TrafficShield ® Installation and Configuration Manual

version 3.2

MAN-0141-00

Service and Support Information

Product Version

This manual applies to product version 3.2 of the TrafficShield® Application Firewall.

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1

Introduction

- Product overview
- Document objectives
- How this manual is organized
- Audience and assumed knowledge
- Related documentation

Product overview

Web applications are the single greatest point of contact most people have with corporations today. However, these applications let users through the traditional security perimeter around the company's IT infrastructure, allowing access to sensitive internal data. Today the Web application is the security perimeter. That is, enterprises are relying on the security of each application to keep users from accessing restricted data or systems. Browser-based applications are inherently difficult to secure and full of vulnerabilities.

F5® Networks TrafficShield® security application, is a dedicated appliance built to protect applications by preventing hackers from stealing customer and corporate data. It can map each application to determine every legal user action, and then blocks actions not known to be legal according to this map.

This manual describes the single-unit deployment and the optional Standby unit deployment.

Document objectives

This user guide describes how to configure and manage the TrafficShield security applications. Configuration Administration operations are using the TrafficShield Management Station (TSMS), a Web-based tool built into the TrafficShield security application units.

How this manual is organized

The user interface organization is based on an everyday user's perspective: the user has configured the TrafficShield security application and has now switched to an ongoing maintenance focused mode.

The manual's focus is on the first-time user performing the initial steps to install the TrafficShield security application:

- Pre-configure the Unit outside TSMS
- Launch TSMS and complete the unit configuration.
- Register the production license.
- Define all relevant Web Applications.

Only then will the user be able to create policies and be able to utilize all the other Configuration and Policy management features of this product.

This manual consists of the following chapters:

Chapter 1- Introduction: This chapter provides an overview of the TrafficShield security application, traces the document objectives, how the manual is organized, the targeted audience and their assumed knowledge, and a note about related documents

Chapter 2 - Installing TrafficShield Units: This chapter explains how to perform an initial installation of the TrafficShield security application and its Standby unit.

Chapter 3 - Configuration: The installation process is followed by a network configuration stage. In this stage, you can define a Standby unit, if not defined during installation, set static routes, and assign aliases to the network cards. This chapter focuses on these topics, as well as on additional configuration parameters and Licensing.

Chapter 4 - Web Applications: This chapter explains how to create a Web application definition in TSMS, and how to continue to maintain it.

Chapter 5 - Monitoring: This chapter describes the tools that can be used by the network and policy administrators to monitor request traffic. It also explains how to use the TrafficShield security application monitoring tools to follow up potential attacks and workload.

Chapter 6 - Administration: This chapter describes administrative operations such as defining additional users, backups, downloading helpful utilities, etc.

Glossary: Provides a glossary of terms and abbreviations used throughout the document.

Audience and assumed knowledge

This document is intended for network operators and security administrators. Additional information and technical support is available on request.

Related documentation

The ***TrafficShield® Security and Policy Manual Version 3.2*** explains how to set up a TrafficShield security policy and how to apply it to a Web application. The manual presents the TrafficShield® security application concepts and shows how the concepts are implemented in the security policy context.

2

Installing TrafficShield Units

- Network terminology
- Installing TrafficShield in Active and Standby topology
- IP to Web server

Network terminology

Before you install and configure the TrafficShield security application unit, you need to determine several IP addresses. This section describes the function of each address.

TrafficShield private network

This is the network which all TrafficShield security application units use to communicate between each other for management purposes.

Private IP

An IP address uniquely assigned to a TrafficShield security application unit. Each unit may have only one private IP address. The Private IP address will be assigned as an alias of the Eth0 network card. If the intended topology of the TrafficShield security application consists of more than one unit, then the internal communication between the units will be based on Private IP addresses.

Service IP

The IP address at which the TrafficShield security application unit receives requests directed to the Web application. In a network not protected by the TrafficShield security application, this would be the IP address of the Web server. After installing the TrafficShield security application, you can assign the Web server's current IP address to the TrafficShield security application unit as a service IP (the Web server will get a different address).

◆ **Note**

In some cases this is the IP address which is mapped to the DNS A record of the web server. Usually this is an external IP.

Each TrafficShield security application unit may have as many Service IP addresses as the number of Web applications it protects (up to 255 web applications, which limits the number of service IP addresses to 255 as well). This address is disabled when the unit is in standby mode.
Service IP addresses maybe assigned to either the Eth0 or Eth1 card, according to the Unit Installation and System Configuration.

IP to Web server

This is the IP address allocated on the TrafficShield security application unit for communicating with the Web server. This IP address is used by all Web applications. This IP address is usually an internal address. This address is disabled when the unit is in standby mode.

You can set both the IP to Web Server and the Service IP to the same address, if the Service IP addresses are attached to Eth0.

Server IP

This is the IP address of the real Web server to which the TrafficShield security application forwards the requests.

Trusted IP

An IP address authorized to send to the Web server extended HTTP methods such as PUT, DELETE, etc.

Permanent IP

An IP address allocated to the TrafficShield security application unit that allows an Administrator to access the unit even when it is in standby mode.

One TrafficShield security application unit may have multiple Permanent IP addresses.

Permanent IP addresses may be assigned either to Eth0 or to Eth1 cards, depending on whether the Administrator intends to install and administer the unit internally or externally.

Static Route

Add static routes, as required.

Gateway

This is the default gateway for the TrafficShield security application unit.

Alias IP

This optional IP address can be used for management purposes. This address is published only on the active unit. If the active unit fails, this address will be transferred to the Standby unit once it becomes active.

◆ **Note**

The permanent IP and the Alias IP can be configured for the internal interface as well.Alias IP addresses may be assigned either to Eth0 or to Eth1 interfaces.

Installation and configuration workflow

TrafficShield security application may be installed in three topologies:

- Single (Active) unit
- Primary (Active) unit with one Standby unit
- Load Balancer topology including one Active unit, one Standby unit, and at least one Shield unit

In all three topologies, you start the configuration by running the **tsconfig.pl** script on the **tsconfig** UNIX prompt of the Active unit.

The following sections describe the installation and configuration workflow for each of these topologies, and provide step-by-step instructions to configure a Primary unit and its Standby unit.

◆ **Note**

The step-by-step instructions for configuring the TrafficShield units in Load Balancer topology are provided in a separate manual (see ***TrafficShield Load Balancer Topology Configuration Manual version 3.2****).*

Installation workflow for a single unit topology

The following workflow describes the process required to install and configure the TrafficShield units in a Single unit topology.

You must follow these procedures in the order given:

1. Run **tsconfig.pl** for the Primary unit (see *Running tsconfig.pl for the Primary (Active) unit*, on page 2-7).
2. Access TrafficShield Management System (TSMS) and follow the instructions of the Configuration Wizard (see *Accessing TSMS*, on page 3-1).
3. Install the license using the Configuration Wizard (see *Activating the license*, on page 3-10).
4. Configure the web application (see *Web Application Wizard*, on page 4-2).

Installation workflow for a Primary with Standby unit topology

In the Primary and Standby units configuration, you install the TrafficShield security application on the two units. Both units are identical. The Standby unit is automatically activated when the active unit fails.

The following workflow describes the process required to install and configure the TrafficShield units, including the different step-by-step procedures.

You must follow these procedures in the order given:

1. Run the **tsconfig.pl** script for the Primary unit (see *Running tsconfig.pl for the Primary (Active) unit*, on page 2-7).
2. Access TrafficShield Management System (TSMS) on the Primary unit (see *Accessing TSMS*, on page 3-1).
3. In the Primary (Active) unit TrafficShield Configuration Wizard, define the Standby unit (see *TrafficShield Configuration wizard*, on page 3-2).
4. Run the **tsconfig.pl** script on the Standby unit (see *Running tsconfig.pl for the Standby unit*, on page 2-10).
5. Install the license (see *Activating the license*, on page 3-10).
6. Configure the web application (see *Web Application Wizard*, on page 4-2).

Installation workflow for a TrafficShield Load Balancer topology

The TrafficShield security application software can also be installed in a Load Balancer configuration, in which the Database and TSMS application will be installed on two units (Active and Standby units) and the Shield application will be installed on all other units.

◆ **Note**

Configuring a web application without installing the license prevents TrafficShield security application from performing any kind of traffic blocking

◆ **Note**

The TrafficShield security application should always be installed behind a network firewall before deployment on a network.

Installing TrafficShield in Active and Standby topology

This section explains how to configure a single unit and/or its standby unit after they have been physically connected to the network.

At this stage you will be asked to run a script that defines the minimal parameters needed by the TrafficShield Management Station (TSMS) to continue the installation via the user interface.

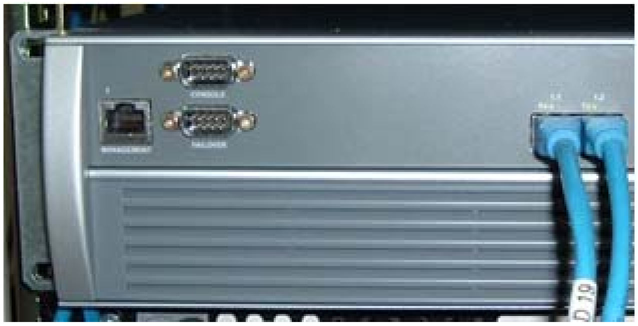
To install and configure a unit in a single-unit topology

1. Connect a power cable to the TrafficShield security application unit.
2. Connect the TrafficShield security application unit to the network.

   The TrafficShield security application supports two types of network configuration:

   - **(Eth0 only)** - A single network cable, plugged into the Eth0 card (port 1.1), connects the TrafficShield security application unit, Web server's internal network and service network. This option may be selected when there is no security need to physically separate the client-to-unit traffic from the unit-to-web server traffic. Accordingly, the service IPs should be attached to Eth0 at the System Configuration step in the graphical user interface. See Chapter 3, *Configuring the TrafficShield units*.
   - **(Eth0 and Eth1)** - Two network cables, plugged into the Eth0 card (port 1.1) and Eth1 card (port 1.2) respectively. The Eth0 card connects the TrafficShield unit to the Web server's internal network and to additional TrafficShield Application units. This option ensures a total separation between external and internal traffic. Accordingly, the service IPs should be attached to Eth1 at the System Configuration step in the user interface. See *Configuring the TrafficShield units*, on page 3-1.
3. Prepare a serial console terminal.
   This can be any PC with any serial console software installed on it.
   For example: Microsoft® Hyper terminal.

4. Attach a serial cable from the serial console terminal to the RS232 serial console port on the TrafficShield security application unit's front panel. Please see photograph below.



