time:

- Set the **Adjust for daylight savings time** check box.

This step sets the current time zone of the SOHO 6 Wireless:

- Select a time zone from the drop-down list.

---

### **NOTE**

---

The time zone selection is only used when the **Get Time From WatchGuard Time Server** check box is selected.

---

# SOHO 6 Wireless WebBlocker

---

WebBlocker is an option for the SOHO 6 Wireless that allows the system administrator to control which Web sites the users can access.

## How WebBlocker works

---

WebBlocker uses a database of Web site addresses, which is owned and maintained by SurfControl. The database shows the type of content found on thousands of Web sites. WatchGuard puts the newest version of the SurfControl database on the WebBlocker server at regular intervals.

The WebBlocker checks each Web site request by users in the trusted network. The SOHO 6 Wireless sends to the database a request for the type of content found on the Web site. The SOHO 6 Wireless uses the rules shown below to control the access to Web sites:

---

## **Web site not in the WebBlocker database**

If the Web site is not in the WatchGuard WebBlocker database, the Web browser opens the page.

## **Web site in the WebBlocker database**

If the site is in the WatchGuard WebBlocker database, the SOHO 6 Wireless examines the configuration to see if that type of site is permitted. When the type of site is not permitted, the user is told that the site is not available. If the type of site is permitted, the Web browser opens the page.

## **WatchGuard WebBlocker database unavailable**

If the WatchGuard WebBlocker database is not available, the user is told that the Web site is not available. The database is not available if the SOHO 6 Wireless can not connect to the WatchGuard server.

## **WebBlocker users and groups**

### *Groups*

A group is a set of users on the trusted network.

### *Users*

Users are persons that use the computers on the trusted network.

## **Bypass the SOHO 6 Wireless WebBlocker**

The SOHO 6 Wireless WebBlocker configuration page includes a full access password field. Give this password to those users of the trusted network allowed to bypass WebBlocker. When a site is blocked, the user can supply the full access password to access the Web site. After the user supplies the password, the user can access all Web sites until the password expires or the browser is closed.

## **Purchase and activate SOHO 6 Wireless WebBlocker**

---

To use the WatchGuard SOHO 6 Wireless WebBlocker, you must purchase and enable the WebBlocker upgrade license key. See “Activate the SOHO 6 Wireless upgrade options” on page 66 for information about upgrade license keys.

## **Configure the SOHO 6 Wireless WebBlocker**

---

Use the SOHO 6 Wireless configuration pages to configure the WebBlocker:

---

## WebBlocker settings

Use the WebBlocker settings page to:

- activate the WebBlocker;
  - set the full access password;
  - set the inactivity timeout;
  - require that your Web users authenticate.
- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
  - 2 From the navigation bar on the left side, select **WebBlocker ⇒ Settings**.  
The WebBlocker Settings page opens.

### WebBlocker **Settings**

---

☐ Enable WebBlocker

Full Access Password

Confirm Password

Inactivity Timeout (minutes)

☐ Require Web users to authenticate

---

- 3 Set the **Enable WebBlocking** check box.

- 4 Type the full access password.  
The full access password allows a user to access all Web sites until the password expires or the browser is closed.
- 5 Type the **Inactivity Timeout** in minutes.  
The inactivity timeout disconnects Internet connections that are inactive for the set number of minutes.
- 6 To set the WebBlocker to use groups and users, set the **Require Web users to authenticate** check box.
- 7 Click **Submit** to register your changes.

### **Create WebBlocker groups and users**

Follow these instructions to create WebBlocker groups:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>

- 
- 2 From the navigation bar on the left side, select **WebBlocker** ⇒ **Groups**.

The WebBlocker Groups page opens.

WebBlocker  
**Groups**

---

Group [Default Group](#)

Users [All Users](#)

Blocked Categories

|                                              |                                                  |
|----------------------------------------------|--------------------------------------------------|
| <input type="checkbox"/> Alcohol and Tobacco | <input type="checkbox"/> Violence/Profanity      |
| <input type="checkbox"/> Illegal Gambling    | <input type="checkbox"/> Search Engines          |
| <input type="checkbox"/> Militant/Extremist  | <input type="checkbox"/> Sports and Leisure      |
| <input type="checkbox"/> Drug Culture        | <input type="checkbox"/> Sex Education           |
| <input type="checkbox"/> Satanic/Cult        | <input type="checkbox"/> Sex Acts                |
| <input type="checkbox"/> Intolerance         | <input type="checkbox"/> Full Nudity             |
| <input type="checkbox"/> Gross Depictions    | <input type="checkbox"/> Partial/Artistic Nudity |

---

- 3 Click **New** to create a group name and profile.

WebBlocker > Groups

### New Group

Group Name

#### Blocked Categories

- |                                              |                                                  |
|----------------------------------------------|--------------------------------------------------|
| <input type="checkbox"/> Alcohol and Tobacco | <input type="checkbox"/> Violence/Profanity      |
| <input type="checkbox"/> Illegal Gambling    | <input type="checkbox"/> Search Engines          |
| <input type="checkbox"/> Militant/Extremist  | <input type="checkbox"/> Sports and Leisure      |
| <input type="checkbox"/> Drug Culture        | <input type="checkbox"/> Sex Education           |
| <input type="checkbox"/> Satanic/Cult        | <input type="checkbox"/> Sex Acts                |
| <input type="checkbox"/> Intolerance         | <input type="checkbox"/> Full Nudity             |
| <input type="checkbox"/> Gross Depictions    | <input type="checkbox"/> Partial/Artistic Nudity |

- 4 Define a **Group Name** and set the types of content to filter for this group.
- 5 Click **Submit**.  
A new Groups page opens that shows the configuration changes.

---

WebBlocker  
**Groups**

Configuration changes have been accepted.

Group

Users

- 6 To the right of the **Users** field, click **New**.  
The New User page opens.

WebBlocker > Groups  
**New User**

User name

Passphrase

Confirm Passphrase

Group

- 7 Type a new user name and passphrase.
- 8 Confirm the passphrase.

- 9 Use the **Group** drop-down list to assign the new user to a given group.
- 10 Click **Submit**.

---

**NOTE**

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To remove a user or group, make a selection and click **Delete**.

---

## WebBlocker Categories

---

The WebBlocker database contains the following 14 categories:

---

**NOTE**

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A Web site is only added to a category if the contents of the Web Site advocate the subject matter of the category. Web sites that provide opinion or educational material about the subject matter of the category are not included. For example, the drugs/drug culture category blocks sites describing how to grow and use marijuana but does not block sites discussing the historical use of marijuana.

---

### *Alcohol/tobacco*

Pictures or text advocating the sale, consumption, or production of alcoholic beverages and tobacco products.

### *Illegal Gambling*

Pictures or text advocating materials or activities of a dubious nature that may be illegal in any or all jurisdictions, such as illegal business schemes, chain letters, copyright infringement, computer hacking, phreaking (using someone's phone lines without permission), and software piracy. Also includes text advocating gambling relating to lotteries, casinos, betting, numbers games,

---

online sports, or financial betting, including non-monetary dares.

### ***Militant/extremist***

Pictures or text advocating extremely aggressive or combative behavior or advocacy of unlawful political measures. Topic includes groups that advocate violence as a means to achieve their goals. It also includes pages devoted to “how to” information on the making of weapons (for both lawful and unlawful reasons), ammunition, and pyrotechnics.

### ***Drug Culture***

Pictures or text advocating the illegal use of drugs for entertainment. This category includes substances that are used for other than their primary purpose to alter the individual’s state of mind, such as glue sniffing. This does not include (that is, if selected these sites would not be WebBlocked under this category) currently illegal drugs legally prescribed for medicinal purposes (such as, drugs used to treat glaucoma or cancer).

### ***Satanic/cult***

Pictures or text advocating devil worship, an affinity for evil, wickedness, or the advocacy to join a cult. A cult is defined as: a closed society that is headed by a single individual where loyalty is demanded and leaving is punishable.

### ***Intolerance***

Pictures or text advocating prejudice or discrimination against any race, color, national origin, religion, disability or handicap, gender, or sexual orientation. Any picture or text that elevates one group over another. Also includes intolerant jokes or slurs.

***Gross Depictions***

Pictures or text describing anyone or anything that is either crudely vulgar, grossly deficient in civility or behavior, or shows scatological impropriety. Topic includes depictions of maiming, bloody figures, and indecent depiction of bodily functions.

***Violence/profanity***

Pictures or text exposing extreme cruelty or profanity. Cruelty is defined as: physical or emotional acts against any animal or person that are primarily intended to hurt or inflict pain. Topic includes obscene words, phrases, and profanity in either audio, text, or pictures.

***Search Engines***

Search engine sites such as AltaVista, InfoSeek, Yahoo!, and WebCrawler.

***Sports and Leisure***

Pictures or text describing sporting events, sports figures, or other entertainment activities.

***Sex Education***

Pictures or text advocating the proper use of contraceptives. Topic includes sites devoted to the explanation and description of condoms, oral contraceptives, intrauterine appliances, and other types of contraceptives. It also includes discussion sites devoted to conversations with partners about sexually transmitted diseases, pregnancy, and sexual boundaries. Not included in this category are commercial sites selling sexual paraphernalia (topics included under *Sexual Acts*).

---

### ***Sexual Acts***

Pictures or text exposing anyone or anything involved in explicit sexual acts and/or lewd and lascivious behavior. Topic includes masturbation, copulation, pedophilia, as well as intimacy involving nude or partially nude people in heterosexual, bisexual, lesbian, or homosexual encounters. It also includes phone sex advertisements, dating services, adult personals, and sites devoted to selling pornographic CD-ROMs and videos.

### ***Full Nudity***

Pictures exposing any or all portions of human genitalia. Topic does *not* include sites categorized as Partial/Artistic Nudity containing partial nudity of a wholesome nature. For example, it does not include Web sites for publications such as *National Geographic* or *Smithsonian* magazine nor sites hosted by museums such as the Guggenheim, the Louvre, or the Museum of Modern Art.

### ***Partial/artistic Nudity***

Pictures exposing the female breast or full exposure of either male or female buttocks except when exposing genitalia which is handled under the Full Nudity category. Topic does not include swimsuits, including thongs.

# VPN—Virtual Private Networking

---

This chapter tells how to use the VPN with IPSec upgrade option of the WatchGuard SOHO 6 Wireless.

## **Why create a Virtual Private Network?**

Use a VPN tunnel to make an inexpensive and secure connection between the computers in two locations. Expensive, dedicated point-to-point connections are not necessary for a VPN connection. A VPN tunnel gives the security necessary to use the public Internet for a private virtual connection between two locations.

---

## What You Need

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- One WatchGuard SOHO 6 Wireless with VPN and one IPSec-compatible appliance.

---

### NOTE

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IPSec-compatible appliances include the WatchGuard SOHO 6 Wireless, the WatchGuard Firebox II/III, and the Firebox Vclass.

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- The data from your ISP about the Internet connections for each of the two IPSec-compatible appliances:
  - Static IP address
  - Primary DNS IP address (optional)
  - A secondary DNS address (optional)
  - Domain name (optional)
- The network addresses and subnet masks for the two trusted networks. The default IP address for the SOHO 6 Wireless trusted network is 192.168.111.0. The default subnet mask for the SOHO 6 Wireless trusted network is 255.255.255.0.

---

### NOTE

---

The trusted networks at the two ends of the VPN tunnel must have different network addresses.

---

If the appliances that connect through the VPN tunnel are not configured correctly, the VPN tunnel does not function. WatchGuard recommends that you make a record of the configuration information in the format shown below.

