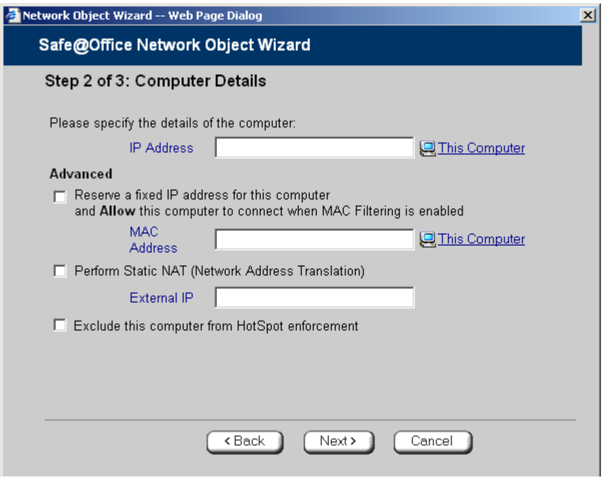
The **Step 2: Computer Details** dialog box appears. If you chose **Single Computer**, the dialog box includes the **Perform Static NAT** option.



Network Object Wizard -- Web Page Dialog

Safe@Office Network Object Wizard

Step 2 of 3: Computer Details

Please specify the details of the computer:

IP Address ____ This Computer

Advanced

□ Reserve a fixed IP address for this computer and **Allow** this computer to connect when MAC Filtering is enabled

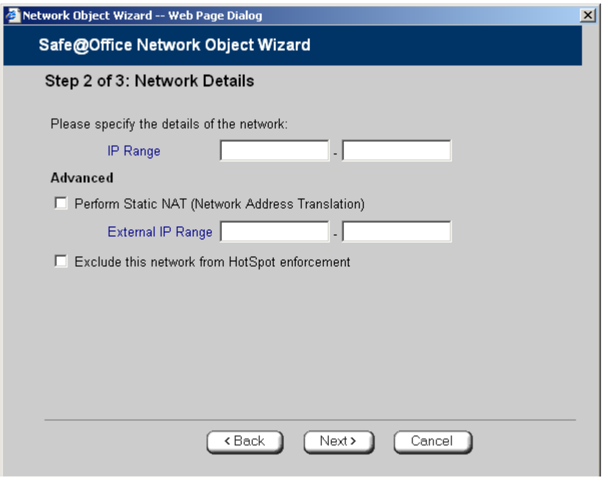
MAC Address ____ This Computer

□ Perform Static NAT (Network Address Translation)

External IP ____

□ Exclude this computer from HotSpot enforcement

If you chose **Network**, the dialog box does not include this option.



Network Object Wizard -- Web Page Dialog

Safe@Office Network Object Wizard

Step 2 of 3: Network Details

Please specify the details of the network:

IP Range ____ - ____

Advanced

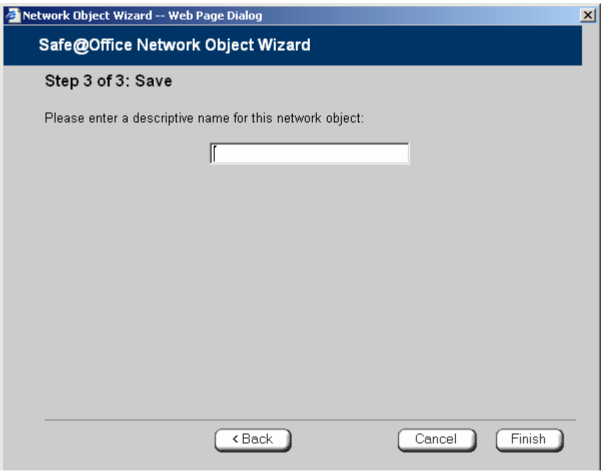
□ Perform Static NAT (Network Address Translation)

External IP Range ____ - ____

□ Exclude this network from HotSpot enforcement

11. Complete the fields using the information in the tables below.
12. Click **Next**.

The **Step 3: Save** dialog box appears.



Network Object Wizard -- Web Page Dialog

Safe@Office Network Object Wizard

Step 3 of 3: Save

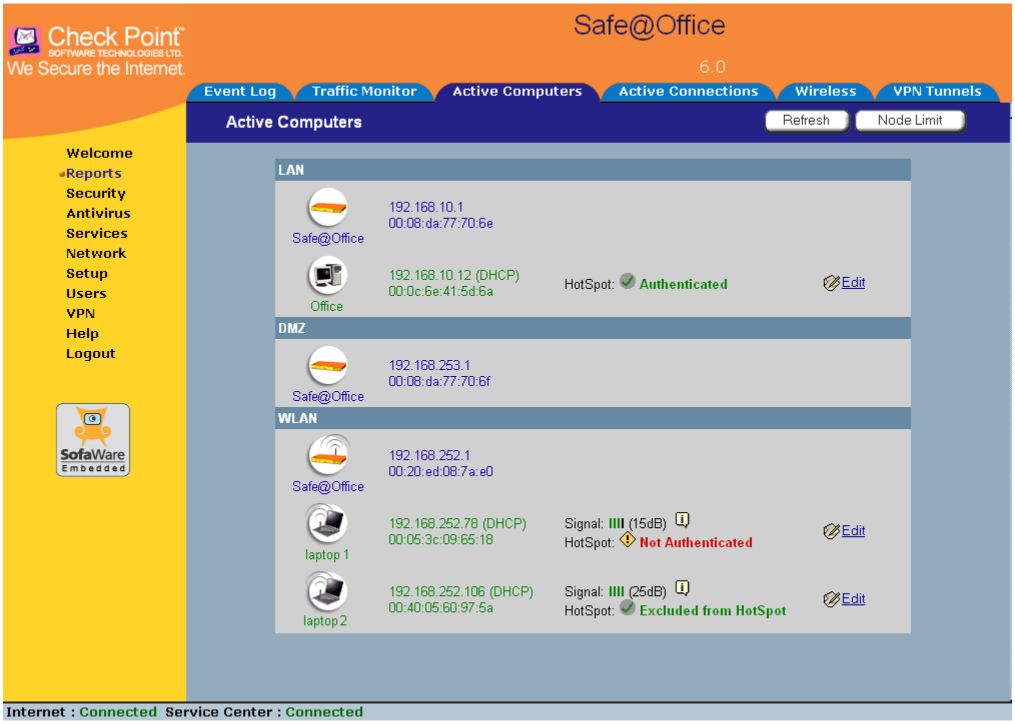
Please enter a descriptive name for this network object:

13. Type a name for the network object in the field.
14. Click **Finish**.

To add or edit a network object via the Active Computers page

1. Click **Reports** in the main menu, and click the **Active Computers** tab.

The **Active Computers** page appears.



Active Computers

LAN

Safe@Office 192.168.10.1 00:08:da:77:70:6e

Office 192.168.10.12 (DHCP) 00:0c:6e:41:5d:6a HotSpot: ✓ Authenticated Edit

DMZ

Safe@Office 192.168.253.1 00:08:da:77:70:6f

WLAN

Safe@Office 192.168.252.1 00:20:ed:08:7a:e0

laptop 1 192.168.252.78 (DHCP) 00:05:3c:09:65:18 Signal: IIII (15dB) HotSpot: Not Authenticated Edit

laptop2 192.168.252.106 (DHCP) 00:40:05:60:97:5a Signal: IIII (25dB) HotSpot: ✓ Excluded from HotSpot Edit

Internet : Connected Service Center : Connected

If a computer has not yet been added as a network object, the **Add** button appears next to it. If a computer has already been added as a network object, the **Edit** button appears next to it.

2. Do one of the following:

   - To add a network object, click **Add** next to the desired computer.
   - To edit a network object, click **Edit** next to the desired computer.

   The **Safe@Office Network Object Wizard** opens, with the **Step 1: Network Object Type** dialog box displayed.

3. Do one of the following:

   - To specify that the network object should represent a single computer or device, click **Single Computer**.

- To specify that the network object should represent a network, click **Network.**

4. Click **Next.**

   The **Step 2: Computer Details** dialog box appears.

   The computer's IP address and MAC address are automatically filled in.

5. Complete the fields using the information in the tables below.
6. Click **Next.**

   The **Step 3: Save** dialog box appears with the network object's name. If you are adding a new network object, this name is the computer's name.

7. To change the network object name, type the desired name in the field.
8. Click **Finish.**

   The new object appears in the **Network Objects** page.

Table 16: Network Object Fields for a Single Computer

In this field...	Do this...
IP Address	Type the IP address of the local computer, or click This Computer to specify your computer.
Reserve a fixed IP address for this computer	Select this option to assign the network object's IP address to a MAC address, and to allow the network object to connect to the WLAN when MAC Filtering is used. For information about MAC Filtering, see ***Configuring a Wireless Network*** on page 163.
MAC Address	Type the MAC address you want to assign to the network object's IP address, or click This Computer to specify your computer's MAC address.
Perform Static NAT (Network Address Translation)	Select this option to map the local computer's IP address to an Internet IP address. You must then fill in the External IP field.
External IP	Type the Internet IP address to which you want to map the local computer's IP address.
Exclude this computer from HotSpot enforcement	Select this option to exclude the network object from HotSpot enforcement.

Table 17: Network Object Fields for a Network

In this field…	Do this…
IP Range	Type the range of local computer IP addresses in the network.
Perform Static NAT (Network Address Translation)	Select this option to map the network's IP address range to a range of Internet IP addresses of the same size. You must then fill in the External IP Range field.
External IP Range	Type the Internet IP address range to which you want to map the network's IP address range.
Exclude this network from HotSpot enforcement	Select this option to exclude this network from HotSpot enforcement.

Viewing and Deleting Network Objects

500

To view or delete a network object

1. Click Network in the main menu, and click the Network Objects tab.

   The Network Objects page appears with a list of network objects.

2. To delete a network object, do the following:

   a. In the desired network object's row, click the Erase 🗑 icon.

      A confirmation message appears.

   b. Click OK.

      The network object is deleted.

Using Static Routes

500

A static route is a setting that explicitly specifies the route for packets originating in a certain subnet and/or destined for a certain subnet. Packets with a source and destination that does not match any defined static route will be routed to the default gateway. To modify the default gateway, see ***Using a LAN Connection*** on page 67.

A static route can be based on the packet's destination IP address, or based on the source IP address, in which case it is a source route.

Source routing can be used, for example, for load balancing between two Internet connections. For example, if you have an Accounting department and a Marketing department, and you want each to use a different Internet connection for outgoing traffic, you can add a static route specifying that traffic originating from the Accounting department should be sent via WAN1, and another static route specifying that traffic originating from the Marketing department should be sent via WAN2.

The Static Routes page lists all existing routes, including the default, and indicates whether each route is currently "Up" (reachable) or not.

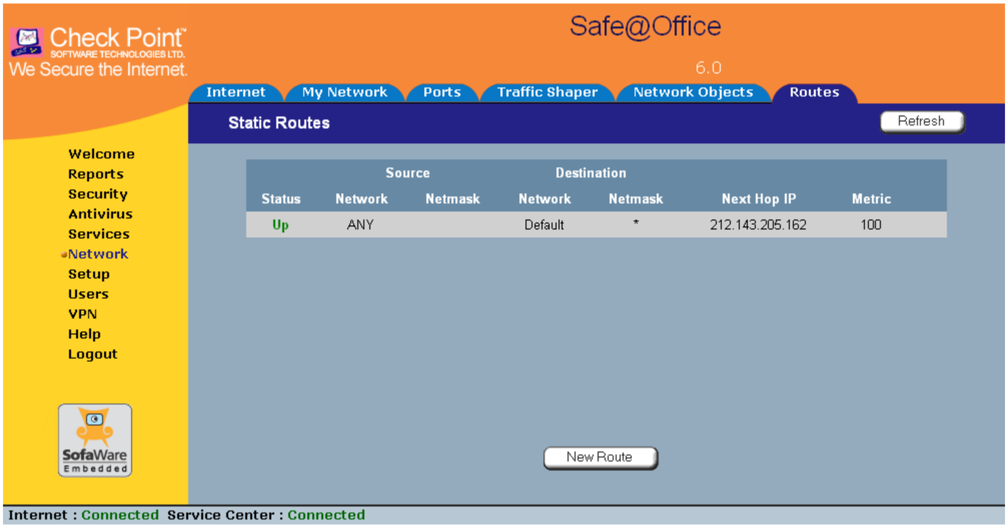
Adding and Editing Static Routes

500

To add a static route

1. Click Network in the main menu, and click the Routes tab.

The **Static Routes** page appears, with a list of existing static routes.



Static Routes

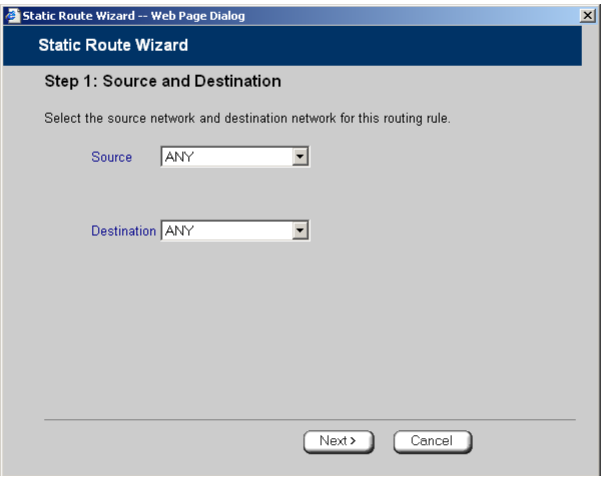
	Source		Destination			
Status	Network	Netmask	Network	Netmask	Next Hop IP	Metric
Up	ANY		Default	*	212.143.205.162	100

Internet : Connected Service Center : Connected

2. Do one of the following:

- To add a static route, click **New Route**.
- To edit an existing static route, click **Edit** next to the desired route in the list.

The **Static Route Wizard** opens displaying the **Step 1: Source and Destination** dialog box.



Step 1: Source and Destination

Select the source network and destination network for this routing rule.

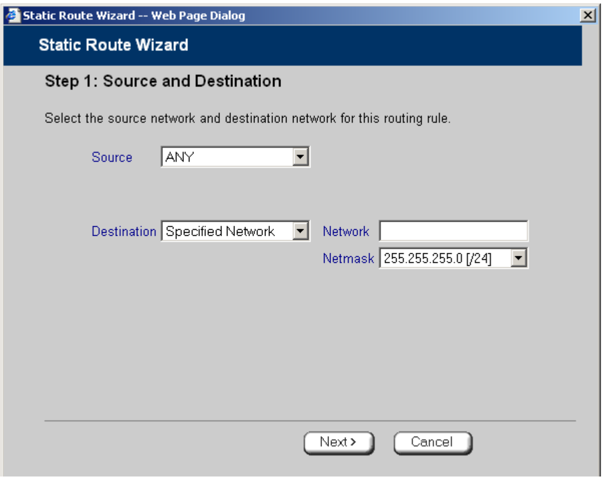
Source: ANY

Destination: ANY

3. To select a specific source network (source routing), do the following:

   a) In the **Source** drop-down list, select **Specified Network.**

   New fields appear.



Step 1: Source and Destination

Select the source network and destination network for this routing rule.

Source: ANY

Destination: Specified Network

Network:

Netmask: 255.255.255.0 [/24]

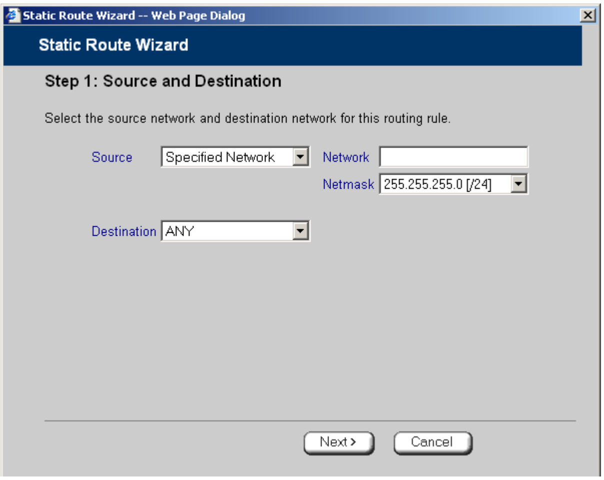
   b) In the **Network** field, type the IP address of the source network.

   c) In the **Netmask** drop-down list, select the subnet mask.

4. To select a specific destination network, do the following:

   a) In the **Destination** drop-down list, select **Specified Network**.

      New fields appear.



Static Route Wizard -- Web Page Dialog

Static Route Wizard

Step 1: Source and Destination

Select the source network and destination network for this routing rule.

Source: Specified Network

Network:

Netmask: 255.255.255.0 [/24]

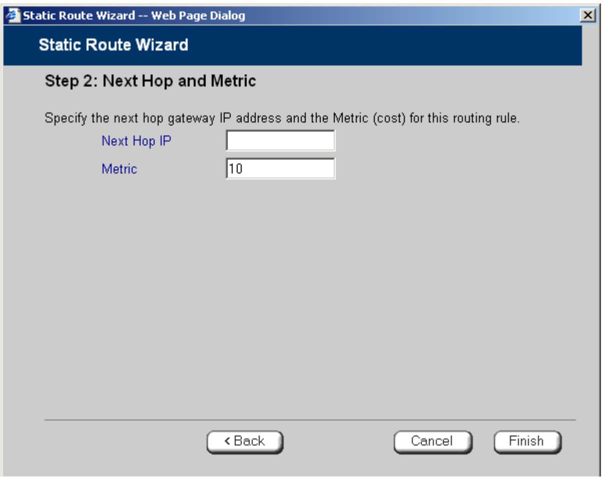
Destination: ANY

   b) In the **Network** field, type the IP address of the destination network.

   c) In the **Netmask** drop-down list, select the subnet mask.

5. Click **Next**.

The **Step 2: Next Hop and Metric** dialog box appears.



Static Route Wizard -- Web Page Dialog

Static Route Wizard

Step 2: Next Hop and Metric

Specify the next hop gateway IP address and the Metric (cost) for this routing rule.

Next Hop IP

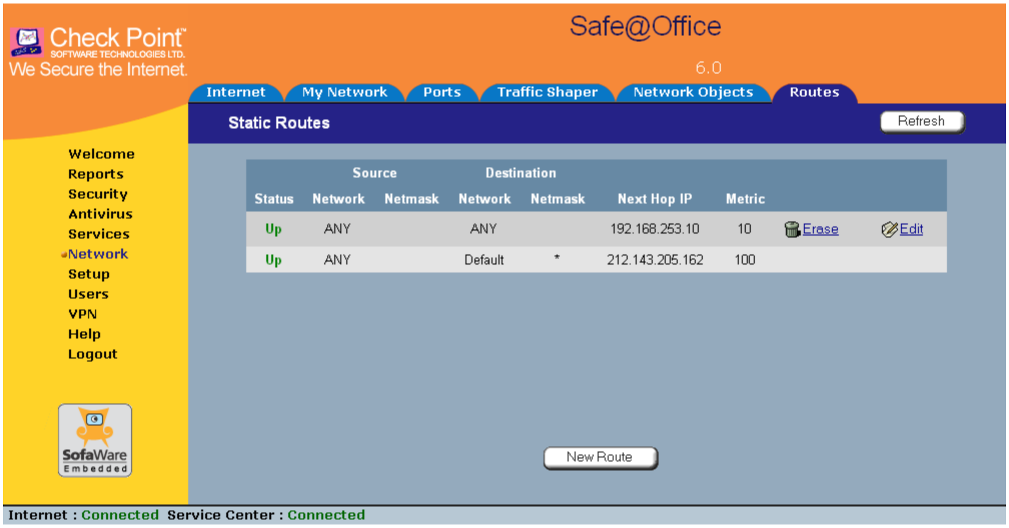
Metric 10

6. In the **Next Hop IP** field, type the IP address of the gateway (next hop router) to which to route the packets destined for this network.
7. In the **Metric** field, type the static route's metric.

   The gateway sends a packet to the route that matches the packet's destination and has the lowest metric.

   The default value is 10.
8. Click **Next**.

The new static route is saved.



Static Routes

	Source		Destination					
Status	Network	Netmask	Network	Netmask	Next Hop IP	Metric		
Up	ANY		ANY		192.168.253.10	10	Erase	Edit
Up	ANY		Default	*	212.143.205.162	100		

Internet : Connected Service Center : Connected

Viewing and Deleting Static Routes

500

Note: The “default” route cannot be deleted.

To delete a static route

1. Click Network in the main menu, and click the Routes tab.

   The Static Routes page appears, with a list of existing static routes.

2. In the desired route row, click the Erase 🗑 icon.

   A confirmation message appears.

3. Click OK.

   The route is deleted.

Managing Ports

500

The Safe@Office appliance enables you to quickly and easily assign its ports to different uses, as shown in the table below. Furthermore, you can restrict each port to a specific link speed and duplex setting.

Table 18: Ports and Assignments

You can assign this port...	To these uses...
LAN	LAN network
	VLAN network
DMZ/WAN2	DMZ network
	Second WAN connection
	VLAN trunk
RS232	Dialup modem
	Serial console

Viewing Port Statuses

500

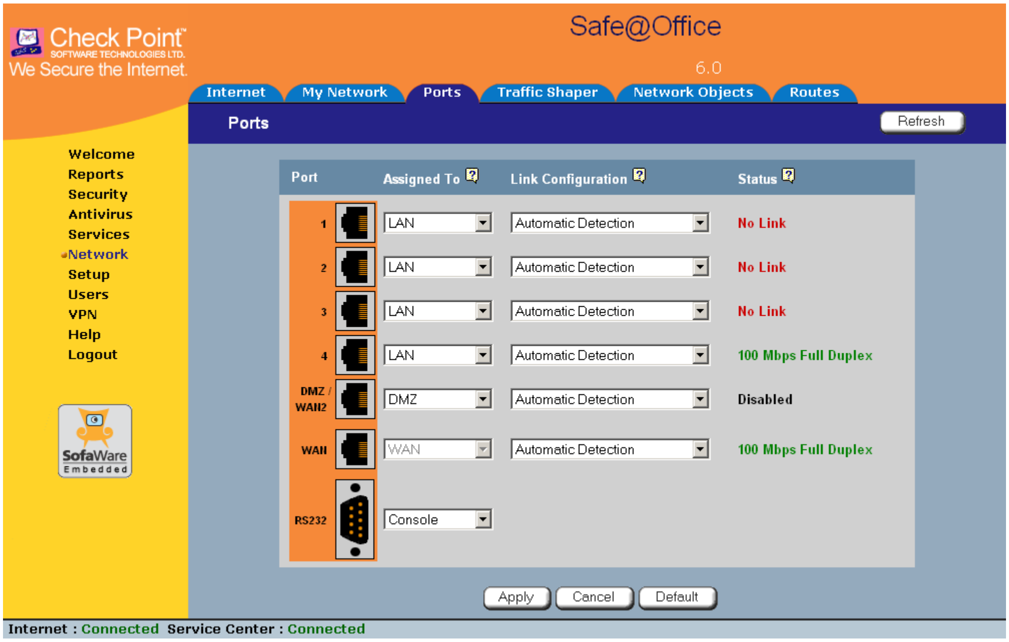
You can view the status of the Safe@Office appliance's ports on the **Ports** page, including each Ethernet connection's duplex state. This is useful if you need to check whether the appliance's physical connections are working, and you can’t see the LEDs on front of the appliance.

Note: In the Safe@Office 500 model SBX-166LHG-2, status information is only available for the WAN and DMZ ports, and not for LAN ports 1-4.

To view port statuses

1. Click **Network** in the main menu, and click the **Ports** tab.

   The **Ports** page appears.



Port	Assigned To	Link Configuration	Status
1	LAN	Automatic Detection	No Link
2	LAN	Automatic Detection	No Link
3	LAN	Automatic Detection	No Link
4	LAN	Automatic Detection	100 Mbps Full Duplex
DMZ / WAN2	DMZ	Automatic Detection	Disabled
WAN	WAN	Automatic Detection	100 Mbps Full Duplex
RS232	Console		

Internet : Connected Service Center : Connected

The following information is displayed for each enabled port:

- **Assign To.** The port's current assignment. For example, if the DMZ/WAN2 port is currently used for the DMZ, the drop-down list displays "DMZ".
- **Link Configuration.** The configured link speed (**10 Mbps** or **100 Mbps**) and duplex (**Full Duplex** or **Half Duplex**) configured for the port.

  Automatic Detection indicates that the port is configured to automatically detect the link speed and duplex.
- **Status.** The detected link speed and duplex.

  No Link indicates that the appliance does not detect anything connected to the port.

  Disabled indicates that the port is disabled. For example, if the DMZ/WAN2 port is currently assigned to the DMZ, but the DMZ is disabled, the port is marked as such.

2. To refresh the display, click **Refresh**.

Modifying Port Assignments

500

You can assign ports to different networks or purposes. Since modifying port assignments often requires additional configurations, use the table below to determine which procedure you should use:

Table 19: Modifying Port Assignments

To assign a port to...	See...
LAN	The procedure below
VLAN or VLAN Trunk	***Configuring VLANs*** on page 113

To assign a port to...	See...
WAN2	***Setting Up a LAN or Broadband Backup Connection*** on page 93
DMZ	Configuring a DMZ Network
Console	***Using a Console*** on page 392
Modem	***Setting Up a Dialup Modem*** on page 86

To modify a port assignment

1. Click Network in the main menu, and click the Ports tab.

   The Ports page appears.

   In the Assigned To drop-down list to the right of the port, select the desired port assignment.

2. Click Apply.

   The port is reassigned to the specified network or purpose.

Modifying Link Configurations

500

By default, the Safe@Office automatically detects the link speed and duplex. If desired, you can manually restrict the Safe@Office appliance's ports to a specific link speed and duplex.

Note: In the Safe@Office 500 model SBX-166LHG-2, restricting the link speed and duplex is available for the WAN and DMZ ports, and not for LAN ports 1-4.

To modify a port's link configuration

1. Click **Network** in the main menu, and click the **Ports** tab.

   The **Ports** page appears.

2. In the **Link Configuration** drop-down list to the right of the port, do one of the following:

   - Select the desired link speed and duplex.
   - Select **Automatic Detection** to configure the port to automatically detect the link speed and duplex.

     This is the default.

3. Click **Apply**.

   The port uses the specified link speed and duplex.

Resetting Ports to Defaults

500

You can reset the Safe@Office appliance's ports to their default link configurations ("Automatic Detection") and default assignments (shown in the table below).

Table 20: Default Port Assignments

Port	Default Assignment
1-4	LAN
DMZ / WAN2	DMZ
WAN	This port is always assigned to the WAN.
RS232	Modem

To reset ports to defaults

1. Click **Network** in the main menu, and click the **Ports** tab.

   The **Ports** page appears.

2. Click **Default.**

   A confirmation message appears.

3. Click **OK.**

   The ports are reset to their default assignments and to "Automatic Detection" link configuration.

   All currently-established connections that are not supported by the default settings may be broken. For example, if you were using the DMZ/WAN2 port as WAN2, the port reverts to its DMZ assignment, and the secondary Internet connection moves to the WAN port.

Chapter 6

Using Traffic Shaper

This chapter describes how to use Traffic Shaper to control the flow of communication to and from your network.

This chapter includes the following topics:

Overview

Traffic Shaper is a bandwidth management solution that allows you to set bandwidth policies to control the flow of communication. Traffic Shaper ensures that important traffic takes precedence over less important traffic, so that your business can continue to function with minimum disruption, despite network congestion.

Traffic Shaper uses Stateful Inspection technology to access and analyze data derived from all communication layers. This data is used to classify traffic in Quality of Service (QoS) classes. Traffic Shaper divides available bandwidth among the classes according to weight. For example, suppose Web traffic is deemed three times as important as FTP traffic, and these services are assigned weights of 30 and 10 respectively. If the lines are congested, Traffic Shaper will maintain the ratio of bandwidth allocated to Web traffic and FTP traffic at 3:1.

If a specific class is not using all of its bandwidth, the leftover bandwidth is divided among the remaining classes, in accordance with their relative weights. In the example above, if only one Web and one FTP connection are active and they are competing, the Web connection will receive 75% (30/40) of the leftover bandwidth, and the FTP connection will receive 25% (10/40) of the leftover bandwidth. If the Web connection closes, the FTP connection will receive 100% of the bandwidth.