5. Launch your serial console software per the software manufacturer's instructions.
6. Configure your serial console software as follows:
   - baud rate (speed) of: 19200 bit per sec
   - Parity: Odd
   - Data: 8
   - stop Bit: 1
7. Log on to the TrafficShield security application unit using the following username and password:
   - User: root
   - Password: default

Running tsconfig.pl for the Primary (Active) unit

The **/ts/install/tsconfig.pl** script prompts you to enter the following parameters.

◆ **Note**

All IPs and values displayed below are examples only. Some IP addresses entered during the installation process may have multiple instances. In such cases, the installation program allows you to enter one address. You can later add other instances, using TSMS.

◆ **Tip**

It is important to prepare all the required information before beginning the configuration.

Enter current system password

In the previous task, you logged in by entering the system password of the unit. This password has been delivered to you by the TrafficShield security application supplier. You can change this password now, in order to ensure maximum security.

Enter new password:

Enter a new password for the unit. This replaces the root password with your own private and secure password.

Re-enter new password:

Re-enter the new password

TrafficShield system topology

The system prompts you to choose a topology.

Type 1 for single unit topology, or 2 for External Load Balancer Topology (option 2 not supported in current version).

Which type of unit would you like to configure?

(1) Single Unit system

(2) External Load Balancer topology
>1

Enter 1 to access the single unit configuration tool.

Which type of unit would you like to configure?

(1) Single Unit system

(2) Standby for Single Unit
>1

Enter 1 to access the single unit configuration tool.

The current system time is (12:37:52 06/01/2004). Do you want to change the system time? (y/n) [n]: y

Enter Y if the date and time shown are not correct.

Please enter the current date (mm/dd/yyyy):10/15/2003

This and the next question appear if you entered Y in the previous question. Enter the current date in the format shown in the question.

Please enter the current time (hh:mm:ss):13:38:50

Enter the current time.

The new system time will be (13:38:50 10/15/2003). Is this correct? (y/n) [y]:

Confirm the new date and time by typing **y**.

Or type N to restart the date-time entry cycle.

Please enter the TrafficShield private network [192.168.223.0]:

Specify the unit's private network address (first 3 octets of the unit's IP address, followed by zero).

Please complete TrafficShield private IP [192.168.223.X].

Complete the unit's private IP address by entering the last octet.

Would you like to set Permanent IP? (y/n) [n]: y

Enter **y** if you want to define a permanent IP address for the unit.

Enter Permanent IP: 192.168.1.237

Enter the permanent IP address.

Enter permanent IP Mask [255.255.255.0]:

Enter the network IP mask for the permanent IP.

Enter network interface (eth) [0, 1]

Specify the network interface card through which the TrafficShield security application user will access the TrafficShield security application unit. Enter **0** for interface 1.1 (eth0) or **1** for interface 1.2 (eth1).

◆ **Tip**

*If you are only using one network connection, it must be connected to the 1.1 network port and you must type **0** here.*

Would you like to set a static route for the permanent IP? (y/n) [y]:

Enter **y** if you want to define a static route.

Enter Destination Network:

If you answered **y** to the previous question, specify the network address of the internal network from where the permanent IP can be accessed.

Enter Netmask [255.255.255.0]:

Enter the network mask of the internal network's address.

Enter Gateway:

Enter the gateway address.

Please enter the TrafficShield web administrator's access IP/Network (remote manager host):

You activate the TrafficShield Management Station user interface through a Web browser from any PC on the network to which the unit is connected. Specify the IP address of the PC from which you will access TSMS in order to define policies. You can define the network as well.

Please enter the Access IP/Network netmask [255.255.255.0]:

Specify the network address and network mask for the Web administrator's access IP address.

Please enter the initial TrafficShield Web administrator's username:

Enter the user name to specify when accessing the TrafficShield Management Station using its Web interface.

Please enter the initial TrafficShield Web administrator's password:

Enter the password to specify when accessing the TrafficShield Management Station using its Web interface.

Please confirm password:

Re-enter the password.

Please confirm the following settings:

Examine the settings displayed. Enter **y** to confirm them or N to restart the configuration cycle.

Would you like to apply these settings (y/n) [y]

Enter **y** to apply the settings to the single unit.

To complete the single unit installation, please launch TSMS.
See Chapter 3, *Accessing TSMS*.

To install a Stanby unit, use the following procedure.

If no Stanby unit must be installed, go to *Configuring the TrafficShield units*, on page 3-1.

Running tsconfig.pl for the Standby unit

The Standby unit MUST be configured in the TSMS application before running the tsconfig.pl script.

After configuring the Standby unit in TSMS, you must restart the single unit machine (the Active machine).

Run the **/ts/install/tsconfig.pl** script on the standby unit.

◆ **Note**

The Primary (Active) unit must be configured before you configure the Standby unit.

When you are asked to select the unit type from a list, select **(2) Standby** for single unit.

The procedure involves a shorter series of questions, as follows:

Please enter the TrafficShield private network [192.168.223.0]:

Specify the standby unit's private network address (first 3 octets of the unit's IP address, followed by zero).

◆ **Note**

This Private Network must be the same as the Active unit Private network. These IP addresses should not be used by other non-TrafficShield machines.

Please complete TrafficShield private IP [192.168.223.X]:1

Complete the Standby unit's private IP address by entering the last octet of the unit's IP address in the private network.

Would you like to set permanent IP? (y/n) [n]: y

If you want to set a permanent IP address for the standby unit as well, enter **y**.

Enter permanent IP: 192.168.1.237

Enter the permanent IP address of the standby unit.

Enter permanent IP mask

Enter the network mask for the permanent IP of the standby unit.

Enter network interface (eth)

Specify the network interface card through which the TrafficShield security application user will access the TrafficShield security application unit. Enter 0 or 1 for 1.1 (eth0) or 1.2 (eth1), respectively.

◆ **Tip**

If you are only using one network connection it must be connected to the 1.1 network port and you must type 0 here.

Would you like to set a static route for the permanent IP? (y/n) [y]:

Enter **y** if you want to define a static route.

Enter destination network:

If you answered **y** to the previous question, specify the network address of the internal network from where the permanent IP can be accessed.

Enter netmask:

Enter the network mask of the internal network's address.

Enter gateway:

Enter the gateway address.

Please confirm the following settings:

Examine the settings displayed. Enter **y** to confirm them or **n** to restart the Standby unit configuration cycle.

Would you like to apply these settings (y/n) [y]

Enter **y** to apply the settings to the standby unit.

The next task consists of configuring the TrafficShield security application unit and creating and configuring the Web applications.

3

Configuration

Configuring the TrafficShield units

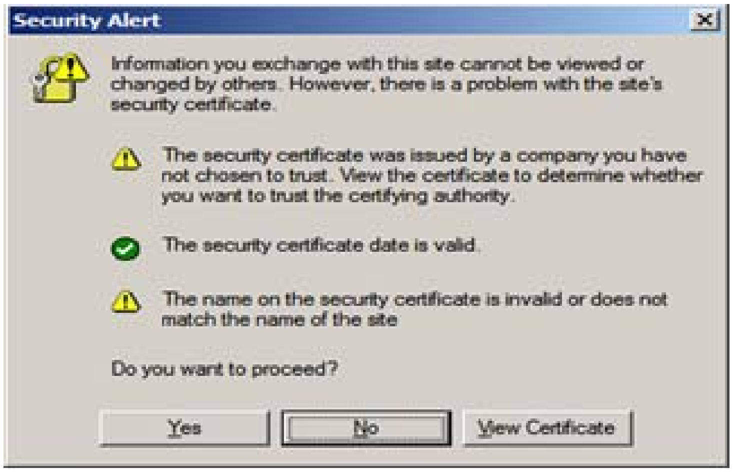
This chapter explains how to access the TrafficShield security application and configure it using the configuration wizards.

Accessing TSMS

You access the TrafficShield security application through the TrafficShield Management Station (TSMS).

To access TSMS

1. On a PC from which the TrafficShield security application unit can be reached, use your Web browser to connect to the TrafficShield management portal. Point the browser to the TrafficShield security application Private or Permanent IP specified during the initial configuration script. Use custom SSL port 1043:
   https://ip.add.re.ss:1043
   A security alert message may appear.



Security Alert

Information you exchange with this site cannot be viewed or changed by others. However, there is a problem with the site's security certificate.

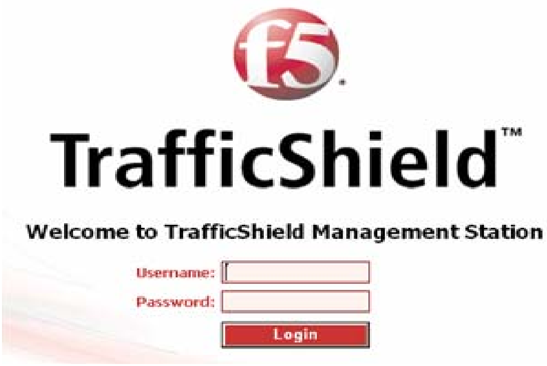
The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority.

The security certificate date is valid.

The name on the security certificate is invalid or does not match the name of the site

Do you want to proceed?

2. Click **Yes** to continue. The logon page opens.



Welcome to TrafficShield Management Station

3. Enter the TrafficShield Web Administrator's user name and password that you defined earlier, and click the Login button.

Configuration wizards

TrafficShield security application offers you two wizards:

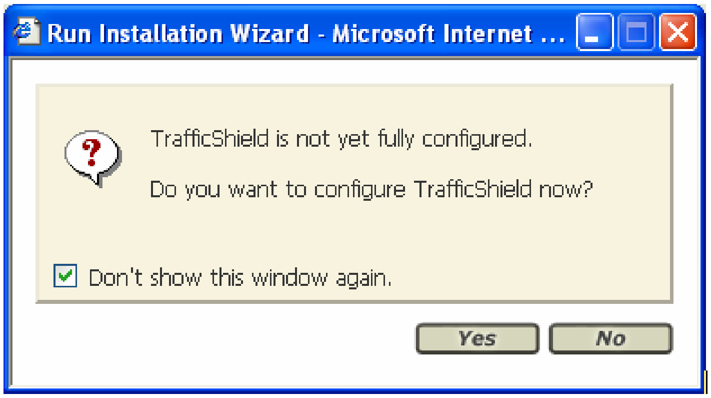
- TrafficShield Configuration wizard. See below.
- Web Application Wizard. See *Web Application Wizard*, on page 4-2

TrafficShield Configuration wizard

The next task consists of configuring the F5 Networks TrafficShield security application and creating and configuring the Web applications. TrafficShield Management Station (TSMS) offers a wizard that you can use to configure the unit according to the required network configuration.