**IP Address Table (example):**

| <b>Item</b>           | <b>Description</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <b>Assigned By</b> |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| External IP Address   | <p>The IP address that identifies the IPSec-compatible appliance to the Internet.</p> <p><b>Site A:</b> 207.168.55.2<br/><b>Site B:</b> 68.130.44.15</p>                                                                                                                                                                                                                                                                                                                          | ISP                |
| External Subnet Mask  | <p>The bitmask that shows which part of the IP address identifies the local network. For example, a class C address includes 256 addresses and has a netmask of 255.255.255.0.</p> <p><b>Site A:</b><br/>255.255.255.0<br/><b>Site B:</b><br/>255.255.255.0</p>                                                                                                                                                                                                                   | ISP                |
| Local Network Address | <p>An address used to identify a local network. A local network address cannot be used as an external IP address. WatchGuard recommends that you use an address from one of the reserved ranges:</p> <p>10.0.0.0/8<br/>172.16.0.0/12—255.240.0.0<br/>192.168.0.0/16—255.255.0.0</p> <p><b>Site A:</b><br/>192.168.111.0/24<br/><b>Site B:</b><br/>192.168.222.0/24</p>                                                                                                            | You                |
| Shared Secret         | <p>The shared secret is a passphrase used by two IPSec-compatible appliances to encrypt and decrypt the data that goes through the VPN tunnel. The two appliances use the same passphrase. If the appliances do not have the same passphrase, they can not encrypt and decrypt the data correctly.</p> <p>Use a passphrase that contains numbers, symbols, lowercase letters, and uppercase letters for better security. For example, "Gu4c4mo!3" is better than "guacamole".</p> | You                |

---

|                   |                                                                                                                                                                                                                                                                                  |     |
|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
|                   | <b>Site A:</b><br>OurLittleSecret<br><b>Site B:</b><br>OurLittleSecret                                                                                                                                                                                                           |     |
| Encryption Method | DES uses 56-bit encryption. 3DES uses 168-bit encryption. The 3DES encryption method gives better security, but decreases the speed of communication. The two IPSec-compatible appliances must use the same encryption method.<br><br><b>Site A:</b> 3DES<br><b>Site B:</b> 3DES | You |
| Authentication    | The two IPSec-compatible appliances must use the same authentication method.<br><br><b>Site A:</b> MD5 (or SHA1)<br><b>Site B:</b> MD5 (or SHA1)                                                                                                                                 | You |

---

## Enable the VPN upgrade

To activate an upgrade option, you must enter a license key in the configuration of the SOHO 6 Wireless. To receive a license key, purchase and activate an upgrade option at the LiveSecurity Service Web site.

To activate the VPN upgrade, these items are necessary:

- a SOHO 6 Wireless that is installed and configured;
- a connection to the Internet;
- a VPN upgrade license key.

## Step-by-step instructions to configure a SOHO 6 Wireless VPN tunnel

---

Instructions that tell how to configure a VPN tunnel between a SOHO 6 Wireless and another IPSec-compatible appliance are available from the WatchGuard Web site:

[https://support.watchguard.com/AdvancedFaqs/sointerop\\_main.asp](https://support.watchguard.com/AdvancedFaqs/sointerop_main.asp)

### Special considerations

Think about these points before you configure your WatchGuard SOHO 6 Wireless VPN network:

- You can connect a maximum of six SOHO 6 Wireless appliances together in a star configuration. To configure more than one VPN tunnel, a WatchGuard Firebox II/III with the WatchGuard VPN Manager is necessary.
- The two appliances that make a VPN tunnel must each have a static IP address. If an appliance has a dynamic IP address, packets sent from the other end of the tunnel will not get to their destination. See “Network addressing” on page 37 for more information about dynamic IP addresses.
- The two appliances must use the same encryption method. The alternatives are DES or 3DES. When two Microsoft Windows NT® networks are connected, the two networks must be in the same Microsoft Windows domain or be trusted domains. This is a Microsoft Networking design implementation and not a limitation of the SOHO 6 Wireless.

---

## Frequently Asked Questions

---

### Why do I need a static external address?

To make a VPN connection, each of the two appliances must know the IP address of the other appliance. If the addresses are dynamic, the addresses can change. A changed address prevents a connection between the two appliances.

### How do I get a static external IP address?

The external IP address for your computer or network is assigned by your ISP. Many ISPs use dynamic IP addresses so that their network is easier to configure and to make the connection of a Web server to their network more difficult. Most ISPs supply a static IP address as an optional service.

### How do I troubleshoot the connection?

If you can ping the remote SOHO 6 Wireless and the computers on the remote network, the VPN tunnel functions correctly. The configuration of the network software or the applications are possible causes of other problems.

### Why is ping not working?

If you cannot ping the local network address of the remote SOHO 6 Wireless, follow these steps to identify the problem:

- 1 Ping the external address of the remote SOHO 6 Wireless.  
For example, at Site A, ping 68.130.44.15 (Site B). If the ping does not come back, make sure the external network settings of Site B are correct. If the settings are correct, make sure that the computers at Site B have access to the Internet. If this procedure does not give a solution, speak to a service person at your ISP.

- 2 When you can ping the external address of each SOHO 6 Wireless, try to ping a local address in the remote network. From Site A, ping 192.168.111.1. If the VPN tunnel functions correctly, the remote SOHO 6 Wireless sends the ping back. If the ping does not come back, make sure the local settings are correct. Make sure that the local DHCP address ranges for the two networks connected by the VPN tunnel do not use any of the same IP addresses. The two networks connected by the tunnel *must not* use the same IP addresses.

### **How do I obtain a VPN upgrade license key?**

You can purchase a license key for an upgrade from the WatchGuard Web site:

<http://www.watchguard.com/sales/buyonline.asp>

### **How do I enable a VPN tunnel?**

The instructions to help you enable a VPN tunnel are available from the WatchGuard Web site:

[https://support.watchguard.com/AdvancedFaqs/sointerop\\_main.asp](https://support.watchguard.com/AdvancedFaqs/sointerop_main.asp)

## **Set Up multiple SOHO-SOHO VPN tunnels**

---

An administrator of a SOHO 6 Wireless can configure a maximum of six VPN tunnels to other SOHO 6 Wireless devices. The VPN Manager software can configure a larger number of SOHO 6 Wireless to SOHO 6 Wireless tunnels.

To define multiple VPN tunnels to other SOHO 6 Wireless appliances:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: <http://192.168.111.1>

- 
- 2 From the navigation bar on the left side, select **VPN ⇒ Manual VPN**.

The Manual VPN page opens.

VPN

**Manual VPN**

---

| Gateway |
|---------|
|         |

---

Add...

Edit...

Remove

- 3 Click **Add** to set up the VPN tunnel.  
The Add Gateway page opens.

#### Add Gateway

|            |                      |  |  |
|------------|----------------------|--|--|
| Name       | <input type="text"/> |  |  |
| Shared Key | <input type="text"/> |  |  |

---

**Phase 1 Settings**

|                                     |                                 |      |             |
|-------------------------------------|---------------------------------|------|-------------|
| Mode                                | Main Mode                       |      |             |
| Local ID                            | 192.168.203.61                  | Type | Domain Name |
| Remote ID                           | <input type="text"/>            | Type | Domain Name |
| Authentication Algorithm            | SHA1-HMAC                       |      |             |
| Encryption Algorithm                | DES-CBC                         |      |             |
| Negotiation expiration in kilobytes | <input type="text" value="0"/>  |      |             |
| Negotiation expiration in hours     | <input type="text" value="24"/> |      |             |
| Diffie-Hellman Group                | 1                               |      |             |

☒ Generate IKE Keep Alive Messages

---

**Phase 2 Settings**

|                                                         |                                   |  |  |
|---------------------------------------------------------|-----------------------------------|--|--|
| Authentication Algorithm                                | SHA1-HMAC                         |  |  |
| Encryption Algorithm                                    | 3DES-CBC                          |  |  |
| <input type="checkbox"/> Enable Perfect Forward Secrecy |                                   |  |  |
| Key expiration in kilobytes                             | <input type="text" value="8192"/> |  |  |
| Key expiration in hours                                 | <input type="text" value="24"/>   |  |  |

| Local Network                                        | Remote Network                                        |        |
|------------------------------------------------------|-------------------------------------------------------|--------|
| <div></div>                                          | <div></div>                                           | Remove |
| Local Network <input type="text" value="0.0.0.0/0"/> | Remote Network <input type="text" value="0.0.0.0/0"/> |        |

Add

---

Submit Reset

- 
- 4 Type the **Name** and **Shared Secret** for the SOHO 6 Wireless at the remote end of the VPN tunnel.

The shared secret is a passphrase used by two IPSec-compatible appliances to encrypt and decrypt the data that goes through the VPN tunnel. The two appliances use the same passphrase. If the appliances do not have the same passphrase, they can not encrypt and decrypt the data correctly.

- 5 Use the default **Phase 1** settings or change the settings as necessary.

To modify Phase 1 settings, complete the following steps:

---

### **NOTE**

---

The Phase 1 settings must be the same on both appliances.

---

- 6 Set the negotiation mode for Phase 1. The mode selections are **Main** and **Aggressive**. If the external IP address is dynamic, select **Aggressive Mode**. If the external IP address is static, use either mode.
- 7 Set the **Local ID Type** and the **Remote ID Type**. These must match the settings used on the remote gateway.
  - If you set **Main Mode**, the **Local ID Type** and the **Remote ID Type** must contain IP addresses.
  - If you set **Aggressive Mode**, the **Remote ID Type** may be an IP Address or a domain name. If your external IP address is static, the **Local ID Type** must be an IP address. If your external IP address is dynamic, the **Local ID Type** may be either a domain name or an IP address.
- 8 In the **Local ID** and **Remote ID** fields, set the name of the local network or the remote network. The default values are "LocalID" and "RemoteID". In the **Type** field, specify an IP Address or domain name.
  - If you set **Main Mode**, the **Local ID Type** and the **Remote ID Type** must contain IP addresses.

- If you set **Aggressive Mode** and have a static IP address, the **Local ID** must be an IP Address and the Remote ID can be either an IP address or a domain name.
  - If you set **Aggressive Mode** and have a dynamic IP address, the **Local ID** must be a domain name and the Remote ID can be either an IP address or a domain name.
- 9 In the **Authentication Algorithm** drop-down list, set the type of authentication. The options are **MD5-HMAC** (128-bit authentication) or **SHA1-HMCA** (160-bit authentication).
  - 10 In the **Encryption Algorithm** drop-down list, set the type of encryption. The options are **DES-CBC** or **3DES-CBC**.
  - 11 Set the number of kilobytes until negotiation expiration.
  - 12 Set the number of hours until negotiation expiration.
  - 13 In the **Diffie-Hellman Group** drop-down list, set the group number. WatchGuard supports group 1 and group 2.  
Diffie-Hellman is a mathematical technique used to securely negotiate secret keys through a public network. Diffie-Hellman groups are collections of parameters used to achieve this. Group 2 is more secure than group 1, but more time is required to calculate group 2 secret keys.
  - 14 Set the **Generate IKE Keep Alive Messages** check box to keep the VPN tunnel open when there is no communication. Short packets are sent across the VPN tunnel at regular intervals to maintain the connection. If the tunnel connection closes, the SOHO 6 Wireless does a rekey to open the tunnel again.  
The **Generate IKE Keep Alive Messages** check box is set in the default configuration.

Use the default Phase 2 settings, or change the Phase 2 settings as shown below:

---

### NOTE

---

Make sure that the Phase 2 settings are the same an both appliances.

---

- 
- 15 Set the authentication in the **Authentication Algorithm** drop-down list. The options are **None** (no authentication), **MD5-HMAC** (128-bit authentication) or **SHA1-HMCA** (160-bit authentication).
  - 16 Set the type of encryption in the **Encryption Algorithm** drop-down list. The options are **None** (no authentication), **DES-CBC** or **3DES-CBC**.
  - 17 Click the **Enable Perfect Forward Secrecy** check box, if necessary.