Each class has a bandwidth limit, which is the maximum amount of bandwidth that connections belonging to that class may use together. Once a class has reached its bandwidth limit, connections belonging to that class will not be allocated further bandwidth, even if there is unused bandwidth available. For example, traffic used by Peer-To-Peer file-sharing applications may be limited to a specific rate, such as 512 kilobit per second. Each class also has a “Delay Sensitivity” value, indicating whether connections belonging to the class should be given precedence over connections belonging to other classes.

Your Safe@Office appliance offers different degrees of traffic shaping, depending on its model:

- Simplified Traffic Shaper. Includes a fixed set of four predefined classes. You can assign network traffic to each class, but you cannot modify the classes, delete them, or create new classes. Available in Safe@Office 500.
- Advanced Traffic Shaper. Includes a set of four predefined classes, but enables you to modify the classes, delete them, and create new classes. You can define up to eight classes, including weight, bandwidth limits, and DiffServ (Differentiated Services) Packet Marking parameters. DiffServ marks packets as belonging to a certain Quality of Service class. These packets are then granted priority on the public network according to their class. Available in Safe@Office 500 with Power Pack.

Note: You can prioritize wireless traffic from WMM-compliant multimedia applications, by enabling Wireless Multimedia (WMM) for the WLAN network. See ***Manually Configuring a WLAN*** on page 167.

Setting Up Traffic Shaper

500

To set up Traffic Shaper

1. Enable Traffic Shaper for the Internet connection, using the procedure ***Using Internet Setup*** on page 65.

   You can enable Traffic Shaper for incoming or outgoing connections.

   - When enabling Traffic Shaper for outgoing traffic:

     Specify a rate (in kilobits/second) slightly lower than your Internet connection's maximum measured upstream speed.

   - When enabling Traffic Shaper for incoming traffic:

     Specify a rate (in kilobits/second) slightly lower than your Internet connection's maximum measured downstream speed.

   It is recommended to try different rates in order to determine which ones provide the best results.

Note: Traffic Shaper cannot control the number or type of packets it receives from the Internet; it can only affect the rate of incoming traffic by dropping received packets. This makes the shaping of inbound traffic less accurate than the shaping of outbound traffic. It is therefore recommended to enable traffic shaping for incoming traffic only if necessary.

2. If you are using Safe@Office 500 with Power Pack, you can add QoS classes that reflect your communication needs, or modify the four predefined QoS classes.

   See ***Adding and Editing Classes*** on page 157.

Note: If you are using Safe@Office 500, you have Simplified Traffic Shaper, and you cannot add or modify the classes. To add or modify classes, upgrade to Safe@Office 500 with Power Pack, which supports Advanced Traffic Shaper.

3. Use Allow or Allow and Forward rules to assign different types of connections to QoS classes.

   For example, if Traffic Shaper is enabled for outgoing traffic, and you create an Allow rule associating all outgoing VPN traffic with the Urgent QoS class, then Traffic Shaper will handle outgoing VPN traffic as specified in the bandwidth policy for the Urgent class.

   See ***Adding and Editing Rules*** on page 215.

Note: Traffic Shaper must be enabled for the direction of traffic specified in the rule.

Note: If you do not assign a connection type to a class, Traffic Shaper automatically assigns the connection type to the predefined "Default" class.

Predefined QoS Classes

500

Traffic Shaper provides the following predefined QoS classes.

To assign traffic to these classes, define firewall rules as described in ***Using Rules*** on page 211.

Table 21: Predefined QoS Classes

Class	Weight	Delay Sensitivity	Useful for
Default	10	Medium (Normal Traffic)	Normal traffic. All traffic is assigned to this class by default.
Urgent	15	High (Interactive Traffic)	Traffic that is highly sensitive to delay. For example, IP telephony, videoconferencing, and interactive protocols that require quick user response, such as telnet.

Class	Weight	Delay Sensitivity	Useful for
Important	20	Medium (Normal Traffic)	Normal traffic
Low Priority	5	Low (Bulk Traffic)	Traffic that is not sensitive to long delays. For example, SMTP traffic (outgoing email).

In Simplified Traffic Shaper, these classes cannot be changed.

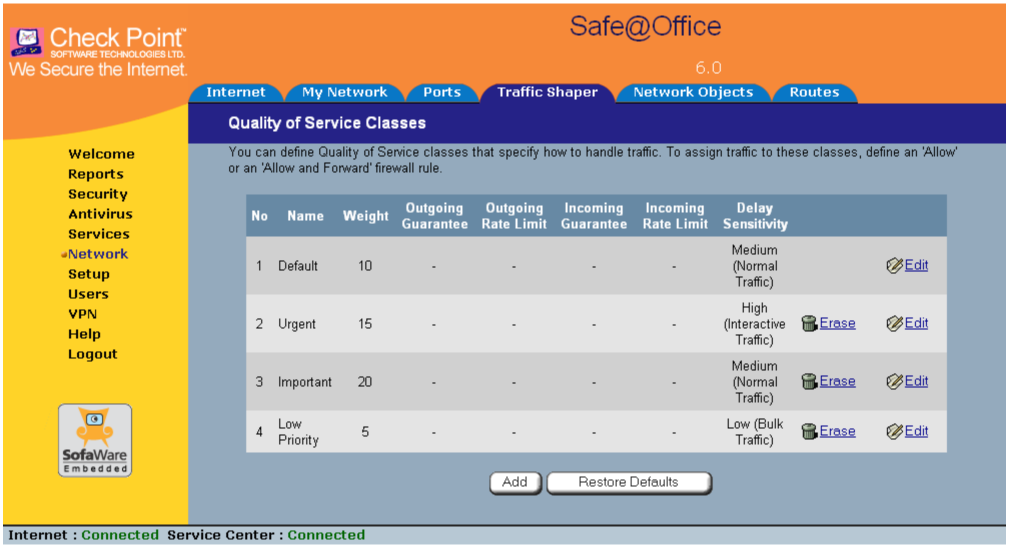
Adding and Editing Classes

Power Pack

To add or edit a QoS class

1. Click **Network** in the main menu, and click the **Traffic Shaper** tab.

   The **Quality of Service Classes** page appears.



Quality of Service Classes

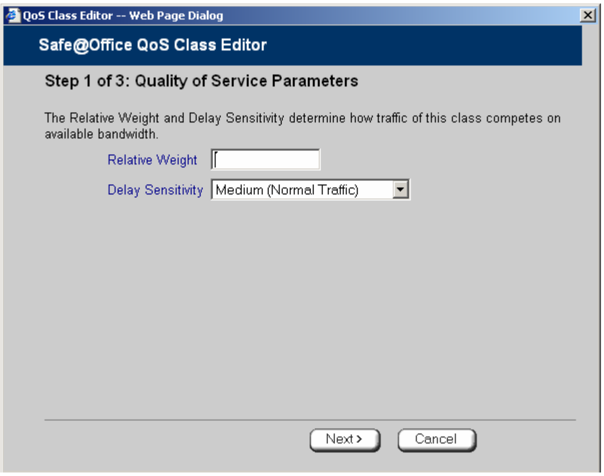
You can define Quality of Service classes that specify how to handle traffic. To assign traffic to these classes, define an 'Allow' or an 'Allow and Forward' firewall rule.

No	Name	Weight	Outgoing Guarantee	Outgoing Rate Limit	Incoming Guarantee	Incoming Rate Limit	Delay Sensitivity		
1	Default	10	-	-	-	-	Medium (Normal Traffic)		Edit
2	Urgent	15	-	-	-	-	High (Interactive Traffic)	Erase	Edit
3	Important	20	-	-	-	-	Medium (Normal Traffic)	Erase	Edit
4	Low Priority	5	-	-	-	-	Low (Bulk Traffic)	Erase	Edit

Internet : Connected Service Center : Connected

2. Click **Add**.

The **Safe@Office QoS Class Editor** wizard opens, with the **Step 1 of 3: Quality of Service Parameters** dialog box displayed.



QoS Class Editor -- Web Page Dialog

Safe@Office QoS Class Editor

Step 1 of 3: Quality of Service Parameters

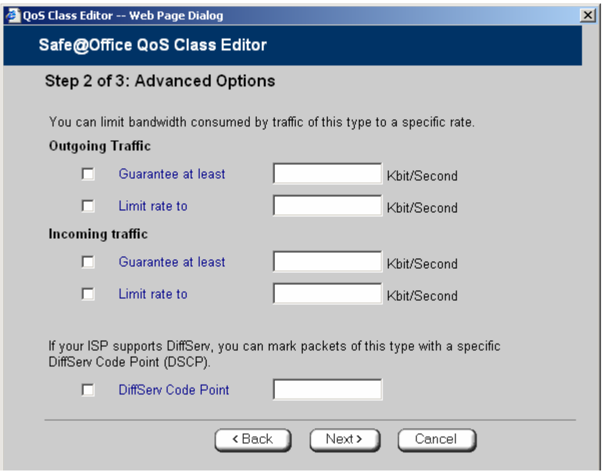
The Relative Weight and Delay Sensitivity determine how traffic of this class competes on available bandwidth.

Relative Weight:

Delay Sensitivity: Medium (Normal Traffic)

3. Complete the fields using the relevant information in the table below.
4. Click **Next**.

   The **Step 2 of 3: Advanced Options** dialog box appears.



QoS Class Editor -- Web Page Dialog

Safe@Office QoS Class Editor

Step 2 of 3: Advanced Options

You can limit bandwidth consumed by traffic of this type to a specific rate.

Outgoing Traffic

☐ Guarantee at least Kbit/Second

☐ Limit rate to Kbit/Second

Incoming traffic

☐ Guarantee at least Kbit/Second

☐ Limit rate to Kbit/Second

If your ISP supports DiffServ, you can mark packets of this type with a specific DiffServ Code Point (DSCP).

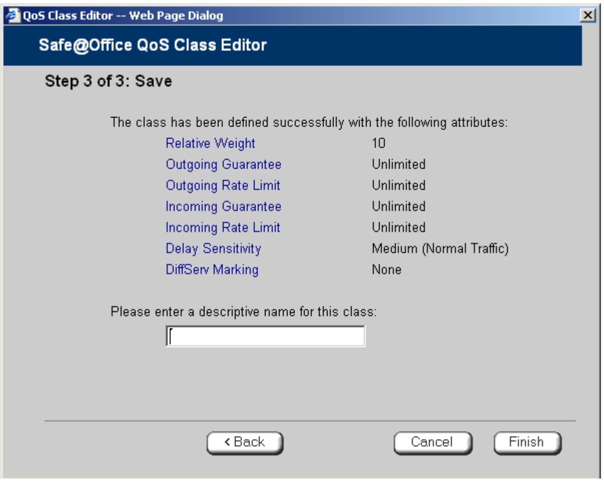
☐ DiffServ Code Point

5. Complete the fields using the relevant information in the table below.

Note: Traffic Shaper may not enforce guaranteed rates and relative weights for incoming traffic as accurately as for outgoing traffic. This is because Traffic Shaper cannot control the number or type of packets it receives from the Internet; it can only affect the rate of incoming traffic by dropping received packets. It is therefore recommended to enable traffic shaping for incoming traffic only if necessary. For information on enabling Traffic Shaper for incoming and outgoing traffic, see ***Using Internet Setup*** on page 65.

6. Click **Next.**

   The **Step 3 of 3: Save** dialog box appears with a summary of the class.


QoS Class Editor -- Web Page Dialog
Safe@Office QoS Class Editor
Step 3 of 3: Save

The class has been defined successfully with the following attributes:

Relative Weight	10
Outgoing Guarantee	Unlimited
Outgoing Rate Limit	Unlimited
Incoming Guarantee	Unlimited
Incoming Rate Limit	Unlimited
Delay Sensitivity	Medium (Normal Traffic)
DiffServ Marking	None

Please enter a descriptive name for this class:

7. Type a name for the class.

   For example, if you are creating a class for high priority Web connections, you can name the class "High Priority Web".

8. Click **Finish.**

   The new class appears in the **Quality of Service Classes** page.

Table 22: QoS Class Fields

In this field…	Do this…
Relative Weight	Type a value indicating the class's importance relative to the other defined classes. For example, if you assign one class a weight of 100, and you assign another class a weight of 50, the first class will be allocated twice the amount of bandwidth as the second when the lines are congested.
Delay Sensitivity	Select the degree of precedence to give this class in the transmission queue: • Low (Bulk Traffic) - Traffic that is not sensitive to long delays. For example, SMTP traffic (outgoing email). • Medium (Normal Traffic) - Normal traffic • High (Interactive Traffic) - Traffic that is highly sensitive to delay. For example, IP telephony, videoconferencing, and interactive protocols that require quick user response, such as telnet. Traffic Shaper serves delay-sensitive traffic with a lower latency. That is, Traffic Shaper attempts to send packets with a "High (Interactive Traffic)" level before packets with a "Medium (Normal Traffic)" or "Low (Bulk Traffic)" level.
Outgoing Traffic: Guarantee At Least	Select this option to guarantee a minimum bandwidth for outgoing traffic belonging to this class. Then type the minimum bandwidth (in kilobits/second) in the field provided.
Outgoing Traffic: Limit rate to	Select this option to limit the rate of outgoing traffic belonging to this class. Then type the maximum rate (in kilobits/second) in the field provided.
Incoming Traffic: Guarantee At Least	Select this option to guarantee a minimum bandwidth for incoming traffic belonging to this class. Then type the minimum bandwidth (in kilobits/second) in the field provided.

In this field...	Do this...
Incoming Traffic: Limit rate to	Select this option to limit the rate of incoming traffic belonging to this class. Then type the maximum rate (in kilobits/second) in the field provided.
DiffServ Code Point	Select this option to mark packets belonging to this class with a DiffServ Code Point (DSCP), which is an integer between 0 and 63. Then type the DSCP in the field provided. The marked packets will be given priority on the public network according to their DSCP. To use this option, your ISP or private WAN must support DiffServ. You can obtain the correct DSCP value from your ISP or private WAN administrator.

Deleting Classes

Power Pack

You cannot delete a class that is currently used by a rule. You can determine whether a class is in use or not, by viewing the **Rules** page.

To delete an existing QoS class

1. Click **Network** in the main menu, and click the **Traffic Shaper** tab.

   The **Quality of Service Classes** page appears.

2. Click the Erase icon 🗑 of the class you wish to delete.

   A confirmation message appears.

3. Click **OK**.

   The class is deleted.

Restoring Traffic Shaper Defaults

Power Pack

If desired, you can reset the Traffic Shaper bandwidth policy to use the four predefined classes, and restore these classes to their default settings. For information on these classes and their defaults, see ***Predefined QoS Classes*** on page 156.

Note: This will delete any additional classes you defined in Traffic Shaper and reset all rules to use the Default class.

If one of the additional classes is currently used by a rule, you cannot reset Traffic Shaper to defaults. You can determine whether a class is in use or not, by viewing the Rules page.

To restore Traffic Shaper defaults

1. Click Network in the main menu, and click the Traffic Shaper tab.

   The Quality of Service Classes page appears.

2. Click Restore Defaults.

   A confirmation message appears.

3. Click OK.

Chapter 7

Configuring a Wireless Network

This chapter describes how to set up a wireless internal network.

This chapter includes the following topics:

Overview

In addition to the LAN and DMZ networks, you can define a wireless internal network called a WLAN (wireless LAN) network, when using Safe@Office 500W.

For information on default security policy rules controlling traffic to and from the WLAN, see ***Default Security Policy*** on page 205.

You can configure a WLAN network in either of the following ways:

- **Wireless Configuration Wizard.** Guides you through the WLAN setup step by step.

  See ***Using the Wireless Configuration Wizard*** on page 178.

- **Manual configuration.** Offers advanced setup options.

  See ***Manually Configuring a WLAN*** on page 167.

Note: It is recommended to configure the WLAN via Ethernet and not via a wireless connection, because the wireless connection could be broken after making a change to the configuration.

About the Wireless Hardware in Your Safe@Office 500W Appliance

Your Safe@Office 500W appliance features a built-in 802.11b/g access point that is tightly integrated with the firewall and hardware-accelerated VPN.

Safe@Office 500W supports the latest 802.11g standard (up to 54Mbps) and is backwards compatible with the older 802.11b standard (up to 11Mbps), so that both new and old adapters of these standards are interoperable. Safe@Office 500W also supports a special Super G mode that allows reaching a throughput of up to 108Mbps with Super G compatible stations. For more information on the Super G mode refer to: http://www.super-ag.com.

Safe@Office 500W transmits in 2.4GHz range, using dual diversity antennas to increase the range. In addition, the Safe@Office 500W supports a special extended range (XR) mode that allows up to three times the range of a regular 802.11g access point. XR dramatically stretches the performance of a wireless LAN, by enabling long-range connections. The architecture delivers receive sensitivities of up to 105dBm, over 20 dB more than the 802.11 specification. This allows ranges of up to 300 meters indoors, and up to 1 km (3200 ft) outdoors, with XR-enabled wireless stations (actual range depends on environment).

Wireless Security Protocols

The Safe@Office wireless security appliance supports the following security protocols:

Table 23: Wireless Security Protocols

Security Protocol	Description
None	No security method is used. This option is not recommended, because it allows unauthorized users to access your WLAN network, although you can still limit access from the WLAN by creating firewall rules. This method is suitable for creating public access points.
WEP encryption	In the WEP (Wired Equivalent Privacy) encryption security method, wireless stations must use a pre-shared key to connect to your network. This method is not recommended, due to known security flaws in the WEP protocol. It is provided for compatibility with existing wireless deployments. Note: The appliance and the wireless stations must be configured with the same WEP key.
802.1X: RADIUS authentication, no encryption	In the 802.1x security method, wireless stations (supplicants) attempting to connect to the access point (authenticator) must first be authenticated by a RADIUS server (authentication server) which supports 802.1x . All messages are passed in EAP (Extensible Authentication Protocol). This method is recommended for situations in which you want to authenticate wireless users, but do not need to encrypt the data. Note: To use this security method, you must first configure a RADIUS server. See ***Using RADIUS Authentication.*** on page 372

Security Protocol	Description
WPA: RADIUS authentication, encryption	The WPA (Wi-Fi Protected Access) security method uses MIC (message integrity check) to ensure the integrity of messages, and TKIP (Temporal Key Integrity Protocol) to enhance data encryption. Furthermore, WPA includes 802.1x and EAP authentication, based on a central RADIUS authentication server. This method is recommended for situations where you want to authenticate wireless stations using a RADIUS server, and to encrypt the transmitted data. Note: To use this security method, you must first configure a RADIUS server which supports 802.1x. See ***Using RADIUS Authentication.*** on page 372
WPA-PSK: password authentication, encryption	The WPA-PSK security method is a variation of WPA that does not require an authentication server. WPA-PSK periodically changes and authenticates encryption keys. This is called *rekeying*. This option is recommended for small networks, which want to authenticate and encrypt wireless data, but do not want to install a RADIUS server. Note: The appliance and the wireless stations must be configured with the same passphrase.
WPA2 (802.11i)	The WPA2 security method uses the more secure Advanced Encryption Standard (AES) cipher, instead of the RC4 cipher used by WPA and WEP. When using WPA or WPA-PSK security methods, the Safe@Office enables you to restrict access to the WLAN network to wireless stations that support the WPA2 security method. If this setting is not selected, the Safe@Office appliance allows clients to connect using both WPA and WPA2.

Note: For increased security, it is recommended to enable the Safe@Office internal VPN Server for users connecting from your internal networks, and to install SecuRemote on each computer in the WLAN. This ensures that all connections from the WLAN to the LAN are encrypted and authenticated. For information, see ***Internal VPN Server*** on page 308 and ***Setting Up Your Safe@Office Appliance as a VPN Server*** on page 309.

Manually Configuring a WLAN

500W

To manually configure a WLAN network

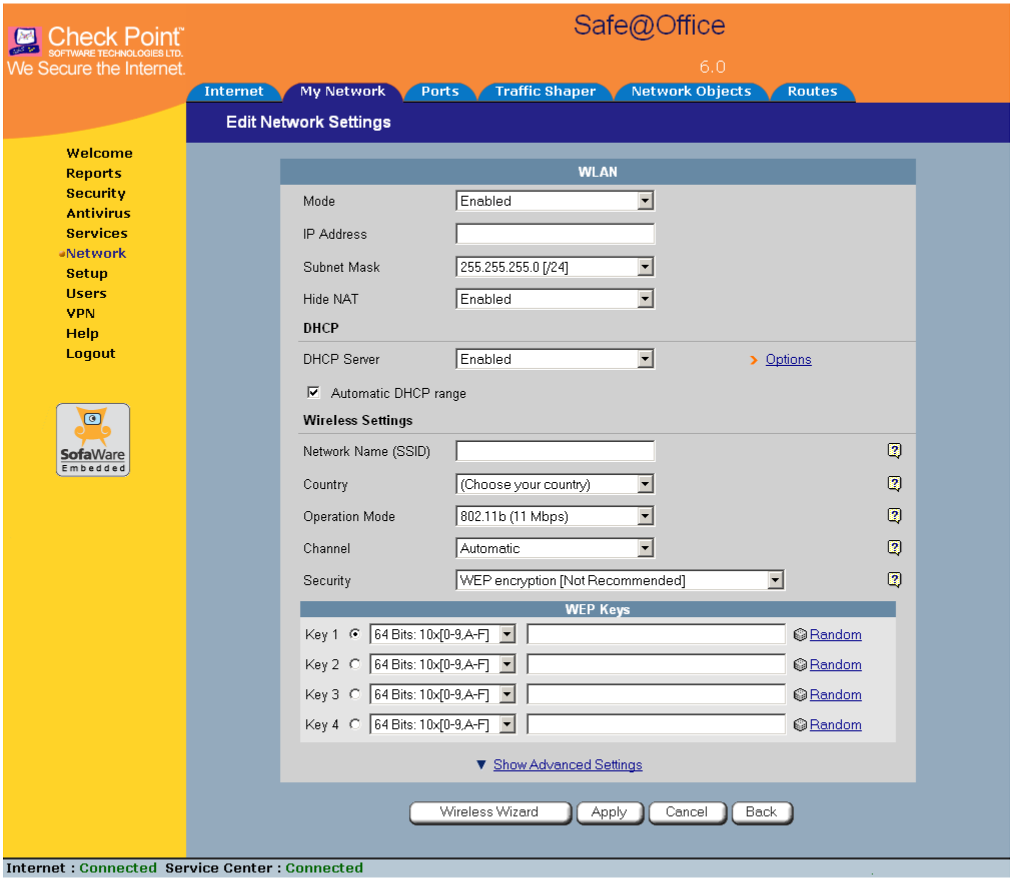
1. Prepare the appliance for a wireless connection as described in ***Network Installation*** on page 37.
2. If you want to use 802.1X or WPA security mode for the WLAN, configure a RADIUS server.

   For information on security modes, see ***Basic WLAN Settings Fields*** on page 170.

   For information on configuring RADIUS servers, see ***Using RADIUS Authentication*** on page 372.
3. Click **Network** in the main menu, and click the **My Network** tab.

   The **My Network** page appears.
4. In the WLAN network's row, click **Edit**.

The **Edit Network Settings** page appears.



Edit Network Settings

WLAN

Mode	Enabled
IP Address	
Subnet Mask	255.255.255.0 [/24]
Hide NAT	Enabled

DHCP

DHCP Server	Enabled	Options

☑ Automatic DHCP range

Wireless Settings

Network Name (SSID)	
Country	(Choose your country)
Operation Mode	802.11b (11 Mbps)
Channel	Automatic
Security	WEP encryption [Not Recommended]

WEP Keys

Key 1	●	64 Bits: 10x[0-9,A-F]		Random
Key 2	○	64 Bits: 10x[0-9,A-F]		Random
Key 3	○	64 Bits: 10x[0-9,A-F]		Random
Key 4	○	64 Bits: 10x[0-9,A-F]		Random

▼ Show Advanced Settings

Internet : Connected Service Center : Connected

5. In the **Mode** drop-down list, select **Enabled**.

   The fields are enabled.

6. If desired, enable or disable Hide NAT.

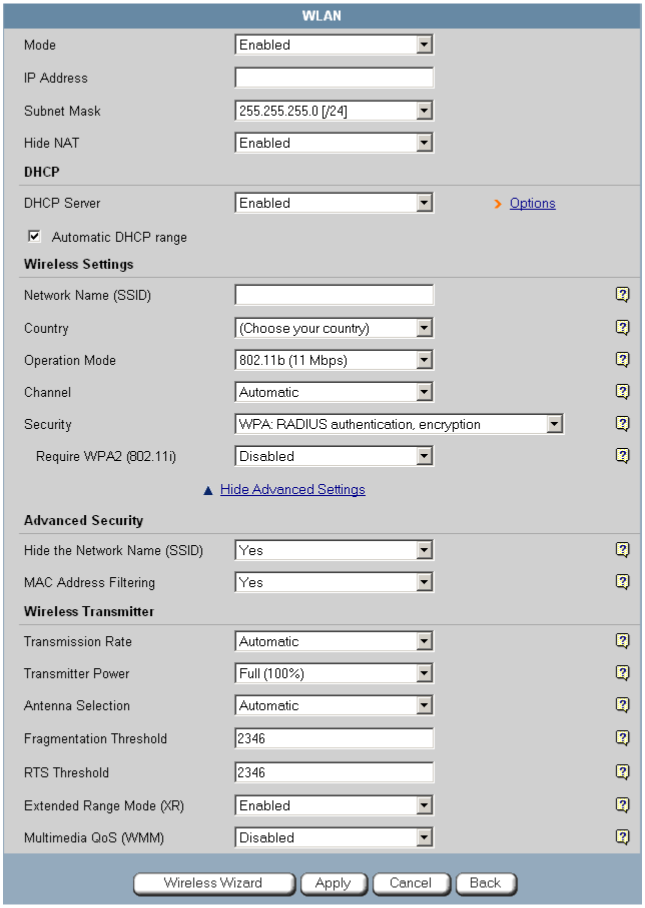
   See ***Enabling/Disabling Hide NAT*** on page 109.

7. If desired, configure a DHCP server.

   See ***Configuring a DHCP Server*** on page 96.

8. Complete the fields using the information in *Basic WLAN Settings Fields* on page 170.
9. To configure advanced settings, click Show Advanced Settings and complete the fields using the information in *Advanced WLAN Settings Fields* on page 174.

   New fields appear.



WLAN

Mode	Enabled
IP Address	
Subnet Mask	255.255.255.0 [/24]
Hide NAT	Enabled
DHCP	
DHCP Server	Enabled
☑ Automatic DHCP range	
Wireless Settings	
Network Name (SSID)	
Country	(Choose your country)
Operation Mode	802.11b (11 Mbps)
Channel	Automatic
Security	WPA: RADIUS authentication, encryption
Require WPA2 (802.11i)	Disabled
Advanced Security	
Hide the Network Name (SSID)	Yes
MAC Address Filtering	Yes
Wireless Transmitter	
Transmission Rate	Automatic
Transmitter Power	Full (100%)
Antenna Selection	Automatic
Fragmentation Threshold	2346
RTS Threshold	2346
Extended Range Mode (XR)	Enabled
Multimedia QoS (WMM)	Disabled

10. Click Apply.

    A warning message appears, telling you that you are about to change your network settings.

11. Click OK.

    A success message appears.

12. Prepare the wireless stations.

    See ***Preparing the Wireless Stations*** on page 184.

Table 24: WLAN Settings Fields

In this field...	Do this...
IP Address	Type the IP address of the WLAN network's default gateway. Note: The WLAN network must not overlap other networks.
Subnet Mask	Type the WLAN's internal network range.
Wireless Settings	
Network Name (SSID)	Type the network name (SSID) that identifies your wireless network. This name will be visible to wireless stations passing near your access point, unless you enable the Hide the Network Name (SSID) option. It can be up to 32 alphanumeric characters long and is case-sensitive.
Country	Select the country where you are located. Warning: Choosing an incorrect country may result in the violation of government regulations.