First-time access:

When you access TSMS for the first time or after re-installing the unit software, the Configuration wizard starts automatically and asks you whether you want to configure the TrafficShield security application unit now (if this is not your first access, see *Configuring the TrafficShield units*, on page 3-1).



Run Installation Wizard - Microsoft Internet ...

TrafficShield is not yet fully configured.

Do you want to configure TrafficShield now?

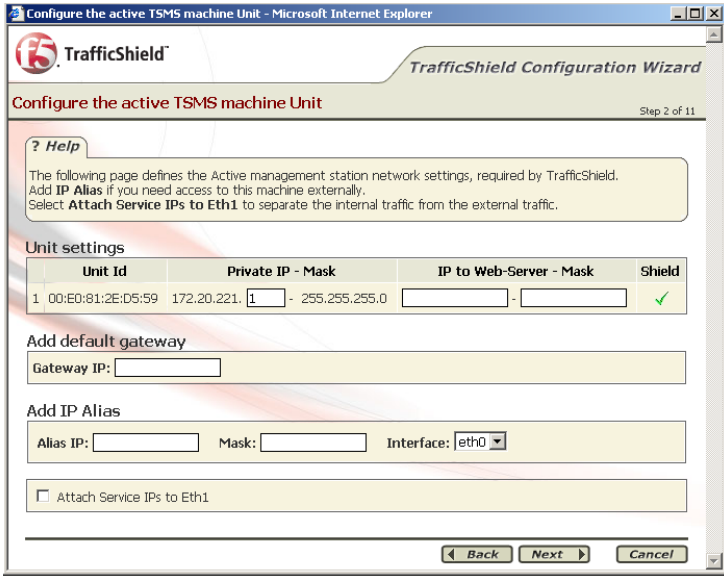
☑ Don't show this window again.

◆ **Note**

Using this wizard is mandatory for the initial TrafficShield security application installation.

To configure TrafficShield system using the Configuration wizard

1. Click **Yes** to start the wizard.
   The TrafficShield Configuration wizard Step 2 page appears.


Configure the active TSMS machine Unit - Microsoft Internet Explorer
TrafficShield
TrafficShield Configuration Wizard

Configure the active TSMS machine Unit

Step 2 of 11

? Help

The following page defines the Active management station network settings, required by TrafficShield.
Add **IP Alias** if you need access to this machine externally.
Select **Attach Service IPs to Eth1** to separate the internal traffic from the external traffic.

Unit settings

	Unit Id	Private IP - Mask	IP to Web-Server - Mask	Shield
1	00:E0:81:2E:D5:59	172.20.221. 1 - 255.255.255.0	-	✓

Add default gateway

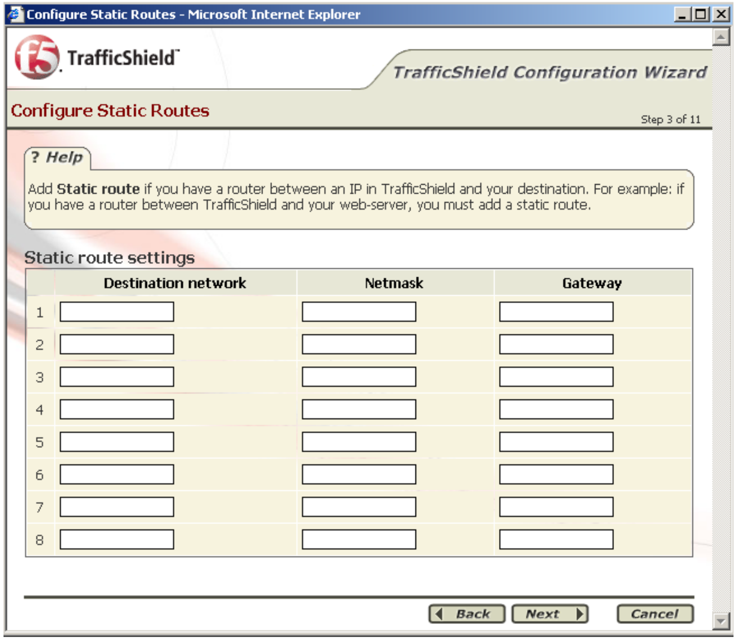
Gateway IP:

Add IP Alias

Alias IP: Mask: Interface: eth0

□ Attach Service IPs to Eth1

2. Click **Next**.
   The TrafficShield Configuration Wizard step 3 page appears.
   If a router is located between TrafficShield security application and the web-server, you can use this page to configure a static route for the web server machine.


Configure Static Routes - Microsoft Internet Explorer
TrafficShield
TrafficShield Configuration Wizard

Configure Static Routes

Step 3 of 11

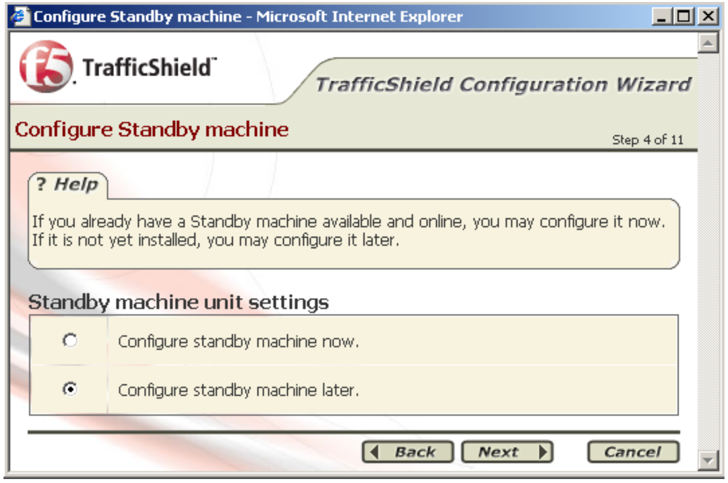
? Help

Add **Static route** if you have a router between an IP in TrafficShield and your destination. For example: if you have a router between TrafficShield and your web-server, you must add a static route.

Static route settings

	Destination network	Netmask	Gateway
1			
2			
3			
4			
5			
6			
7			
8			

3. Click **Next** to move to the next step.
   The TrafficShield Configuration Wizard step 4 window appears.



Configure Standby machine - Microsoft Internet Explorer
TrafficShield
TrafficShield Configuration Wizard
Back
Next
Cancel

Configure Standby machine

Step 4 of 11

? Help

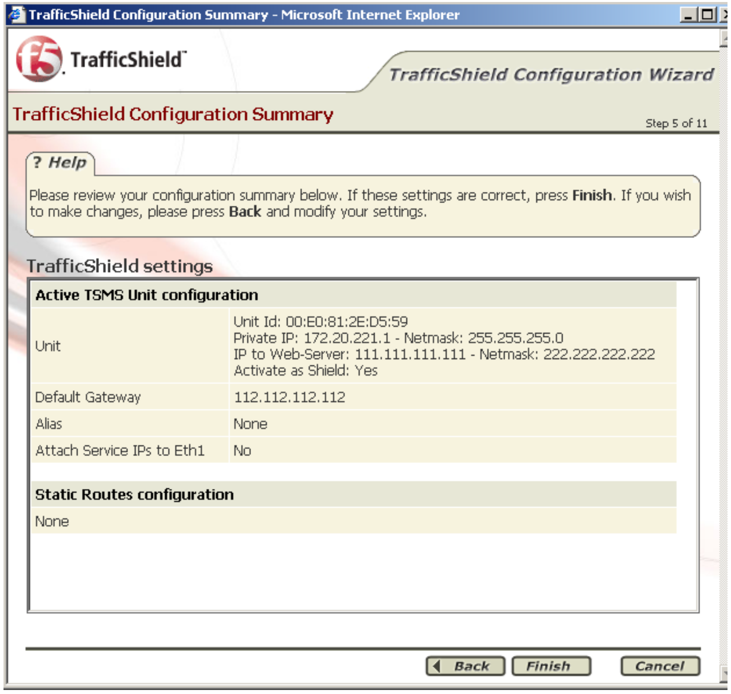
If you already have a Standby machine available and online, you may configure it now. If it is not yet installed, you may configure it later.

Standby machine unit settings

○ Configure standby machine now.

● Configure standby machine later.

4. If you wish to install a Standby machine, select the **Configure standby machine now** option and click **Next**. See *Running tsconfig.pl for the Standby unit*, on page 2-10.
   -Or-
   If you wish to install the Primary unit first, select the **Configure standby machine later** option and **Next**. The TrafficShield Configuration Wizard step 5 - Summary page appears.



TrafficShield Configuration Summary - Microsoft Internet Explorer
TrafficShield
TrafficShield Configuration Wizard
Back
Finish
Cancel

TrafficShield Configuration Summary

Step 5 of 11

? Help

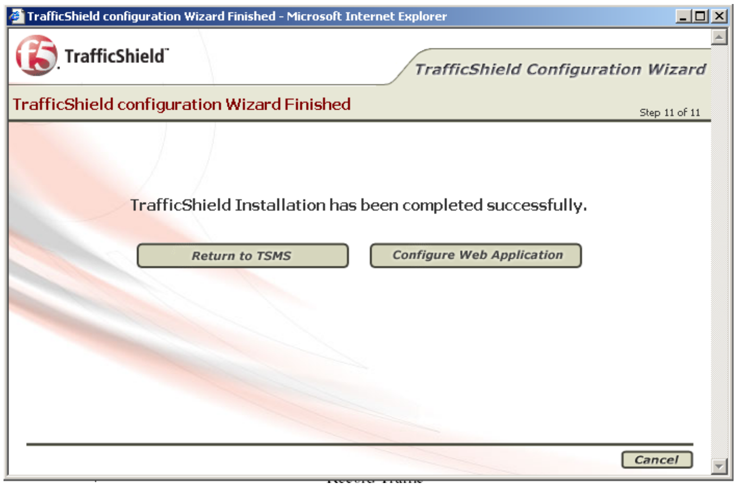
Please review your configuration summary below. If these settings are correct, press **Finish**. If you wish to make changes, please press **Back** and modify your settings.