When this option is set, each new key that is negotiated is derived by a new Diffie-Hellman exchange instead of from only one Diffie-Hellman exchange. This option gives more security, but increases the time necessary for the communication because of the additional exchange.
  - 18 Set the number of kilobytes until key expiration.
  - 19 Set the number of hours until key expiration.
  - 20 Set the IP address of the local network and the remote network that must use Phase 2 negotiation.
  - 21 Click **Submit**.

## Configure split tunneling

---

The split tunneling feature allows the system administrator to direct all Internet traffic from the trusted network through the VPN tunnel. Without split tunneling, only traffic directed to the other end of the VPN tunnel is sent through the tunnel and the traffic for other Internet addresses is sent directly to the Internet. Split tunneling allows the control of access to Internet Web sites from one location.

To set up split tunneling follow these steps:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **VPN ⇒ Manual VPN**.  
The Manual VPN page opens.
- 3 Click **Add**.  
The Add Gateway page opens.
- 4 Configure the gateway.  
See Figure , “Set Up multiple SOHO-SOHO VPN tunnels,” on page 111 for information about the Add Gateway page.
- 5 Set the network IP address of the **Local Network**.
- 6 Set the IP address of the **Remote Network**.
- 7 Click **Submit**.

## MUVPN Clients

---

The MUVPN Clients allows remote users to connect to the SOHO 6 Wireless through a secure (IPSec) VPN tunnel. This option allows remote users to connect to the SOHO 6 Wireless through an IPSec VPN tunnel. The MUVPN client creates an encrypted tunnel, protected behind a SOHO 6 Wireless, to your trusted or optional network depending on if it is a wired or wireless connection. A wired connection goes to the trusted and the wireless connection goes to the optional.

If you have a wireless network, you can configure the wireless network to require wireless computers to have an encrypted MUVPN connection to access the SOHO 6 Wireless. The SOHO 6 Wireless includes several MUVPN client licenses. For more

---

information on configuring a wireless network to require MUVPN connections, see “Configure the Optional Network for Wireless Networking” on page 46.

## View the VPN Statistics

---

The SOHO 6 Wireless has a configuration page that displays VPN statistics. Use this page to monitor VPN traffic and to solve problems with the VPN configuration.

To view the VPN Statistics page:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:

The default IP address is: `http://192.168.111.1`

- 2 From the navigation bar on the left side, select **VPN ⇒ VPN Statistics**.

The VPN Statistics page opens.

---

MUVPN clients uses Internet Protocol Security (IPSec) to establish a secure connection over an unsecured network from a remote computer to your protected network.

For example, the MUVPN client is installed on an employee's computer, on the road or working from home. The employee establishes a standard Internet connection and activates the MUVPN client. The MUVPN client then creates an encrypted tunnel, protected behind a SOHO 6 Wireless, to your trusted or optional network depending on if it is a wired or wireless connection. A wired connection goes to the trusted and the wireless connection goes to the optional. The MUVPN client allows you to provide remote access to your internal networks without compromising security.

If you have a wireless network, you can configure the wireless network to require wireless computers to have an encrypted MUVPN connection to access the SOHO 6 Wireless. The SOHO 6 Wireless includes several MUVPN client licenses. You can add

---

more MUVPN connections with the MUVPN Client upgrade. For information about upgrading, see “Activate the SOHO 6 Wireless upgrade options” on page 66.

ZoneAlarm®, a personal firewall software application, is included as an optional feature with the MUVPN client to provide further security for your end users.

The purpose of this chapter is to assist users of the SOHO 6 Wireless to set up the MUVPN client on an end-user’s remote computer and to explain the features of the personal firewall.

## **Configure the SOHO 6 Wireless for MUVPN Clients**

---

Follow these steps to configure your SOHO 6 Wireless:

- 1 With your Web browser, go to the System Status page using the Trusted IP address of the SOHO 6 Wireless.  
The default trusted IP address is either 192.168.111.1 for a wired computer and 192.168.112.1 for a wireless computer.

- 2 From the navigation bar on the right side, select **VPN => MUVPN Clients**.

The MUVPN Clients page appears.

VPN

**MUVPN Clients**

---

| User    | Assigned IP     |
|---------|-----------------|
| lphifer | 192.168.111.240 |

---

---

3 Click the **Add** button.

The Edit MUVPN Client page appears.

VPN > MUVPN Clients  
**Edit MUVPN Client**

---

|                          |                                              |
|--------------------------|----------------------------------------------|
| User Name                | <input type="text" value="lphifer"/>         |
| Passphrase               | <input type="text" value="secret123"/>       |
| Virtual IP Address       | <input type="text" value="192.168.111.240"/> |
| Authentication Algorithm | <input type="text" value="MD5-HMAC"/> ▼      |
| Encryption Algorithm     | <input type="text" value="DES-CBC"/> ▼       |
| VPN Client Type          | <input type="text" value="Mobile User"/> ▼   |

☒ All traffic uses tunnel (0.0.0.0/0 IP Subnet)

---

|                                       |                                      |                                       |
|---------------------------------------|--------------------------------------|---------------------------------------|
| <input type="button" value="Submit"/> | <input type="button" value="Reset"/> | <input type="button" value="Cancel"/> |
|---------------------------------------|--------------------------------------|---------------------------------------|

4 Type a Username in the appropriate field.

This Username will be used as the E-mail Address when setting up the MUVPN client.

5 Type a Passphrase in the appropriate field.

This passphrase will be used as the Pre-Shared Key when setting up the MUVPN client.

6 Type the Virtual IP address which will be used by the MUVPN computer when connecting to the SOHO 6 Wireless in the appropriate field.

7 Select the Authentication Algorithm.

The options are MD5-HMAC and SHA1-HMAC.

8 Select the Encryption Algorithm.

The options are DES-CBC and 3DECS-CBC.

- 9 From the **VPN Client Type** drop list, select Mobile User.
- 10 Enable the **All traffic uses tunnel (0.0.0.0/0 Subnet)** checkbox to force all traffic from the MUVPN client to go through IPSec tunnel.
- 11 Click the **Submit** button.

## Prepare the Remote Computers for the MUVPN Client

---

The MUVPN client is only compatible with the Windows operating system. Every Windows system used as a MUVPN remote computer *must* have the following system requirements.

### System requirements

- PC-compatible computer with Pentium processor or equivalent
- Compatible operating systems and minimum RAM:
  - Microsoft Windows 98: 32 MB
  - Microsoft Windows ME: 64 MB
  - Microsoft Windows NT 4.0 Workstation: 32 MB
  - Microsoft Windows 2000 Professional: 64 MB
  - Microsoft Windows XP: 64 MB
- The latest service packs for each operating system are recommended, but not necessarily required.
- 10 MB hard disk space
- Native Microsoft TCP/IP communications protocol
- Microsoft Internet Explorer 5.0 or later

- 
- An Internet Service Provider account
  - A Dial-Up or Broadband (DSL or Cable modem) Connection

Additionally, in order for Windows file and print sharing to occur through the MUVPN client tunnel each Windows operating system *must* have the proper components installed and configured to use the remote WINS and DNS servers on the trusted and optional networks behind the Firebox.

---

### NOTE

---

You can not use the MUVPN client virtual adapter. Make sure this is disabled.

---

## Windows 98/ME operating system setup

The following networking components *must* be configured and installed on a remote computer running Windows 98/ME in order for the MUVPN client to function properly.

### Configuring networking names

From the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Control Panel**. Double-click the **Network** icon.  
The Network window appears.
- 2 Verify that the Client for Microsoft Networks is installed.  
If Client for Microsoft Networks is not installed, you *must* install it. For instructions, see the following section, "Installing the Client for Microsoft Networks".
- 3 Click the **Identification** tab.
- 4 Type a name for the remote computer.  
This *must* be a unique name on the remote network.
- 5 Type the domain name you are connecting to.  
This should be the same as the Logon to Windows NT domain value.

- 6 Type a description for your computer (optional).
- 7 Click **OK**. Click **OK** to close and save changes to the Network control panel.  
Click **Cancel** if you do not want to save any changes.
- 8 Reboot the machine.

## Installing the Client for Microsoft Networks

From the Networks window:

- 1 Click the **Configuration** tab. Click **Add**.  
The Select Network Component Type window appears.
- 2 Select **Client**. Click **Add**.  
The Select Network Client window appears.
- 3 Select **Microsoft** from the list on the left. Select **Client for Microsoft Networks** from the list on the right. Click **OK**.
- 4 Select **Client for Microsoft Networks**.
- 5 Click **Properties**.
- 6 Enable the **Log on to Windows NT domain** option.
- 7 In the Windows NT Domain field, type the domain name.  
For example, your domains might be sales, office, and warehouse.
- 8 Enable the **Logon and Restore Network Connections** option.

## Installing Dial-Up Networking

The Mobile User VPN Adapter, which supports L2TP, installs only if Dial-up Networking is already installed on your computer. If Dial-up Networking is *not* installed, follow these instructions.

From the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Control Panel**. Double-click the **Add/Remove Programs** icon.  
The Add/Remove Properties window appears.

- 
- 2 Click the **Windows Setup** tab.

The Windows Setup dialog box appears and searches for installed components.

- 3 Enable the **Communications** checkbox and click the **OK** button.

The Copying Files dialog box appears and copies the necessary files.

- 4 The Dial-Up Networking Setup dialog box appears and prompts you to restart the computer. Click the **OK** button.  
The computer reboots.

Further, Windows 98 requires that the Dial-up Networking component be updated with the 1.4 patch. Please see the Microsoft Web site to receive this free update.

## **Configuring the WINS and DNS settings**

You *must* configure the remote computer to use the WINS and DNS servers of the trusted network behind the Firebox.

From the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Control Panel**. Double-click the **Network** icon.

The Network window appears.

- 2 Select the network component **TCP/IP** ⇒ **Dial-Up Adapter**, then click the **Properties** button.

The TCP/IP Properties Information dialog box appears.

- 3 Click the **OK** button.

- 4 Click the **DNS Configuration** tab.

Verify that the Enable DNS option has been enabled.

- 5 Under the “DNS Server Search Order” heading, enter your DNS server IP address, then click the **Add** button.

If you have multiple remote DNS servers repeat this step.

---

## NOTE

---

You *must* list the DNS server on the Private network behind the Firebox first.

---

- 6 Click the **WINS Configuration** tab.
- 7 Verify that the **Enable WINS Resolution option** has been enabled.
- 8 Under the “WINS Server Search Order” heading, enter your WINS server IP address, then click the **Add** button.  
If you have multiple remote WINS servers repeat this step.
- 9 Click the **OK** button to close the TCP/IP Properties window.
- 10 Click the **OK** button to close the Network window.  
The System Settings Change dialog box appears.
- 11 Click the **Yes** button to restart the computer and implement the changes.

## Windows NT operating system setup

The following networking components *must* be installed and configured on a remote computer running Windows NT in order for the MUVPN client to function properly.

### Installing Remote Access Services on Windows NT

The Mobile User VPN Adapter, which supports L2TP, installs only if the Remote Access Services (RAS) network component is already installed on the computer.

Follow the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Control Panel**. Double-click the **Network** icon.
- 2 Select the **Services** tab.

- 
- 3 Click the **Add** button.
  - 4 Select **Remote Access Services** from the list, then click the **OK** button.
  - 5 Enter the path to the Windows NT install files or insert your system installation CD, then click the **OK** button.  
The Remote Access Setup dialog box appears.
  - 6 Click the **Yes** button to add a RAS capable device and enable you to add a modem.
  - 7 Click the **Add** button and complete the Install New Modem wizard.

---

### **NOTE**

---

If there is no modem installed, you can enable the **Don't detect my modem; I will select it from a list** checkbox then add a Standard 28800 modem. Windows NT requires at least one RAS device such as a modem if the RAS component is installed. If no modems are available, a dial-up networking, serial cable between two computers can be selected.