In this field…	Do this…
Operation Mode	Select an operation mode: • **802.11b (11Mbps)**. Operates in the 2.4 GHz range and offers a maximum theoretical rate of 11 Mbps. When using this mode, only 802.11b stations will be able to connect. • **802.11g (54 Mbps)**. Operates in the 2.4 GHz range, and offers a maximum theoretical rate of 54 Mbps. When using this mode, only 802.11g stations will be able to connect. • **802.11b/g (11/54 Mbps)**. Operates in the 2.4 GHz range, and offers a maximum theoretical rate of 54 Mbps. When using this mode, both 802.11b stations and 802.11g stations will be able to connect. • **802.11g Super (108 Mbps)**. Operates in the 2.4 GHz range, and offers a maximum theoretical rate of 108 Mbps. When using this mode, only 802.11g Super stations will be able to connect. • **802.11g Super (11/54/108)**. Operates in the 2.4 GHz range, and offers a maximum theoretical rate of 108 Mbps. When using this mode, 802.11b stations, 802.11g stations, and 802.11g Super stations will all be able to connect. Each operation mode indicates a wireless protocol (such as 802.11g Super), followed by the maximum bandwidth (such as 108 Mbps). The list of modes is dependent on the selected country. You can prevent older wireless stations from slowing down your network, by choosing an operation mode that restricts access to newer wireless stations. **Note:** The actual data transfer speed is usually significantly lower than the maximum theoretical bandwidth and degrades with distance. **Important:** The station wireless cards must support the selected operation mode. For a list of cards supporting 802.11g Super, refer to http://www.super-ag.com.

In this field...	Do this...
Channel	Select the radio frequency to use for the wireless connection: • Automatic. The Safe@Office appliance automatically selects a channel. This is the default. • A specific channel. The list of channels is dependent on the selected country and operation mode. Note: If there is another wireless network in the vicinity, the two networks may interfere with one another. To avoid this problem, the networks should be assigned channels that are at least 25 MHz (5 channels) apart. Alternatively, you can reduce the transmission power.
Security	Select the security protocol to use. For information on the supported security protocols, see ***Wireless Security Protocols*** on page 165. If you select WEP encryption, the WEP Keys area opens. If you select WPA, the Require WPA2 (802.11i) field appears. If you select WPA-PSK, the Passphrase and Require WPA2 (802.11i) fields appear.
Passphrase	Type the passphrase for accessing the network, or click Random to randomly generate a passphrase. This must be between 8 and 63 characters. It can contain spaces and special characters, and is case-sensitive. For the highest security, choose a long passphrase that is hard to guess, or use the Random button. Note: The wireless stations must be configured with this passphrase as well.

In this field...	Do this...
Require WPA2 (802.11i)	Specify whether you want to require wireless stations to connect using WPA2, by selecting one of the following: • **Enable**. Only wireless stations using WPA2 can access the WLAN network. • **Disable**. Wireless stations using either WPA or WPA2 can access the WLAN network. This is the default.
WEP Keys	If you selected **WEP encryption**, you must configure at least one WEP key. The wireless stations must be configured with the same key, as well.
Key 1, 2, 3, 4 radio button	Click the radio button next to the WEP key that this gateway should use for transmission. The selected key must be entered in the same key slot (1-4) on the station devices, but the key need not be selected as the transmit key on the stations. **Note**: You can use all four keys to receive data.
Key 1, 2, 3, 4 length	Select the WEP key length from the drop-down list. The possible key lengths are: • **64 Bits**. The key length is 10 characters. • **128 Bits**. The key length is 26 characters. • **152 Bits**. The key length is 32 characters. **Note**: Some wireless card vendors call these lengths 40/104/128, respectively. **Note**: WEP is generally considered to be insecure, regardless of the selected key length.

In this field…	Do this…
Key 1, 2, 3, 4 text box	Type the WEP key, or click Random to randomly generate a key matching the selected length. The key is composed of hexadecimal characters 0-9 and A-F, and is not case-sensitive.

Table 25: Advanced WLAN Settings Fields

In this field…	Do this…
Advanced Security	
Hide the Network Name (SSID)	Specify whether you want to hide your network's SSID, by selecting one of the following: • Yes. Hide the SSID. Only devices to which your SSID is known can connect to your network. • No. Do not hide the SSID. Any device within range can detect your network name using the wireless network discovery features of some products, such as Microsoft Windows XP, and attempt to connect to your network. This is the default. Note: Hiding the SSID does not provide strong security, because by a determined attacker can still discover your SSID. Therefore, it is not recommended to rely on this setting alone for security.

In this field…	Do this…
MAC Address Filtering	Specify whether you want to enable MAC address filtering, by selecting one of the following: • Yes. Enable MAC address filtering. Only MAC addresses that you added as network objects can connect to your network. For information on network objects, see ***Using Network Objects*** on page 131. • No. Disable MAC address filtering. This is the default. Note: MAC address filtering does not provide strong security, since MAC addresses can be spoofed by a determined attacker. Therefore, it is not recommended to rely on this setting alone for security.
Wireless Transmitter	
Transmission Rate	Select the transmission rate: • Automatic. The Safe@Office appliance automatically selects a rate. This is the default. • A specific rate
Transmitter Power	Select the transmitter power. Setting a higher transmitter power increases the access point's range. A lower power reduces interference with other access points in the vicinity. The default value is Full. It is not necessary to change this value, unless there are other access points in the vicinity.

In this field…	Do this…
Antenna Selection	Multipath distortion is caused by the reflection of Radio Frequency (RF) signals traveling from the transmitter to the receiver along more than one path. Signals that were reflected by some surface reach the receiver after non-reflected signals and distort them. Safe@Office appliances avoid the problems of multipath distortion by using an antenna diversity system. To provide antenna diversity, each wireless security appliance has two antennas. Specify which antenna to use for communicating with wireless stations: • Automatic. The Safe@Office appliance receives signals through both antennas and automatically selects the antenna with the lowest distortion signal to use for communicating. The selection is made on a per-station basis. This is the default. • ANT 1. The ANT 1antenna is always used for communicating. • ANT 2. The ANT 2 antenna is always used for communicating. Use manual diversity control (ANT 1 or ANT 2), if there is only one antenna connected to the appliance.
Fragmentation Threshold	Type the smallest IP packet size (in bytes) that requires that the IP packet be split into smaller fragments. If you are experiencing significant radio interference, set the threshold to a low value (around 1000), to reduce error penalty and increase overall throughput. Otherwise, set the threshold to a high value (around 2000), to reduce overhead. The default value is 2346.

In this field…	Do this…
RTS Threshold	Type the smallest IP packet size for which a station must send an RTS (Request To Send) before sending the IP packet. If multiple wireless stations are in range of the access point, but not in range of each other, they might send data to the access point simultaneously, thereby causing data collisions and failures. RTS ensures that the channel is clear before the each packet is sent. If your network is congested, and the users are distant from one another, set the RTS threshold to a low value (around 500). Setting a value equal to the fragmentation threshold effectively disables RTS. The default value is 2346.
Extended Range Mode (XR)	Specify whether to use Extended Range (XR) mode: • Disabled. XR mode is disabled. • Enabled. XR mode is enabled. XR will be automatically negotiated with XR-enabled wireless stations and used as needed. This is the default. For more information on XR mode, see ***About the Wireless Hardware in Your Safe@Office 500W Appliance*** on page 164.
Multimedia QoS (WMM)	Specify whether to use the Wireless Multimedia (WMM) standard to prioritize traffic from WMM-compliant multimedia applications: • Disabled. WMM is disabled. This is the default. • Enabled. WMM is enabled. The Safe@Office appliance will prioritize multimedia traffic according to four access categories (Voice, Video, Best Effort, and Background). This allows for smoother streaming of voice and video when using WMM aware applications.

Using the Wireless Configuration Wizard

500W

The Wireless Configuration Wizard provides a quick and simple way of setting up your basic WLAN parameters for the first time.

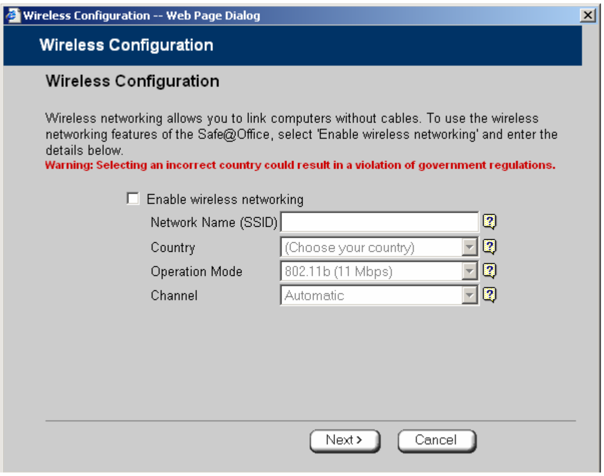
To configure a WLAN using the Wireless Configuration Wizard

1. Prepare the appliance for a wireless connection as described in ***Network Installation*** on page 37.
2. Click Network in the main menu, and click the My Network tab.

   The My Network page appears.
3. In the WLAN network's row, click Edit.

   The Edit Network Settings page appears.
4. Click Wireless Wizard.

   The Wireless Configuration Wizard opens, with the Wireless Configuration dialog box displayed.



Wireless Configuration -- Web Page Dialog

Wireless Configuration

Wireless Configuration

Wireless networking allows you to link computers without cables. To use the wireless networking features of the Safe@Office, select 'Enable wireless networking' and enter the details below.

Warning: Selecting an incorrect country could result in a violation of government regulations.

☐ Enable wireless networking

Network Name (SSID)

Country: (Choose your country)

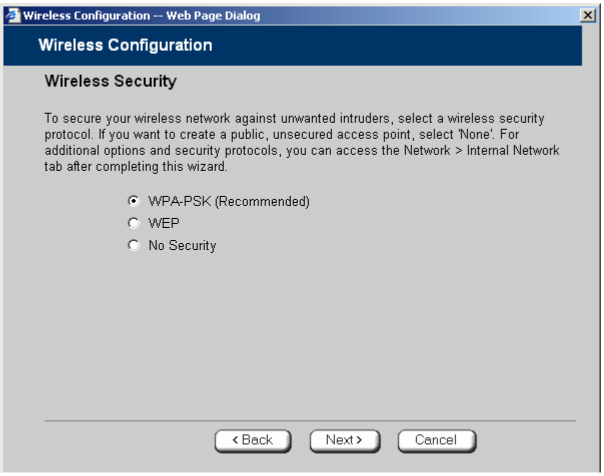
Operation Mode: 802.11b (11 Mbps)

Channel: Automatic

5. Select the Enable wireless networking check box to enable the WLAN.

The fields are enabled.

6. Complete the fields using the information in ***Basic WLAN Settings Fields*** on page 170.
7. Click Next.
8. The Wireless Security dialog box appears.



Wireless Security

To secure your wireless network against unwanted intruders, select a wireless security protocol. If you want to create a public, unsecured access point, select 'None'. For additional options and security protocols, you can access the Network > Internal Network tab after completing this wizard.

● WPA-PSK (Recommended)
○ WEP
○ No Security

9. Do one of the following:

- Click WPA-PSK to use the WPA-PSK security mode.

  WPA-PSK periodically changes and authenticates encryption keys. This is a recommended security mode for small, private wireless networks, which want to authenticate and encrypt wireless data but do not want to install a RADIUS server. Both WPA and the newer, more secure WPA2 (802.11i) will be accepted.

- Click WEP to use the WEP security mode.

  Using WEP, wireless stations must use a pre-shared key to connect to your network. WEP is widely known to be insecure, and is supported mainly for compatibility with existing networks and stations that do not support other methods.

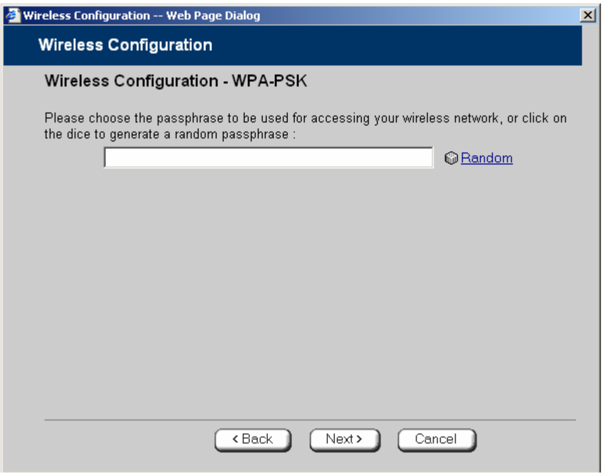
- Click **No Security** to use no security to create a public, unsecured access point.

Note: You cannot configure WPA and 802.1x using this wizard. For information on configuring these modes, see ***Manually Configuring a WLAN*** on page 167.

10. Click **Next.**

WPA-PSK

If you chose **WPA-PSK**, the **Wireless Configuration-WPA-PSK** dialog box appears.



Wireless Configuration -- Web Page Dialog

Wireless Configuration

Wireless Configuration - WPA-PSK

Please choose the passphrase to be used for accessing your wireless network, or click on the dice to generate a random passphrase :

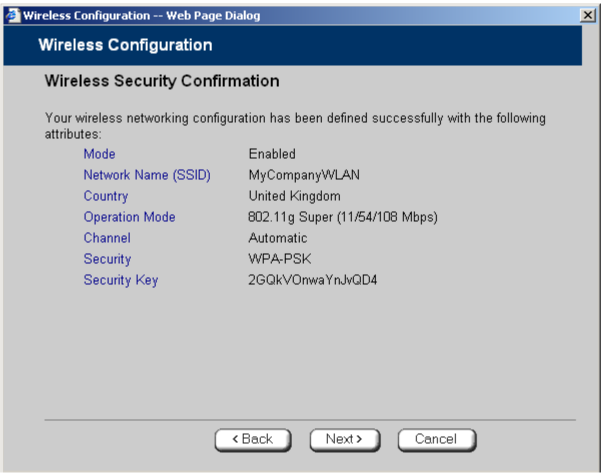
Do the following:

1. In the text box, type the passphrase for accessing the network, or click **Random** to randomly generate a passphrase.

   This must be between 8 and 63 characters. It can contain spaces and special characters, and is case-sensitive.

2. Click **Next.**

The **Wireless Security Confirmation** dialog box appears.

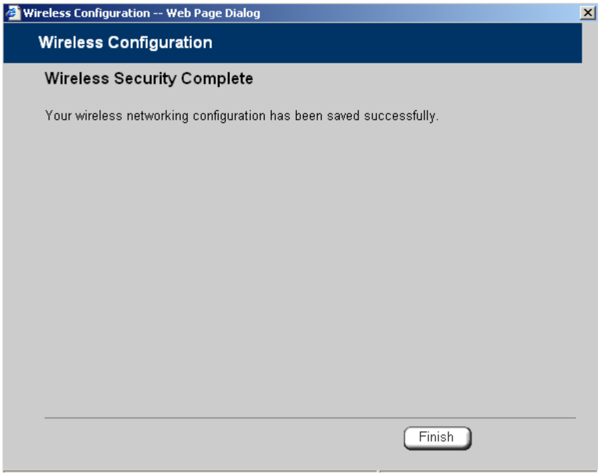


Wireless Security Confirmation

Your wireless networking configuration has been defined successfully with the following attributes:

Mode	Enabled
Network Name (SSID)	MyCompanyWLAN
Country	United Kingdom
Operation Mode	802.11g Super (11/54/108 Mbps)
Channel	Automatic
Security	WPA-PSK
Security Key	2GQkVOnwaYnJvQD4

3. Click **Next.**
4. The **Wireless Security Complete** dialog box appears.



Wireless Security Complete

Your wireless networking configuration has been saved successfully.

5. Click **Finish.**

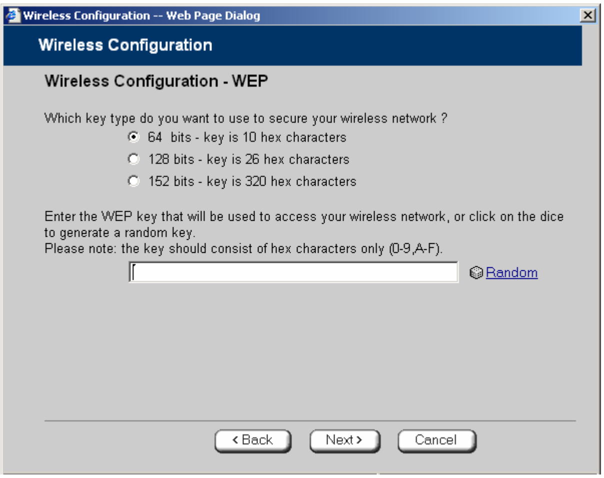
   The wizard closes.

6. Prepare the wireless stations.

See ***Preparing the Wireless Stations*** on page 184.

WEP

If you chose WEP, the Wireless Configuration-WEP dialog box appears.



Wireless Configuration - WEP

Which key type do you want to use to secure your wireless network ?

● 64 bits - key is 10 hex characters
○ 128 bits - key is 26 hex characters
○ 152 bits - key is 320 hex characters

Enter the WEP key that will be used to access your wireless network, or click on the dice to generate a random key.
Please note: the key should consist of hex characters only (0-9,A-F).

Random

Do the following:

1. Choose a WEP key length.

   The possible key lengths are:

   - 64 Bits - The key length is 10 hexadecimal characters.
   - 128 Bits - The key length is 26 hexadecimal characters.
   - 152 Bits - The key length is 32 hexadecimal characters.

   Some wireless card vendors call these lengths 40/104/128, respectively.

   Note that WEP is generally considered to be insecure, regardless of the selected key length.

2. In the text box, type the WEP key, or click Random to randomly generate a key matching the selected length.

   The key is composed of characters 0-9 and A-F, and is not case-sensitive. The wireless stations must be configured with this same key.

3. Click **Next.**

   The **Wireless Security Confirmation** dialog box appears.

4. Click **Next.**

   The **Wireless Security Complete** dialog box appears.

5. Click **Finish.**

   The wizard closes.

6. Prepare the wireless stations.

   See ***Preparing the Wireless Stations*** on page 184.

No Security

The **Wireless Security Complete** dialog box appears.

- Click **Finish.**

  The wizard closes.

Preparing the Wireless Stations

500W

After you have configured a WLAN, the wireless stations must be prepared for connection to the WLAN.

To prepare the wireless stations

1. If you selected the WEP security mode, give the WEP key to the wireless stations' administrators.
2. If you selected the WPA-PSK security mode, give the passphrase to the wireless stations' administrator.
3. The wireless stations' administrators should configure the wireless stations and connect them to the WLAN.

   Refer to the wireless cards' documentation for details.

Note: Some wireless cards have "Infrastructure" and "Ad-hoc" modes. These modes are also called "Access Point" and "Peer to Peer". Choose the "Infrastructure" or "Access Point" mode.
You can set the wireless cards to either "Long Preamble" or "Short Preamble".

Note: The wireless cards' region and the Safe@Office appliance's region must both match the region of the world where you are located. If you purchased your Safe@Office appliance in a different region, contact technical support.

Troubleshooting Wireless Connectivity

I cannot connect to the WLAN from a wireless station. What should I do?

- Check that the SSID configured on the station matches the Safe@Office appliance's SSID. The SSID is case-sensitive.
- Check that the encryption settings configured on the station (encryption mode and keys) match the Safe@Office appliance's encryption settings.
- If MAC filtering is enabled, verify that the MAC address of all stations is listed in the Network Objects page (see ***Viewing and Deleting Network Objects*** on page 140).

How do I test wireless reception?

- Look at the Wireless page, and check for excessive errors or dropped packets.
- Look at the Active Computers page, to see information for specific wireless stations, such as the number of transmission errors, and the current reception power of each station.
- On the wireless station, open a command window and type ping my.firewall. If you see a large number of dropped packets, you are experiencing poor reception.

Wireless reception is poor. What should I do?

- Adjust the angle of the antennas, until the reception improves. The antennas radiate horizontally in all directions.
- If both antennas are connected to the Safe@Office appliance, check that the Antenna Selection parameter in the WLAN's advanced settings is set to Automatic (see ***Manually Configuring a WLAN*** on page 167).
- Relocate the Safe@Office appliance to a place with better reception, and avoid obstructions, such as walls and electrical equipment. For example, try mounting the appliance in a high place with a direct line of sight to the wireless stations.
- Check for interference with nearby electrical equipment, such as microwave ovens and cordless or cellular phones.

- Check the Transmission Power parameter in the WLAN's advanced settings (see ***Manually Configuring a WLAN*** on page 167).
- Make sure that you are not using two access points in close proximity and on the same frequency. For minimum interference, channel separation between nearby access points must be at least 25 MHz (5 channels).
- The Safe@Office appliance supports XR (Extended Range) technology. For best range, enable XR mode in the WLAN's advanced settings (see ***Manually Configuring a WLAN*** on page 167), and use XR-enabled stations.
- Range outdoors is normally much higher than indoors, depending on environmental conditions.

Note: You can observe any changes in the wireless reception in the Active Computers page. Make sure to refresh the page after making a change.

Note: Professional companies are available for help in setting up reliable wireless networks, with access to specialized testing equipment and procedures.

There are excessive collisions between wireless stations. What should I do?

If you have many concurrently active wireless stations, there may be collisions between them. Such collisions may be the result of a "hidden node" problem: not all of the stations are within range of each other, and therefore are "hidden" from one another. For example, if station A and station C do not detect each other, but both stations detect and are detected by station B, then both station A and C may attempt to send packets to station B simultaneously. In this case, the packets will collide, and Station B will receive corrupted data.

The solution to this problem lies in the use of the RTS protocol. Before sending a certain size IP packet, a station sends an RTS (Request To Send) packet. If the recipient is not currently receiving packets from another source, it sends back a CTS (Clear To Send) packet, indicating that the station can send the IP packet. Try setting the RTS Threshold parameter in the WLAN's advanced settings (see ***Manually Configuring a WLAN*** on page 167) to a lower value. This will cause stations to use RTS for smaller IP packets, thus decreasing the likeliness of collisions.

In addition, try setting the Fragmentation Threshold parameter in the WLAN's advanced settings (see ***Manually Configuring a WLAN*** on page 167) to a lower value. This will cause stations to fragment IP packets of a certain size into smaller packets, thereby reducing the likeliness of collisions and increasing network speed.

Note: Reducing the RTS Threshold and the Fragmentation Threshold too much can have a negative impact on performance.

Note: Setting an RTS Threshold value equal to the Fragmentation Threshold value effectively disables RTS.

I am not getting the full speed. What should I do?

- The actual speed is always less then the theoretical speed, and degrades with distance.
- Read the section about reception problems. Better reception means better speed.
- Check that all your wireless stations support the wireless standard you are using (802.11g or 802.11g Super), and that this standard is enabled in the station software. Transmission speed is determined by the slowest station associated with the access point. For a list of wireless stations that support 802.11g Super, see www.super-ag.com.

Chapter 8

Viewing Reports

This chapter describes the Safe@Office Portal reports.

This chapter includes the following topics:

Viewing the Event Log

500

You can track network activity using the Event Log. The Event Log displays the most recent events and color-codes them.

Table 26: Event Log Color Coding

An event marked in this color…	Indicates…
Blue	Changes in your setup that you have made yourself or as a result of a security update implemented by your Service Center.
Red	Connection attempts that were blocked by your firewall.
Orange	Connection attempts that were blocked by your custom security rules.

An event marked in this color...	Indicates...
Green	Traffic accepted by the firewall. By default, accepted traffic is not logged. However, such traffic may be logged if specified by a security policy downloaded from your Service Center, or if specified in user-defined rules.

You can create firewall rules specifying that certain types of connections should be logged, whether the connections are incoming or outgoing, blocked or accepted. For information, see ***Using Rules*** on page 211.

The logs detail the date and the time the event occurred, and its type. If the event is a communication attempt that was rejected by the firewall, the event details include the source and destination IP address, the destination port, and the protocol used for the communication attempt (for example, TCP or UDP). If the event is a connection made or attempted over a VPN tunnel, the event is marked by a lock icon in the VPN column.

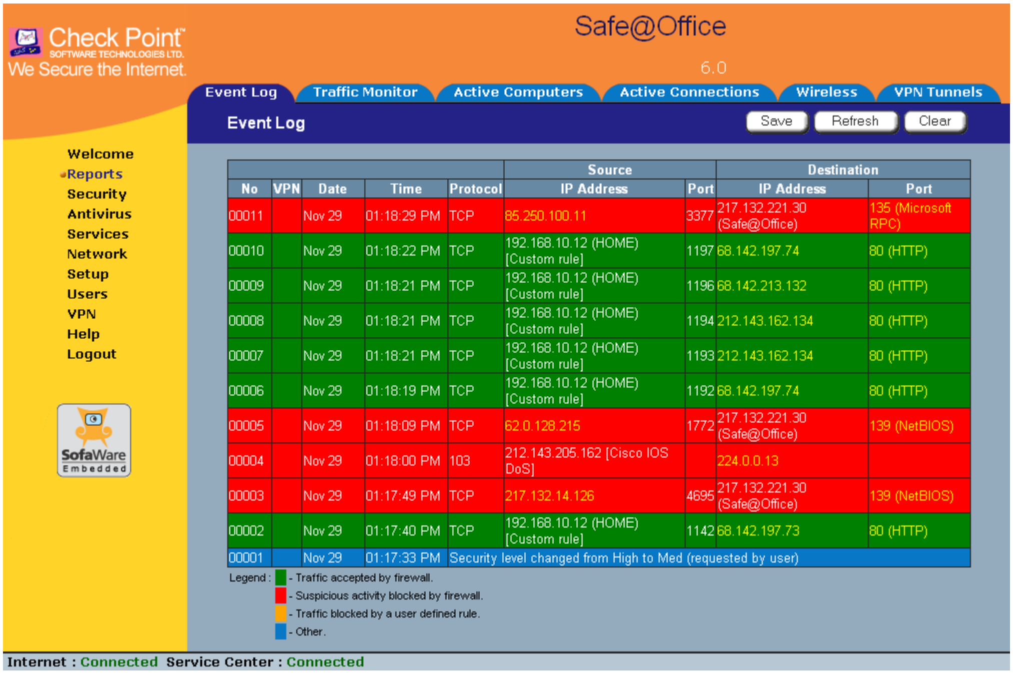
This information is useful for troubleshooting. You can export the logs to an *.xls (Microsoft Excel) file, and then store it for analysis purposes or send it to technical support.

Note: You can configure the Safe@Office appliance to send event logs to a Syslog server. For information, see ***Configuring Syslog Logging*** on page 388.

To view the event log

1. Click **Reports** in the main menu, and click the **Event Log** tab.

   The **Event Log** page appears.



					Source		Destination	
No	VPN	Date	Time	Protocol	IP Address	Port	IP Address	Port
00011		Nov 29	01:18:29 PM	TCP	85.250.100.11	3377	217.132.221.30 (Safe@Office)	135 (Microsoft RPC)
00010		Nov 29	01:18:22 PM	TCP	192.168.10.12 (HOME) [Custom rule]	1197	68.142.197.74	80 (HTTP)
00009		Nov 29	01:18:21 PM	TCP	192.168.10.12 (HOME) [Custom rule]	1196	68.142.213.132	80 (HTTP)
00008		Nov 29	01:18:21 PM	TCP	192.168.10.12 (HOME) [Custom rule]	1194	212.143.162.134	80 (HTTP)
00007		Nov 29	01:18:21 PM	TCP	192.168.10.12 (HOME) [Custom rule]	1193	212.143.162.134	80 (HTTP)
00006		Nov 29	01:18:19 PM	TCP	192.168.10.12 (HOME) [Custom rule]	1192	68.142.197.74	80 (HTTP)
00005		Nov 29	01:18:09 PM	TCP	62.0.128.215	1772	217.132.221.30 (Safe@Office)	139 (NetBIOS)
00004		Nov 29	01:18:00 PM	103	212.143.205.162 [Cisco IOS DoS]		224.0.0.13	
00003		Nov 29	01:17:49 PM	TCP	217.132.14.126	4695	217.132.221.30 (Safe@Office)	139 (NetBIOS)
00002		Nov 29	01:17:40 PM	TCP	192.168.10.12 (HOME) [Custom rule]	1142	68.142.197.73	80 (HTTP)
00001		Nov 29	01:17:33 PM	Security level changed from High to Med (requested by user)				

Legend : 🟩 - Traffic accepted by firewall.
🟥 - Suspicious activity blocked by firewall.
🟧 - Traffic blocked by a user defined rule.
🟦 - Other.