TrafficShield settings

Active TSMS Unit configuration	
Unit	Unit Id: 00:E0:81:2E:D5:59 Private IP: 172.20.221.1 - Netmask: 255.255.255.0 IP to Web-Server: 111.111.111.111 - Netmask: 222.222.222.222 Activate as Shield: Yes
Default Gateway	112.112.112.112
Alias	None
Attach Service IPs to Eth1	No

Static Routes configuration
None

5. Click **Finish** to confirm the Primary unit configuration settings. The TrafficShield Configuration Wizard last screen appears, offering you either returning to TSMS or configuring a new web application.


TrafficShield configuration Wizard Finished - Microsoft Internet Explorer
TrafficShield
TrafficShield Configuration Wizard
Return to TSMS
Configure Web Application
Cancel

TrafficShield configuration Wizard Finished

Step 11 of 11

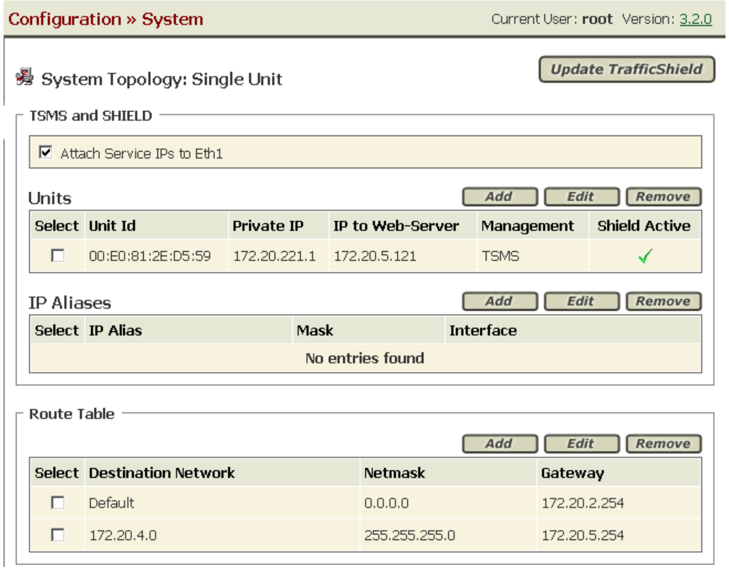
TrafficShield Installation has been completed successfully.

Configuring units later

If you wish to reconfigure TrafficShield system settings at a later stage, use the following procedure.

To configure TrafficShield system later

1. Select **Administration**, and then **System** under **Configuration**. The following page appears.



Configuration » System

Current User: root Version: 3.2.0

System Topology: Single Unit

TSMS and SHIELD

☑ Attach Service IPs to Eth1

Units

Select	Unit Id	Private IP	IP to Web-Server	Management	Shield Active
□	00:E0:81:2E:D5:59	172.20.221.1	172.20.5.121	TSMS	✓

IP Aliases

Select	IP Alias	Mask	Interface
No entries found			

Route Table

Select	Destination Network	Netmask	Gateway
□	Default	0.0.0.0	172.20.2.254
□	172.20.4.0	255.255.255.0	172.20.5.254

2. If you want to channel the service traffic to the second network (eth1) card as well, select the **Attach service IPs to ETH1** option.
3. Enter the information described in the subsequent sections of this chapter. See *Configuring units later*, on page 3-5 and *TrafficShield Configuration wizard*, on page 3-2.
4. After entering the information, click **Update TrafficShield** to save the information into the TrafficShield system tables. You may be required to restart the TrafficShield unit.

Configuring units manually

To manually reconfigure the TrafficShield system using the Installation wizard, select **Administration > Configuration > System** and click the icon.

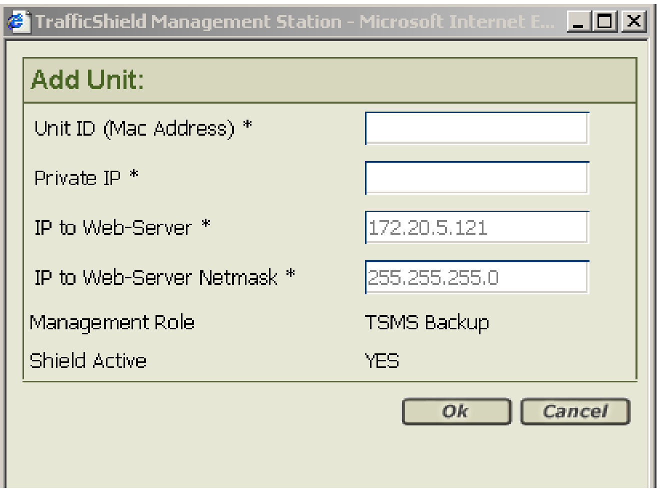
Units

In the Units section you can:

- Add the IP to Web Server address, the network mask, and the gateway for the TrafficShield security application unit, if you didn't define it via the TrafficShield security application unit Configuration Wizard.
- Add the MAC Address and the Private IP for the Standby unit.

To manually add the Standby unit

1. In the **Units** section, click **Add**.
   The Add Unit dialog box opens.



TrafficShield Management Station - Microsoft Internet E...

Add Unit:

Unit ID (Mac Address) *	
Private IP *	
IP to Web-Server *	172.20.5.121
IP to Web-Server Netmask *	255.255.255.0
Management Role	TSMS Backup
Shield Active	YES

2. Enter the unit's ID (MAC address) and its private IP address.
   Both the main (active) and Standby units use the same IP address.
3. Click **OK**.

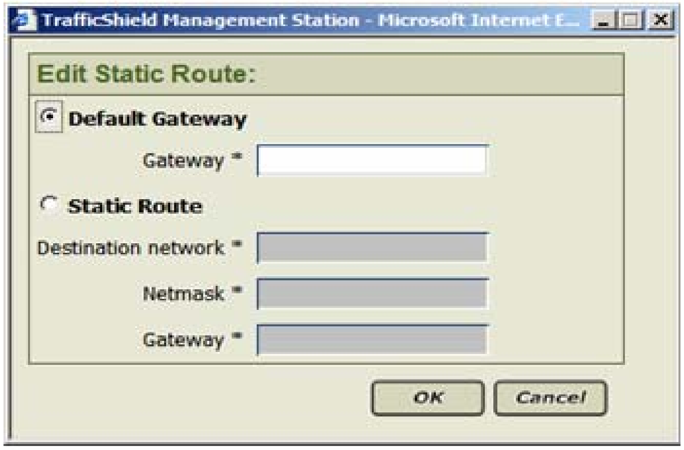
Route Table

If a gateway different from the default gateway exists in your network, use the Static Route feature to specify the gateway details.
TrafficShield security application looks first for the static route and uses the default gateway if it does not find one.

The procedure described below allows you to add more routes.

To enter or modify static routes

1. In the **Route Table** section, click the **Add** button or select the unit by checking the check box located to the left of the relevant unit and click the **Edit** button.
   The Add or Edit Static Route dialog box opens.



2. Select the Default Gateway or Static Route.
3. You can handle incoming requests either via the default gateway or via a static route of your choice.

   a) If you chose to accept requests via the default gateway, in the Gateway field, enter its IP address.

   b) If you chose to accept requests via another route, enter the following information:
   Destination Network: Specify the destination network address which the gateway is used for.
   Gateway: Specify the gateway's IP address.
   Mask: Specify the network mask.
4. Click OK.
   The static route definition appears on the main page.
5. Repeat the above procedure for all the static routes you intend to use.
6. When you are done, click the **Update TrafficShield** button.

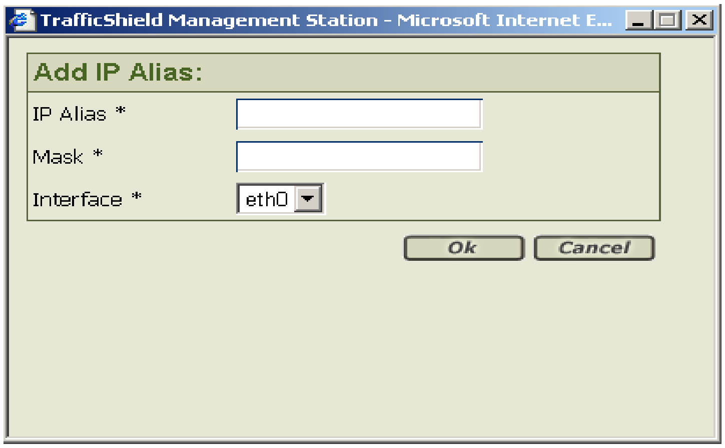
IP Aliases

The IP aliases section is designed to assign additional IP addresses to one or both of the network cards, for management purposes. For example: a user desiring to access the TSMS user interface using an alias or directly by SSH.

This alias is replicated to the Standby unit in case the Active unit fails.

To assign IP addresses to the network card

1. In the IP Aliases section, click the **Add** button.
   The Add IP Alias dialog box opens.



2. Enter the following information:
   IP Alias: Specify the IP address.
   Mask: Specify the network mask.
   Interface: Select the network card to which you want to assign this address.
3. Click **OK**.
   The IP alias definition appears on the main page.
4. Repeat the above procedure for all the aliases you intend to use.
5. When you are done, click the **Update TrafficShield** button.
   Upon completion, a message appears informing you about the successful update.

Licensing

The TrafficShield security application comes with a registration key which is used to generate a dossier, which is used to retrieve a license from the F5 License server. The license is then installed to the product. The license must be activated before users are allowed to administer core functions of the product. External users can visit and browse through the Web application only after the license has been activated.

You need to activate the license also after changing the TrafficShield security application, for example, after upgrading it.

When you acquire a TrafficShield security application for the first time, the TrafficShield security application units are delivered to you with a registration key recorded in them, and you do not need to obtain one. In any other case where the license should be updated, you need to obtain the registration key before you perform the procedure explained below.

◆ **Note**

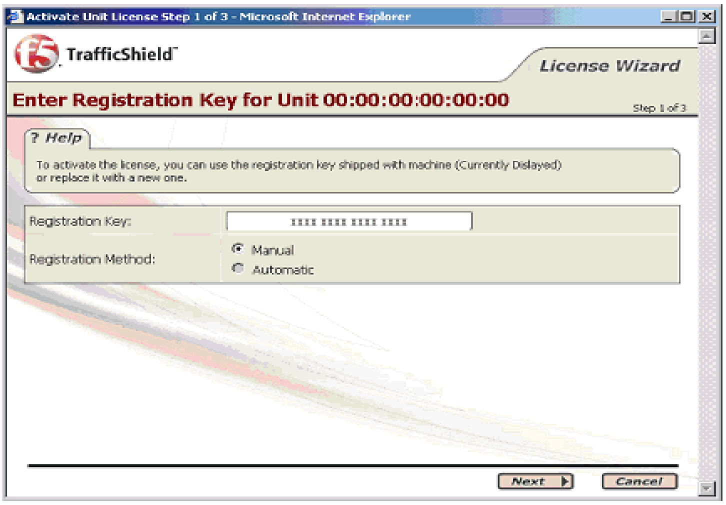
In case the license expires, the user is alerted by a system event and TrafficShield system avoids blocking of any kind. However, the user is able to view the Monitoring Events page and access the Licensing page in order to renew the license.