---

- 8 Select the modem added in the last step in the Add RAS Device dialog box, then click the **OK** button.
- 9 Click the **Continue** button, then click the **Close** button.
- 10 Reboot your computer.

## **Configuring the WINS and DNS settings**

You *must* configure the remote computer to use the WINS and DNS servers of the trusted network behind the Firebox.

From the Windows desktop:

- 1 Select **Start ⇒ Settings ⇒ Control Panel**. Double-click the **Network** icon.  
The Network window appears.
- 2 Click the **Protocols** tab.

- 3 Select the **TCP/IP** protocol and click the **Properties** button.  
The Microsoft TCP/IP Properties window appears.
- 4 Click the **DNS** tab.
- 5 Click the **Add** button.
- 6 Type your DNS server IP address in the appropriate field.  
If you have multiple remote DNS servers repeat the previous three steps.

---

**NOTE**

---

You *must* list the DNS server on the Private network behind the Firebox first.

---

- 7 Click the **WINS Address** tab.
- 8 Type your WINS server IP address in the appropriate field, then click the **OK** button.  
If you have multiple remote WINS servers repeat this step.
- 9 Click the **Close** button to close the Network window.  
The Network Settings Change dialog box appears.
- 10 Click the **Yes** button to restart the computer and implement the changes.

## Windows 2000 operating system setup

The following networking components *must* be installed and configured on a remote computer running Windows 2000 in order for the MUVPN client to function properly.

From the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Network and Dial-up Connections**, then select the Dial-up connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Select the **Networking** tab.

- 
- 4 Verify that the following components are present and enabled:
    - Internet Protocol (TCP/IP)
    - File and Printer Sharing for Microsoft Networks
    - Client for Microsoft Networks

Install these components if they are not already present.

### **Installing the Internet Protocol (TCP/IP) network component**

From the Windows desktop:

- 1 Select **Start ⇒ Settings ⇒ Network and Dial-up Connections**, then select the Dial-up connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Select the **Networking** tab and then click the **Install** button.  
The Select Network Component Type window appears.
- 4 Double click the **Protocol** network component.  
The Select Network Protocol window appears.
- 5 Select the **Internet Protocol (TCP/IP) Network Protocol** and then click the **OK** button.

### **Installing the File and Printer Sharing for Microsoft Networks**

From the Windows desktop:

- 1 Select **Start ⇒ Settings ⇒ Network and Dial-up Connections**, then select the Dial-up connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.

- 3 Select the **Networking** tab and then click the **Install** button.  
The Select Network Component Type window appears.
- 4 Double click the **Services** network component.  
The Select Network Service window appears.
- 5 Select the **File and Printer Sharing for Microsoft Networks** Network Service and then click the **OK** button.

## Installing the Client for Microsoft Networks

From the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Network and Dial-up Connections**, then select the Dial-up connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Select the **Networking** tab and then click the **Install** button.  
The Select Network Component Type window appears.
- 4 Double click the **Client** network component.  
The Select Network Protocol window appears.
- 5 Select the **Client for Microsoft Networks** Network Client and then click the **OK** button.
- 6 Click the **Cancel** button to close the Select Network Component Type window.
- 7 Click the **OK** button to preserve the installed components.
- 8 Click the **Cancel** button to close the Dial-up connection window.

## Configuring the WINS and DNS settings

You *must* configure the remote computer to use the WINS and DNS servers of the trusted network behind the Firebox.

---

From the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Network and Dial-up Connections**, then select the Dial-up connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Click the **Networking** tab.
- 4 Select the **Internet Protocol (TCP/IP)** component, then click the **Properties** button.  
The Internet Protocol (TCP/IP) Properties window appears.
- 5 Click the **Advanced** button.  
The Advanced TCP/IP Settings window appears.
- 6 Click the **DNS** tab.
- 7 Under the “DNS server addresses, in order of use” heading, click the **Add** button.  
The TCP/IP DNS Server window appears.
- 8 Type your DNS server IP address in the appropriate field, then click the **Add** button.  
If you have multiple remote DNS servers repeat the last two steps.

---

#### **NOTE**

You *must* list the DNS server on the Private network behind the Firebox first.

---

- 9 Enable the **Append these DNS suffixes (in order)** option.
- 10 Click the **Add** button.  
The TCP/IP Domain Suffix window appears.
- 11 Type your Domain suffix in the appropriate field.  
If you have multiple DNS suffixes repeat the last two steps.
- 12 Click the **WINS** tab.

- 13 Under the “WINS addresses, in order of use” heading, click the **Add** button.  
The TCP/IP WINS Server window appears.
- 14 Type your WINS server IP address in the appropriate field, then click the **Add** button.  
If you have multiple remote DNS servers repeat the last two steps.
- 15 Click the **OK** button to close the Advanced TCP/IP Settings window.
- 16 Click the **OK** button to close the Internet Protocol (TCP/IP) Properties window.
- 17 Click the **OK** button to close the next window.
- 18 Click the **Cancel** button again to close the Dial-up connection window.

## Windows XP operating system setup

The following networking components **must** be installed and configured on a remote computer running Windows XP in order for the MUVPN client to function properly.

From the Windows desktop:

- 1 Select **Start** ⇒ **Control Panel** ⇒ **Network Connections**, then select the connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Select the **Networking** tab.
- 4 Verify that the following components are present and enabled:
  - Internet Protocol (TCP/IP)
  - File and Printer Sharing for Microsoft Networks
  - Client for Microsoft Networks

Install these components if they are not already present.

---

## Installing the Internet Protocol (TCP/IP) Network Component

From the Windows desktop:

- 1 Select **Start ⇒ Control ⇒ Network Connections**, then select the connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Select the **Networking** tab and then click the **Install** button.  
The Select Network Component Type window appears.
- 4 Double click the **Protocol** network component.  
The Select Network Protocol window appears.
- 5 Select the **Internet Protocol (TCP/IP) Network Protocol** and then click the **OK** button.

## Installing the File and Printer Sharing for Microsoft Networks

From the Windows desktop:

- 1 Select **Start ⇒ Control ⇒ Network Connections**, then select the connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Select the **Networking** tab and then click the **Install** button.  
The Select Network Component Type window appears.
- 4 Double click the **Services** network component.  
The Select Network Service window appears.
- 5 Select the **File and Printer Sharing for Microsoft Networks** Network Service and then click the **OK** button.

## Installing the Client for Microsoft Networks

From the Windows desktop:

- 1 Select **Start** ⇒ **Control** ⇒ **Network Connections**, then select the connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Select the **Networking** tab and then click the **Install** button.  
The Select Network Component Type window appears.
- 4 Double click the **Client** network component.  
The Select Network Protocol window appears.
- 5 Select the **Client for Microsoft Networks** Network Client and then click the **OK** button.
- 6 Click the **Cancel** button to close the Select Network Component Type window.
- 7 Click the **OK** button to preserve the installed components.
- 8 Click the **Cancel** button to close the Dial-up connection window.

## Configuring the WINS and DNS settings

You *must* configure the remote computer to use the WINS and DNS servers of the trusted network behind the Firebox.

From the Windows desktop:

- 1 Select **Start** ⇒ **Control Panel** ⇒ **Network Connections**, then select the Dial-up connection you use to access the Internet.  
The connection window appears.
- 2 Click the **Properties** button.
- 3 Click the **Networking** tab.
- 4 Select the **Internet Protocol (TCP/IP)** component, then click the **Properties** button.  
The Internet Protocol (TCP/IP) Properties window appears.

- 
- 5 Click the **Advanced** button.  
The Advanced TCP/IP Settings window appears.
  - 6 Click the **DNS** tab.
  - 7 Under the “DNS server addresses, in order of use” heading, click the **Add** button.  
The TCP/IP DNS Server window appears.
  - 8 Type your DNS server IP address in the appropriate field, then click the **Add** button.  
If you have multiple remote DNS servers repeat the last two steps.

---

**NOTE**

---

You *must* list the DNS server on the Private network behind the Firebox first.

---

- 9 Enable the **Append these DNS suffixes (in order)** option.
- 10 Click the **Add** button.  
The TCP/IP Domain Suffix window appears.
- 11 Type your Domain suffix in the appropriate field.  
If you have multiple DNS suffixes repeat the last two steps.
- 12 Click the **WINS** tab.
- 13 Under the “WINS addresses, in order of use” heading, click the **Add** button.  
The TCP/IP WINS Server window appears.
- 14 Type your WINS server IP address in the appropriate field, then click the **Add** button.  
If you have multiple remote WINS servers repeat the last two steps.
- 15 Click the **OK** button to close the Advanced TCP/IP Settings window.
- 16 Click the **OK** button to close the Internet Protocol (TCP/IP) Properties window.
- 17 Click the **OK** button to close the next window.

- 18 Click the **Cancel** button again to close the Dial-up connection window.

## Install and Configure the MUVPN Client

---

The MUVPN installation files are available at the WatchGuard Web site:

<http://www.watchguard.com/support>

---

### NOTE

In order to perform the installation process successfully, you *must* log into the remote computer with local administrator rights.

---

## Installing the MUVPN client

Follow these steps to install the client:

- 1 Copy the MUVPN installation file to the remote computer.
- 2 Double-click the MUVPN installation file.  
If at any time during the installation process you inadvertently skip a step, simply cancel the process and begin again.
- 3 The installation welcomes you to the InstallShield Wizard.  
Click the **Next** button.  
During the Setup Status portion of the install procedure, the InstallShield may detect ReadOnly Files. If this occurs, click **Yes** for each event in order to continue the install.
- 4 The installation welcomes you again. Click the **Next** button.  
The Software Licence Agreement appears.
- 5 Click the **Yes** button to accept the terms of the License Agreement and to continue with the installation.  
The Setup Type window appears.

- 
- 6 Select the type of setup. By default, Typical is enabled—this is the setup recommended by WatchGuard. Click the **Next** button.
  - 7 If you are installing the client on a Windows 2000 host, the InstallShield detects the native Windows 2000 L2TP component. The client uses this component and does not need to install its own. Click the **OK** button to continue with the install.  
The Select Components window appears.
  - 8 Keep the default components and click the **Next** button.  
The Start Copying Files window appears.
  - 9 Click the **Next** button to begin copying files.  
A command prompt window appears while the `dni_vapmp` file is installed—this is normal. When it is complete, the installation will continue.
  - 10 When the InstallShield Wizard is complete, click the **Finish** button.
  - 11 The InstallShield Wizard then searches for a User Profile file, click the **Next** button as this step is *not* necessary.  
An Information dialog box appears.
  - 12 Click the **OK** button to continue with the installation.
  - 13 The InstallShield Wizard has completed the install of the SOHO 6 Wireless MUVPN client, verify that the option **Yes, I want to restart my computer now** is enabled and click the **Finish** button.  
The computer reboots.

---

## NOTE

---

The ZoneAlarm personal firewall may interfere with regular Local network traffic preventing access to network resources. If the remote computer is connected to the network after reboot, this may disrupt the network logon process. If in doubt, log on to the computer locally the first

time after installation. For more information regarding ZoneAlarm, see “The ZoneAlarm Personal Firewall” on page 153.

---

## Configuring the MUVPN Client

Once you have restarted the machine, the WatchGuard Policy Import dialog box appears. Click the **Cancel** button as this step is *not* necessary.

From the Windows desktop system tray:

- 1 Right-click the MUVPN client icon and select **Activate Security Policy** and then double-click the MUVPN client icon.  
The Security Policy Editor dialog box appears.

---

### NOTE

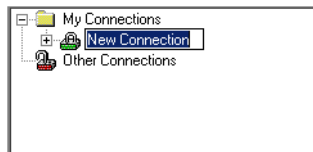
---

The ZoneAlarm personal firewall may immediately begin to display alerts on your Windows desktop. For more information regarding ZoneAlarm see “The ZoneAlarm Personal Firewall” on page 153.