Internet : Connected Service Center : Connected

2. If an event is highlighted in red, indicating a blocked attack on your network, you can display the attacker's details, by clicking on the IP address of the attacking machine.

   The Safe@Office appliance queries the Internet WHOIS server, and a window displays the name of the entity to whom the IP address is registered and their contact information. This information is useful in tracking down hackers.

3. To refresh the display, click **Refresh**.

4. To save the displayed events to an *.xls file:

   a. Click **Save**.

A standard **File Download** dialog box appears.

b. Click **Save**.

The **Save As** dialog box appears.

c. Browse to a destination directory of your choice.

d. Type a name for the configuration file and click **Save**.

The *.xls file is created and saved to the specified directory.

5. To clear all displayed events:

a. Click **Clear**.

A confirmation message appears.

b. Click **OK**.

All events are cleared.

Using the Traffic Monitor

500

You can view incoming and outgoing traffic for selected network interfaces and QoS classes using the Traffic Monitor. This enables you to identify network traffic trends and anomalies, and to fine tune Traffic Shaper QoS class assignments.

The Traffic Monitor displays separate bar charts for incoming traffic and outgoing traffic, and displays traffic rates in kilobits/second. If desired, you can change the number of seconds represented by the bars in the charts, using the procedure ***Configuring Traffic Monitor Settings*** on page 195.

In network traffic reports, the traffic is color-coded as described in the table below. In the All QoS Classes report, the traffic is color-coded by QoS class.

Table 27: Traffic Monitor Color Coding for Networks

Traffic marked in this color…	Indicates…
Blue	VPN-encrypted traffic
Red	Traffic blocked by the firewall
Green	Traffic accepted by the firewall

You can export a detailed traffic report for all enabled networks and all defined QoS classes, using the procedure ***Exporting General Traffic Reports*** on page 196.

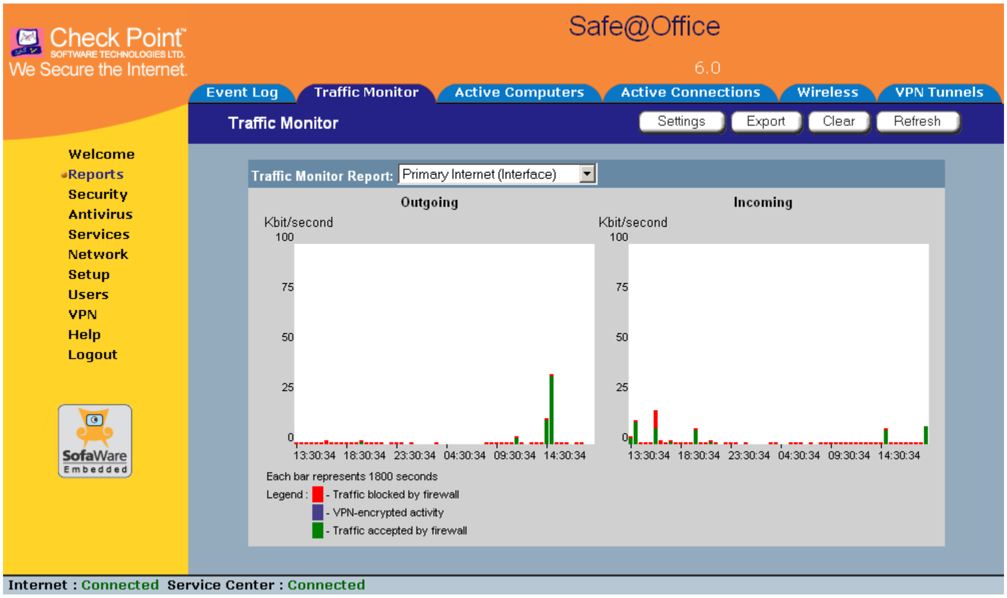
Viewing Traffic Reports

500

To view a traffic report

1. Click Reports in the main menu, and click the Traffic Monitor tab.

The **Traffic Monitor** page appears.



Traffic Monitor Report: Primary Internet (Interface)

Each bar represents 1800 seconds

Legend : 🟥 - Traffic blocked by firewall
▨ - VPN-encrypted activity
🟩 - Traffic accepted by firewall

Internet : Connected Service Center : Connected

2. In the **Traffic Monitor Report** drop-down list, select the network interface for which you want to view a report.

   The list includes all currently enabled networks. For example, if the DMZ network is enabled, it will appear in the list.

   If Traffic Shaper is enabled, the list also includes the defined QoS classes. Choose **All QoS Classes** to display a report including all QoS classes. For information on enabling Traffic Shaper see ***Using Internet Setup*** on page 65.

   The selected report appears in the **Traffic Monitor** page.

3. To refresh all traffic reports, click **Refresh**.

4. To clear all traffic reports, click **Clear**.

Note: The firewall blocks broadcast packets used during the normal operation of your network. This may lead to a certain amount of traffic of the type "Traffic blocked by firewall" that appears under normal circumstances and usually does not indicate an attack.

Configuring Traffic Monitor Settings

500

You can configure the interval at which the Safe@Office appliance should collect traffic data for network traffic reports.

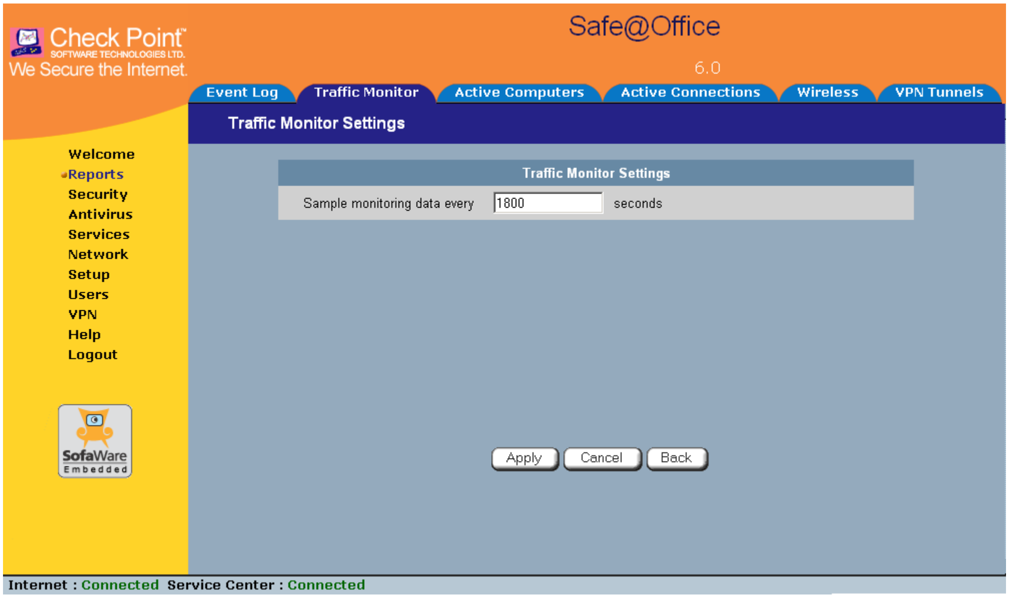
To configure Traffic Monitor settings

1. Click **Reports** in the main menu, and click the **Traffic Monitor** tab.

   The **Traffic Monitor** page appears.

2. Click **Settings**.

   The **Traffic Monitor Settings** page appears.



Traffic Monitor Settings

Traffic Monitor Settings

Sample monitoring data every 1800 seconds

Internet : Connected Service Center : Connected

3. In the **Sample monitoring data every** field, type the interval (in seconds) at which the Safe@Office appliance should collect traffic data.

   The default value is one sample every 1800 seconds (30 minutes).

4. Click **Apply**.

Exporting General Traffic Reports

500

You can export a general traffic report that includes information for all enabled networks and all defined QoS classes to a *.csv (Comma Separated Values) file. You can open and view the file in Microsoft Excel.

To export a general traffic report

1. Click Reports in the main menu, and click the Traffic Monitor tab.

   The Traffic Monitor page appears.

2. Click Export.

   A standard File Download dialog box appears.

3. Click Save.

   The Save As dialog box appears.

4. Browse to a destination directory of your choice.
5. Type a name for the configuration file and click Save.

   A *.csv file is created and saved to the specified directory.

Viewing Computers

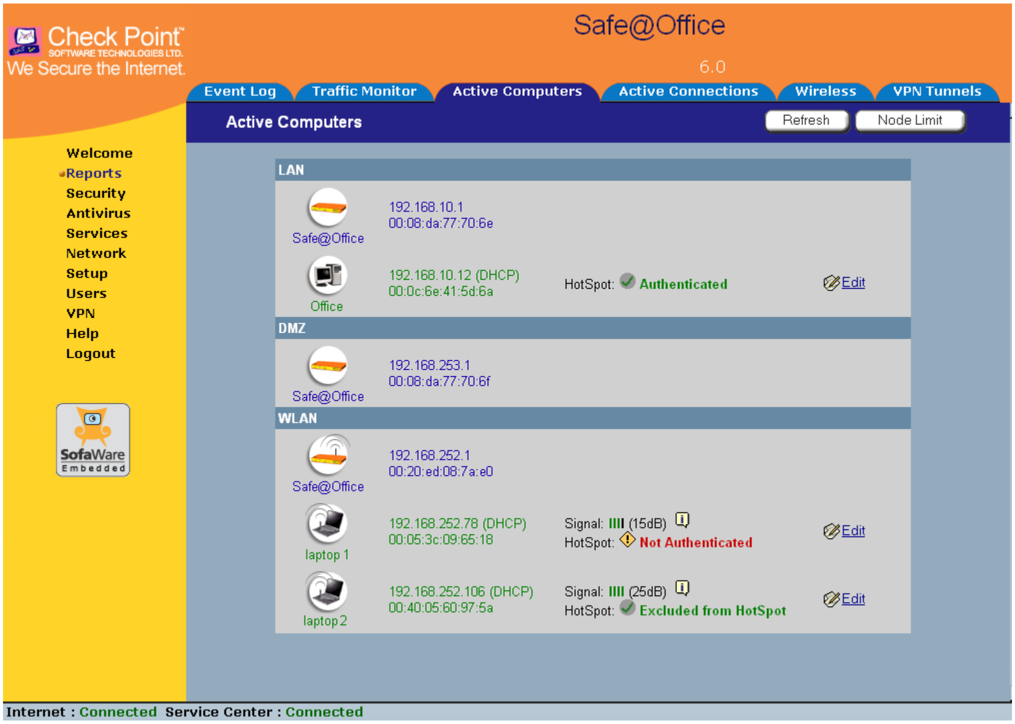
500

This option allows you to view the currently active computers on your network. The active computers are graphically displayed, each with its name, IP address, and settings (DHCP, Static, etc.). You can also view node limit information.

To view the active computers

1. Click Reports in the main menu, and click the Active Computers tab.

The **Active Computers** page appears.



Active Computers

LAN

Safe@Office 192.168.10.1 00:08:da:77:70:6e

Office 192.168.10.12 (DHCP) 00:0c:6e:41:5d:6a HotSpot: ✓ Authenticated Edit

DMZ

Safe@Office 192.168.253.1 00:08:da:77:70:6f

WLAN

Safe@Office 192.168.252.1 00:20:ed:08:7a:e0

laptop 1 192.168.252.78 (DHCP) 00:05:3c:09:65:18 Signal: IIII (15dB) HotSpot: Not Authenticated Edit

laptop2 192.168.252.106 (DHCP) 00:40:05:60:97:5a Signal: IIII (25dB) HotSpot: ✓ Excluded from HotSpot Edit

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If you configured High Availability, both the master and backup appliances are shown. If you configured OfficeMode, the OfficeMode network is shown.

If you are using Safe@Office 500W, the wireless stations are shown. For information on viewing statistics for these computers, see ***Viewing Wireless Statistics*** on page 200. If a wireless station has been blocked from accessing the Internet through the Safe@Office appliance, the reason why it was blocked is shown in red.

If you are exceeding the maximum number of computers allowed by your license, a warning message appears, and the computers over the node limit are marked in red. These computers are still protected, but they are blocked from accessing the Internet through the Safe@Office appliance.

If HotSpot mode is enabled for some networks, each computer's HotSpot status is displayed next to it. The possible statuses include:

- **Authenticated.** The computer is logged on to My HotSpot.
- **Not Authenticated.** The computer is not logged on to My HotSpot.
- **Excluded from HotSpot.** The computer is in an IP address range excluded from HotSpot enforcement. To enforce HotSpot, you must edit the network object. See ***Adding and Editing Network Objects*** on page 132.

Note: Computers that did not communicate through the firewall are not counted for node limit purposes, even though they are protected by the firewall.

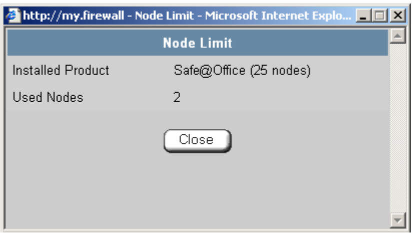
Note: To increase the number of computers allowed by your license, you can upgrade your product. For further information, see ***Upgrading Your Software Product*** on page 383.

Next to each computer, an **Add** button enables you to add a network object for the computer, or an **Edit** button enables you to edit an existing network object for the computer. For information on adding and editing network objects, see ***Adding and Editing Network Objects*** on page 132.

2. To refresh the display, click **Refresh**.
3. To view node limit information, do the following:

   a. Click **Node Limit**.

   The **Node Limit** window appears with installed software product and the number of nodes used.


http://my.firewall - Node Limit - Microsoft Internet Explo...
Close

Node Limit

Installed Product	Safe@Office (25 nodes)
Used Nodes	2

   b. Click **Close** to close the window.

Viewing Connections

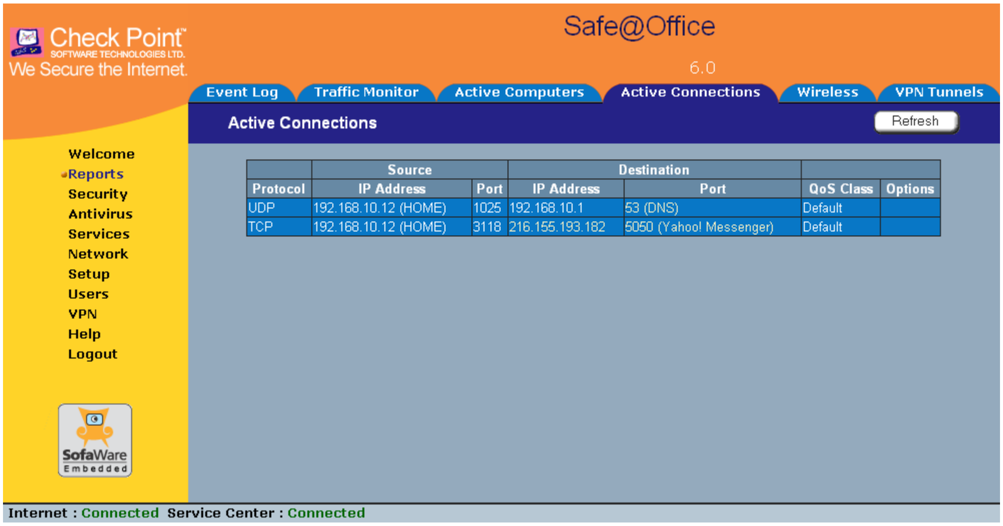
500

This option allows you to view the currently active connections between your network and the external world.

To view the active connections

1. Click **Reports** in the main menu, and click the **Active Connections** tab.

   The **Active Connections** page appears.



	Source		Destination			
Protocol	IP Address	Port	IP Address	Port	QoS Class	Options
UDP	192.168.10.12 (HOME)	1025	192.168.10.1	53 (DNS)	Default	
TCP	192.168.10.12 (HOME)	3118	216.155.193.182	5050 (Yahoo! Messenger)	Default	

   The page displays the information in the table below.

2. To refresh the display, click **Refresh**.
3. To view information on the destination machine, click its IP address.

   The Safe@Office appliance queries the Internet WHOIS server, and a window displays the name of the entity to which the IP address is registered and their contact information.

4. To view information about a port, click the port.

   A window opens displaying information about the port.

Table 28: Active Connections Fields

This field…	Displays…
Protocol	The protocol used (TCP, UDP, etc.)
Source - IP Address	The source IP address
Source - Port	The source port
Destination - IP Address	The destination IP address
Destination -Port	The destination port
QoS Class	The QoS class to which the connection belongs
Options	An icon indicating further details: • 🔒 - The connection is encrypted. • ▭ - The connection is being scanned by VStream Antivirus.

Viewing Wireless Statistics

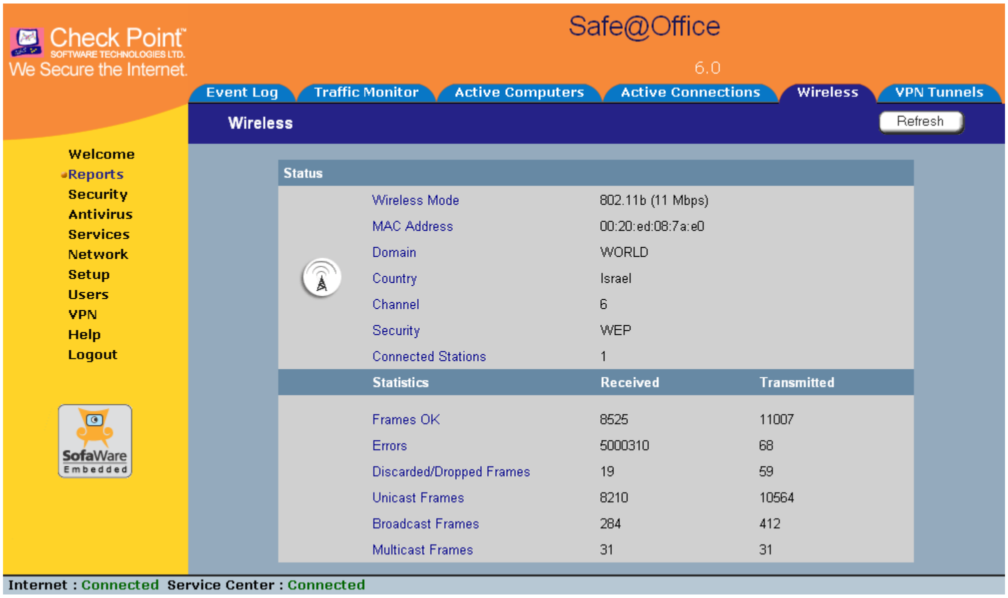
500W

If your WLAN is enabled, you can view wireless statistics for the WLAN or for individual wireless stations.

To view statistics for the WLAN

1. Click **Reports** in the main menu, and click the **Wireless** tab.

The **Wireless** page appears.



Status	
Wireless Mode	802.11b (11 Mbps)
MAC Address	00:20:ed:08:7a:e0
Domain	WORLD
Country	Israel
Channel	6
Security	WEP
Connected Stations	1

Statistics	Received	Transmitted
Frames OK	8525	11007
Errors	5000310	68
Discarded/Dropped Frames	19	59
Unicast Frames	8210	10564
Broadcast Frames	284	412
Multicast Frames	31	31

Internet : Connected Service Center : Connected

The page displays the information in the table below.

2. To refresh the display, click **Refresh**.

Table 29: WLAN Statistics

This field…	Displays…
Wireless Mode	The operation mode used by the WLAN, followed by the transmission rate in Mbps
MAC Address	The MAC address of the Safe@Office appliance's WLAN interface
Domain	The Safe@Office access point's region
Country	The country configured for the WLAN
Channel	The radio frequency used by the WLAN

This field...	Displays...
Security	The security mode used by the WLAN
Connected Stations	The number of wireless stations currently connected to the WLAN
Frames OK	The total number of frames that were successfully transmitted and received
Errors	The total number of transmitted and received frames for which an error occurred
Discarded/ Dropped Frames	The total number of discarded or dropped frames transmitted and received
Unicast Frames	The number of unicast frames transmitted and received
Broadcast Frames	The number of broadcast frames transmitted and received
Multicast Frames	The number of multicast frames transmitted and received

To view statistics for a wireless station

1. Click Reports in the main menu, and click the Active Computers tab.

   The Active Computers page appears.

   The following information appears next to each wireless station:

   - The signal strength in dB
   - A bar chart representing the signal strength

2. Mouse-over the information icon next to the wireless station.

   A tooltip displays displays statistics for the wireless station, as described in the table below.

3. To refresh the display, click **Refresh**.

Table 30: Wireless Station Statistics

This field...	Displays...
Current Rate	The current reception and transmission rate in Mbps
Frames OK	The total number of frames that were successfully transmitted and received
Errors	The total number of transmitted and received frames for which an error occurred
Discarded/ Dropped Frames	The total number of discarded or dropped frames transmitted and received
Unicast Frames	The number of unicast frames transmitted and received
Broadcast Frames	The number of broadcast frames transmitted and received
Multicast Frames	The number of multicast frames transmitted and received
WLAN Mode	The wireless client's operation mode, indicating the client's maximum speed. Possible values are B, G, and 108G. For more information, see ***Basic WLAN Settings Fields*** on page 170.
XR	Indicates whether the wireless client supports Extended Range (XR) mode. Possible values are: • **yes**. The wireless client supports XR mode. • **no**. The wireless client does not support XR mode.

This field…	Displays…
Cipher	The security protocol used for the connection with the wireless client. For more information, see ***Wireless Security Protocols*** on page 165.

Chapter 9

Setting Your Security Policy

This chapter describes how to set up your Safe@Office appliance security policy.

You can enhance your security policy by subscribing to services such as Web Filtering and Email Filtering. For information on subscribing to services, see ***Using Subscription Services*** on page 283.

This chapter includes the following topics:

Default Security Policy

The Safe@Office default security policy includes the following rules:

- Access is blocked from the WAN (Internet) to all internal networks (LAN, DMZ, WLAN, VLANs, and OfficeMode).
- Access is allowed from the internal networks to the WAN, according to the firewall security level (Low/Medium/High).
- Access is allowed from the LAN network to the other internal networks (DMZ, WLAN, VLANs, and OfficeMode).
- Access is blocked from the DMZ, WLAN, VLAN, and OfficeMode networks to the other internal networks, (including between different VLANs).
- HTTP access to the Safe@Office Portal (my.firewall and my.vpn) is allowed from all internal networks except the WLAN. The WLAN can only access the Safe@Office Portal using HTTPS, unless a specific user-defined rule allows this.
- When using the print server function (see ***Using Network Printers*** on page 427), access from internal networks to connected network printers is allowed.
- Access from the WAN to network printers is blocked.

These rules are independent of the firewall security level.

You can easily override the default security policy, by creating user-defined firewall rules. For further information, see ***Using Rules*** on page 211.

Setting the Firewall Security Level

500

The firewall security level can be controlled using a simple lever available on the Firewall page. You can set the lever to three states.

Table 31: Firewall Security Levels

This level…	Does this…	Further Details
Low	Enforces basic control on incoming connections, while permitting all outgoing connections.	All inbound traffic is blocked to the external Safe@Office appliance IP address, except for ICMP echoes ("pings"). All outbound connections are allowed.
Medium	Enforces strict control on all incoming connections, while permitting safe outgoing connections. This is the default level and is recommended for most cases. Leave it unchanged unless you have a specific need for a higher or lower security level.	All inbound traffic is blocked. All outbound traffic is allowed to the Internet except for Windows file sharing (NBT ports 137, 138, 139 and 445).
High	Enforces strict control on all incoming and outgoing connections.	All inbound traffic is blocked. Restricts all outbound traffic except for the following: Web traffic (HTTP, HTTPS), email (IMAP, POP3, SMTP), ftp, newsgroups, Telnet, DNS, IPSEC IKE and VPN traffic.

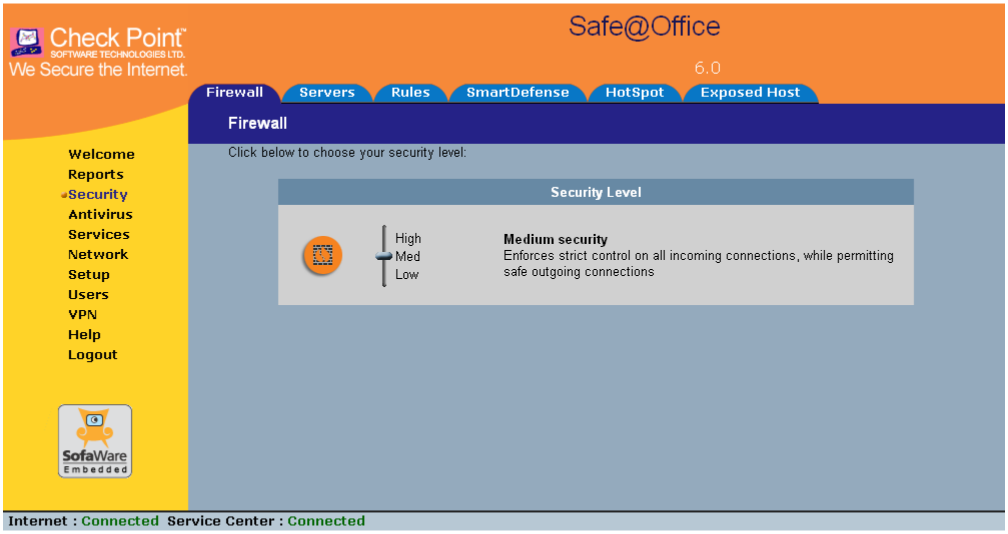
Note: If the security policy is remotely managed, this lever might be disabled.

Note: The definitions of firewall security levels provided in this table represent the Safe@Office appliance's default security policy. Security updates downloaded from a Service Center may alter this policy and change these definitions.

To change the firewall security level

1. Click **Security** in the main menu, and click the **Firewall** tab.

   The **Firewall** page appears.



Click below to choose your security level:

Security Level

Medium security
Enforces strict control on all incoming connections, while permitting safe outgoing connections

Internet : Connected Service Center : Connected

2. Drag the security lever to the desired level.

   The Safe@Office appliance security level changes accordingly.

Configuring Servers

500

Note: If you do not intend to host any public Internet servers (Web Server, Mail Server etc.) in your network, you can skip this section.

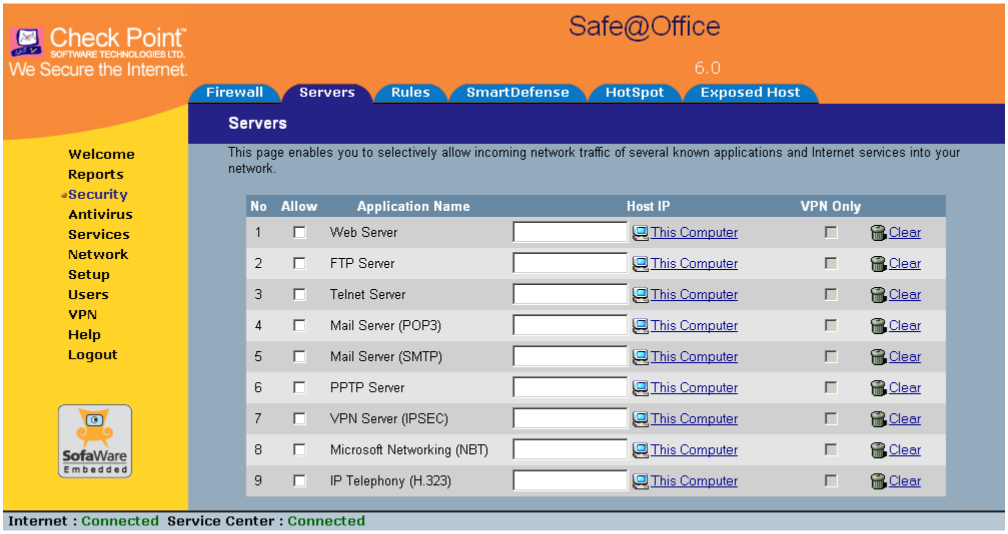
Using the Safe@Office Portal, you can selectively allow incoming network connections into your network. For example, you can set up your own Web server, Mail server or FTP server.

Note: Configuring servers allows you to create simple Allow and Forward rules for common services, and it is equivalent to creating Allow and Forward rules in the Rules page. For information on creating rules, see ***Using Rules*** on page 211.