Activating the license

To activate the license

1. Select the **Administration** button at the top of the TSMS window.
2. In the **Maintenance** menu, select **Licensing**.
   A list of the installed TrafficShield security application units appears. You need to license each unit separately.

3. Click the **Activate License** button of the unit you want. This starts the licensing wizard and opens the Enter Registration Key window.


Activate Unit License Step 1 of 3 - Microsoft Internet Explorer
TrafficShield
License Wizard
Next
Cancel

Enter Registration Key for Unit 00:00:00:00:00:00

Step 1 of 3

? Help

To activate the license, you can use the registration key shipped with machine (Currently Dislayed) or replace it with a new one.

Registration Key: IIII IIII IIII IIII

Registration Method: ● Manual ○ Automatic

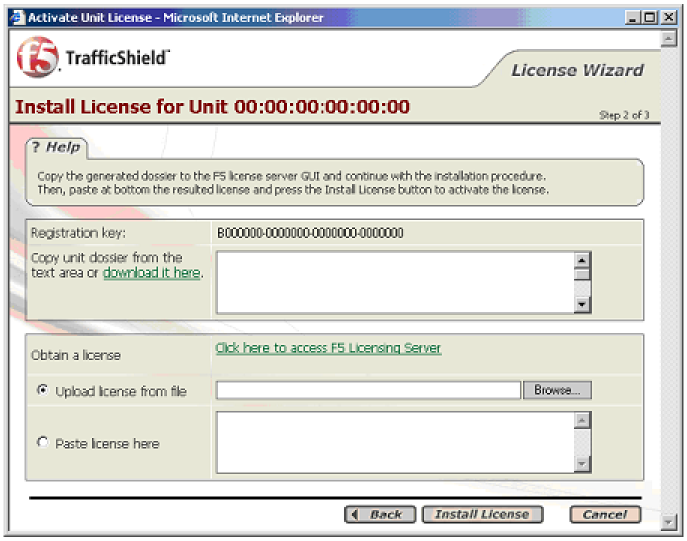
The Registration Key field displays the key currently stored in the selected TrafficShield security application unit.
You have two options: **Automatic** or **Manual**.

4. To download the license automatically from the F5 server, select **Automatic** and then click **Next**. You will be asked to supply your registration key.

5. If you select **Manual**, do one of the following:

   - If this is your first licensing, click the **Next** button.

   - If you are performing the licensing operation as a result of system changes that require a new registration key, enter the key in this field, and click **Next**.
     The Install License for Unit window appears.



Install License for Unit 00:00:00:00:00:00

Step 2 of 3

? Help

Copy the generated dossier to the F5 license server GUI and continue with the installation procedure.
Then, paste at bottom the resulted license and press the Install License button to activate the license.

Registration key: B000000-0000000-0000000-0000000

Copy unit dossier from the text area or download it here.

Obtain a license: Click here to access F5 Licensing Server

● Upload license from file

○ Paste license here

This window displays a dossier that you need to save on your computer. You will use it in subsequent steps.

Note: *The dossier is an encryption of a string containing a set of physical hardware elements of the machine.*

6. Choose either option:

   To save the dossier information in a file for loading the F5 License Activation Screen:

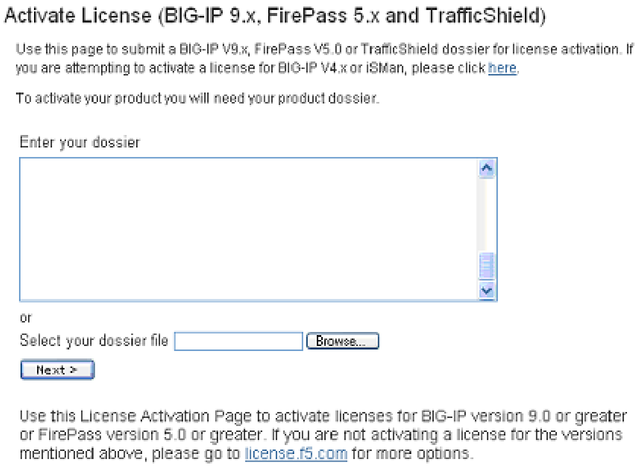
   a) Click the **download it here** link.
   A Save as box opens.

   b) Select a folder and enter a filename indicating the destination location for the dossier. This returns you to the Install License for Unit window.

   -Or-
   To copy the dossier information directly to the F5 license activation screen:

   a) Copy the dossier information.

7. Click the **Click here to access F5 Licensing Server** link.
   A new browser window opens and connects you to the F5 licensing server.



Activate License (BIG-IP 9.x, FirePass 5.x and TrafficShield)

Use this page to submit a BIG-IP V9.x, FirePass V5.0 or TrafficShield dossier for license activation. If you are attempting to activate a license for BIG-IP V4.x or iSMan, please click here.

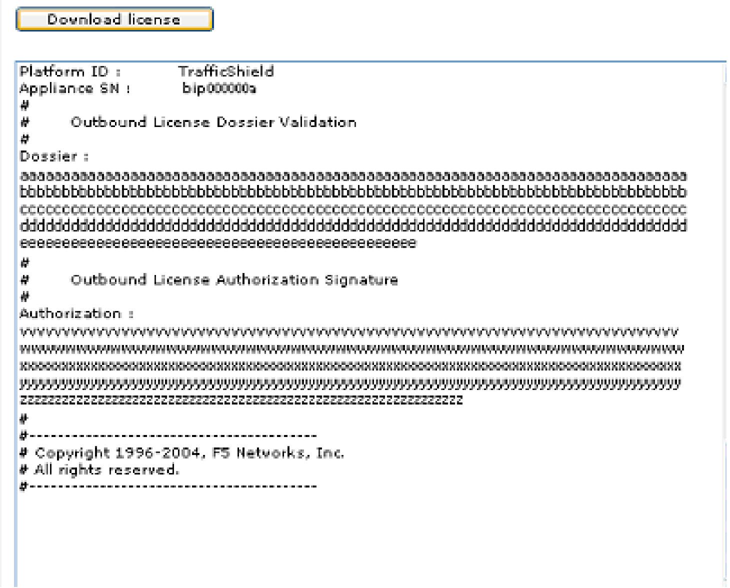
To activate your product you will need your product dossier.

Use this License Activation Page to activate licenses for BIG-IP version 9.0 or greater or FirePass version 5.0 or greater. If you are not activating a license for the versions mentioned above, please go to license.f5.com for more options.

8. Save your information in the way consistent with your previous choice:

   - If you created a file, use the browser button to load the file.
   - If you copied it, then paste the dossier information in the dossier window.

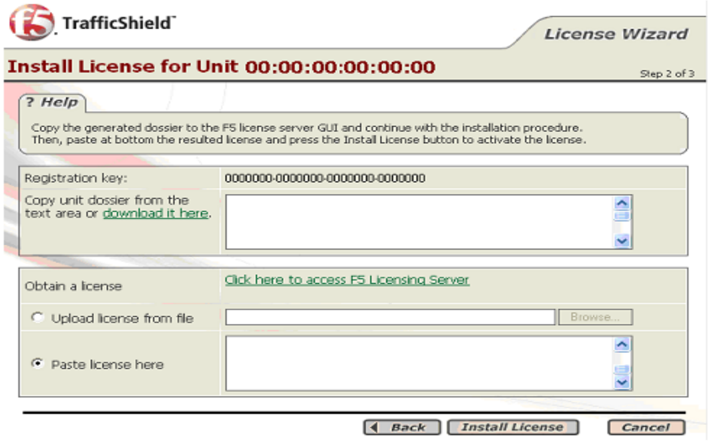
9. Choose **Next** to continue.
   The dossier information is processed and the following F5 Networks licensing screen is displayed.



```
Platform ID :        TrafficShield
Appliance SN :        bip000000a
#
#      Outbound License Dossier Validation
#
Dossier :
aaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
bbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb
cccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccccc
dddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddddd
eeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeeee
#
#      Outbound License Authorization Signature
#
Authorization :
vvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvvv
wwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwwww
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
yyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyyy
zzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzzz
#
#----------------------------------------
# Copyright 1996-2004, F5 Networks, Inc.
# All rights reserved.
#----------------------------------------
```

10. Copy the full form to the clipboard, or click the download button to download a copy of the license file.

11. Return to the TrafficShield security application's Activate unit license window.



Install License for Unit 00:00:00:00:00:00

Step 2 of 3

? Help

Copy the generated dossier to the F5 license server GUI and continue with the installation procedure.
Then, paste at bottom the resulted license and press the Install License button to activate the license.

Registration key: 0000000-0000000-0000000-0000000

Copy unit dossier from the text area or download it here.

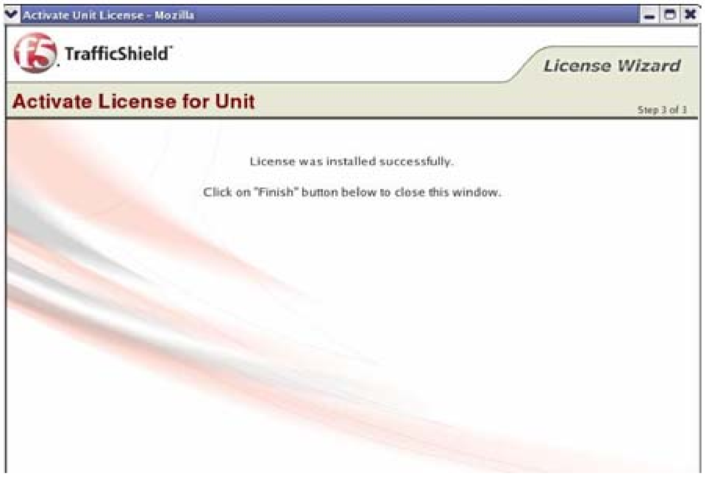
Obtain a license: Click here to access F5 Licensing Server

○ Upload license from file Browse...

● Paste license here

12. You must now enter the license information received from F5.
    - If you saved the information in a file, select the **Upload license from file** option, click the **Browse** button and select the license file created by the F5 licensing server.
    - If you copied the file to the Clipboard, select the **Paste license here** option and paste the contents of the license file.