---

- 2 Select **Edit ⇒ Add ⇒ Connection**.

A New Connection appears in the Network Security Policy field on the left side and the and the Connection Security and Remote Party Identity and Addressing settings appear on the right side.



- 3 Type a unique name for the new connection.

If this will be a unique policy for a specific user, enter a unique name to help identify it. For example, you may want to include the actual name of the end user.

- 
- 4 Click to select the **Secure** option.  
This is the default setting.
  - 5 Click to select the **Only Connect Manually** checkbox.
  - 6 Select the **IP Subnet** option from the **ID Type** drop list.  
The Remote Part Identity and Addressing settings refresh to display the appropriate fields.

Remote Party Identity and Addressing

ID Type: IP Subnet

Subnet: 0.0.0.0

Mask: 0.0.0.0

Protocol: All Port: All

☒ Connect using Secure Gateway Tunnel

ID Type: IP Address

10.168.2.137

- 7 Type the network IP Address of the Trusted Network behind the SOHO 6 Wireless in the field labeled “Subnet”.
- 8 Type the Subnet Mask of the Trusted Network behind the SOHO 6 Wireless in the field labeled “Mask”.
- 9 Select **All** from the **Protocol** drop list.  
This is the default setting.
- 10 Click to select the **Connect using** checkbox and select **Secure Gateway Tunnel** from the drop list.
- 11 Select **IP Address** from the **ID Type** drop list and then type the IP address of the External interface in the available field.

## Defining the My Identity settings

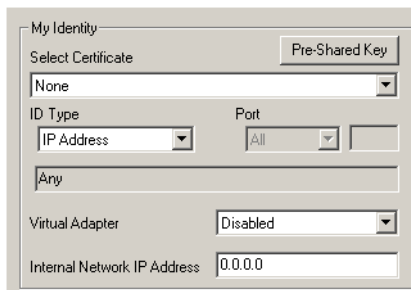
Follow these instructions to define the My Identity settings.

- 1 From the **Network Security Policy** field, expand the new entry.  
The My Identity and Security Policy entries appear.



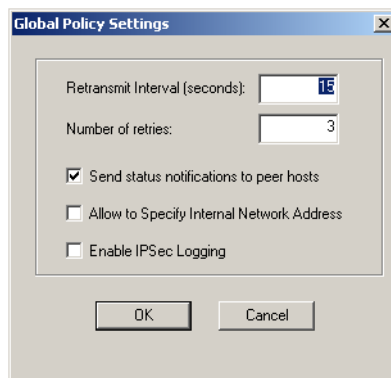
2 **Select My Identity.**

The My Identity and Internet Interface settings appear to the right.



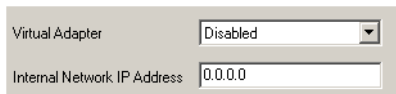
3 **Select Options ⇒ Global Policy Settings.**

The Global Policy Settings dialog box appears.



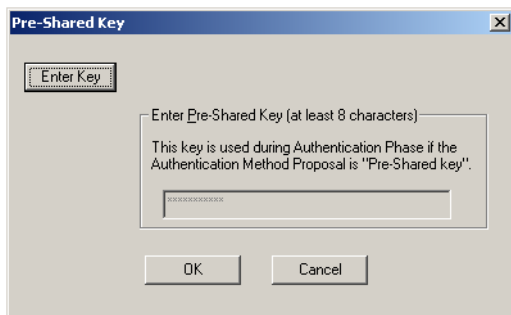
- 
- 4 Click to select the **Allow to Specify Internal Network Address** checkbox and then click **OK**.

The Internal Network IP Address field appears among the My Identity settings.



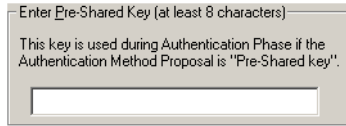
A screenshot of a settings window showing two fields. The first field is labeled 'Virtual Adapter' and has a dropdown menu with 'Disabled' selected. The second field is labeled 'Internal Network IP Address' and contains the text '0.0.0.0'.

- 5 Select **None** from the **Select Certificate** drop list.
- 6 Select **E-mail Address** from the ID Type drop list and then enter the username defined on the SOHO 6 Wireless in the available field.
- 7 Select **Disabled** from the **Virtual Adapter** drop list.
- 8 Type 0.0.0.0 in the **Internal Network IP Address** field.  
This value appears by default.
- 9 Select **Any** from the **Name** drop list.  
This is the default setting.
- 10 Click **Pre-Shared Key**.  
The Pre-Shared Key dialog box appears.



A screenshot of a dialog box titled 'Pre-Shared Key'. It has a button labeled 'Enter Key' at the top left. Below it, the text reads 'Enter Pre-Shared Key (at least 8 characters)'. A smaller text box explains: 'This key is used during Authentication Phase if the Authentication Method Proposal is "Pre-Shared key".' Below this is a text entry field with a series of dots. At the bottom are 'OK' and 'Cancel' buttons.

- 11 Click **Enter Key**.  
The text entry field is activated.



- 12 Type the exact text of the MUVPN client passphrase entered on the SOHO 6 Wireless appliance and then click **OK**.

---

### NOTE

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Both the Pre-Shared Key and the E-mail Address, *must* exactly match the System Passphrase and System Administrator Name configured on the SOHO 6 Wireless or the connection will fail.

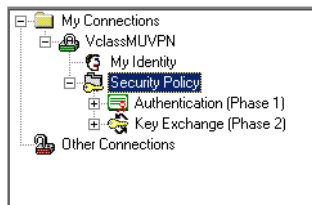
---

## Defining Phase 1 and Phase 2 settings

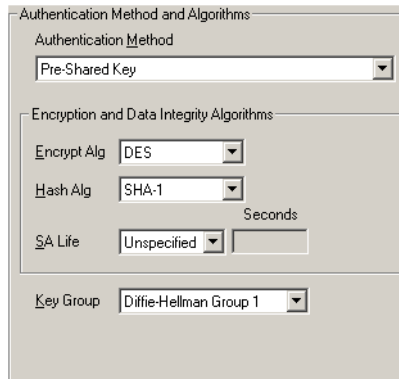
Follow these instructions to define the phase 1 and phase 2 settings. Make certain that settings match exactly with those on the Firebox SOHO 6 Wireless appliance.

- 1 From the **Network Security Policy** field, expand **Security Policy**.

Both Phase 1 and Phase 2 negotiations appear.



- 2 Expand **Authentication (Phase 1)**.  
A Proposal entry appears.
- 3 Select **Proposal 1**.  
The Authentication Method and Algorithms settings appear to the right.



- 4 Select **Pre-Shared Key** from the **Authentication Method** drop list.

---

### NOTE

---

These values must match exactly those entered in the Firebox SOHO 6 Wireless appliance.

---

- 5 Select **DES** from the **Encrypt Alg** drop list and select **SHA-1** from the **Hash Alg** drop list.
- 6 Select **Unspecified** from the **SA Life** drop list.  
This is the default setting.
- 7 Select **Diffie-Hellman Group 1** from the **Key Group** drop list.
- 8 Expand **Key Exchange (Phase 2)**.  
A Proposal entry appears.
- 9 Select **Proposal 1**.  
The IPsec Protocols settings appear to the right.

- 10 Select **Both** from the **SA Life** drop list and then type 86400 in the **Seconds** field and 8192 in the **KBytes** field.
- 11 Select **None** from the **Compression** drop list.  
This is the default setting. The SOHO 6 Wireless Firebox appliance does not support compression.
- 12 Click to select the **Encapsulation (ESP)** checkbox and then select a value for the **Encrypt Alg** and **Hash Alg** drop lists.

### NOTE

These two settings *must* exactly match those on the SOHO 6 Wireless or the connection will fail.

- 13 Select **Tunnel** from the **Encapsulation** drop list.  
This is the default setting.
- 14 Verify that the **Authentication Protocol (AH)** checkbox is *not* selected.
- 15 Once you have finished, select **File** ⇒ **Save** or click the  button.

---

## Uninstall the MUVPN client

At some point, it may become necessary to completely uninstall the MUVPN client. WatchGuard recommends a complete uninstall using the Windows Add/Remove Programs tool.

First, disconnect all existing tunnels and dial-up connections and reboot the remote computer. Then, from the Windows desktop:

- 1 Select **Start** ⇒ **Settings** ⇒ **Control Panel**.  
The Control Panel window appears.
- 2 Double click the **Add/Remove Programs** icon.  
The Add/Remove Programs window appears.
- 3 Select **Mobile User VPN** and click the **Change/Remove** button.  
The InstallShield Wizard window appears.
- 4 Select **Remove**. Click the **Next** button.  
The Confirm File Deletion dialog box appears.
- 5 Click the **OK** button to completely remove all of the components.  
A command prompt window appears while the `dni_vapmp` file is installed—this is normal. When it is complete, the installation will continue.  
The Uninstall Security Policy dialog box appears.
- 6 Click the **Yes** button to delete the Security Policy Personal Certificates and Private/Public Keys.  
The InstallShield Wizard window appears.
- 7 Verify that the option **Yes, I want to restart my computer now** is enabled and click **Finish**.  
The computer will reboot.

---

### NOTE

The ZoneAlarm personal firewall settings are preserved under the following default directories.

Windows 98: `c:\windows\internet logs\`

Windows NT and 2000: `c:\winnt\internet logs\`

Windows XP: `c:\windows\internet logs`

If you wish to disregard these settings, delete the contents.

---

- 8 When the computer has restarted, select **Start ⇒ Programs**.
- 9 Right-click **Mobile User VPN** and select **Delete** to remove this selection from your Start Menu.

## Connect and Disconnect the MUVPN Client

---

The MUVPN client enables the remote computer to establish a secure, encrypted connection to a protected network over the Internet. To do this, you *must* first connect to the Internet and then use the MUVPN client to connect to the protected network.

### Connecting the MUVPN Client

- 1 First establish an Internet connection through either Dial-Up Networking or directly through a local area network (LAN) or wide area network (WAN).

From the Windows desktop system tray:

- 2 Verify the MUVPN client status—it *must* be activated. If it is not, right-click the icon and select **Activate Security Policy**.  
For information on how to determine the status of the MUVPN icon, see the following section “The Mobile User VPN client icon”.

Then, from the Windows desktop:

- 3 Select **Start ⇒ Programs ⇒ Mobile User VPN ⇒ Connect**.  
The WatchGuard Mobile User Connect window appears.
- 4 Click the **Yes** button.

---

## The Mobile User VPN client icon

The Mobile User VPN icon exists in the Windows desktop system tray and displays several different status images. The following lists these images and provides a brief description of each.

### *Deactivated*



The MUVPN Security Policy is deactivated or the Windows operating system did not start a necessary Mobile User VPN service properly and the remote computer *must* be restarted (if this continues you may need to reinstall the MUVPN client).

### *Activated*



The MUVPN client is ready to establish a secure, MUVPN tunnel connection.

### *Activated and Transmitting Unsecured Data*



The MUVPN client is ready to establish a secure, MUVPN tunnel connection. The red bar on the right of the icon indicates that the client has begun transmitting unsecured data.

### *Activated and Connected*



The MUVPN client has established at least one secure, MUVPN tunnel connection but is not transmitting data.

*Activated, Connected and Transmitting Unsecured Data*



The MUVPN client has established at least one secure, MUVPN tunnel connection. The red bar on the right of the icon indicates that the client is transmitting only unsecured data.

*Activated, Connected and Transmitting Secured Data*



The MUVPN client has established at least one secure, MUVPN tunnel connection. The green bar on the right of the icon indicates that the client is transmitting only secured data.

*Activated, Connected and Transmitting both Secure and Unsecured Data*



The MUVPN client has established at least one secure, MUVPN tunnel connection. The red and green bars on the right of the icon indicate that the client is transmitting both secured and unsecured data.