To allow a service to be run on a specific host

1. Click **Security** in the main menu, and click the **Servers** tab.

   The **Servers** page appears, displaying a list of services and a host IP address for each allowed service.



Servers

This page enables you to selectively allow incoming network traffic of several known applications and Internet services into your network.

No	Allow	Application Name	Host IP		VPN Only	
1	☐	Web Server		This Computer	☐	Clear
2	☐	FTP Server		This Computer	☐	Clear
3	☐	Telnet Server		This Computer	☐	Clear
4	☐	Mail Server (POP3)		This Computer	☐	Clear
5	☐	Mail Server (SMTP)		This Computer	☐	Clear
6	☐	PPTP Server		This Computer	☐	Clear
7	☐	VPN Server (IPSEC)		This Computer	☐	Clear
8	☐	Microsoft Networking (NBT)		This Computer	☐	Clear
9	☐	IP Telephony (H.323)		This Computer	☐	Clear

Internet : Connected Service Center : Connected

2. Complete the fields using the information in the table below.
3. Click **Apply**.

   A success message appears, and the selected computer is allowed to run the desired service or application.

Table 32: Servers Page Fields

In this column...	Do this...
Allow	Select the desired service or application.
VPN Only	Select this option to allow only connections made through a VPN.
Host IP	Type the IP address of the computer that will run the service (one of your network computers) or click the corresponding **This Computer** button to allow your computer to host the service.

To stop the forwarding of a service to a specific host

1. Click **Security** in the main menu, and click the **Servers** tab.

   The **Servers** page appears, displaying a list of services and a host IP address for each allowed service.
2. In the desired service or application's row, click **Clear**.

   The **Host IP** field of the desired service is cleared.
3. Click **Apply**.

   The service or application is not allowed on the specific host.

Using Rules

500

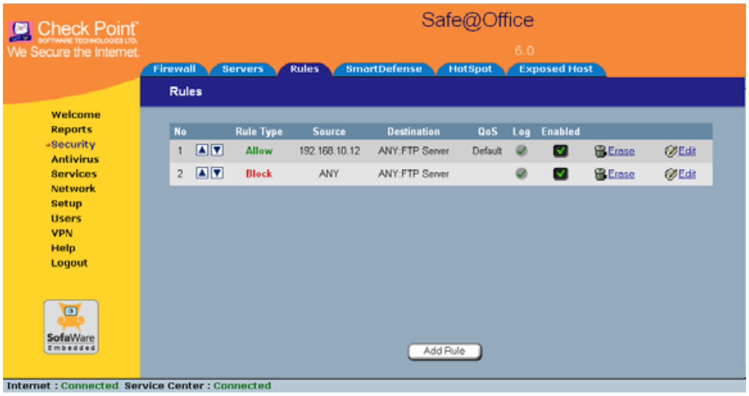
The Safe@Office appliance checks the protocol used, the ports range, and the destination IP address, when deciding whether to allow or block traffic.

User-defined rules have priority over the default security policy rules and provide you with greater flexibility in defining and customizing your security policy.

For example, if you assign your company's accounting department to the LAN network and the rest of the company to the DMZ network, then as a result of the default security policy rules, the accounting department will be able to connect to all company computers, while the rest of the employees will not be able to access any sensitive information on the accounting department computers. You can override the default security policy rules, by creating firewall rules that allow specific DMZ computers (such a manager's computer) to connect to the LAN network and the accounting department.

The Safe@Office appliance processes user-defined rules in the order they appear in the **Rules** table, so that rule 1 is applied before rule 2, and so on. This enables you to define exceptions to rules, by placing the exceptions higher up in the **Rules** table.

For example, if you want to block all outgoing FTP traffic, except traffic from a specific IP address, you can create a rule blocking all outgoing FTP traffic and move the rule down in the Rules table. Then create a rule allowing FTP traffic from the desired IP address and move this rule to a higher location in the Rules table than the first rule. In the figure below, the general rule is rule number 2, and the exception is rule number 1.



No		Rule Type	Source	Destination	QoS	Log	Enabled		
1	▲ ▼	Allow	192.168.10.12	ANY:FTP Server	Default	✓	☑	Erase	Edit
2	▲ ▼	Block	ANY	ANY:FTP Server		✓	☑	Erase	Edit

The Safe@Office appliance will process rule 1 first, allowing outgoing FTP traffic from the specified IP address, and only then it will process rule 2, blocking all outgoing FTP traffic.

The following rule types exist:

Table 33: Firewall Rule Types

Rule	Description
Allow and Forward	This rule type enables you to do the following: • Permit incoming access from the Internet to a specific service in your internal network. • Forward all such connections to a specific computer in your network. • Redirect the specified connections to a specific port. This option is called Port Address Translation (PAT). • Assign traffic to a QoS class. If Traffic Shaper is enabled for incoming traffic, then Traffic Shaper will handle relevant connections as specified in the bandwidth policy for the selected QoS class. For example, if Traffic Shaper is enabled for incoming traffic, and you create an Allow and Forward rule associating all incoming Web traffic with the Urgent QoS class, then Traffic Shaper will handle incoming Web traffic as specified in the bandwidth policy for the Urgent class. For information on Traffic Shaper and QoS classes, see ***Using Traffic Shaper*** on page 153. Creating an Allow and Forward rule is equivalent to defining a server in the Servers page. Note: You must use this type of rule to allow incoming connections if your network uses Hide NAT. Note: You cannot specify two Allow and Forward rules that forward the same service to two different destinations.

Rule	Description
Allow	This rule type enables you to do the following: • Permit outgoing access from your internal network to a specific service on the Internet. Note: You can allow outgoing connections for services that are not permitted by the default security policy. • Permit incoming access from the Internet to a specific service in your internal network. • Assign traffic to a QoS class. If Traffic Shaper is enabled for the direction of traffic specified in the rule (incoming or outgoing), then Traffic Shaper will handle relevant connections as specified in the bandwidth policy for the selected QoS class. For example, if Traffic Shaper is enabled for outgoing traffic, and you create an Allow rule associating all outgoing Web traffic with the Urgent QoS class, then Traffic Shaper will handle outgoing Web traffic as specified in the bandwidth policy for the Urgent class. For information on Traffic Shaper and QoS classes, see ***Using Traffic Shaper*** on page 153. Note: You cannot use an Allow rule to permit incoming traffic, if the network or VPN uses Hide NAT. However, you can use Allow rules for static NAT IP addresses.
Block	This rule type enables you to do the following: • Block outgoing access from your internal network to a specific service on the Internet. • Block incoming access from the Internet to a specific service in your internal network.

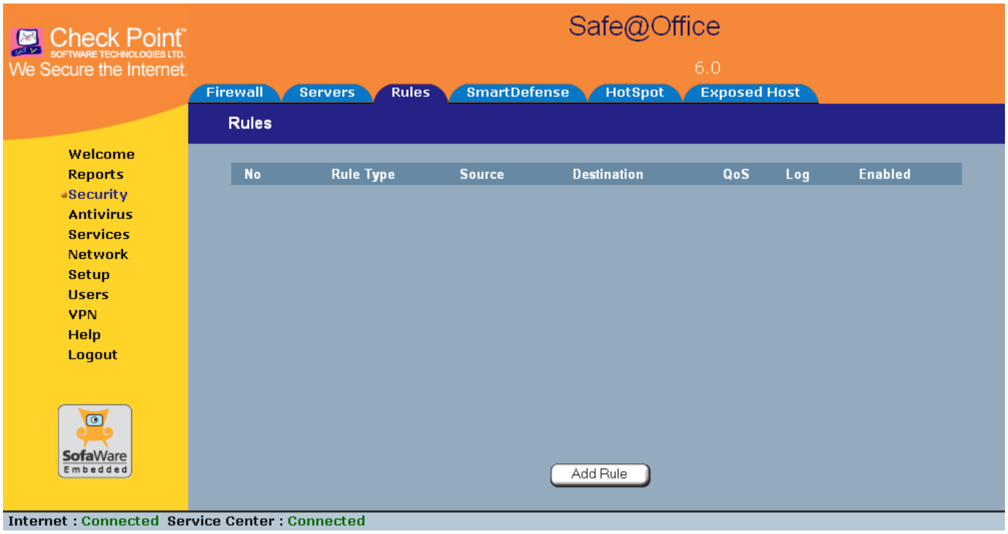
Adding and Editing Rules

500

To add or edit a rule

1. Click **Security** in the main menu, and click the **Rules** tab.

   The **Rules** page appears.



Rules

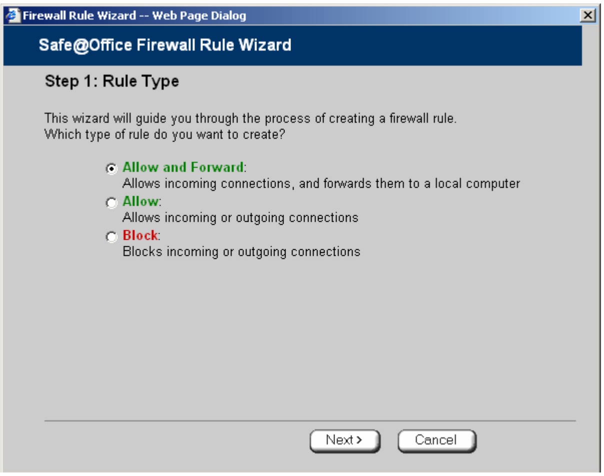
No	Rule Type	Source	Destination	QoS	Log	Enabled

Internet : Connected Service Center : Connected

2. Do one of the following:

   - To add a new rule, click **Add Rule**.
   - To edit an existing rule, click the Edit icon next to the desired rule.

The **Safe@Office Firewall Rule** wizard opens, with the **Step 1: Rule Type** dialog box displayed.



Firewall Rule Wizard -- Web Page Dialog

Safe@Office Firewall Rule Wizard

Step 1: Rule Type

This wizard will guide you through the process of creating a firewall rule.
Which type of rule do you want to create?

● Allow and Forward:
Allows incoming connections, and forwards them to a local computer

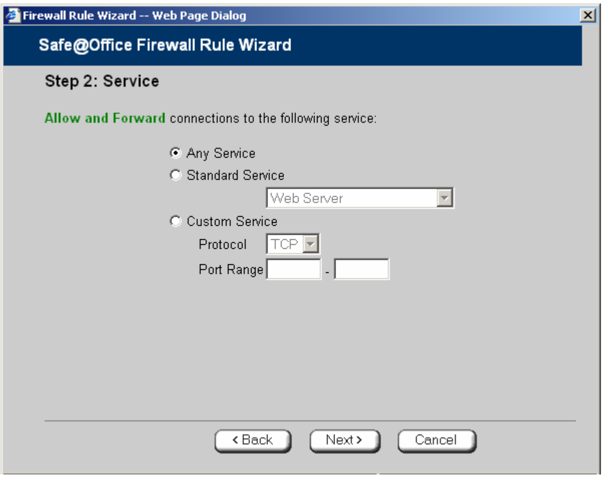
○ Allow:
Allows incoming or outgoing connections

○ Block:
Blocks incoming or outgoing connections

3. Select the type of rule you want to create.
4. Click **Next**.

   The **Step 2: Service** dialog box appears.

   The example below shows an Allow rule.



Firewall Rule Wizard -- Web Page Dialog

Safe@Office Firewall Rule Wizard

Step 2: Service

Allow and Forward connections to the following service:

● Any Service

○ Standard Service: Web Server

○ Custom Service

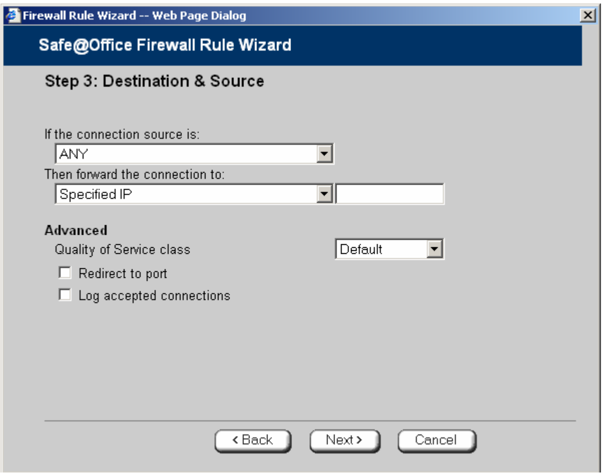
Protocol: TCP

Port Range: -

5. Complete the fields using the relevant information in the table below.

6. Click **Next**.

   The **Step 3: Destination & Source** dialog box appears.



Firewall Rule Wizard -- Web Page Dialog

Safe@Office Firewall Rule Wizard

Step 3: Destination & Source

If the connection source is: ANY

Then forward the connection to: Specified IP

Advanced

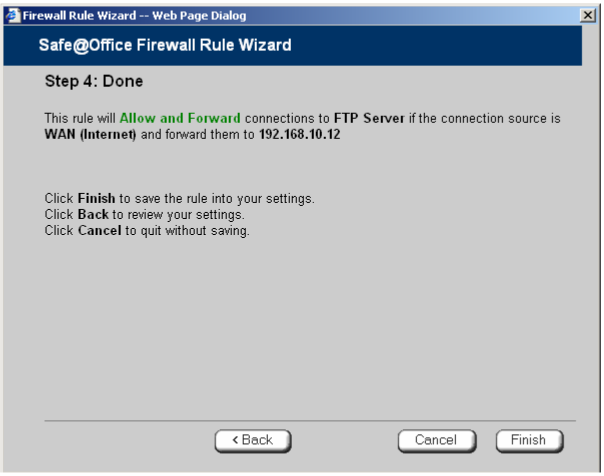
Quality of Service class: Default

□ Redirect to port

□ Log accepted connections

7. Complete the fields using the relevant information in the table below.

   The **Step 4: Done** dialog box appears.



Firewall Rule Wizard -- Web Page Dialog

Safe@Office Firewall Rule Wizard

Step 4: Done

This rule will **Allow and Forward** connections to **FTP Server** if the connection source is **WAN (Internet)** and forward them to **192.168.10.12**

Click **Finish** to save the rule into your settings.
Click **Back** to review your settings.
Click **Cancel** to quit without saving.

8. Click **Finish**.

   The new rule appears in the **Firewall Rules** page.

Table 34: Firewall Rule Fields

In this field…	Do this…
Any Service	Click this option to specify that the rule should apply to any service.
Standard Service	Click this option to specify that the rule should apply to a specific standard service. You must then select the desired service from the drop-down list.
Custom Service	Click this option to specify that the rule should apply to a specific non-standard service. The Protocol and Port Range fields are enabled. You must fill them in.
Protocol	Select the protocol (ESP, GRE, TCP, UDP or ANY) for which the rule should apply.
Ports	To specify the port range to which the rule applies, type the start port number in the left text box, and the end port number in the right text box. Note: If you do not enter a port range, the rule will apply to all ports. If you enter only one port number, the range will include only that port.
Source	Select the source of the connections you want to allow/block. To specify an IP address, select Specified IP and type the desired IP address in the filed provided. To specify an IP address range, select Specified Range and type the desired IP address range in the fields provided.

In this field…	Do this…
Destination	Select the destination of the connections you want to allow or block. To specify an IP address, select Specified IP and type the desired IP address in the text box. To specify an IP address range, select Specified Range and type the desired IP address range in the fields provided. This option is not available in Allow and Forward rules. To specify the Safe@Office IP address, select This Gateway. This option is not available in Allow and Forward rules. To specify any destination *except* the Safe@Office Portal and network printers, select ANY.
Quality of Service class	Select the QoS class to which you want to assign the specified connections. If Traffic Shaper is enabled, Traffic Shaper will handle these connections as specified in the bandwidth policy for the selected QoS class. If Traffic Shaper is not enabled, this setting is ignored. For information on Traffic Shaper and QoS classes, see ***Using Traffic Shaper*** on page 153. This drop-down list only appears when defining an Allow rule or an Allow and Forward rule.
Log accepted connections / Log blocked connections	Select this option to log the specified blocked or allowed connections. By default, accepted connections are not logged, and blocked connections are logged. You can modify this behavior by changing the check box's state.

In this field...	Do this...
Redirect to port	Select this option to redirect the connections to a specific port. You must then type the desired port in the field provided. This option is called Port Address Translation (PAT), and is only available when defining an Allow and Forward rule.

Enabling/Disabling Rules

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You can temporarily disable a user-defined rule.

To enable/disable a rule

1. Click **Security** in the main menu, and click the **Rules** tab.

   The **Rules** page appears.

2. Next to the desired rule, do one of the following:

   - To enable the rule, click ☒.

     The button changes to ☑ and the rule is enabled.

   - To disable the rule, click ☑.

     The button changes to ☒ and the rule is disabled.

Changing Rules' Priority

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To change a rule's priority

1. Click Security in the main menu, and click the Rules tab.

   The Rules page appears.

2. Do one of the following:

   - Click ▲ next to the desired rule, to move the rule up in the table.
   - Click ▼ next to the desired rule, to move the rule down in the table.

   The rule's priority changes accordingly.

Deleting Rules

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To delete an existing rule

1. Click Security in the main menu, and click the Rules tab.

   The Rules page appears.

2. Click the Erase 🗑 icon of the rule you wish to delete.

   A confirmation message appears.

3. Click OK.

   The rule is deleted.

Using SmartDefense

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The Safe@Office appliance includes Check Point SmartDefense Services, based on Check Point Application Intelligence. SmartDefense provides a combination of attack safeguards and attack-blocking tools that protect your network in the following ways:

- Validating compliance to standards
- Validating expected usage of protocols (Protocol Anomaly Detection)
- Limiting application ability to carry malicious data
- Controlling application-layer operations

In addition, SmartDefense aids proper usage of Internet resources, such as FTP, instant messaging, Peer-to-Peer (P2P) file sharing, file-sharing operations, and File Transfer Protocol (FTP) uploading, among others.

Configuring SmartDefense

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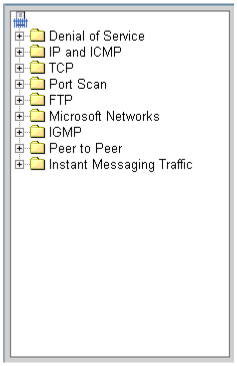
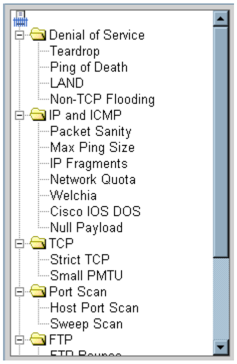
For convenience, SmartDefense is organized as a tree, in which each branch represents a category of settings.



When a category is expanded, the settings it contains appear as nodes. For information on each category and the nodes it contains, see ***SmartDefense Categories*** on page 226.

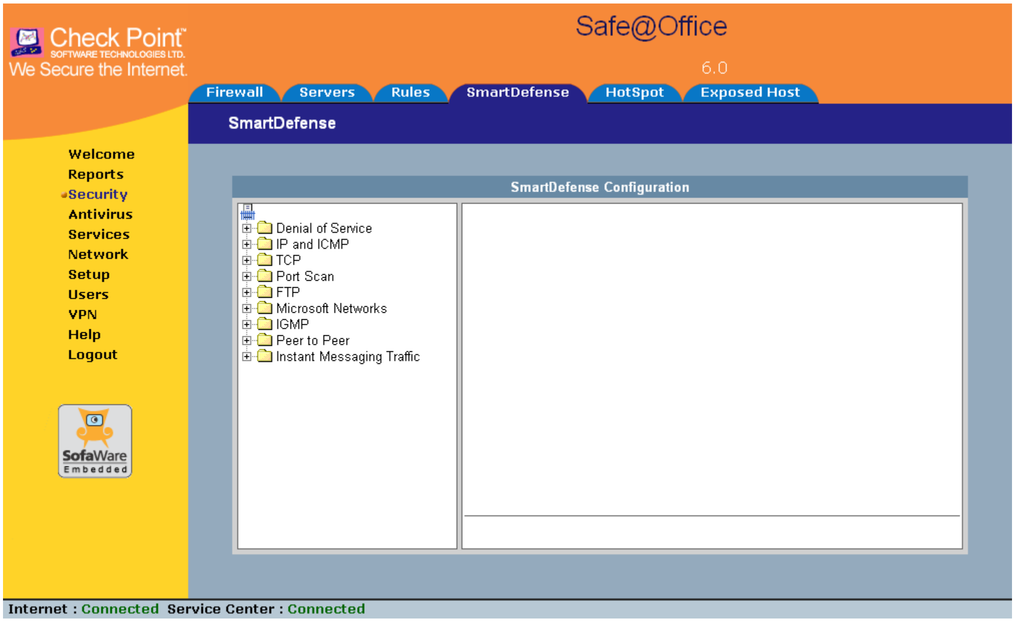


Each node represents an attack type, a sanity check, or a protocol or service that is vulnerable to attacks. To control how SmartDefense handles an attack, you must configure the relevant node's settings.

To configure a SmartDefense node

1. Click **Security** in the main menu, and click the **SmartDefense** tab.

   The **SmartDefense** page appears.

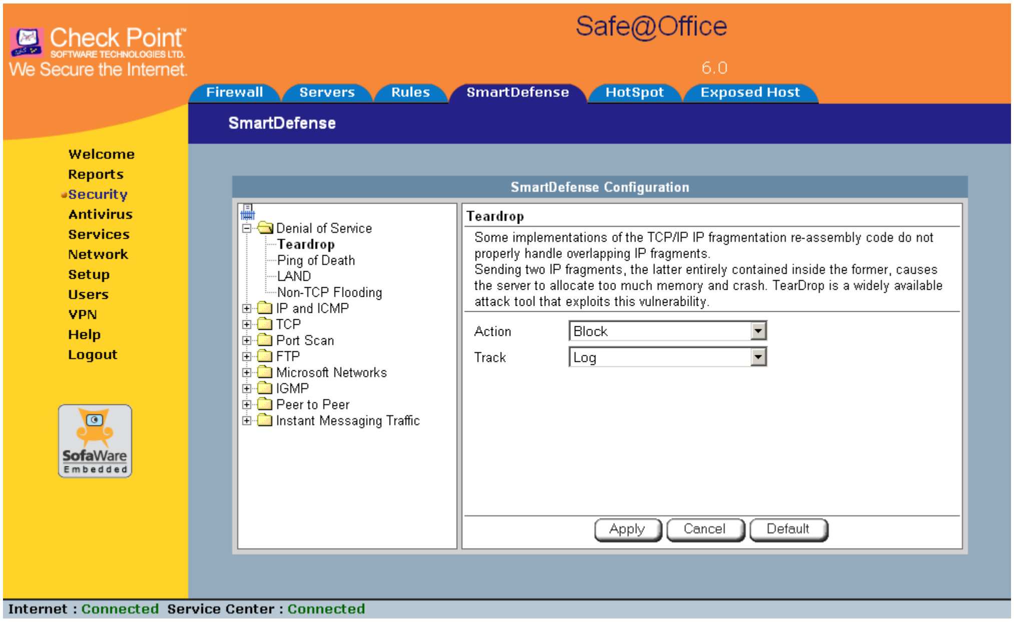
   

   The left pane displays a tree containing SmartDefense categories.

   - To expand a category, click the ⊞ icon next to it.
   - To collapse a category, click the ⊟ icon next to it.

2. Expand the relevant category, and click on the desired node.

The right pane displays a description of the node, followed by fields.



Teardrop

Some implementations of the TCP/IP IP fragmentation re-assembly code do not properly handle overlapping IP fragments.
Sending two IP fragments, the latter entirely contained inside the former, causes the server to allocate too much memory and crash. TearDrop is a widely available attack tool that exploits this vulnerability.

Action: Block

Track: Log

Internet : Connected Service Center : Connected

3. To modify the node's current settings, do the following:

   a) Complete the fields using the relevant information in ***SmartDefense Categories*** on page 226.

   b) Click Apply.

4. To reset the node to its default values:

   a) Click Default.

      A confirmation message appears.

   b) Click OK.

      The fields are reset to their default values, and your changes are saved.

SmartDefense Categories

SmartDefense includes the following categories:

- ***Denial of Service*** on page 226
- ***IP and ICMP*** on page 231
- ***TCP*** on page 241
- ***Port Scan*** on page 244
- ***FTP*** on page 247
- ***Microsoft Networks*** on page 251
- ***IGMP*** on page 253
- ***Peer to Peer*** on page 254
- ***Instant Messengers*** on page 256

Denial of Service

Denial of Service (DoS) attacks are aimed at overwhelming the target with spurious data, to the point where it is no longer able to respond to legitimate service requests.

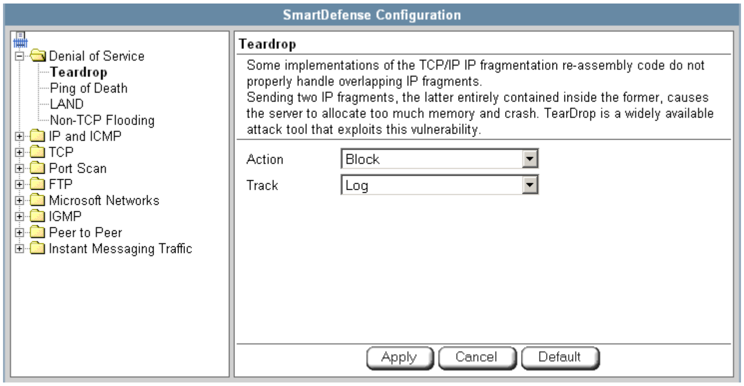
This category includes the following attacks:

- ***Teardrop*** on page 226
- ***Ping of Death*** on page 227
- ***LAND*** on page 228
- ***Non-TCP Flooding*** on page 229

Teardrop

In a Teardrop attack, the attacker sends two IP fragments, the latter entirely contained within the former. This causes some computers to allocate too much memory and crash.

You can configure how Teardrop attacks should be handled.



Teardrop

Some implementations of the TCP/IP IP fragmentation re-assembly code do not properly handle overlapping IP fragments.
Sending two IP fragments, the latter entirely contained inside the former, causes the server to allocate too much memory and crash. TearDrop is a widely available attack tool that exploits this vulnerability.

Action: Block

Track: Log

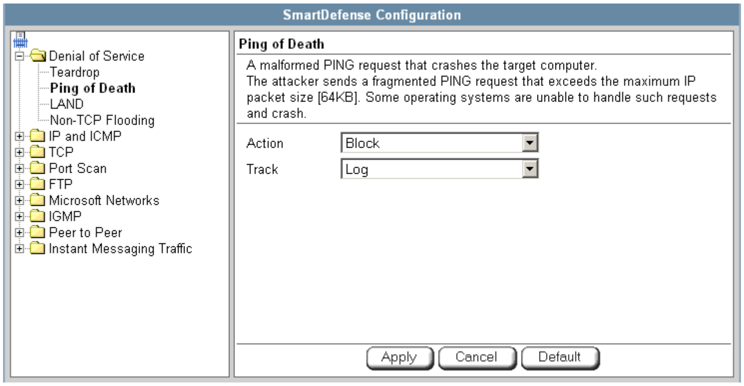
Table 35: Teardrop Fields

In this field…	Do this…
Action	Specify what action to take when a Teardrop attack occurs, by selecting one of the following: • Block. Block the attack. This is the default. • None. No action.
Track	Specify whether to log Teardrop attacks, by selecting one of the following: • Log. Log the attack. This is the default. • None. Do not log the attack.

Ping of Death

In a Ping of Death attack, the attacker sends a fragmented PING request that exceeds the maximum IP packet size (64KB). Some operating systems are unable to handle such requests and crash.

You can configure how Ping of Death attacks should be handled.



Ping of Death

A malformed PING request that crashes the target computer.
The attacker sends a fragmented PING request that exceeds the maximum IP packet size [64KB]. Some operating systems are unable to handle such requests and crash.