13. Click the **Install License** button.
    The Activate License for Unit window appears.



License was installed successfully.

Click on "Finish" button below to close this window.

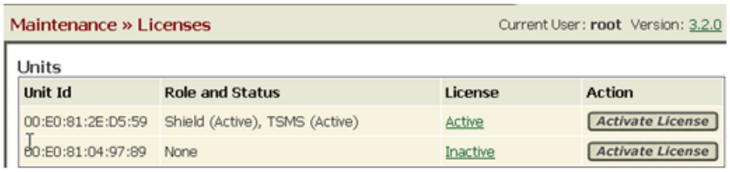
14. Click **Back** to return to previous step.
15. Click **Finish** to close the window.

Viewing the license information

You can view the details of a specific license by clicking on the Active link in the Units list.

To view License Information

1. Click **Administration** and then **Maintenance**.
2. In the Maintenance section, click **Licenses**.
3. Click the **Active** link to display the full license details.



Units

Unit Id	Role and Status	License	Action
00:E0:81:2E:D5:59	Shield (Active), TSMS (Active)	Active	Activate License
00:E0:81:04:97:89	None	Inactive	Activate License

4

Web Applications

- Defining a new Web Application
- Editing an existing Web Application

Defining a new Web Application

This section explains how to create and define a new Web application in the F5® Networks TrafficShield® Management Station (TSMS) using the Web Application Wizard that guides you step-by-step through the required procedures.

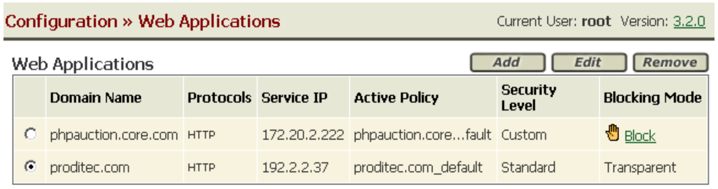
To configure or maintain an existing web application, or remove any of its definitions, see *Editing an existing Web Application*, on page 4-12.

TrafficShield security application only allows traffic that is routed through it to known Web applications. In other words, each Web application sitting behind the TrafficShield security application in the network must be defined individually.

To define a new Web application

1. At the top of the TSMS page, select **Administration > Configuration > Web Applications**.
   Web Applications is selected by default.

   If this is not the first time you are defining a Web application, a list of existing Web application definitions will be displayed.


Configuration » Web Applications
Current User: root Version: 3.2.0
Web Applications
Add
Edit
Remove

	Domain Name	Protocols	Service IP	Active Policy	Security Level	Blocking Mode
○	phpauction.core.com	HTTP	172.20.2.222	phpauction.core...fault	Custom	Block
●	proditec.com	HTTP	192.2.2.37	proditec.com_default	Standard	Transparent

2. Click the **Add** button to open the Web Application Wizard
   The Web Application Wizard Step 1 page appears. See below.
   The Wizard will ask you at the end of the process if you would like to run the Crawler Wizard or return to the TSMS.

◆ **Note**

Manually creating a web application creates a default policy for the web application.

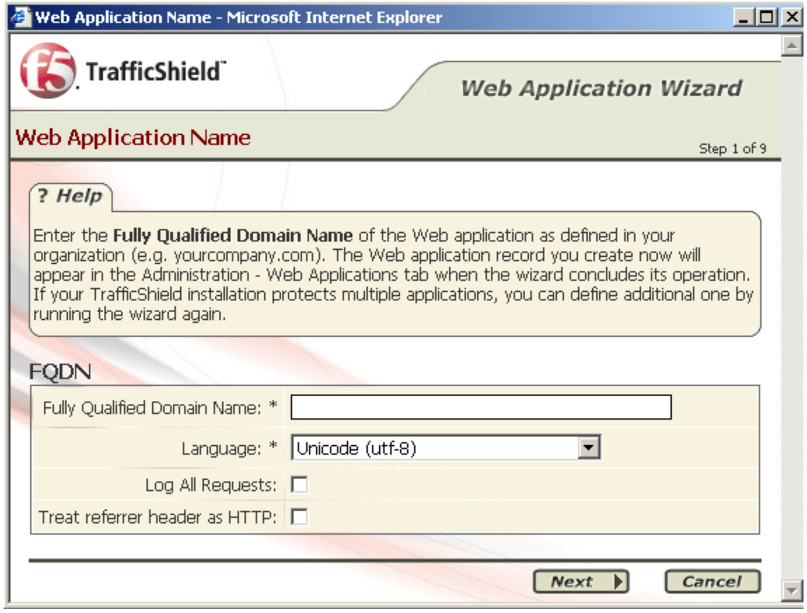
Web Application Wizard

All the information you see entered into the Wizard's fields of the various sample screens is for demonstration purposes only.

Web Application Wizard will guide you through the entire process of defining a new web application.

Step 1: Web Application Name

In the Web Application Wizard Step 1 page, you define the name of the web application, its Fully Qualified Domain Name (FQDN), its language/ encoding, whether it will log all requests, and whether to treat the Referrer header as HTTP.



Web Application Name

Step 1 of 9

? Help

Enter the **Fully Qualified Domain Name** of the Web application as defined in your organization (e.g. yourcompany.com). The Web application record you create now will appear in the Administration - Web Applications tab when the wizard concludes its operation. If your TrafficShield installation protects multiple applications, you can define additional one by running the wizard again.

FQDN

Fully Qualified Domain Name: *	
Language: *	Unicode (utf-8)
Log All Requests:	□
Treat referrer header as HTTP:	□

To define the Fully Qualified Domain Name (FQDN)

- Enter the fully qualified domain name (FQDN) of the Web application as defined in your organization (e.g., **www.siterequest.com**).

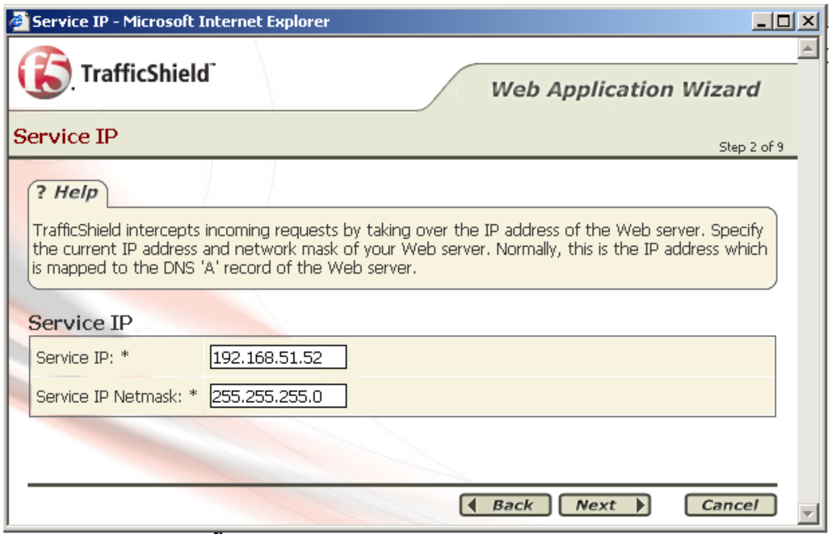
To choose a language/encoding

1. From the **Language** box, select the Web application Primary language.
2. Select the **Log All Requests** option if required. For more information, see *Service Properties*, on page 4-12.
3. Check the **Treat Referrer header as HTTP** check box if required.
4. Click **Next** to continue.

The TrafficShield system may forward HTTP traffic even though the web application uses SSL (for example, if a Load Balancer applies an SSL termination), in which case the policy contains only HTTP objects. The Learning module considers the referrer header which may include an SSL object. In cases like this, be sure to select the **Treat Referrer option as HTTP** option, in order to prevent problems in the Learning process.

Step 2: Service IP

In the Web Application Wizard Step 2 page, you define the Web Application IP address and the corresponding network mask.



TrafficShield intercepts incoming requests by taking over the IP address of the Web server. Specify the current IP address and network mask of your Web server. Normally, this is the IP address which is mapped to the DNS 'A' record of the Web server.

Service IP

Service IP: * 192.168.51.52

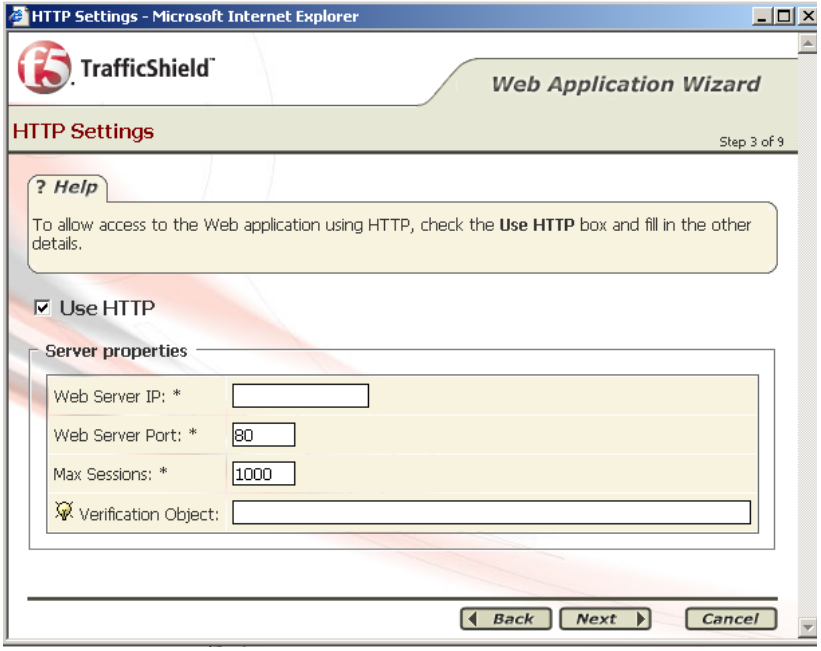
Service IP Netmask: * 255.255.255.0

Service IP, Service IP Netmask

1. Specify the Web Application IP address and the corresponding network mask.
2. Click **Back** to go back to the previous step.
   -Or-
   Click **Next** to continue.

Step 3: HTTP Settings

In the Web Application Wizard Step 2 page, you define the Web Application HTTP settings



To allow access to the Web application using HTTP, check the **Use HTTP** box and fill in the other details.

☑ Use HTTP

Server properties

Web Server IP: *	
Web Server Port: *	80
Max Sessions: *	1000
Verification Object:	

To define the Web Application HTTP Settings

Fill in the appropriate details in the following fields.