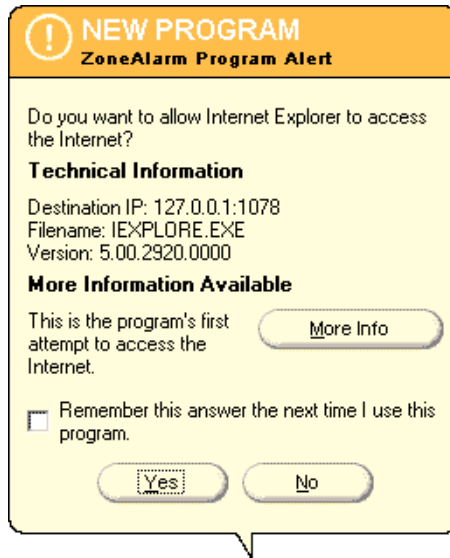
## **Allowing the MUVPN client through the personal firewall**

There are a couple of programs associated with the MUVPN client, which you *must* allow through the personal firewall in order to establish the MUVPN tunnel:

- MuvpnConnect.exe

- IreIKE.exe

The personal firewall will detect the attempt of these programs to access the Internet. The New Program alert dialog box appears requesting access for the MuvpnConnect.exe program.



From the ZoneAlarm alert dialog box:

- 1 Enable the **Remember this answer the next time I use this program** option and click the **Yes** button.

This enables ZoneAlarm to allow the MuvpnConnect.exe program through each time you attempt to make a MUVPN connection.

The New Program alert dialog box appears requesting access for the IreIKE.exe program.

- 2 Enable the **Remember this answer the next time I use this program** option and click the **Yes** button.

This enables ZoneAlarm to allow the IreIKE.exe program through each time you attempt to make a MUVPN connection.

## Disconnecting the MUVPN client

The MUVPN tunnel is independent of the Internet connection. Close the MUVPN tunnels when the remote computer encounters either of the following events.

- Loses the Internet connection
- No longer needs the MUVPN tunnel

From the Windows desktop system tray:

1 Right-click the **Mobile User VPN** client icon.

2 Select **Disconnect All**.

The MUVPN Client closes all tunnels. This process does not affect your connection to the Internet. You *must* disconnect from the Internet separately.

3 Right-click the **Mobile User VPN** client icon and select **Deactivate Security Policy**.

The MUVPN icon displays a red slash to indicate a deactivated Security Policy.

If you are using the ZoneAlarm personal firewall, deactivate this as well.

From the Windows desktop system tray:

1 Right-click the **ZoneAlarm** icon  and select **Shutdown ZoneAlarm**.

The ZoneAlarm dialog box appears.

2 Click the **Yes** button when prompted to quit ZoneAlarm.

## Monitor the MUVPN Client Connection

---

There are two tools that accompany the MUVPN client which can be used to monitor your connection and diagnose problems that may occur: the Log Viewer and the Connection Monitor.

---

## The Log Viewer

The LogViewer displays the communications log, a diagnostic tool that lists the negotiations that occur during the MUVPN client connection.

From the Windows desktop system tray:

- 1 Right-click the **Mobile User VPN** client icon.
- 2 Select **Log Viewer**.  
The Log Viewer window appears.

## The Connection Monitor

The Connection Monitor displays statistical and diagnostic information for each active connection in the security policy. This module shows the actual security policy settings and the security association (SA) information established during Phase 1 IKE negotiations and Phase 2 IPsec negotiations.

From the Windows desktop system tray:

- 1 Right-click the **Mobile User VPN** client icon.
- 2 Select **Connection Monitor**.  
The Connection Monitor window appears.

An icon appears to the left of the connection name:

- SA indicates that the connection has only a Phase 1 IKE SA. This occurs when connecting to a secure gateway tunnel or when a Phase 2 IPsec SA fails to establish or has not been established yet.
- A key indicates that the connection has a Phase 2 IPsec SA, or both a Phase 1 and Phase 2 SA.
- A key with a black line moving below it indicates that the client is processing secure IP traffic for that connection.

- When a single Phase 1 SA to a gateway protects multiple Phase 2 SAs, there is a single Phase 1 connection with the SA icon and individual Phase 2 connections with the key icon displayed above that entry.

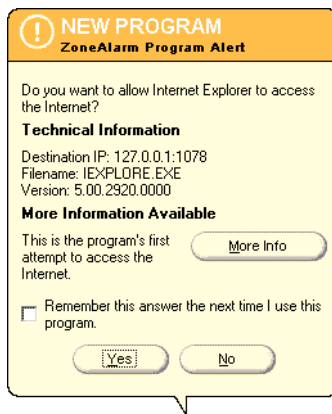
## The ZoneAlarm Personal Firewall

---

A personal firewall is a barrier between your computer and the outside world. The computer is most vulnerable at its doors, called ports. Without ports, no connection to the Internet is possible.

ZoneAlarm protects these ports by following a simple rule: Block all incoming and outgoing traffic unless you explicitly allow it for trusted programs.

When using ZoneAlarm, you often see Program Alert dialog boxes similar to the image below.



This alert appears whenever one of your programs attempts to access the Internet or your local network. This powerful feature

---

means no information leaves your computer unless you give it permission.

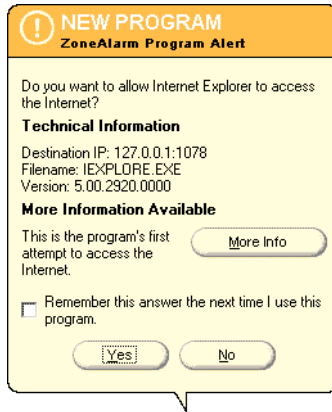
If you enable the “Remember the answer each time I use this program” checkbox you will only have to answer this question once for each program.

The ZoneAlarm personal firewall provides a brief tutorial of the product immediately after installation of the MUVPN client. Carefully read each step to familiarize yourself with the application.

For more information on ZoneAlarm features and configuration, please refer to the ZoneAlarm Help system. To access the Help system, select **Start ⇒ Programs ⇒ Zone Labs ⇒ ZoneAlarm Help**.

## **Allowing Traffic through ZoneAlarm**

When an application requires access through the ZoneAlarm personal firewall, a Program Alert will be displayed on the Windows desktop informing the user which particular program needs access. Often, the program associated with the application is not readily indicative of the application the user is attempting to execute.



In the example above, the Internet Explorer Web browser application has been launched and is attempting to access the users home page. The program which actually needs to pass through the firewall is "IEXPLORE.EXE".

In order to allow this program access each time the application is executed, enable the **Remember the answer each time I use this program** checkbox.

Here is a list of a few essential programs which will need access through the ZoneAlarm personal firewall in order to operate some important applications.

---

### Programs Which *Must* Be Allowed

|                                 |                                |
|---------------------------------|--------------------------------|
| <i>MUVPN client</i>             | IreIKE.exe<br>MuvpnConnect.exe |
| <i>MUVPN Connection Monitor</i> | CmonApp.exe                    |
| <i>MUVPN Log Viewer</i>         | ViewLog.exe                    |

### Programs Which *May* be Allowed

|                                              |                                                          |
|----------------------------------------------|----------------------------------------------------------|
| <i>MS Outlook</i>                            | OUTLOOK.exe                                              |
| <i>MS Internet Explorer</i>                  | IEXPLORE.exe                                             |
| Netscape 6.1                                 | netscp6.exe                                              |
| <i>Opera Web browser</i>                     | Opera.exe                                                |
| <i>Standard Windows network applications</i> | lsass.exe<br>services.exe<br>svchost.exe<br>winlogon.exe |

---

## Shutting Down ZoneAlarm

From the Windows desktop system tray:

- 1 Right-click on the **ZoneAlarm** icon  and select **Shutdown ZoneAlarm**.  
The ZoneAlarm dialog box appears.
- 2 Click the **Yes** button when prompted to quit ZoneAlarm.

## Uninstalling ZoneAlarm

From the Windows desktop:

- 1 Select **Start ⇒ Programs ⇒ Zone Labs ⇒ Uninstall ZoneAlarm**.  
The Confirm Uninstall dialog box appears.
- 2 Click the **Yes** button.  
The ZoneLabs TrueVector service dialog box appears.

- 3 Click the **Yes** button to continue with uninstalling the TrueVector service and disable its Internet Security features. The Select Uninstall Method window appears.
- 4 Verify that **Automatic** is selected and then click the **Next** button.
- 5 Click the **Finish** button to perform the uninstall.

---

#### **NOTE**

The Remove Shared Component window may appear. During the initial installation of ZoneAlarm, some files were installed that could be shared by other programs on the system. Click the **Yes to All** button to completely remove all of these files.

---

- 6 The Install window appears and prompts you to restart the computer. Click the **OK** button to reboot your system.

## **Use the MUVPN Client to Enforce your Corporate Policy**

---

In order to require telecommuters to authenticate with a MUVPN client and enforce your corporate security policies for these users, you must configure the MUVPN Clients on the SOHO 6 Wireless and configure a security policy on the MUVPN client.

### **Configuring the SOHO 6 Wireless**

Follow these steps to configure your SOHO 6 Wireless:

- 1 With your Web browser, go to the System Status page using the Trusted IP address of the SOHO 6 Wireless.  
The default trusted IP address is either 192.168.111.1 for a wired computer and 192.168.112.1 for a wireless computer.

- 
- 2 From the navigation bar on the right side, select **VPN** ⇒ **MUVPN Clients**.

The MUVPN Clients page appears.

VPN

**MUVPN Clients**

---

| User    | Assigned IP     |
|---------|-----------------|
| Iphifer | 192.168.111.240 |

---

- 3 Click the **Add** button.

The Edit MUVPN Client page appears.

VPN > MUVPN Clients  
**Edit MUVPN Client**

---

|                          |                                              |
|--------------------------|----------------------------------------------|
| User Name                | <input type="text" value="lphifer"/>         |
| Passphrase               | <input type="text" value="secret123"/>       |
| Virtual IP Address       | <input type="text" value="192.168.111.240"/> |
| Authentication Algorithm | <input type="text" value="MD5-HMAC"/> ▼      |
| Encryption Algorithm     | <input type="text" value="DES-CBC"/> ▼       |
| VPN Client Type          | <input type="text" value="Mobile User"/> ▼   |

☒ All traffic uses tunnel (0.0.0.0/0 IP Subnet)

---

|                                       |                                      |                                       |
|---------------------------------------|--------------------------------------|---------------------------------------|
| <input type="button" value="Submit"/> | <input type="button" value="Reset"/> | <input type="button" value="Cancel"/> |
|---------------------------------------|--------------------------------------|---------------------------------------|

- 4 Type a username in the **Username** field.  
This Username will be used as the E-mail Address when setting up the MUVPN client.
- 5 Type a passphrase in the **Passphrase** field.  
This passphrase will be used as the Pre-Shared Key when setting up the MUVPN client.
- 6 Type an unused IP address from the Trusted network, which will be used by the MUVPN client computer when connecting to the SOHO 6 Wireless in the **Virtual IP Address** field.
- 7 Select **MD5-HMAC** from the **Authentication Algorithm** drop list.
- 8 Select **DES-CBC** from the **Encryption Algorithm** drop list.
- 9 Select **Mobile User** from the **VPN Client Type** drop list.
- 10 Click to select the **All traffic uses tunnel (0.0.0.0/0 Subnet)** checkbox.

---

11 Click **Submit**.

The page refreshes and you are prompted to reboot the SOHO 6 Wireless in order activate the changes.

12 Click **Reboot**.

13 Connect one end of a straight-through Ethernet cable into the Ethernet port labeled OPT on the SOHO 6 Wireless. Connect the other end into the uplink port of the hub.