Action: Block
Track: Log

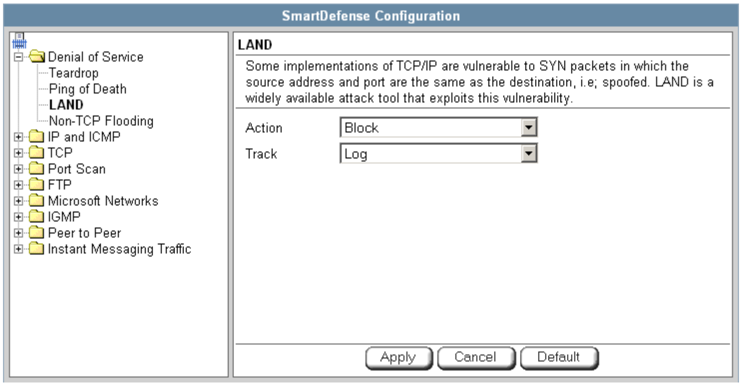
Table 36: Ping of Death Fields

In this field...	Do this...
Action	Specify what action to take when a Ping of Death attack occurs, by selecting one of the following: • Block. Block the attack. This is the default. • None. No action.
Track	Specify whether to log Ping of Death attacks, by selecting one of the following: • Log. Log the attack. This is the default. • None. Do not log the attack.

LAND

In a LAND attack, the attacker sends a SYN packet, in which the source address and port are the same as the destination (the victim computer). The victim computer then tries to reply to itself and either reboots or crashes.

You can configure how LAND attacks should be handled.



LAND

Some implementations of TCP/IP are vulnerable to SYN packets in which the source address and port are the same as the destination, i.e; spoofed. LAND is a widely available attack tool that exploits this vulnerability.

Action: Block

Track: Log

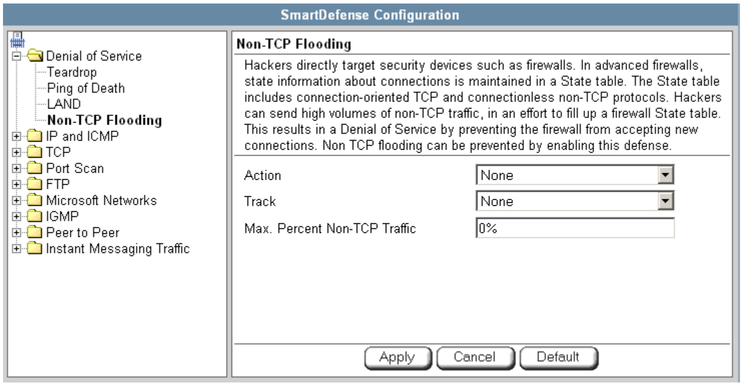
Table 37: LAND Fields

In this field...	Do this...
Action	Specify what action to take when a LAND attack occurs, by selecting one of the following: • Block. Block the attack. This is the default. • None. No action.
Track	Specify whether to log LAND attacks, by selecting one of the following: • Log. Log the attack. This is the default. • None. Do not log the attack.

Non-TCP Flooding

Advanced firewalls maintain state information about connections in a State table. In non-TCP Flooding attacks, the attacker sends high volumes of non-TCP traffic. Since such traffic is connectionless, the related state information cannot be cleared or reset, and the firewall State table is quickly filled up. This prevents the firewall from accepting new connections and results in a Denial of Service (DoS).

You can protect against Non-TCP Flooding attacks by limiting the percentage of state table capacity used for non-TCP connections.



Non-TCP Flooding

Hackers directly target security devices such as firewalls. In advanced firewalls, state information about connections is maintained in a State table. The State table includes connection-oriented TCP and connectionless non-TCP protocols. Hackers can send high volumes of non-TCP traffic, in an effort to fill up a firewall State table. This results in a Denial of Service by preventing the firewall from accepting new connections. Non TCP flooding can be prevented by enabling this defense.

Action: None

Track: None

Max. Percent Non-TCP Traffic: 0%

Table 38: Non-TCP Flooding Fields

In this field...	Do this...
Action	Specify what action to take when the percentage of state table capacity used for non-TCP connections reaches the Max. percent non TCP traffic threshold. Select one of the following: • Block. Block any additional non-TCP connections. • None. No action. This is the default.
Track	Specify whether to log non-TCP connections that exceed the Max. Percent Non-TCP Traffic threshold, by selecting one of the following: • Log. Log the connections. • None. Do not log the connections. This is the default.
Max. Percent Non-TCP Traffic	Type the maximum percentage of state table capacity allowed for non-TCP connections. The default value is 0%.

IP and ICMP

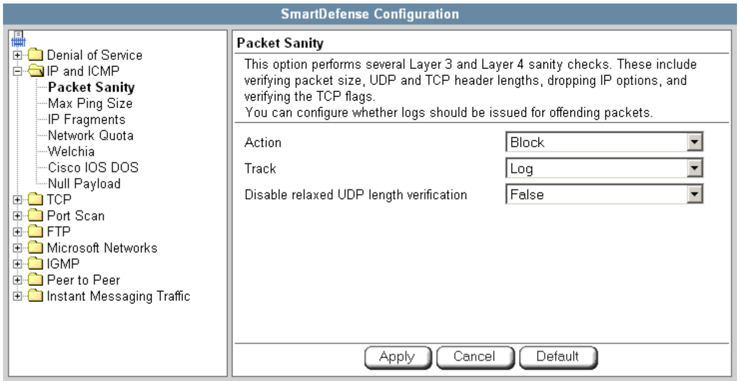
This category allows you to enable various IP and ICMP protocol tests, and to configure various protections against IP and ICMP-related attacks. It includes the following:

- ***Packet Sanity*** on page 231
- ***Max Ping Size*** on page 233
- ***IP Fragments*** on page 234
- ***Network Quota*** on page 236
- ***Welchia*** on page 237
- ***Cisco IOS DOS*** on page 238
- ***Null Payload*** on page 240

Packet Sanity

Packet Sanity performs several Layer 3 and Layer 4 sanity checks. These include verifying packet size, UDP and TCP header lengths, dropping IP options, and verifying the TCP flags.

You can configure whether logs should be issued for offending packets.


SmartDefense Configuration

Packet Sanity

This option performs several Layer 3 and Layer 4 sanity checks. These include verifying packet size, UDP and TCP header lengths, dropping IP options, and verifying the TCP flags.
You can configure whether logs should be issued for offending packets.

Action: Block
Track: Log
Disable relaxed UDP length verification: False

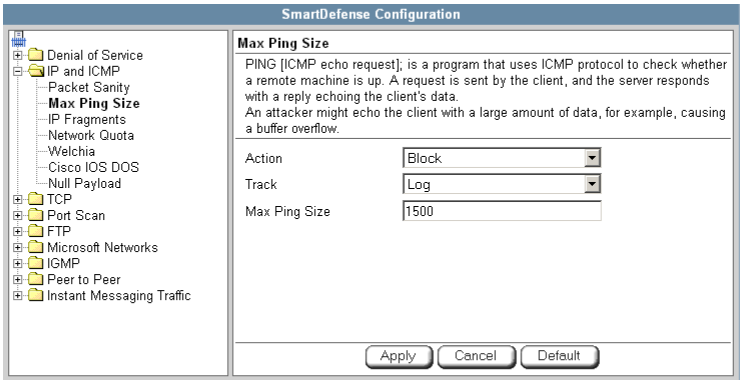
Table 39: Packet Sanity Fields

In this field…	Do this…
Action	Specify what action to take when a packet fails a sanity test, by selecting one of the following: • Block. Block the packet. This is the default. • None. No action.
Track	Specify whether to issue logs for packets that fail the packet sanity tests, by selecting one of the following: • Log. Issue logs. This is the default. • None. Do not issue logs.
Disable relaxed UDP length verification	The UDP length verification sanity check measures the UDP header length and compares it to the UDP header length specified in the UDP header. If the two values differ, the packet may be corrupted. However, since different applications may measure UDP header length differently, the Safe@Office appliance relaxes the UDP length verification sanity check by default, performing the check but not dropping offending packets. This is called relaxed UDP length verification. Specify whether the Safe@Office appliance should relax the UDP length verification sanity check or not, by selecting one of the following: • True. Disable relaxed UDP length verification. The Safe@Office appliance will drop packets that fail the UDP length verification check. • False. Do not disable relaxed UDP length verification. The Safe@Office appliance will not drop packets that fail the UDP length verification check. This is the default.

Max Ping Size

PING (ICMP echo request) is a program that uses ICMP protocol to check whether a remote machine is up. A request is sent by the client, and the server responds with a reply echoing the client's data.

An attacker can echo the client with a large amount of data, causing a buffer overflow. You can protect against such attacks by limiting the allowed size for ICMP echo requests.



Max Ping Size

PING [ICMP echo request]; is a program that uses ICMP protocol to check whether a remote machine is up. A request is sent by the client, and the server responds with a reply echoing the client's data.
An attacker might echo the client with a large amount of data, for example, causing a buffer overflow.

Action: Block

Track: Log

Max Ping Size: 1500

Table 40: Max Ping Size Fields

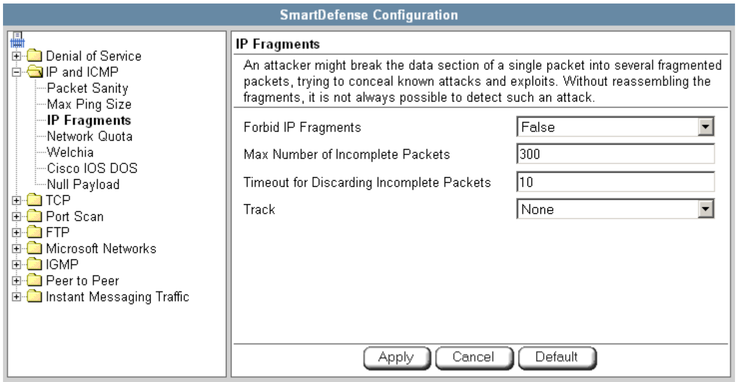
In this field...	Do this...
Action	Specify what action to take when an ICMP echo response exceeds the Max Ping Size threshold, by selecting one of the following: • Block. Block the request. This is the default. • None. No action.
Track	Specify whether to log ICMP echo responses that exceed the Max Ping Size threshold, by selecting one of the following: • Log. Log the responses. This is the default. • None. Do not log the responses.

In this field...	Do this...
Max Ping Size	Specify the maximum data size for ICMP echo response. The default value is 1500.

IP Fragments

When an IP packet is too big to be transported by a network link, it is split into several smaller IP packets and transmitted in fragments. To conceal a known attack or exploit, an attacker might imitate this common behavior and break the data section of a single packet into several fragmented packets. Without reassembling the fragments, it is not always possible to detect such an attack. Therefore, the Safe@Office appliance always reassembles all the fragments of a given IP packet, before inspecting it to make sure there are no attacks or exploits in the packet.

You can configure how fragmented packets should be handled.



IP Fragments

An attacker might break the data section of a single packet into several fragmented packets, trying to conceal known attacks and exploits. Without reassembling the fragments, it is not always possible to detect such an attack.

Forbid IP Fragments	False
Max Number of Incomplete Packets	300
Timeout for Discarding Incomplete Packets	10
Track	None

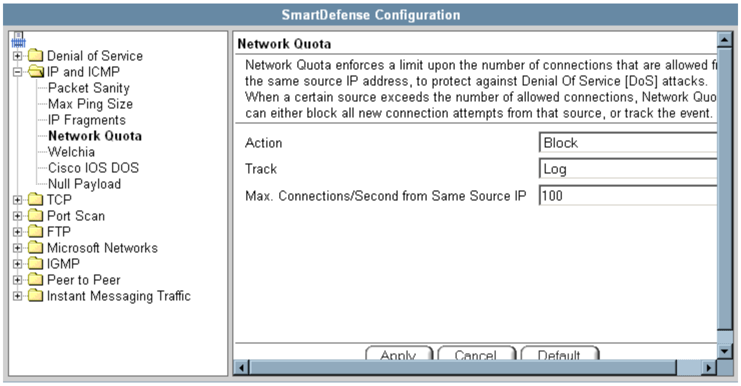
Table 41: IP Fragments Fields

In this field…	Do this…
Forbid IP Fragments	Specify whether all fragmented packets should be dropped, by selecting one of the following: • True. Drop all fragmented packets. • False. No action. This is the default. Under normal circumstances, it is recommended to leave this field set to False. Setting this field to True may disrupt Internet connectivity, because it does not allow any fragmented packets.
Max Number of Incomplete Packets	Type the maximum number of fragmented packets allowed. Packets exceeding this threshold will be dropped. The default value is 300.
Timeout for Discarding Incomplete Packets	When the Safe@Office appliance receives packet fragments, it waits for additional fragments to arrive, so that it can reassemble the packet. Type the number of seconds to wait before discarding incomplete packets. The default value is 10.
Track	Specify whether to log fragmented packets, by selecting one of the following: • Log. Log all fragmented packets. • None. Do not log the fragmented packets. This is the default.

Network Quota

An attacker may try to overload a server in your network by establishing a very large number of connections per second. To protect against Denial Of Service (DoS) attacks, Network Quota enforces a limit upon the number of connections per second that are allowed from the same source IP address.

You can configure how connection that exceed that limit should be handled.



Network Quota

Network Quota enforces a limit upon the number of connections that are allowed fi the same source IP address, to protect against Denial Of Service [DoS] attacks. When a certain source exceeds the number of allowed connections, Network Quo can either block all new connection attempts from that source, or track the event.

Action: Block

Track: Log

Max. Connections/Second from Same Source IP: 100

Table 42: Network Quota Fields

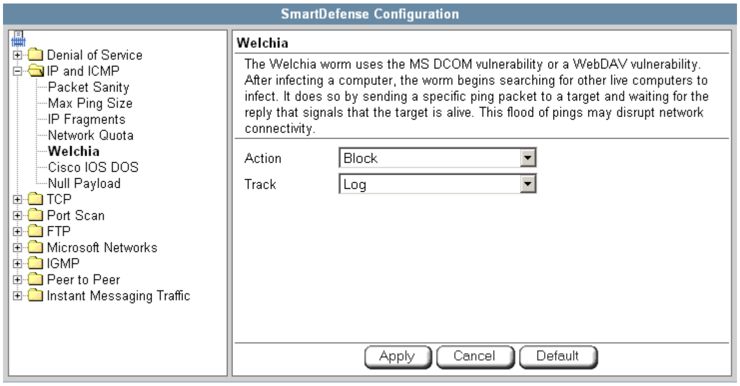
In this field…	Do this…
Action	Specify what action to take when the number of network connections from the same source reaches the Max. Connections/Second per Source IP threshold. Select one of the following: • Block. Block all new connections from the source. Existing connections will not be blocked. This is the default. • None. No action.
Track	Specify whether to log connections from a specific source that exceed the Max. Connections/Second per Source IP threshold, by selecting one of the following: • Log. Log the connections. This is the default. • None. Do not log the connections.

In this field...	Do this...
Max. Connections/Second from Same Source IP	Type the maximum number of network connections allowed per second from the same source IP address. The default value is 100. Set a lower threshold for stronger protection against DoS attacks. Note: Setting this value too low can lead to false alarms.

Welchia

The Welchia worm uses the MS DCOM vulnerability or a WebDAV vulnerability. After infecting a computer, the worm begins searching for other live computers to infect. It does so by sending a specific ping packet to a target and waiting for the reply that signals that the target is alive. This flood of pings may disrupt network connectivity.

You can configure how the Welchia worm should be handled.



Welchia

The Welchia worm uses the MS DCOM vulnerability or a WebDAV vulnerability. After infecting a computer, the worm begins searching for other live computers to infect. It does so by sending a specific ping packet to a target and waiting for the reply that signals that the target is alive. This flood of pings may disrupt network connectivity.

Action: Block

Track: Log

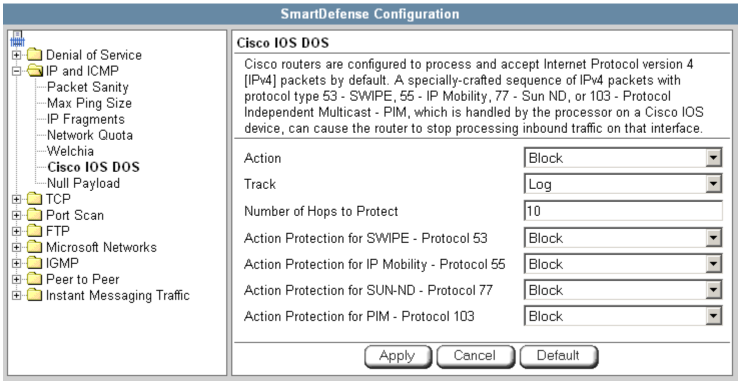
Table 43: Welchia Fields

In this field...	Do this...
Action	Specify what action to take when the Welchia worm is detected, by selecting one of the following: • Block. Block the attack. This is the default. • None. No action.
Track	Specify whether to log Welchia worm attacks, by selecting one of the following: • Log. Log the attack. This is the default. • None. Do not log the attack.

Cisco IOS DOS

Cisco routers are configured to process and accept Internet Protocol version 4 (IPv4) packets by default. When a Cisco IOS device is sent a specially crafted sequence of IPv4 packets (with protocol type 53 - SWIPE, 55 - IP Mobility, 77 - Sun ND, or 103 - Protocol Independent Multicast - PIM), the router will stop processing inbound traffic on that interface.

You can configure how Cisco IOS DOS attacks should be handled.



Cisco IOS DOS

Cisco routers are configured to process and accept Internet Protocol version 4 [IPv4] packets by default. A specially-crafted sequence of IPv4 packets with protocol type 53 - SWIPE, 55 - IP Mobility, 77 - Sun ND, or 103 - Protocol Independent Multicast - PIM, which is handled by the processor on a Cisco IOS device, can cause the router to stop processing inbound traffic on that interface.

Action	Block
Track	Log
Number of Hops to Protect	10
Action Protection for SWIPE - Protocol 53	Block
Action Protection for IP Mobility - Protocol 55	Block
Action Protection for SUN-ND - Protocol 77	Block
Action Protection for PIM - Protocol 103	Block

Table 44: Cisco IOS DOS

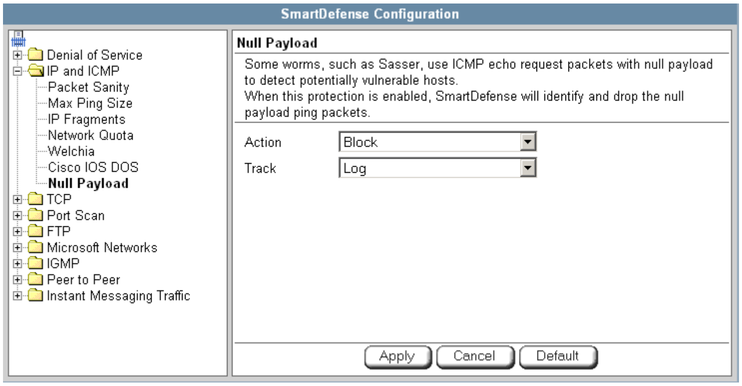
In this field...	Do this...
Action	Specify what action to take when a Cisco IOS DOS attack occurs, by selecting one of the following: • Block. Block the attack. This is the default. • None. No action.
Track	Specify whether to log Cisco IOS DOS attacks, by selecting one of the following: • Log. Log the attack. This is the default. • None. Do not log the attack.
Number of Hops to Protect	Type the number of hops from the enforcement module that Cisco routers should be protected. The default value is 10.

In this field…	Do this…
Action Protection for SWIPE - Protocol 53 / IP Mobility - Protocol 55 / SUN-ND - Protocol 77 / PIM - Protocol 103	Specify what action to take when an IPv4 packet of the specific protocol type is received, by selecting one of the following: • Block. Drop the packet. This is the default. • None. No action.

Null Payload

Some worms, such as Sasser, use ICMP echo request packets with null payload to detect potentially vulnerable hosts.

You can configure how null payload ping packets should be handled.



SmartDefense Configuration

Null Payload

Some worms, such as Sasser, use ICMP echo request packets with null payload to detect potentially vulnerable hosts.
When this protection is enabled, SmartDefense will identify and drop the null payload ping packets.

Action: Block

Track: Log

Table 45: Null Payload Fields

In this field…	Do this…
Action	Specify what action to take when null payload ping packets are detected, by selecting one of the following: • Block. Block the packets. This is the default. • None. No action.

In this field…	Do this…
Track	Specify whether to log null payload ping packets, by selecting one of the following: • Log. Log the packets. This is the default. • None. Do not log the packets.

TCP

This category allows you to configure various protections related to the TCP protocol. It includes the following:

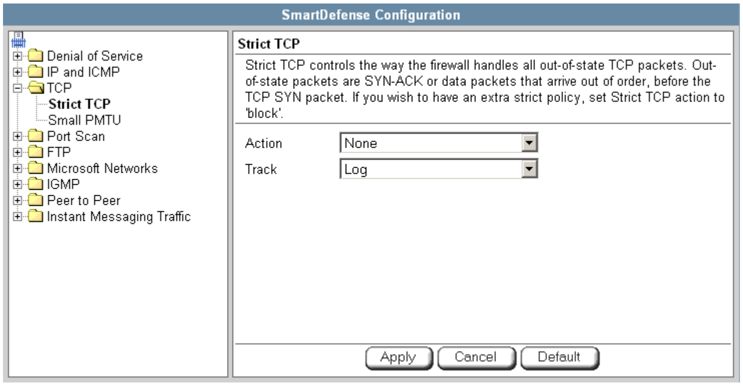
- ***Strict TCP*** on page 241
- ***Small PMTU*** on page 243

Strict TCP

Out-of-state TCP packets are SYN-ACK or data packets that arrive out of order, before the TCP SYN packet.

Note: In normal conditions, out-of-state TCP packets can occur after the Safe@Office restarts, since connections which were established prior to the reboot are unknown. This is normal and does not indicate an attack.

You can configure how out-of-state TCP packets should be handled.



Strict TCP

Strict TCP controls the way the firewall handles all out-of-state TCP packets. Out-of-state packets are SYN-ACK or data packets that arrive out of order, before the TCP SYN packet. If you wish to have an extra strict policy, set Strict TCP action to 'block'.

Action: None

Track: Log

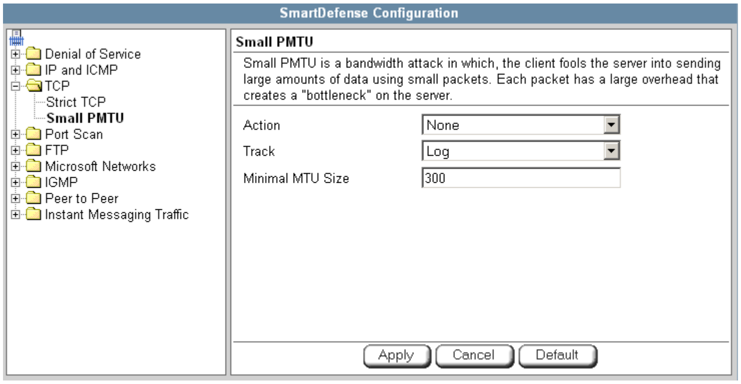
Table 46: Strict TCP

In this field...	Do this...
Action	Specify what action to take when an out-of-state TCP packet arrives, by selecting one of the following: • Block. Block the packets. • None. No action. This is the default.
Track	Specify whether to log null payload ping packets, by selecting one of the following: • Log. Log the packets. This is the default. • None. Do not log the packets.

Small PMTU

Small PMTU (Packet MTU) is a bandwidth attack in which the client fools the server into sending large amounts of data using small packets. Each packet has a large overhead that creates a "bottleneck" on the server.

You can protect against this attack by specifying a minimum packet size for data sent over the Internet.



Small PMTU

Small PMTU is a bandwidth attack in which, the client fools the server into sending large amounts of data using small packets. Each packet has a large overhead that creates a "bottleneck" on the server.

Action: None

Track: Log

Minimal MTU Size: 300

Table 47: Small PMTU Fields

In this field…	Do this…
Action	Specify what action to take when a packet is smaller than the Minimal MTU Size threshold, by selecting one of the following: • Block. Block the packet. • None. No action. This is the default.
Track	Specify whether to issue logs for packets are smaller than the Minimal MTU Size threshold, by selecting one of the following: • Log. Issue logs. This is the default. • None. Do not issue logs.

In this field...	Do this...
Minimal MTU Size	Type the minimum value allowed for the MTU field in IP packets sent by a client. An overly small value will not prevent an attack, while an overly large value might degrade performance and cause legitimate requests to be dropped. The default value is 300.

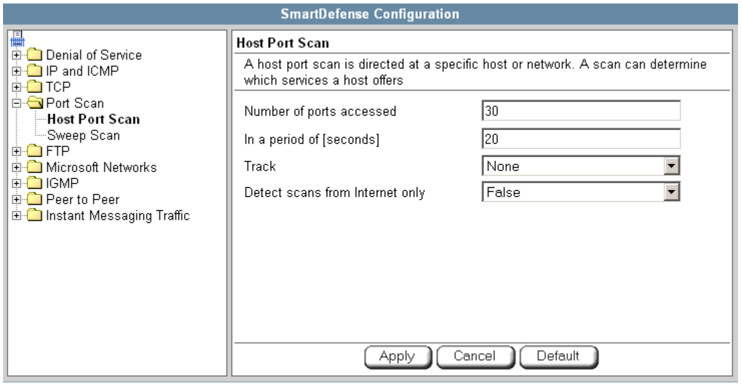
Port Scan

An attacker can perform a port scan to determine whether ports are open and vulnerable to an attack. This is most commonly done by attempting to access a port and waiting for a response. The response indicates whether or not the port is open.

This category includes the following types of port scans:

- **Host Port Scan.** The attacker scans a specific host's ports to determine which of the ports are open.
- **Sweep Scan.** The attacker scans various hosts to determine where a specific port is open.

You can configure how the Safe@Office appliance should react when a port scan is detected.



SmartDefense Configuration

Host Port Scan

A host port scan is directed at a specific host or network. A scan can determine which services a host offers

Number of ports accessed	30
In a period of [seconds]	20
Track	None
Detect scans from Internet only	False

Table 48: Port Scan Fields

In this field…	Do this…
Number of ports accessed	SmartDefense detects ports scans by measuring the number of ports accessed over a period of time. The number of ports accessed must exceed the Number of ports accessed value, within the number of seconds specified by the In a period of [seconds] value, in order for SmartDefense to consider the activity a scan. Type the minimum number of ports that must be accessed within the In a period of [seconds] period, in order for SmartDefense to detect the activity as a port scan. For example, if this value is 30, and 40 ports are accessed within a specified period of time, SmartDefense will detect the activity as a port scan. For Host Port Scan, the default value is 30. For Sweep Scan, the default value is 50.

In this field…	Do this…
In a period of [seconds]	SmartDefense detects ports scans by measuring the number of ports accessed over a period of time. The number of ports accessed must exceed the Number of ports accessed value, within the number of seconds specified by the In a period of [seconds] value, in order for SmartDefense to consider the activity a scan. Type the maximum number of seconds that can elapse, during which the Number of ports accessed threshold is exceeded, in order for SmartDefense to detect the activity as a port scan. For example, if this value is 20, and the Number of ports accessed threshold is exceeded for 15 seconds, SmartDefense will detect the activity as a port scan. If the threshold is exceeded for 30 seconds, SmartDefense will not detect the activity as a port scan. The default value is 20 seconds.
Track	Specify whether to issue logs for scans, by selecting one of the following: • Log. Issue logs. This is the default. • None. Do not issue logs. This is the default.
Detect scans from Internet only	Specify whether to detect only scans originating from the Internet, by selecting one of the following: • False. Do not detect only scans from the Internet. This is the default. • True. Detect only scans from the Internet.

FTP

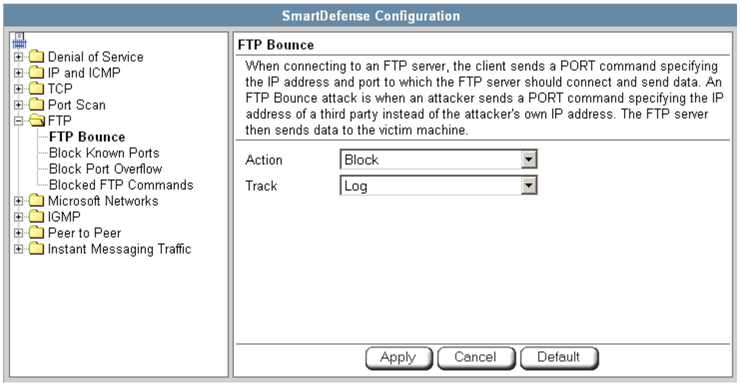
This category allows you to configure various protections related to the FTP protocol. It includes the following:

- ***FTP Bounce*** on page 247
- ***Block Known Ports*** on page 248
- ***Block Port Overflow*** on page 249
- ***Blocked FTP Commands*** on page 250

FTP Bounce

When connecting to an FTP server, the client sends a PORT command specifying the IP address and port to which the FTP server should connect and send data. An FTP Bounce attack is when an attacker sends a PORT command specifying the IP address of a third party instead of the attacker's own IP address. The FTP server then sends data to the victim machine.