Use HTTP

To allow HTTP access to the Web application, select the Use HTTP option and enter the appropriate information.

Configure at least one protocol: HTTP or HTTPS (next step).

Web Server IP

Specify the Web server's IP address.
The address is used for communications with the TrafficShield unit.

Web Server Port

Specify the Web server's port.

Specify the maximum number of simultaneous sessions TrafficShield security application can open in its interactions with the Web server.

Max. Sessions

The number of sessions that can be opened, and therefore the number of visitors that can be served simultaneously, depends on the capacity of the Web server.

Number of Visitors

The number of visitors that can be served simultaneously refers to the actual number of established connections, while in reality there is a greater number of connections in the process being established or closed. The maximum session should reflect the total of all three session statuses.

◆ **Tip**

If you are not familiar with your server configuration, please consult your system administrator about the maximum number of simultaneous clients, connection time-out definitions, etc.

Verification Object

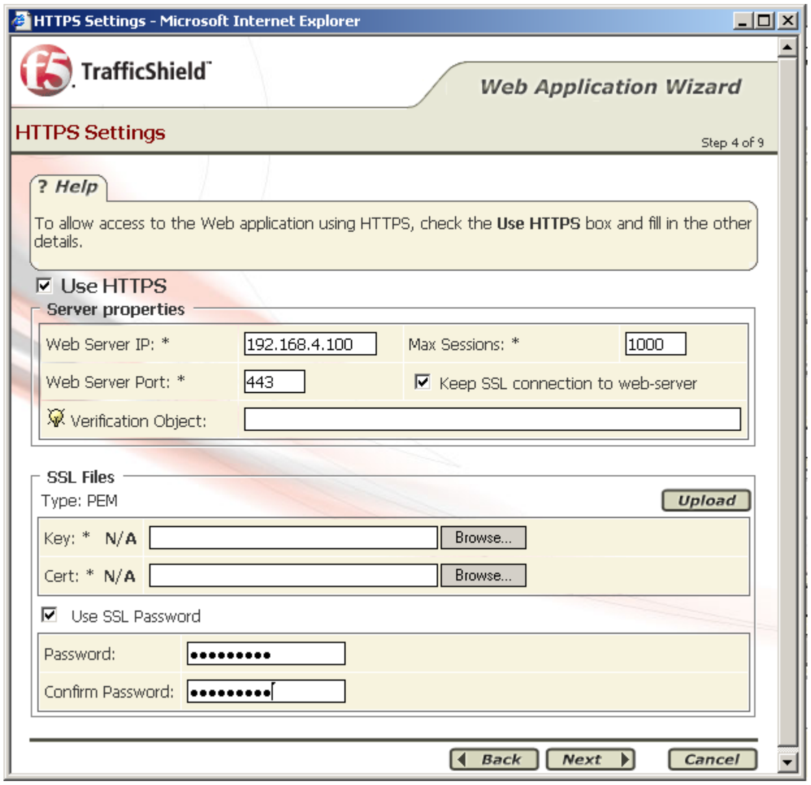
This is an optional field that enables the user to verify that the TrafficShield security application is responding correctly to a pre-defined test object. Selecting this option initializes the TrafficShield Hang detection mechanism.

This operation requires that you restart TrafficShield security application.

Click **Back**, to go back to the previous step.
-Or-
Click **Next** to continue.

Step 4: HTTPS Settings

In the Web Application Wizard Step 4 page, you set the HTTPS settings for the web application.



HTTPS Settings - Microsoft Internet Explorer

TrafficShield™ — Web Application Wizard

HTTPS Settings — Step 4 of 9

? Help

To allow access to the Web application using HTTPS, check the **Use HTTPS** box and fill in the other details.

☑ Use HTTPS

Server properties

Web Server IP: *	192.168.4.100	Max Sessions: *	1000
Web Server Port: *	443	☑ Keep SSL connection to web-server	
Verification Object:			

SSL Files

Type: PEM

Key: * N/A		Browse...
Cert: * N/A		Browse...

☑ Use SSL Password

Password:	●●●●●●●●●
Confirm Password:	●●●●●●●●●

Use HTTPS

To allow HTTPS access to the Web application, select this box.
All the fields in the section become enabled.

◆ **Note**

You need to configure at least one protocol: HTTP (see previous step) or HTTPS.

Server IP, Server Port

Specify the Web server's internal IP address and port. The address is used for internal communications with TrafficShield security application.

Max. Sessions

Specify the maximum number of simultaneous sessions TrafficShield security application can open in its interactions with the Web server. The number of sessions that can be opened, and therefore the number of visitors that can be served simultaneously, depends on the capacity of the Web server.

◆ **Note**

"The number of visitors that can be served simultaneously" refers to the actual number of established connections, while in reality there is a greater number of connections in the process being established or being closed. The maximum session should reflect the total of all three session statuses.

◆ **Tip**

If you are not familiar with your server configuration, please consult your system administrator about the maximum number of simultaneous clients, connection time-out definitions, etc.

Keep SSL connection to web-server

Selecting this box will cause TrafficShield security application to maintain the SSL connections to the Web server. If you choose not to enable this option, TrafficShield security application will decrypt the SSL traffic and will use HTTP to send the requests to the Web server.

◆ **Note**

Requests will flow to the server quicker without encryption.

Verification Object

This optional field enables the user to verify that the TrafficShield security application is responding correctly to a pre-defined test object.

Key and Certificate Files

Click the **Browse** button and select the files that hold the SSL key and certificate. Then, click the **Upload** button. The files should be in PEM format.

Use SSL Password checkbox

If the SSL key file is password-protected, select the **Use SSL Password** option.

Password

Specify the password for key file.

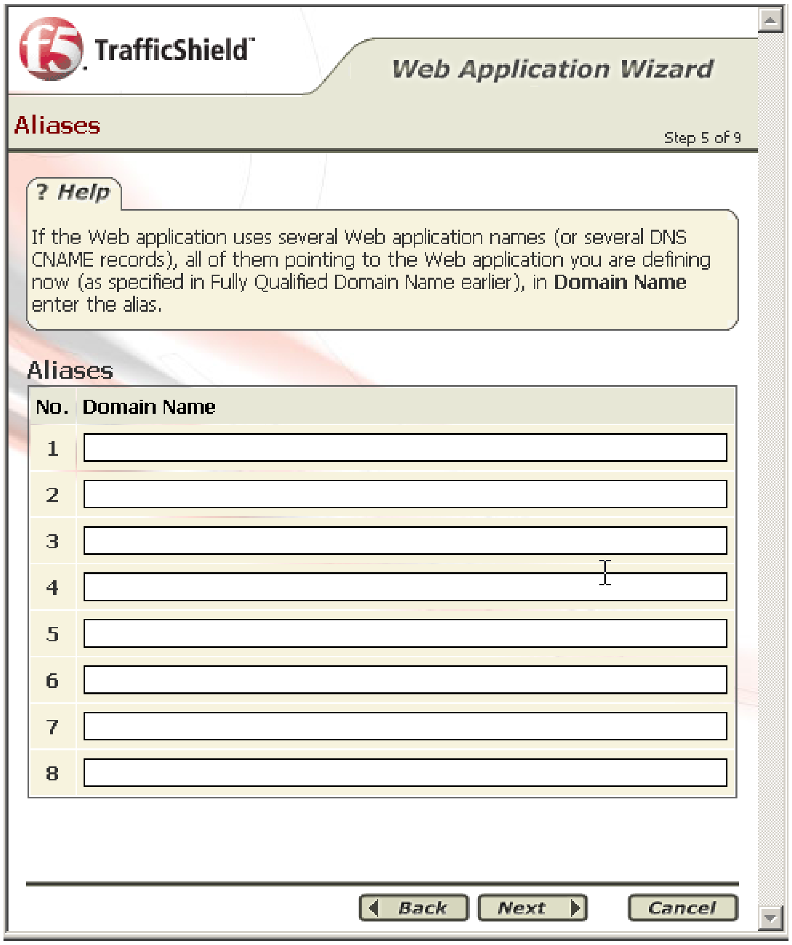
Confirm Password

Type the password again for confirmation.

Click **Back**, to go back to the previous step.
-Or-
Click **Next** to continue.

Step 5: Aliases

In the Web Application Wizard Step 5 page, you define the aliases if the Web application uses several Web application names.



If the Web application uses several Web application names (or several DNS CNAME records), all of them pointing to the Web application you are defining now (as specified in Fully Qualified Domain Name earlier), in **Domain Name** enter the alias.

Aliases

No.	Domain Name
1	
2	
3	
4	
5	
6	
7	
8	

◆ **Note**

You must add the Service IP Address if you want to access the site via the IP address instead of the host name.

Enter a new alias if the Web application uses several Web application names (or several DNS CNAME records), all of them pointing to the Web application you are defining now (as specified in the Fully Qualified Domain Name earlier).

You need to define in advance all of the aliases that might appear in requests addressed to this Web application. TrafficShield security application will block requests containing undefined destinations.

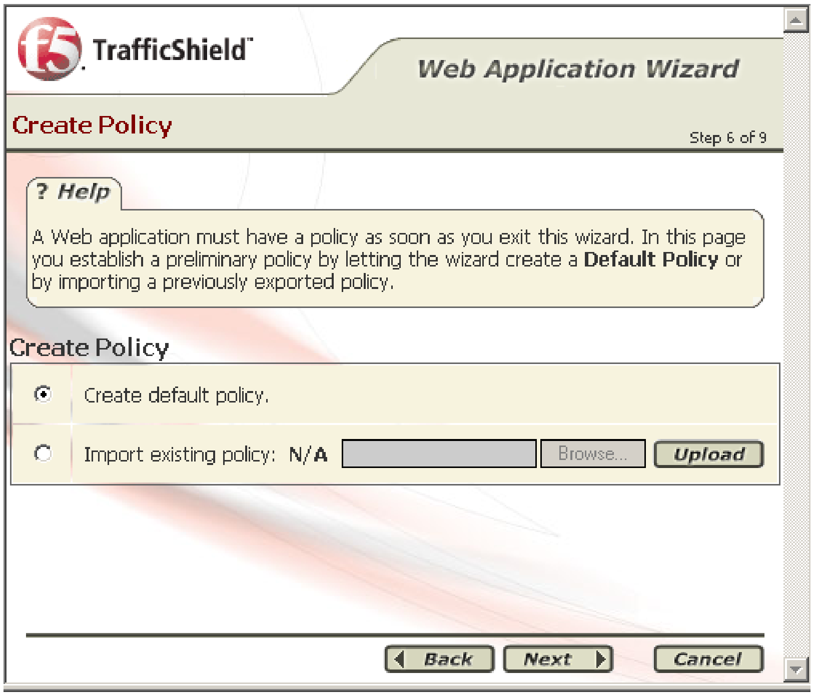
◆ **Tip**

If you wish to allow access to the Web application by specifying its actual IP address, define the IP address as an alias by entering it in the Domain Name box.