14 Connect Ethernet cables to the uplink ports of the hub and to the Ethernet ports of each of your computers.

## Configuring the MUVPN client

Before configuring the MUVPN client, you must first install it on your computer. For information on installing the client, see Chapter 9 “Install and Configure the MUVPN Client” on page 137.

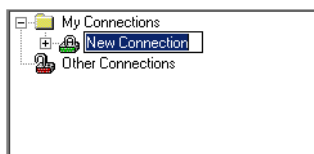
Follow these procedures to create a MUVPN security policy:

1 Right-click the MUVPN client icon and select **Security Policy Editor**.

The Security Policy Editor dialog box appears.

2 Select **Edit** ⇒ **Add** ⇒ **Connection**.

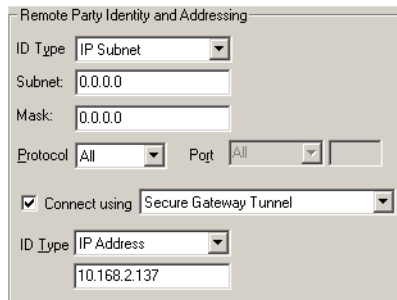
A New Connection appears in the Network Security Policy field on the left side and the Connection Security and Remote Party Identity and Addressing settings appear on the right side.



3 Type a unique name for the new connection.

If this will be a unique policy for a specific user, enter a unique name to help identify it. For example, you may want to include the actual name of the end user.

- 4 Click to select the **Secure** option.  
This is the default setting.
- 5 Click to select the **Only Connect Manually** checkbox.
- 6 Select the **IP Subnet** option from the **ID Type** drop list.  
The Remote Part Identity and Addressing settings refresh to display the appropriate fields.



Remote Party Identity and Addressing

ID Type: IP Subnet

Subnet: 0.0.0.0

Mask: 0.0.0.0

Protocol: All Port: All

☒ Connect using Secure Gateway Tunnel

ID Type: IP Address

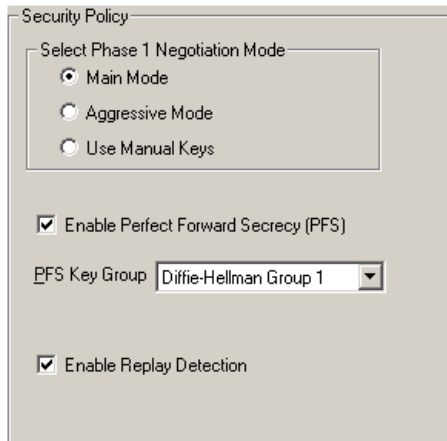
10.168.2.137

- 7 Type 0.0.0.0 in both the **Subnet** and **Mask** fields.  
These are the default values.
- 8 Select **All** from the **Protocol** drop list.  
This is the default setting.
- 9 Click to select the **Connect using** checkbox and select **Secure Gateway Tunnel** from the drop list.
- 10 Select **IP Address** from the **ID Type** drop list and then type the IP address of the Optional interface in the available field.

## Defining the Security Policy settings

Follow these instructions to define the Security Policy settings.

- 1 From the **Network Security Policy** field, select **Security Policy**.  
The Security Policy settings appear to the right.

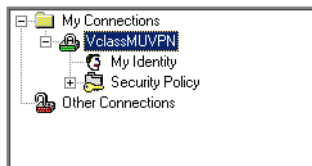


- 2 Click to select the **Aggressive Mode** option.
- 3 Verify that the **Enable Perfect Forward Secrecy (PFS)** checkbox is not selected.
- 4 Click to select the **Enable Replay Detection** checkbox.

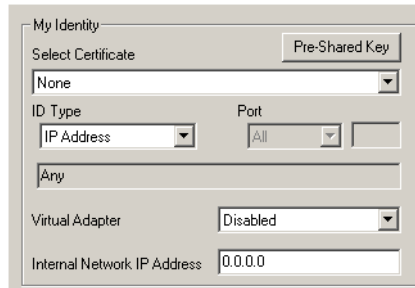
## Defining the My Identity settings

Follow these instructions to define the My Identity settings.

- 1 From the **Network Security Policy** field, expand the new entry. The My Identity and Security Policy entries appear.

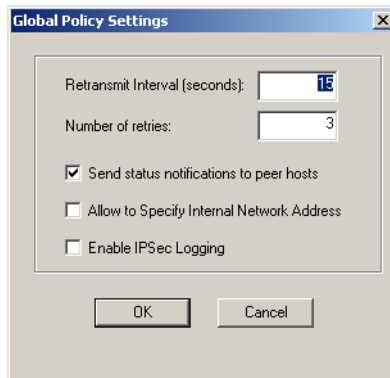


- 2 Select **My Identity**.  
The My Identity and Internet Interface settings appear to the right.



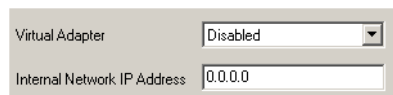
The 'My Identity' dialog box is shown. It has a 'Pre-Shared Key' button in the top right. Below it is a 'Select Certificate' dropdown menu currently set to 'None'. Underneath are 'ID Type' and 'Port' dropdown menus, both set to 'All'. Below these is a text field containing 'Any'. Further down is a 'Virtual Adapter' dropdown menu set to 'Disabled'. At the bottom is an 'Internal Network IP Address' text field containing '0.0.0.0'.

- 3 Select **Options** ⇒ **Global Policy Settings**.  
The Global Policy Settings dialog box appears.



The 'Global Policy Settings' dialog box is shown. It contains a 'Retransmit Interval (seconds):' text field with a value of 15. Below it is a 'Number of retries:' text field with a value of 3. There are three checkboxes: 'Send status notifications to peer hosts' (checked), 'Allow to Specify Internal Network Address' (unchecked), and 'Enable IPSec Logging' (unchecked). At the bottom are 'OK' and 'Cancel' buttons.

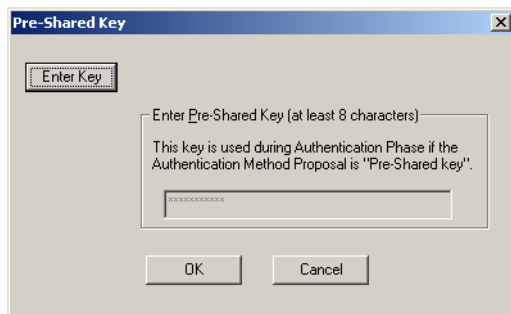
- 4 Click to select the **Allow to Specify Internal Network Address** checkbox and then click **OK**.  
The Internal Network IP Address field appears among the My Identity settings.



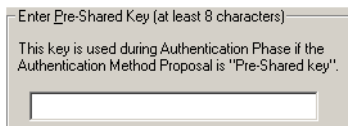
This is a partial view of the 'My Identity' dialog box, showing the 'Virtual Adapter' dropdown menu set to 'Disabled' and the 'Internal Network IP Address' text field containing '0.0.0.0'.

- 5 Select **None** from the **Select Certificate** drop list.

- 
- 6 Select **E-mail Address** from the ID Type drop list and then enter the username defined on the SOHO 6 Wireless in the available field.
  - 7 Select **Disabled** from the **Virtual Adapter** drop list.
  - 8 Type 0.0.0.0 in the **Internal Network IP Address** field.  
This value appears by default.
  - 9 Select **Any** from the **Name** drop list.  
This is the default setting.
  - 10 Click **Pre-Shared Key**.  
The Pre-Shared Key dialog box appears.



- 11 Click **Enter Key**.  
The text entry field is activated.



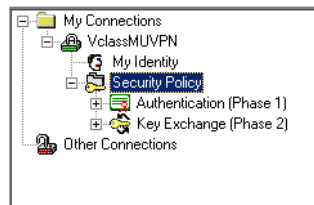
- 12 Type the exact text of the MUVPN client passphrase entered on the Firebox SOHO 6 Wireless appliance and then click **OK**.

## Defining Phase 1 and Phase 2 settings

Follow these instructions to define the phase 1 and phase 2 settings. Make certain that settings match exactly with those on the Firebox SOHO 6 Wireless appliance.

- 1 From the **Network Security Policy** field, expand **Security Policy**.

Both Phase 1 and Phase 2 negotiations appear.

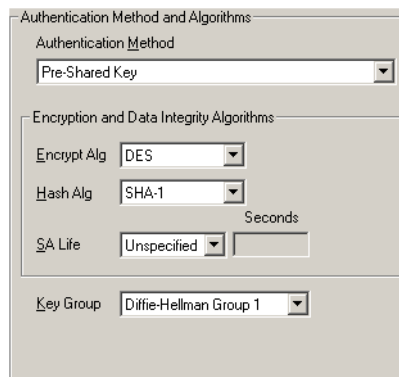


- 2 Expand **Authentication (Phase 1)**.

A Proposal entry appears.

- 3 Select **Proposal 1**.

The Authentication Method and Algorithms settings appear to the right.



- 4 Select **Pre-Shared Key** from the **Authentication Method** drop list.

---

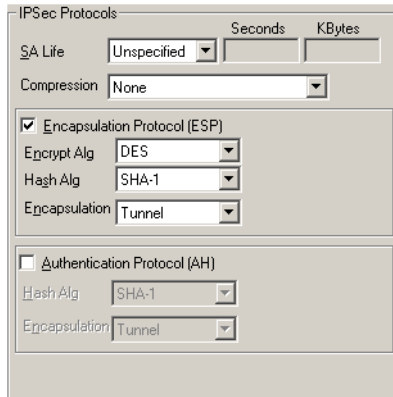
## NOTE

---

These values must match exactly those entered in the Firebox SOHO 6 Wireless appliance.

---

- 5 Select **DES** from the **Encrypt Alg** drop list and select **SHA-1** from the **Hash Alg** drop list.
- 6 Select **Unspecified** from the **SA Life** drop list.  
This is the default setting.
- 7 Select **Diffie-Hellman Group 1** from the **Key Group** drop list.
- 8 Expand **Key Exchange (Phase 2)**.  
A Proposal entry appears.
- 9 Select **Proposal 1**.  
The IPsec Protocols settings appear to the right.



IPsec Protocols

SA Life: Unspecified    Seconds:    KBytes:   

Compression: None

☒ Encapsulation Protocol (ESP)

Encrypt Alg: DES

Hash Alg: SHA-1

Encapsulation: Tunnel

☐ Authentication Protocol (AH)

Hash Alg: SHA-1

Encapsulation: Tunnel

- 10 Select **Both** from the **SA Life** drop list and then type 86400 in the **Seconds** field and 8192 in the **KBytes** field.
- 11 Select **None** from the **Compression** drop list.  
This is the default setting. The SOHO 6 Wireless appliance does not support compression.

- 12 Click to select the **Encapsulation (ESP)** checkbox and then select a value for the **Encrypt Alg** and **Hash Alg** drop lists.
- 13 Select **DES** from the **Encrypt Alg** drop list and select **MD5** from the **Hash Alg** drop list.
- 14 Select **Tunnel** from the **Encapsulation** drop list.  
This is the default setting.
- 15 Verify that the **Authentication Protocol (AH)** checkbox is *not* selected.
- 16 Once you have finished, select **File** ⇒ **Save** or click the  button.

## Troubleshooting Tips

---

WatchGuard maintains a knowledge base on our Web site, including an In-Depth FAQ section on configuring and using the MUVPN client. This is available at:

[www.watchguard.com/support](http://www.watchguard.com/support)

A few of the most common issues found in installing, configuring, and using the MUVPN client are described below.

### **My computer is hung up just after installing the MUVPN client...**

This is most likely due to either the ZoneAlarm personal firewall application interfering with regular Local network traffic or it is because the MUVPN client is active and is unsuccessfully attempting to create VPN tunnels.

When the MUVPN client is not in use, ZoneAlarm should be shutdown and the client deactivated.