You can configure how FTP bounce attacks should be handled.



FTP Bounce

When connecting to an FTP server, the client sends a PORT command specifying the IP address and port to which the FTP server should connect and send data. An FTP Bounce attack is when an attacker sends a PORT command specifying the IP address of a third party instead of the attacker's own IP address. The FTP server then sends data to the victim machine.

Action: Block

Track: Log

Table 49: FTP Bounce Fields

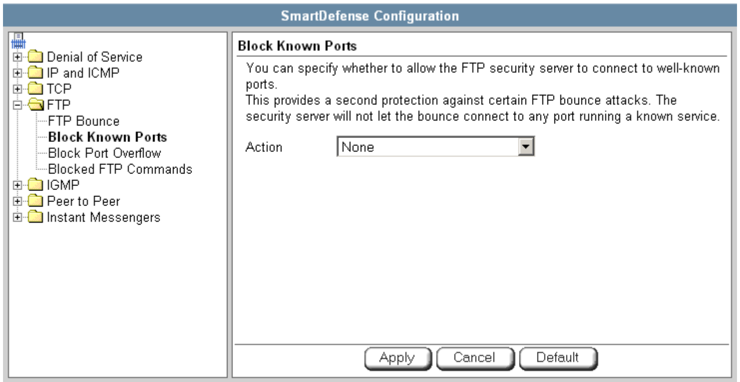
In this field…	Do this…
Action	Specify what action to take when an FTP Bounce attack occurs, by selecting one of the following: • Block. Block the attack. This is the default. • None. No action.
Track	Specify whether to log FTP Bounce attacks, by selecting one of the following: • Log. Log the attack. This is the default. • None. Do not log the attack.

Block Known Ports

You can choose to block the FTP server from connecting to well-known ports.

Note: Known ports are published ports associated with services (for example, SMTP is port 25).

This provides a second layer of protection against FTP bounce attacks, by preventing such attacks from reaching well-known ports.



Block Known Ports

You can specify whether to allow the FTP security server to connect to well-known ports.
This provides a second protection against certain FTP bounce attacks. The security server will not let the bounce connect to any port running a known service.

Action: None

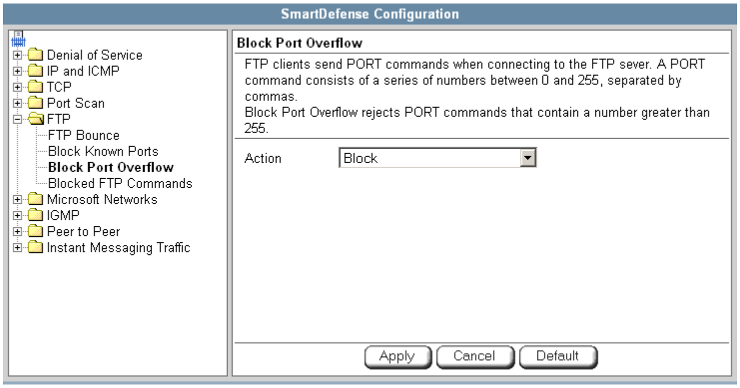
Table 50: Block Known Ports Fields

In this field...	Do this...
Action	Specify what action to take when the FTP server attempts to connect to a well-known port, by selecting one of the following: • Block. Block the connection. • None. No action. This is the default.

Block Port Overflow

FTP clients send PORT commands when connecting to the FTP sever. A PORT command consists of a series of numbers between 0 and 255, separated by commas.

To enforce compliance to the FTP standard and prevent potential attacks against the FTP server, you can block PORT commands that contain a number greater than 255.



SmartDefense Configuration

Block Port Overflow

FTP clients send PORT commands when connecting to the FTP sever. A PORT command consists of a series of numbers between 0 and 255, separated by commas.
Block Port Overflow rejects PORT commands that contain a number greater than 255.

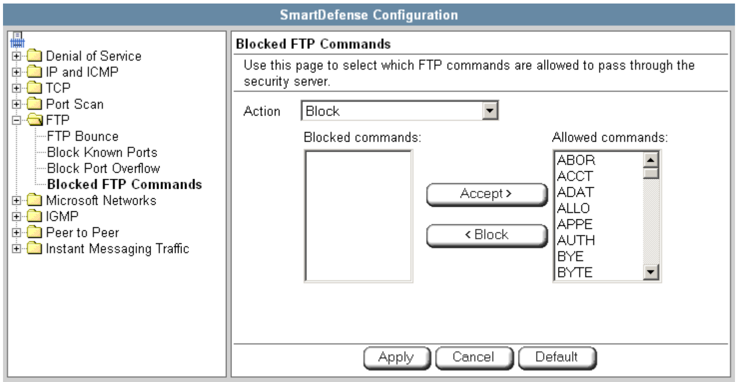
Action: Block

Table 51: Block Port Overflow

In this field…	Do this…
Action	Specify what action to take for PORT commands containing a number greater than 255, by selecting one of the following: • Block. Block the PORT command. This is the default. • None. No action.

Blocked FTP Commands

Some seldom-used FTP commands may compromise FTP server security and integrity. You can specify which FTP commands should be allowed to pass through the security server, and which should be blocked.



SmartDefense Configuration

Blocked FTP Commands

Use this page to select which FTP commands are allowed to pass through the security server.

Action: Block

Blocked commands:

Allowed commands: ABOR, ACCT, ADAT, ALLO, APPE, AUTH, BYE, BYTE

To enable FTP command blocking

- In the **Action** drop-down list, select **Block**.

  The FTP commands listed in the **Blocked commands** box will be blocked.

  FTP command blocking is enabled by default.

To disable FTP command blocking

- In the Action drop-down list, select None.

  All FTP commands are allowed, including those in the Blocked commands box.

To block a specific FTP command

1. In the Allowed commands box, select the desired FTP command.
2. Click Block.

   The FTP command appears in the Blocked commands box.
3. Click Apply.

   When FTP command blocking is enabled, the FTP command will be blocked.

To allow a specific FTP command

1. In the Blocked commands box, select the desired FTP command.
2. Click Accept.

   The FTP command appears in the Allowed commands box.
3. Click Apply.

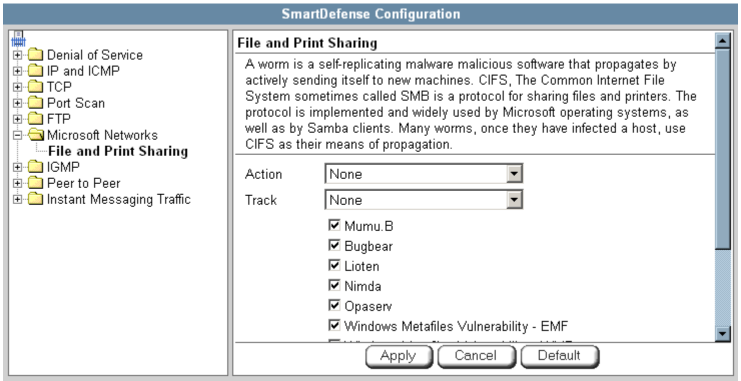
   The FTP command will be allowed, regardless of whether FTP command blocking is enabled or disabled.

Microsoft Networks

This category includes File and Print Sharing.

Microsoft operating systems and Samba clients rely on Common Internet File System (CIFS), a protocol for sharing files and printers. However, this protocol is also widely used by worms as a means of propagation.

You can configure how CIFS worms should be handled.



File and Print Sharing

A worm is a self-replicating malware malicious software that propagates by actively sending itself to new machines. CIFS, The Common Internet File System sometimes called SMB is a protocol for sharing files and printers. The protocol is implemented and widely used by Microsoft operating systems, as well as by Samba clients. Many worms, once they have infected a host, use CIFS as their means of propagation.

Action: None

Track: None

☑ Mumu.B
☑ Bugbear
☑ Lioten
☑ Nimda
☑ Opaserv
☑ Windows Metafiles Vulnerability - EMF

Table 52: File Print and Sharing Fields

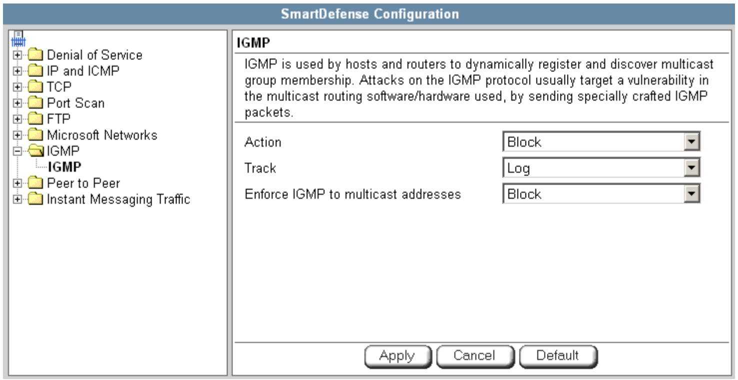
In this field…	Do this…
Action	Specify what action to take when a CIFS worm attack is detected, by selecting one of the following: • Block. Block the attack. • None. No action. This is the default.
Track	Specify whether to log CIFS worm attacks, by selecting one of the following: • Log. Log the attack. • None. Do not log the attack. This is the default.
CIFS worm patterns list	Select the worm patterns to detect. Patterns are matched against file names (including file paths but excluding the disk share name) that the client is trying to read or write from the server.

IGMP

This category includes the IGMP protocol.

IGMP is used by hosts and routers to dynamically register and discover multicast group membership. Attacks on the IGMP protocol usually target a vulnerability in the multicast routing software/hardware used, by sending specially crafted IGMP packets.

You can configure how IGMP attacks should be handled.



IGMP

IGMP is used by hosts and routers to dynamically register and discover multicast group membership. Attacks on the IGMP protocol usually target a vulnerability in the multicast routing software/hardware used, by sending specially crafted IGMP packets.

Action	Block
Track	Log
Enforce IGMP to multicast addresses	Block

Table 53: IGMP Fields

In this field…	Do this…
Action	Specify what action to take when an IGMP attack occurs, by selecting one of the following: • Block. Block the attack. This is the default. • None. No action.
Track	Specify whether to log IGMP attacks, by selecting one of the following: • Log. Log the attack. This is the default. • None. Do not log the attack.

In this field...	Do this...
Enforce IGMP to multicast addresses	According to the IGMP specification, IGMP packets must be sent to multicast addresses. Sending IGMP packets to a unicast or broadcast address might constitute and attack; therefore the Safe@Office appliance blocks such packets. Specify whether to allow or block IGMP packets that are sent to non-multicast addresses, by selecting one of the following: • Block. Block IGMP packets that are sent to non-multicast addresses. This is the default. • None. No action.

Peer to Peer

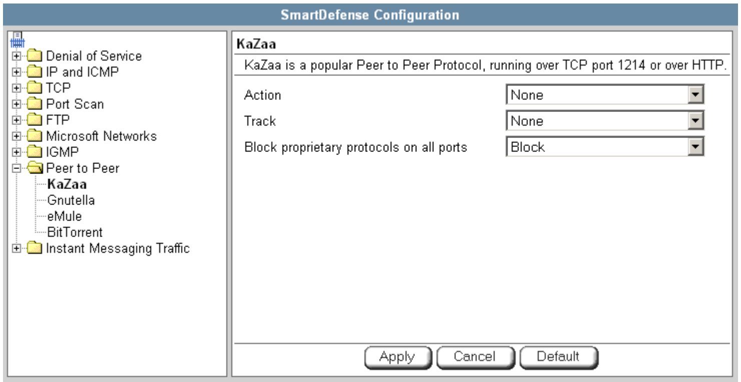
SmartDefense can block peer-to-peer traffic, by identifying the proprietary protocols and preventing the initial connection to the peer-to-peer networks. This prevents not only downloads, but also search operations.

This category includes the following nodes:

- KaZaA
- Gnutella
- eMule
- BitTorrent

Note: SmartDefense can detect peer-to-peer traffic regardless of the TCP port being used to initiate the session.

In each node, you can configure how peer-to-peer connections of the selected type should be handled, using the table below.



KaZaa

KaZaa is a popular Peer to Peer Protocol, running over TCP port 1214 or over HTTP.

Action: None

Track: None

Block proprietary protocols on all ports: Block

Table 54: Peer to Peer Fields

In this field...	Do this...
Action	Specify what action to take when a connection is attempted, by selecting one of the following: • Block. Block the connection. • None. No action. This is the default.
Track	Specify whether to log peer-to-peer connections, by selecting one of the following: • Log. Log the connection. • None. Do not log the connection. This is the default.
Block proprietary protocols on all ports	Specify whether proprietary protocols should be blocked on all ports, by selecting one of the following: • Block. Block the proprietary protocol on all ports. This in effect prevents all communication using this peer-to-peer application. This is the default. • None. Do not block the proprietary protocol on all ports.

Instant Messengers

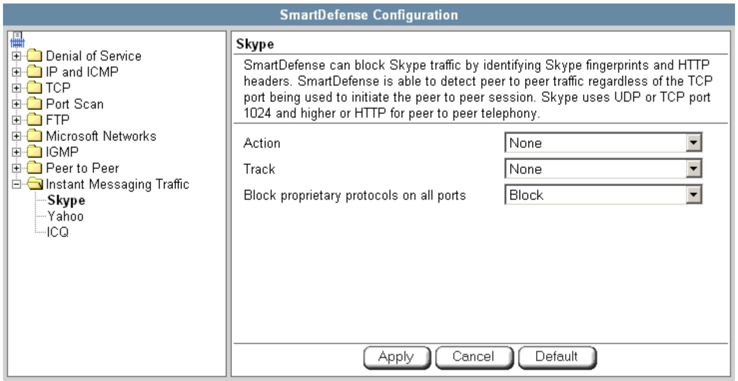
SmartDefense can block instant messaging applications that use VoIP protocols, by identifying the messaging application's fingerprints and HTTP headers.

This category includes the following nodes:

- Skype
- Yahoo
- ICQ

Note: SmartDefense can detect instant messaging traffic regardless of the TCP port being used to initiate the session.

In each node, you can configure how instant messaging connections of the selected type should be handled, using the table below.



Skype

SmartDefense can block Skype traffic by identifying Skype fingerprints and HTTP headers. SmartDefense is able to detect peer to peer traffic regardless of the TCP port being used to initiate the peer to peer session. Skype uses UDP or TCP port 1024 and higher or HTTP for peer to peer telephony.

Action	None
Track	None
Block proprietary protocols on all ports	Block

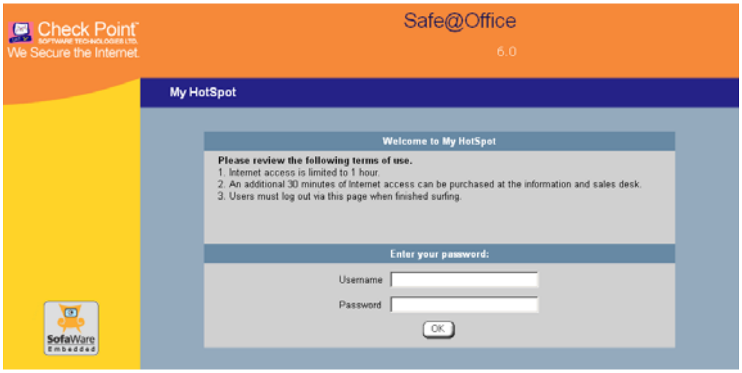
Table 55: Instant Messengers Fields

In this field...	Do this...
Action	Specify what action to take when a connection is attempted, by selecting one of the following: • Block. Block the connection. • None. No action. This is the default.
Track	Specify whether to log instant messenger connections, by selecting one of the following: • Log. Log the connection. • None. Do not log the connection. This is the default.
Block proprietary protocols on all ports	Specify whether proprietary protocols should be blocked on all ports, by selecting one of the following: • Block. Block the proprietary protocol on all ports. This in effect prevents all communication using this instant messenger application. This is the default. • None. Do not block the proprietary protocol on all ports.

Using Secure HotSpot

Power Pack

You can enable your Safe@Office appliance as a public Internet access hotspot for specific networks. When users on those networks attempt to access the Internet, they are automatically re-directed to the My HotSpot page http://my.hotspot. On this page, they must read and accept the My HotSpot terms of use, and if My HotSpot is configured to be password-protected, they must log on using their Safe@Office username and password. The users may then access the Internet.



Welcome to My HotSpot

Please review the following terms of use.

1. Internet access is limited to 1 hour.
2. An additional 30 minutes of Internet access can be purchased at the information and sales desk.
3. Users must log out via this page when finished surfing.

Enter your password:

Username

Password

Users can also log out in the My HotSpot page.

Note: HotSpot users are automatically logged out after one hour of inactivity.

Safe@Office Secure HotSpot is useful in any wired or wireless environment where Web-based user authentication or terms-of-use approval is required prior to gaining access to the network. For example, Secure HotSpot can be used in public computer labs, educational institutions, libraries, Internet cafés, and so on.

The Safe@Office appliance allows you to add guest users quickly and easily. By default, guest users are given a username and password that expire in 24 hours and granted HotSpot Access permissions only. For information on adding quick guest users, see ***Adding Quick Guest Users*** on page 369.

You can choose to exclude specific network objects from HotSpot enforcement. For information, see ***Using Network Objects*** on page 131.

Important: SecuRemote VPN software users who are authenticated by the Internal VPN Server are automatically exempt from HotSpot enforcement. This allows, for example, authenticated employees to gain full access to the corporate LAN, while guest users are permitted to access the Internet only.

Note: HotSpot enforcement can block traffic passing through the firewall; however, it does not block local traffic on the same network segment (traffic that does not pass through the firewall).

Setting Up Secure HotSpot

Power Pack

To set up Secure HotSpot

1. Enable Secure HotSpot for the desired networks.

   See ***Enabling/Disabling Secure HotSpot*** on page 260.

2. Customize Secure HotSpot as desired.

   See ***Customizing Secure HotSpot*** on page 261.

3. Grant HotSpot Access permissions to users on the selected networks.

   See ***Adding and Editing Users*** on page 365.

4. To exclude specific computers from HotSpot enforcement, by adding or editing their network objects.

   See ***Adding and Editing Network Objects*** on page 132.

   You must select Exclude this computer/network from HotSpot enforcement option.

5. Add quick guest users as needed.

   See ***Adding Quick Guest Users*** on page 369.

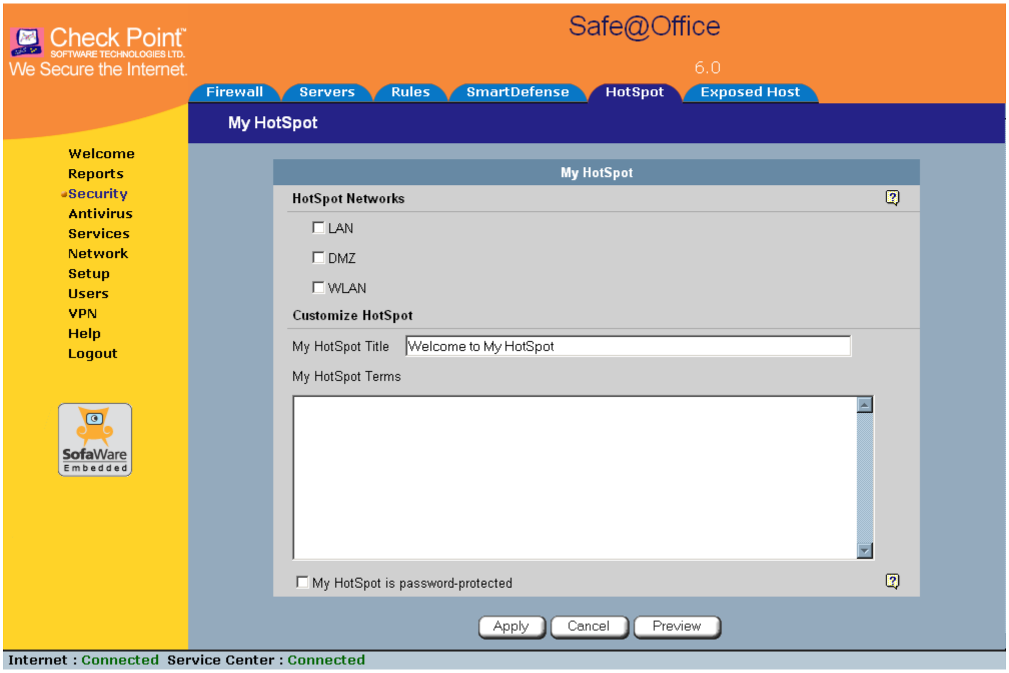
Enabling/Disabling Secure HotSpot

Power Pack

To enable/disable Secure HotSpot

1. Click Security in the main menu, and click the My HotSpot tab.

   The My HotSpot page appears.



My HotSpot

HotSpot Networks

□ LAN

□ DMZ

□ WLAN

Customize HotSpot

My HotSpot Title: Welcome to My HotSpot

My HotSpot Terms

□ My HotSpot is password-protected

Internet : Connected Service Center : Connected

2. In the HotSpot Networks area, do one of the following:
   - To enable Secure HotSpot for a specific network, select the check box next to the network.
   - To disable Secure HotSpot for a specific network, clear the check box next to the network.
3. Click Apply.

Customizing Secure HotSpot

Power Pack

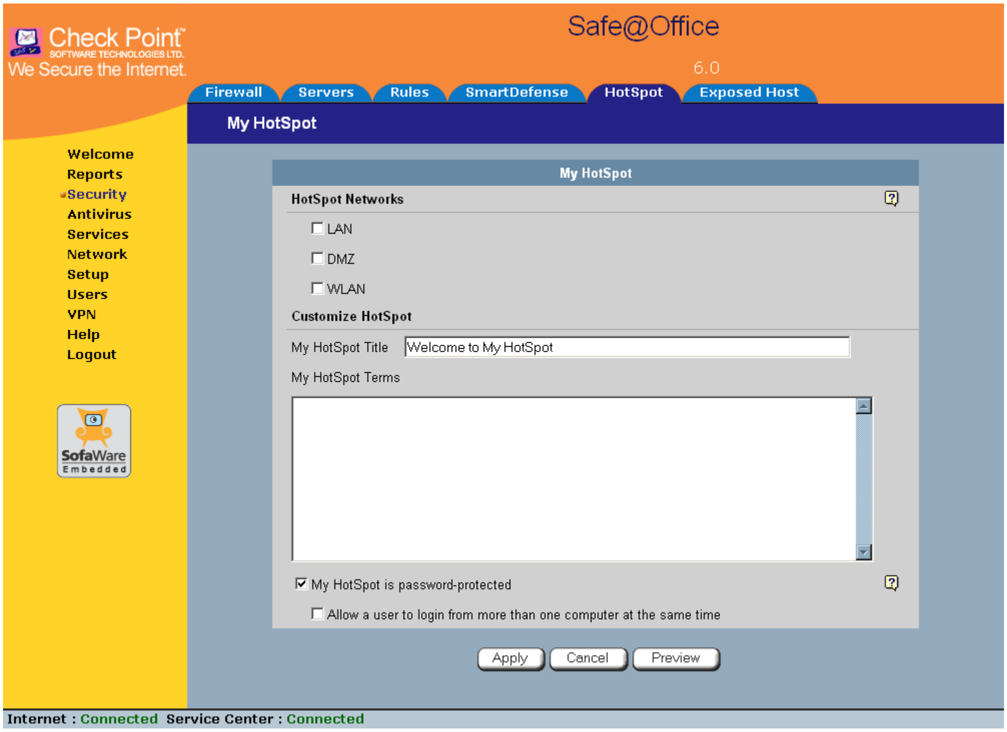
To customize Secure HotSpot

1. Click **Security** in the main menu, and click the **My HotSpot** tab.

   The **My HotSpot** page appears.

2. Complete the fields using the information in the table below.

   Additional fields may appear.



My HotSpot

My HotSpot

HotSpot Networks

□ LAN

□ DMZ

□ WLAN

Customize HotSpot

My HotSpot Title: Welcome to My HotSpot

My HotSpot Terms

☑ My HotSpot is password-protected

□ Allow a user to login from more than one computer at the same time

Apply | Cancel | Preview

Internet : Connected Service Center : Connected

3. To preview the My HotSpot page, click **Preview**.

   A browser window opens displaying the My HotSpot page.

4. Click **Apply**.

   Your changes are saved.

Table 56: My HotSpot Fields

In this field…	Do this…
My HotSpot Title	Type the title that should appear on the My HotSpot page. The default title is "Welcome to My HotSpot".
My HotSpot Terms	Type the terms to which the user must agree before accessing the Internet. You can use HTML tags as needed.
My HotSpot is password protected	Select this option to require users to enter their username and password before accessing the Internet. If this option is not selected, users will be required only to accept the terms of use before accessing the network. The **Allow a user to login from more than one computer at the same time** check box appears.
Allow a user to login from more than one computer at the same time	Select this option to allow a single user to log on to My HotSpot from multiple computers at the same time.

Defining an Exposed Host

500

The Safe@Office appliance allows you to define an exposed host, which is a computer that is not protected by the firewall. This is useful for setting up a public server. It allows unlimited incoming and outgoing connections between the Internet and the exposed host computer.

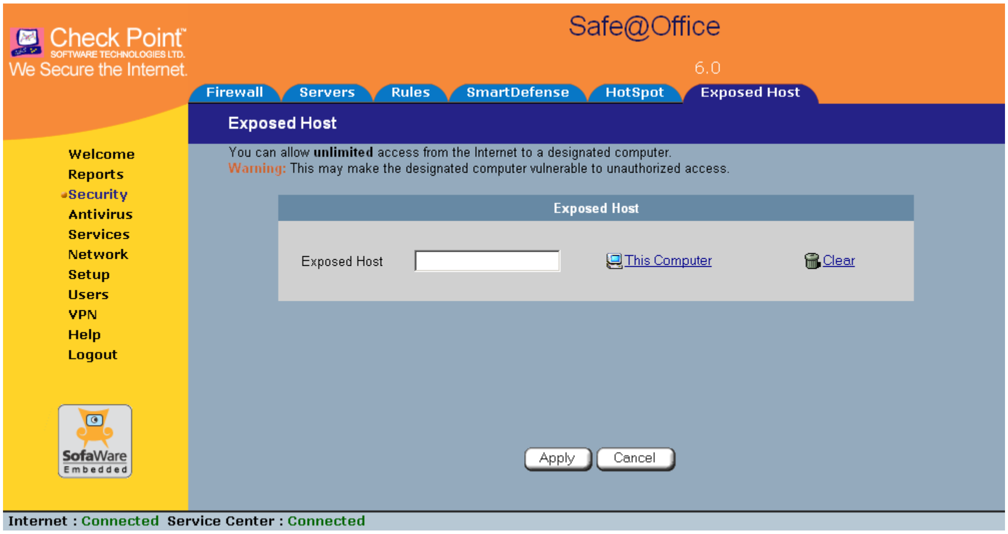
The exposed host receives all traffic that was not forwarded to another computer by use of Allow and Forward rules.

Warning: Entering an IP address may make the designated computer vulnerable to hacker attacks. Defining an exposed host is not recommended unless you are fully aware of the security risks.

To define a computer as an exposed host

1. Click Security in the main menu, and click the Exposed Host tab.

   The Exposed Host page appears.



Exposed Host

You can allow **unlimited** access from the Internet to a designated computer.
Warning: This may make the designated computer vulnerable to unauthorized access.

Exposed Host

Exposed Host

Internet : Connected Service Center : Connected

2. In the Exposed Host field, type the IP address of the computer you wish to define as an exposed host.

   Alternatively, you can click This Computer to define your computer as the exposed host.

3. Click Apply.

   The selected computer is now defined as an exposed host.

To clear the exposed host

1. Click Security in the main menu, and click the Exposed Host tab.

   The Exposed Host page appears.