---

From the Windows desktop system tray:

- 1 First, reboot your computer.
- 2 Right-click on the Mobile User VPN client icon.
- 3 Select **Disconnect All**.  
The MUVPN client closes all VPN tunnels.
- 4 Right-click on the Mobile User VPN client icon and select **Deactivate Security Policy**.  
The MUVPN icon will display a red slash to indicate that the Security Policy has been deactivated.
- 5 Right-click on the ZoneAlarm icon  and select **Shutdown ZoneAlarm**.  
The ZoneAlarm dialog box appears.
- 6 Click the **Yes** button when prompted to quit ZoneAlarm.

## **I have to enter my network log in information even when I'm not connected to the network...**

When you start your computer, you are prompted to enter your Windows network user name, password and domain. It is very important that you enter this information correctly, just as you would if you were at the office connected to the network.

Windows stores the information for use by network adapters and networked applications. Later, when you connect to your ISP and start the MUVPN client, your computer uses the stored user name, password, and domain to connect to the company network.

## **I am *not* prompted for my user name and password when I turn my computer on...**

This is most likely due to the ZoneAlarm personal firewall application. This program is very good at what it does: keeping your computer secure from unauthorized incoming or outgoing traffic. Unfortunately, it may block your computer from

broadcasting its network information thereby preventing the machine from sending the necessary login information. You should be certain to shut down ZoneAlarm each time you disconnect the MUVPN connection.

## Is the Mobile User VPN tunnel working?

The Mobile User VPN client icon, which appears in the Windows desktop system tray once it has been launched, will display a key within the icon once the client has connected.

To test the connection, ping a computer on your company network.

- Select **Start** ⇒ **Run**. Type ping and the IP address of a computer on your company network.

## My mapped drives have a red X through them...

Windows 98/ME, NT, and 2000 verifies and maps network drives automatically when the computer starts. Because there is no way for you to establish a remote session with the company network before the computer actually starts, drive mapping fails during the boot process and a red X appears on the drive icon. Establish a MUVPN tunnel and open the network drive. The red X should disappear.

## How do I map a network drive?

Due to a Windows operating system limitation, mapped network drives disappear when you work remotely. To remap a network drive from the Windows desktop:

- 1 Right-click on **Network Neighborhood**.
- 2 Select **Map Network Drive**.  
The Map Network Drive dialog box appears.

- 
- 3 Use the drop list to select a drive letter.  
Either use the drop list or type a network drive path.
  - 4 Click **OK**.

The mapped drive appears in the My Computer window. Even if you enable the “Reconnect at Logon” checkbox, the mapped drive will not appear the next time you start your computer unless it is physically connected to the network.

### **I sometimes get prompted for a password when I am browsing the company network...**

Due to a Windows networking limitation, remote user virtual private networking products only allow access to a single network domain. If your company is large enough to require subnetting (multiple networks connected together), you will only be able to browse your own domain. Attempts to access other domains will result in a password prompt. Unfortunately, even providing the correct information will not open these additional networks.

### **It takes a *really* long time to shut down the computer after using Mobile User VPN...**

If you open and browse a mapped network drive during a MUVPN session, the Windows operating system waits for a signal from the network before it times out and completes the shut down cycle.

### **I lost the connection to my ISP, and now I can't use the company network...**

If you lose Internet connection long enough, MUVPN also loses the secure tunnel. Follow the steps to close the tunnel. Then connect to the Internet and restart the MUVPN client.

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## Troubleshooting tips

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If you have problems during the installation and the configuration of your SOHO 6 Wireless, refer to this information.

### General

#### **What do the PWR, Status, and Mode lights signify on the SOHO 6 Wireless?**

When the PWR light is lit, the SOHO 6 Wireless is connected to a power source. When the Status light is lit, there is a management connection to the SOHO 6 Wireless. When the MODE light is lit, the SOHO 6 Wireless is operational.

If the PWR light blinks:

The SOHO 6 Wireless is running from its backup flash memory. You can connect to the SOHO 6 Wireless from a

---

computer attached to one of the four Ethernet ports (labeled 0-3) to configure the SOHO 6 Wireless.

If the Mode light is blinks:

There SOHO 6 Wireless can not connect to the external network. Possible causes of this problem include:

- The SOHO 6 Wireless did not receive an IP address for the external interface from the DHCP server.
- The WAN port is not connected to another appliance.
- The connection to the external interface is defective.
- The appliance to which the external interface of the SOHO 6 Wireless is connected is not operating correctly.

### **How do I register my SOHO 6 Wireless with the LiveSecurity Service?**

See “Register your SOHO 6 Wireless and activate the LiveSecurity Service” on page 33.

### **How do I restart my SOHO 6 Wireless?**

See “Reboot the SOHO 6 Wireless” on page 34.

### **How do I reset my System Security password, if I forgot or lost it?**

See “Factory default settings” on page 31.

### **How does the seat limitation on the SOHO 6 Wireless work?**

See “Cabling the SOHO 6 Wireless for more than four appliances” on page 23.

**What is a SOHO 6 Wireless feature key?**

See “Activate the SOHO 6 Wireless upgrade options” on page 66.

**I can't get a certain SOHO 6 Wireless feature to work with a DSL modem.**

Some DSL routers implement NAT firewalls. An external network connection through an appliance that supplies NAT causes problems with WebBlocker and the performance of IPSec. When a SOHO 6 Wireless connects to the external network through a DSL router, set the DSL router to operate as a bridge only.

**How do I install and configure the SOHO 6 Wireless using a Macintosh (or other) operating system?**

The installation instructions for the Macintosh and other operating systems are available from the WatchGuard Web site:

<https://support.watchguard.com/sohoresources/>

**How do I know whether the cables are connected correctly to my SOHO 6 Wireless?**

The front panel of the SOHO 6 Wireless has fourteen indicators. The WAN indicator shows if the SOHO 6 Wireless is connected to the modem. If this indicator is not lit, the SOHO 6 Wireless is not connected to the modem.

- Make sure that the cable is connected from the SOHO 6 Wireless to the modem.
- Make sure the Internet connection is active.

The link indicators (0-3) are for the four Ethernet ports of the trusted network. These indicators show if the SOHO 6 Wireless is wired to a computer or hub. If the indicators are not lit, the SOHO 6 Wireless is not wired to the computer or hub. Make sure

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that the cable is connected and the computer or hub is connected to a power supply.

### **I can connect to the Configuration Settings page; why can't I browse the Internet?**

If you can connect to the configuration page, but not the Internet, there is a problem with the connection from the SOHO 6 Wireless to the Internet.

- Make sure the cable modem or DSL modem is connected to the SOHO 6 Wireless and the power supply.
- Make sure the link light on the modem and the WAN indicator on the SOHO 6 Wireless are lit.

Speak with your ISP if the problem is not corrected.

### **How can I see the MAC address of my SOHO 6 Wireless?**

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 2 At the bottom of the System Status page, the External network header is shown on the right side. The MAC address or addresses are shown.  
Record these addresses before you call Technical Support.

### **What is the default trusted IP address?**

The default trusted IP address is either 192.168.111.1 for a wired computer and 192.168.112.1 for a wireless computer.

## Configuration

### Where are the SOHO 6 Wireless settings stored?

The configuration parameters are stored in memory of the SOHO 6 Wireless.

### How do I set up DHCP on the trusted network of the SOHO 6 Wireless?

- 1 Make sure your computer is configured to use DHCP. See “Enable your computer for DHCP” on page 17 for additional information.
- 2 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 3 From the navigation bar on the left side, select **Network ⇒ Trusted**.
- 4 Set the **Enable DHCP Server** check box.
- 5 Click **Submit**.

### How do I change to a static, trusted IP address?

To use a static IP address, select a network IP range and subnet mask for the trusted network.

The network IP ranges and subnet masks in the table below are reserved for private networks in compliance with RFC 1918. Replace the Xs in the network IP address with a number between 1 and 254. The subnet mask does not need to be changed.

| Network IP range | Subnet mask |
|------------------|-------------|
| 10.x.x.x         | 255.0.0.0   |

---

172.16.x.x

255.240.0.0

192.168.x.x

255.255.0.0

To change to a static, trusted IP address, follow these steps:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
- 2 From the navigation bar on the left side, select **Network ⇒ Trusted**.
- 3 Reset the **Enable DHCP Server** check box.
- 4 Click **Submit**.
- 5 Type the information.
- 6 Click **Submit**.

### How do I set up and disable WebBlocker?

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: <http://192.168.111.1>
  - 2 From the navigation bar on the left side, select **WebBlocker ⇒ Settings**.  
The WebBlocker Settings page opens.
  - 3 Set the **Enable WebBlocker** check box.
  - 4 Set a full access password.
  - 5 Set the number of minutes for the inactivity timeout.
- To disable WebBlocker, reset **Enable WebBlocker** check box.

## How do I allow incoming services such as POP3, Telnet, and Web (HTTP)?

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **Firewall ⇒ Incoming**.  
The Filter Incoming Traffic page opens.
- 3 Select the pre-configured service to allow.
- 4 Select **Allow** from the drop list.
- 5 Type the trusted network IP address of the computer hosting the service.
- 6 Click **Submit**.

## How do I allow incoming IP, or uncommon TCP and UDP protocols?

Record the IP address of the computer that is to receive the incoming data and the number of the new IP protocol. Follow these steps:

- 1 Type the IP address of the trusted network in your browser window to connect to the System Status page of the SOHO 6 Wireless:  
The default IP address is: `http://192.168.111.1`
- 2 From the navigation bar on the left side, select **Firewall ⇒ Custom Service**.  
The Custom Service page opens.
- 3 Beneath the **Protocol Settings** fields, select **TCP Port**, **UDP Port** or **Protocol** from the drop-down list.  
The Custom Service page refreshes.
- 4 Type a name for the service.

- 
- 5 Type the new protocol number in the **Protocol** field.
  - 6 Click **Submit**.
  - 7 From the navigation bar on the left side, select **Firewall ⇒ Incoming**.  
The Firewall Incoming Traffic page opens.
  - 8 At the bottom of the page, locate the new service under the **Custom Service** list and select **Allow** from the drop-down list.
  - 9 Type the IP address of the computer that is to receive the incoming data in the Service Host field.
  - 10 Click **Submit**.

## VPN Management

See “What You Need” on page 106.

Make sure that the two appliances use the same encryption method.

Make sure that the two appliances use the same authentication method.

### How do I set up my SOHO 6 Wireless for VPN Manager Access?

This requires the add-on product, WatchGuard VPN Manager software, which is purchased separately and used with the WatchGuard Firebox System software. Purchase the VPN Manager through the WatchGuard Web site:

<https://www.watchguard.com/products/vpnmanager.asp>

For more information on how to allow VPN Manager access to a SOHO 6 Wireless, see the *WatchGuard Firebox VPN Guide*.

## **How do I set up VPN to a SOHO 6 Wireless?**

Information about how to configure a VPN tunnel between a SOHO 6 Wireless and another IPSec compliant appliance is available from the WatchGuard Web site:

[https://support.watchguard.com/AdvancedFaqs/sointerop\\_main.asp](https://support.watchguard.com/AdvancedFaqs/sointerop_main.asp)

- 1 Log in to the site.
- 2 Download the file you need.
- 3 Follow the instructions to configure your VPN tunnel.

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## Contact technical support

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|                |                                           |
|----------------|-------------------------------------------|
| (877) 232-3531 | United States end-user support            |
| (206) 521-8375 | United States authorized reseller support |
| (360) 482-1083 | International support                     |

## Online documentation and FAQs

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Documentation in PDF format, tutorials, and FAQs are available on the WatchGuard Web Site:

<https://support.watchguard.com/AdvancedFaqs/>

## Special notices

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- The online help system is not yet available on the WatchGuard Web site. Click on the **Help** link at the top of the System Status page to connect to the WatchGuard Product Documentation page, which has links to more information sources.

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