2. Click Clear.

3. Click Apply.

   No exposed host is defined.

Chapter 10

Using VStream Antivirus

This chapter explains how to use the VStream Antivirus engine to block security threats before they reach your network.

This chapter includes the following topics:

Overview

The Safe@Office appliance includes VStream Antivirus, an embedded stream-based antivirus engine based on Check Point Stateful Inspection and Application Intelligence technologies, that performs virus scanning at the kernel level.

VStream Antivirus scans files for malicious content on the fly, without downloading the files into intermediate storage. This means minimal added latency and support for unlimited file sizes; and since VStream Antivirus stores only minimal state information per connection, it can scan thousands of connections concurrently. In order to scan archive files on the fly, VStream Antivirus performs real-time decompression and scanning of ZIP, TAR, and GZ archive files, with support for nested archive files.

When VStream Antivirus detects malicious content, the action it takes depends on the protocol in which the virus was found. See the table below. In each case, VStream Antivirus blocks the file and writes a log to the Event Log.

Table 57: VStream Antivirus Actions

If a virus if found in this protocol...	VStream Antivirus does this...	The protocol is detected on this port...
HTTP	• Terminates the connection	All ports on which VStream is enabled by the policy, not only port 80
POP3	• Terminates the connection • Deletes the virus-infected email from the server	The standard TCP port 110.
IMAP	• Terminates the connection • Replaces the virus-infected email with a message notifying the user that a virus was found	The standard TCP port 143
SMTP	• Rejects the virus-infected email with error code 554 • Sends a "Virus detected" message to the sender	The standard TCP port 25
FTP	• Terminates the data connection • Sends a "Virus detected" message to the FTP client	The standard TCP port 21
TCP and UDP	• Terminates the connection	Generic TCP and UDP ports, other than those listed above

Note: In protocols that are not listed in this table, VStream Antivirus uses a "best effort" approach to detect viruses. In such cases, detection of viruses is not guaranteed and depends on the specific encoding used by the protocol.

If you are subscribed to the VStream Antivirus subscription service, VStream Antivirus virus signatures are automatically updated, so that security is always up-to-date, and your network is always protected.

Note: VStream Antivirus differs from the Email Antivirus subscription service (part of the Email Filtering service) in the following ways:

- Email Antivirus is centralized, redirecting traffic through the Service Center for scanning, while VStream Antivirus scans for viruses in the Safe@Office gateway itself.
- Email Antivirus is specific to email, scanning incoming POP3 and outgoing SMTP connections only, while VStream Antivirus supports additional protocols, including incoming SMTP and outgoing POP3 connections.

You can use either antivirus solution or both in conjunction. For information on Email Antivirus, see ***Email Filtering*** on page 296.

Enabling/Disabling VStream Antivirus

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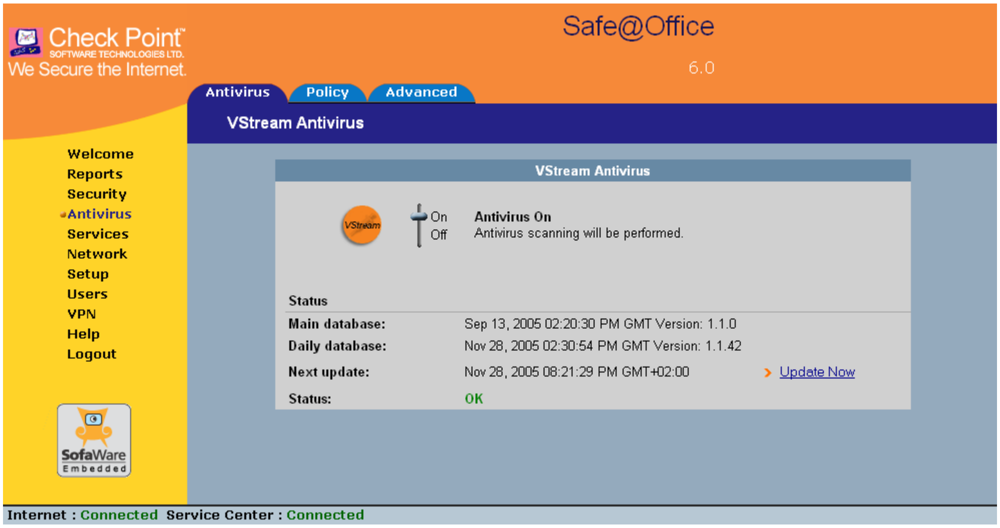
To enable/disable VStream Antivirus

1. Click **Antivirus** in the main menu, and click the **Antivirus** tab.

The **VStream Antivirus** page appears.



Antivirus On
Antivirus scanning will be performed.

Status

Main database: Sep 13, 2005 02:20:30 PM GMT Version: 1.1.0

Daily database: Nov 28, 2005 02:30:54 PM GMT Version: 1.1.42

Next update: Nov 28, 2005 08:21:29 PM GMT+02:00 › Update Now

Status: OK

Internet : Connected Service Center : Connected

2. Drag the **On/Off** lever upwards or downwards.

   VStream Antivirus is enabled/disabled for all internal network computers.

Viewing VStream Signature Database Information

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VStream Antivirus maintains two databases: a daily database and a main database. The daily database is updated frequently with the newest virus signatures. Periodically, the contents of the daily database are moved to the main database, leaving the daily database empty. This system of incremental updates to the main database allows for quicker updates and saves on network bandwidth.

You can view information about the VStream signature databases currently in use, in the **VStream Antivirus** page.

Table 58: Account Page Fields

This field…	Displays…
Main database	The date and time at which the main database was last updated, followed by the version number.
Daily database	The date and time at which the daily database was last updated, followed by the version number.
Next update	The next date and time at which the Safe@Office appliance will check for updates.
Status	The current status of the database. This includes the following statuses: • Database Not Installed • OK

Configuring VStream Antivirus

You can configure VStream Antivirus in the following ways:

- ***Configuring the VStream Antivirus Policy*** on page 269
- ***Configuring VStream Advanced Settings*** on page 277

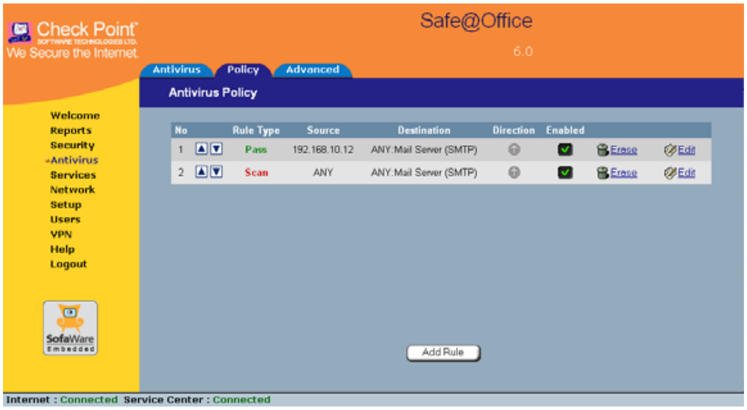
Configuring the VStream Antivirus Policy

500

VStream Antivirus includes a flexible mechanism that allows the user to define exactly which traffic should be scanned, by specifying the protocol, ports, and source and destination IP addresses.

VStream Antivirus processes policy rules in the order they appear in the Antivirus Policy table, so that rule 1 is applied before rule 2, and so on. This enables you to define exceptions to rules, by placing the exceptions higher up in the Rules table.

For example, if you want to scan all outgoing SMTP traffic, except traffic from a specific IP address, you can create a rule scanning all outgoing SMTP traffic and move the rule down in the Antivirus Policy table. Then create a rule passing SMTP traffic from the desired IP address and move this rule to a higher location in the Antivirus Policy table than the first rule. In the figure below, the general rule is rule number 2, and the exception is rule number 1.



Antivirus Policy

No		Rule Type	Source	Destination	Direction	Enabled		
1	▲▼	Pass	192.168.10.12	ANY:Mail Server (SMTP)	●	✓	Erase	Edit
2	▲▼	Scan	ANY	ANY:Mail Server (SMTP)	●	✓	Erase	Edit

Internet : Connected Service Center : Connected

The Safe@Office appliance will process rule 1 first, passing outgoing SMTP traffic from the specified IP address, and only then it will process rule 2, scanning all outgoing SMTP traffic.

The following rule types exist:

VStream Antivirus Rule Types

Table 59: VStream Antivirus Rule Types

Rule	Description
Pass	This rule type enables you to specify that VStream Antivirus should not scan traffic matching the rule.

Rule	Description
Scan	This rule type enables you to specify that VStream Antivirus should scan traffic matching the rule. If a virus is found, it is blocked and logged.

Adding and Editing Rules

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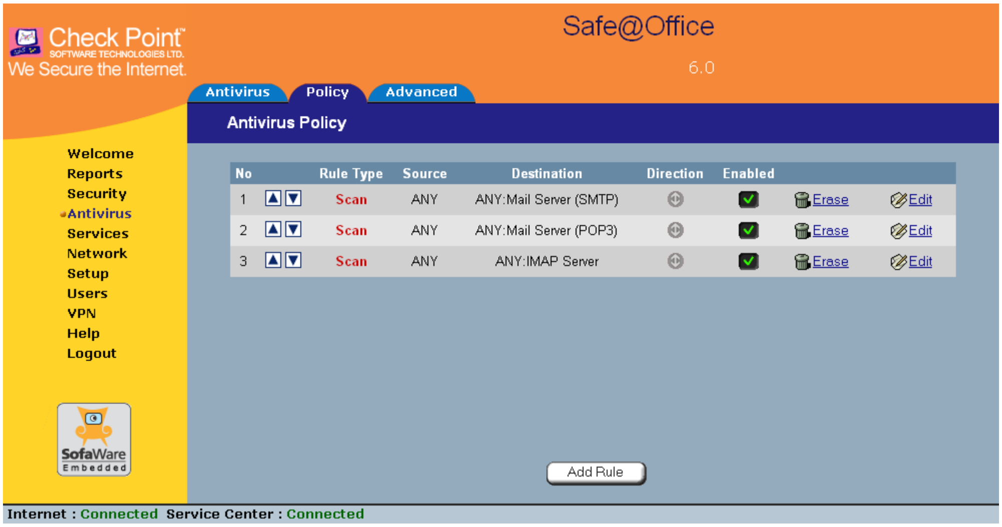
To add or edit a rule

1. Click **Antivirus** in the main menu, and click the **Policy** tab.

   The **Antivirus Policy** page appears.



Antivirus Policy

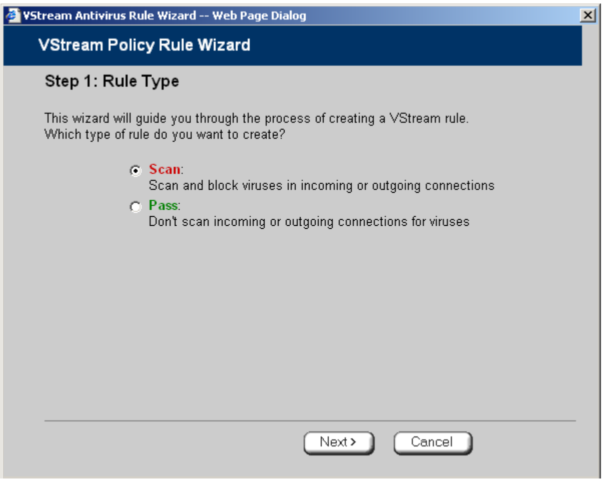
No		Rule Type	Source	Destination	Direction	Enabled		
1	▲▼	Scan	ANY	ANY:Mail Server (SMTP)	⊕	✓	Erase	Edit
2	▲▼	Scan	ANY	ANY:Mail Server (POP3)	⊕	✓	Erase	Edit
3	▲▼	Scan	ANY	ANY:IMAP Server	⊕	✓	Erase	Edit

Internet : Connected Service Center : Connected

2. Do one of the following:

   - To add a new rule, click **Add Rule**.
   - To edit an existing rule, click the Edit icon next to the desired rule.

The **VStream Policy Rule Wizard** opens, with the **Step 1: Rule Type** dialog box displayed.



VStream Antivirus Rule Wizard -- Web Page Dialog

VStream Policy Rule Wizard

Step 1: Rule Type

This wizard will guide you through the process of creating a VStream rule.
Which type of rule do you want to create?

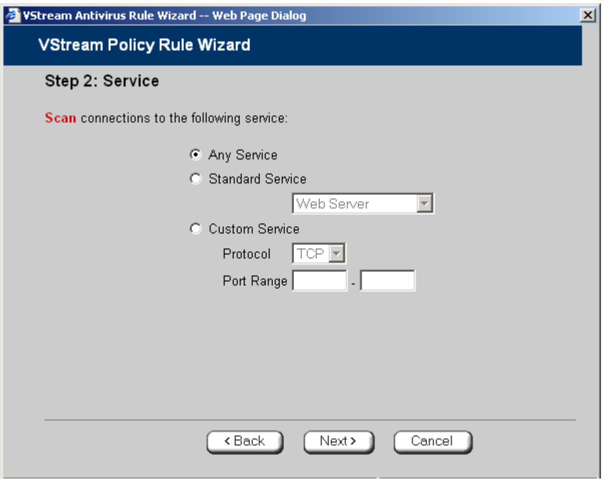
● Scan:
Scan and block viruses in incoming or outgoing connections

○ Pass:
Don't scan incoming or outgoing connections for viruses

3. Select the type of rule you want to create.
4. Click **Next**.

   The **Step 2: Service** dialog box appears.

   The example below shows a Scan rule.



VStream Antivirus Rule Wizard -- Web Page Dialog

VStream Policy Rule Wizard

Step 2: Service

Scan connections to the following service:

● Any Service

○ Standard Service

Web Server

○ Custom Service

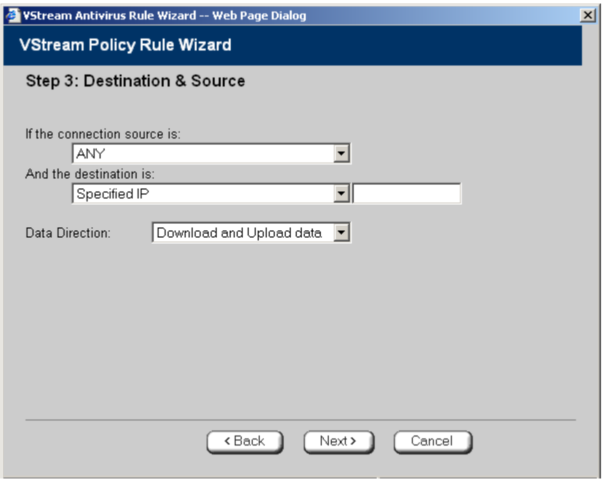
Protocol TCP

Port Range -

5. Complete the fields using the relevant information in the table below.

6. Click **Next**.

   The **Step 3: Destination & Source** dialog box appears.



VStream Antivirus Rule Wizard -- Web Page Dialog
VStream Policy Rule Wizard

Step 3: Destination & Source

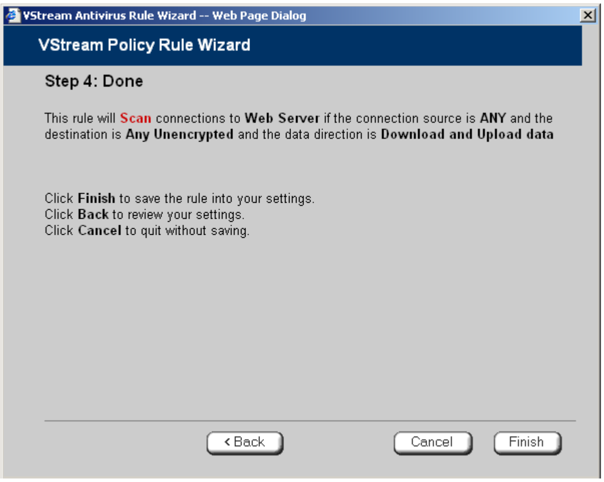
If the connection source is: ANY

And the destination is: Specified IP

Data Direction: Download and Upload data

7. Complete the fields using the relevant information in the table below.

   The **Step 4: Done** dialog box appears.



VStream Antivirus Rule Wizard -- Web Page Dialog
VStream Policy Rule Wizard

Step 4: Done

This rule will **Scan** connections to **Web Server** if the connection source is **ANY** and the destination is **Any Unencrypted** and the data direction is **Download and Upload data**

Click **Finish** to save the rule into your settings.
Click **Back** to review your settings.
Click **Cancel** to quit without saving.

8. Click **Finish**.

   The new rule appears in the **Firewall Rules** page.

Table 60: VStream Rule Fields

In this field…	Do this…
Any Service	Click this option to specify that the rule should apply to any service.
Standard Service	Click this option to specify that the rule should apply to a specific standard service. You must then select the desired service from the drop-down list.
Custom Service	Click this option to specify that the rule should apply to a specific non-standard service. The Protocol and Port Range fields are enabled. You must fill them in.
Protocol	Select the protocol (TCP, UDP, or ANY) for which the rule should apply.
Ports	To specify the port range to which the rule applies, type the start port number in the left text box, and the end port number in the right text box. Note: If you do not enter a port range, the rule will apply to all ports. If you enter only one port number, the range will include only that port.
If the connection source is	Select the source of the connections you want to allow/block. To specify an IP address, select Specified IP and type the desired IP address in the filed provided. To specify an IP address range, select Specified Range and type the desired IP address range in the fields provided.

In this field…	Do this…
And the destination is	Select the destination of the connections you want to allow or block. To specify an IP address, select Specified IP and type the desired IP address in the text box. To specify an IP address range, select Specified Range and type the desired IP address range in the fields provided. This option is not available in Allow and Forward rules. To specify the Safe@Office Portal and network printers, select This Gateway. This option is not available in Allow and Forward rules. To specify any destination *except* the Safe@Office Portal and network printers, select ANY.
Data Direction	Select the direction of connections to which the rule should apply: • Download and Upload data. The rule applies to downloaded and uploaded data. This is the default. • Download data. The rule applies to downloaded data, that is, data flowing from the destination of the connection to the source of the connection. • Upload data. The rule applies to uploaded data, that is, data flowing from the source of the connection to the destination of the connection.

Enabling/Disabling Rules

500

You can temporarily disable a VStream Antivirus rule.

To enable/disable a rule

1. Click Antivirus in the main menu, and click the Policy tab.

   The Antivirus Policy page appears.

2. Next to the desired rule, do one of the following:

   - To enable the rule, click ☒.

     The button changes to ☑ and the rule is enabled.

   - To disable the rule, click ☑.

     The button changes to ☒ and the rule is disabled.

Changing Rules' Priority

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To change a rule's priority

1. Click **Antivirus** in the main menu, and click the **Policy** tab.

   The **Antivirus Policy** page appears.

2. Do one of the following:

   - Click ▲ next to the desired rule, to move the rule up in the table.
   - Click ▼ next to the desired rule, to move the rule down in the table.

   The rule's priority changes accordingly.

Deleting Rules

500

To delete an existing rule

1. Click **Antivirus** in the main menu, and click the **Policy** tab.

   The **Antivirus Policy** page appears.

2. Click the Erase 🗑 icon of the rule you wish to delete.

   A confirmation message appears.

3. Click OK.

   The rule is deleted.

Configuring VStream Advanced Settings

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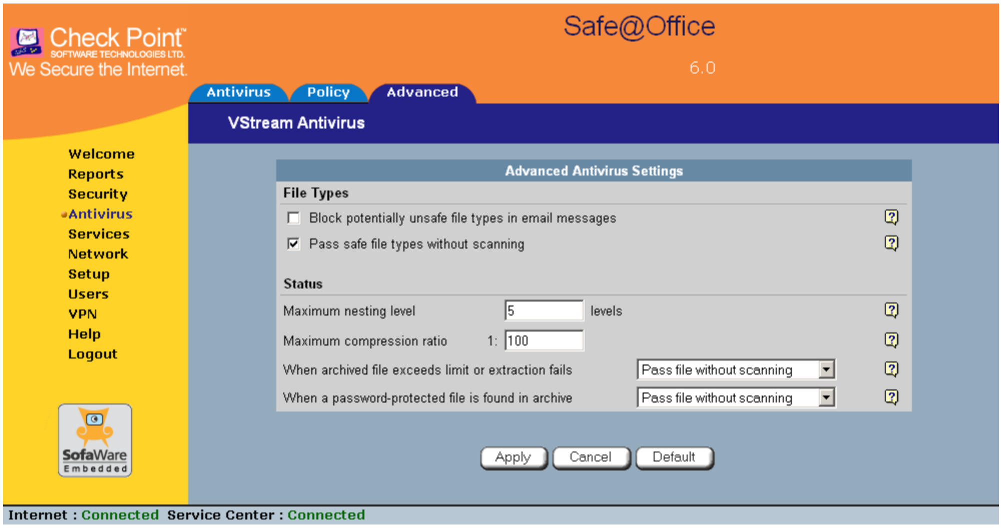
To configure VStream Antivirus advanced settings

1. Click Antivirus in the main menu, and click the Advanced tab.

   The Advanced Antivirus Settings page appears.



Advanced Antivirus Settings

File Types

□ Block potentially unsafe file types in email messages

☑ Pass safe file types without scanning

Status

Maximum nesting level	5	levels
Maximum compression ratio	1: 100	
When archived file exceeds limit or extraction fails	Pass file without scanning	
When a password-protected file is found in archive	Pass file without scanning	

Internet : Connected Service Center : Connected

2. Complete the fields using the table below.
3. Click Apply.
4. To restore the default VStream Antivirus settings, do the following:

   a) Click Default.

      A confirmation message appears.

   b) Click OK.

The VStream Antivirus settings are reset to their defaults. For information on the default values, refer to the table below.

Table 61: Advanced Antivirus Settings Fields

In this field…	Do this…
File Types	
Block potentially unsafe file types in email messages	Select this option to block all emails containing potentially unsafe attachments. Unsafe file types are: • DOS/Windows executables, libraries and drivers • Compiled HTML Help files • VBScript files • Files with {CLSID} in their name • The following file extensions: ade, adp, bas, bat, chm, cmd,com, cpl, crt, exe, hlp, hta, inf, ins, isp, js, jse, lnk, mdb, mde, msc, msi, msp, mst, pcd, pif, reg, scr, sct, shs,shb, url, vb, vbe, vbs, wsc, wsf, wsh.

In this field…	Do this…
Pass safe file types without scanning	Select this option to accept common file types that are known to be safe, without scanning them. Safe files types are: • MPEG streams • RIFF Ogg Stream • MP3 • PDF • PostScript • WMA/WMV/ASF • RealMedia • JPEG - only the header is scanned, and the rest of the file is skipped Selecting this option reduces the load on the gateway by skipping safe file types. This option is selected by default.
Status	
Maximum nesting level	Type the maximum number of nested content levels that VStream Antivirus should scan. Setting a higher number increases security. Setting a lower number prevents attackers from overloading the gateway by sending extremely nested archive files. The default value is 5 levels.

In this field...	Do this...
Maximum compression ratio 1:x	Fill in the field to complete the maximum compression ratio of files that VStream Antivirus should scan. For example, to specify a 1:150 maximum compression ratio, type 150. Setting a higher number allows the scanning of highly compressed files, but creates a potential for highly compressible files to create a heavy load on the appliance. Setting a lower number prevents attackers from overloading the gateway by sending extremely compressible files. The default value is 100.
When archived file exceeds limit or extraction fails	Specify how VStream Antivirus should handle files that exceed the **Maximum nesting level** or the **Maximum compression ratio**, and files for which scanning fails. Select one of the following: • **Pass file without scanning**. Scan only the number of levels specified, and skip the scanning of more deeply nested archives. Furthermore, skip scanning highly compressible files, and skip scanning archives that cannot be extracted because they are corrupt. This is the default. • **Block file**. Block the file.
When a password-protected file is found in archive	VStream Antivirus cannot extract and scan password-protected files inside archive. Specify how VStream Antivirus should handle such files, by selecting one of the following: • **Pass file without scanning**. Accept the file without scanning it. This is the default. • **Block file**. Block the file.

Updating VStream Antivirus

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When you are subscribed to the VStream Antivirus updates service, VStream Antivirus virus signatures are automatically updated, keeping security up-to-date with no need for user intervention. However, you can still check for updates manually, if needed.

To update the VStream Antivirus virus signature database

1. Click Antivirus in the main menu, and click the Antivirus tab.

   The VStream Antivirus page appears.

2. Click Update Now.

   The VStream Antivirus database is updated with the latest virus signatures.

Chapter 11

Using Subscription Services

This chapter explains how to start subscription services, and how to use Software Updates, Web Filtering, and Email Filtering services.

Note: Check with your reseller regarding availability of subscription services, or surf to www.sofaware.com/servicecenters to locate a Service Center in your area.

This chapter includes the following topics:

Connecting to a Service Center

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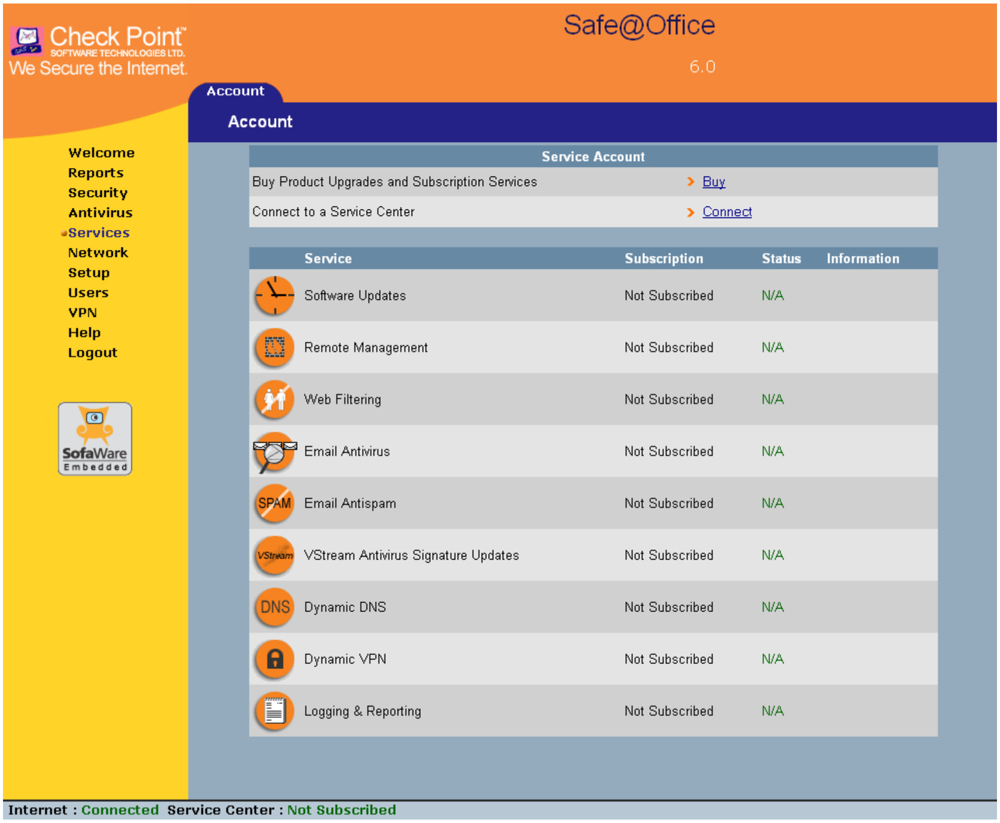
To connect to a Service Center

1. Click **Services** in the main menu, and click the **Account** tab.

The **Account** page appears.



Service Account	
Buy Product Upgrades and Subscription Services	› Buy
Connect to a Service Center	› Connect

Service	Subscription	Status	Information
Software Updates	Not Subscribed	N/A	
Remote Management	Not Subscribed	N/A	
Web Filtering	Not Subscribed	N/A	
Email Antivirus	Not Subscribed	N/A	
Email Antispam	Not Subscribed	N/A	
VStream Antivirus Signature Updates	Not Subscribed	N/A	
Dynamic DNS	Not Subscribed	N/A	
Dynamic VPN	Not Subscribed	N/A	
Logging & Reporting	Not Subscribed	N/A	

Internet : Connected Service Center : Not Subscribed

2. In the **Service Account** area, click **Connect**.