Click **Back**, to back go to the previous step, or **Next** to continue.

Step 6: Create Policy

In the Web Application Wizard Step 6 page, you establish a preliminary policy by letting the wizard create a Default Policy or by importing a previously exported policy.



A Web application must have a policy as soon as you exit this wizard. In this page you establish a preliminary policy by letting the wizard create a **Default Policy** or by importing a previously exported policy.

Create Policy

● Create default policy.

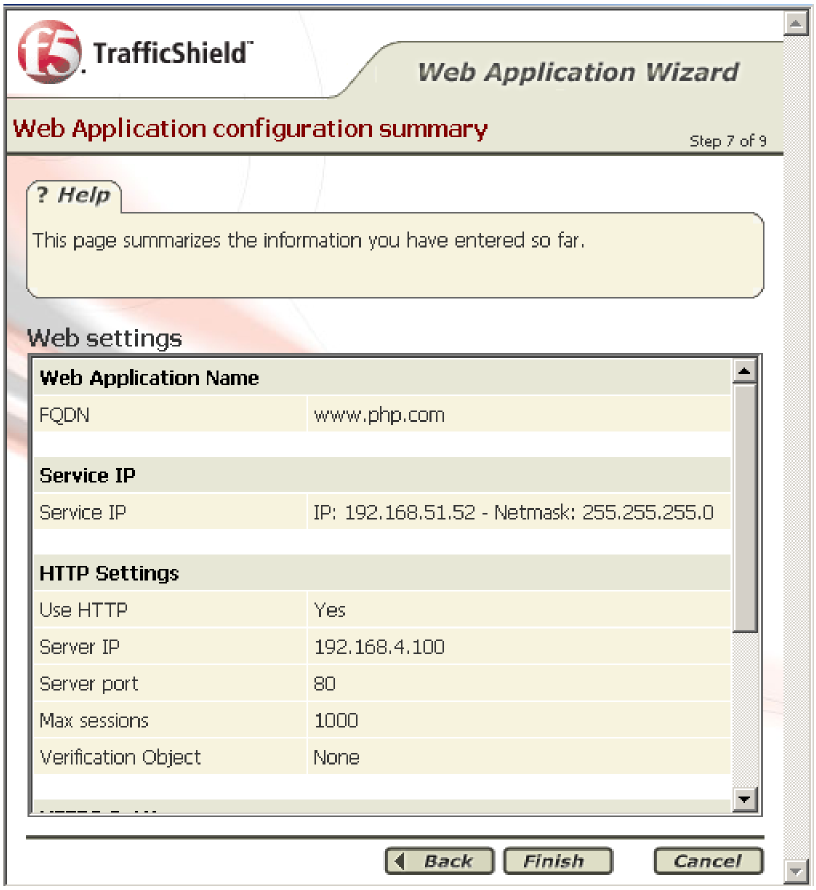
○ Import existing policy: N/A

A web application must have a policy as soon as you exit this wizard. In this page you will establish a preliminary policy by letting the wizard create a Default Policy or by importing a previously exported policy.

Click **Back**, to go to the previous step, or **Next** to continue.

Step 7: Web Application configuration summary

Upon completion of the wizard configuration, the Web Application configuration summary window is displayed.



Web Application configuration summary

Step 7 of 9

? Help

This page summarizes the information you have entered so far.

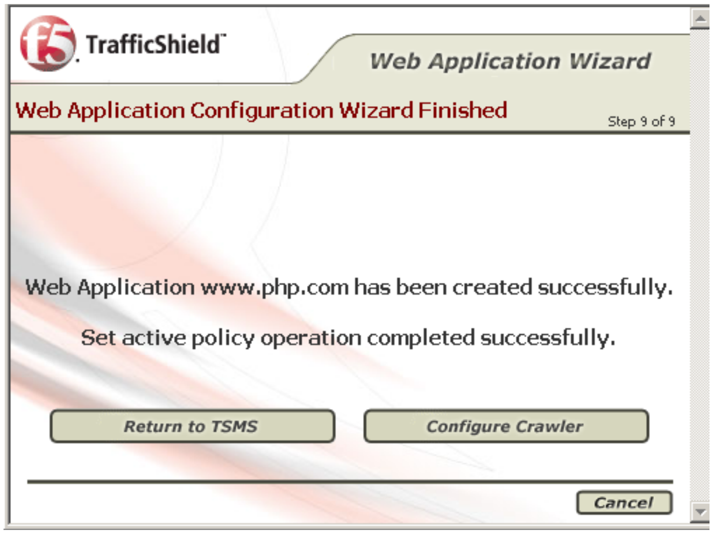
Web settings

Web Application Name	
FQDN	www.php.com
Service IP	
Service IP	IP: 192.168.51.52 - Netmask: 255.255.255.0
HTTP Settings	
Use HTTP	Yes
Server IP	192.168.4.100
Server port	80
Max sessions	1000
Verification Object	None

Review this information and proceed in one of these ways:

- Click **Back** to go back to the previous step.
- Click **Cancel** to exit without saving.
- Click **Finish** button to save and exit the Wizard.

If you clicked **Finish**, the following window appears.



Web Application Configuration Wizard Finished

Step 9 of 9

Web Application www.php.com has been created successfully.

Set active policy operation completed successfully.

This screen offers two options:

- **Return to TSMS** - Returns to the TSMS window.
- **Configure Crawler** - Automatically opens the Crawler configuration Wizard.

Or you can click **Cancel** to exit the wizard.

◆ **Tip**

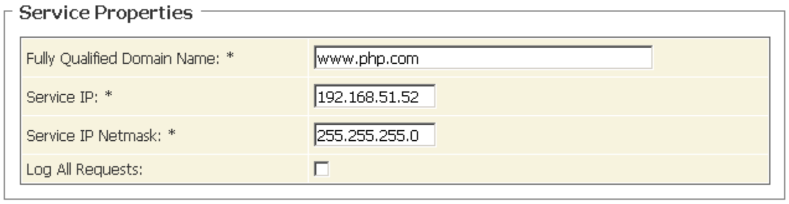
Once you have completed this step and returned to TSMS, activate your default policy by clicking the Set active Policy button located in the Administration > Configuration > Web Application Window.

Editing an existing Web Application

You can edit an existing web application by pressing the **Edit** button in the Web Application Configuration Wizard.

Service Properties

The Service Properties section is designed to specify the Web application's domain name and IP address.



Service Properties

Fully Qualified Domain Name: *	www.php.com
Service IP: *	192.168.51.52
Service IP Netmask: *	255.255.255.0
Log All Requests:	□

Enter the following information:

Fully Qualified Domain Name

Enter the fully qualified domain name of the Web application as defined in your organization (e.g., www.siterequest.com).

Service IP, Service IP Netmask

Specify the Web Application IP address and the corresponding network mask.

◆ **Note**

The Web Application IP address is the TSMS unit's service IP.

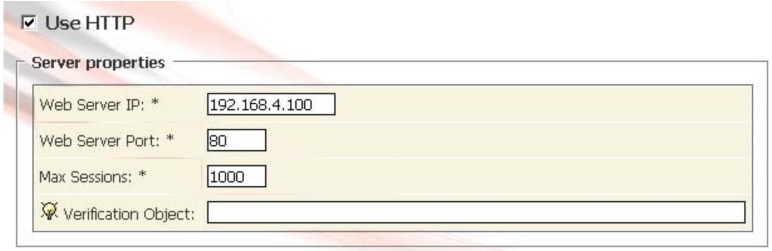
Log All Requests

Click **Log All Requests** to direct all incoming requests, including the valid ones, to the Forensics - Illegal requests section (Policy Management tab).

The valid requests are used to fill in the blanks when investigating gaps between illegal requests. Both types of requests can be filtered out in Forensics. The valid requests are marked with a green checkmark and the invalid requests are marked with a red X.

HTTP Settings

Use this section if the Web application can be accessed using HTTP.



☑ Use HTTP

Server properties

Web Server IP: *	192.168.4.100
Web Server Port: *	80
Max Sessions: *	1000
Verification Object:	

Enter the following information:

Use HTTP

To allow HTTP access to the Web application, select this option and enter the information described below. You need to configure at least one protocol: HTTP or HTTPS (next step).

Server IP, Server Port

Specify the Web server's IP address and port. The address is used for communications with the TrafficShield security application.

Max. Sessions

Specify the maximum number of simultaneous sessions TrafficShield security application can open in its interactions with the Web server. The number of sessions that can be opened, and therefore the number of visitors that can be served simultaneously depends on the capacity of the Web server.

◆ **Note**

"The number of visitors that can be served simultaneously" mentioned above, refers to the actual number of established connections, while in reality there is a greater number of connections in the process being established or being closed. The maximum session should reflect the total of all three session statuses.

◆ **Tip**

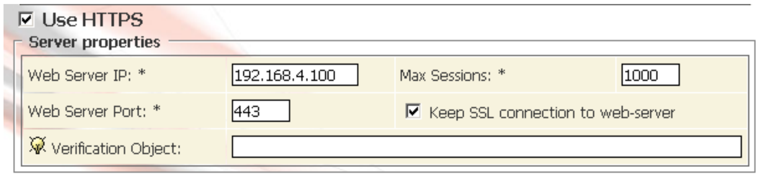
If you are not familiar with your server configuration, you need to consult with your system administrator about the maximum number of simultaneous clients, connection time-out definitions, etc.

Verification Object

This optional field enables the user to verify that the TrafficShield security application is responding correctly to a pre-defined test object.

HTTPS Settings

Use this section if the Web application can be accessed using HTTPS.



☑ Use HTTPS

Server properties

Web Server IP: * 192.168.4.100

Max Sessions: * 1000

Web Server Port: * 443

☑ Keep SSL connection to web-server

Verification Object:

Use HTTPS

To allow HTTPS access to the Web application, select this box and the section becomes enabled.

◆ **Note**

You need to configure at least one protocol: HTTP (previous step) or HTTPS.

Server IP, Server Port

Specify the Web server's internal IP address and port. The address is used for internal communications with TrafficShield security application.

Max. Sessions

Specify the maximum number of simultaneous sessions TrafficShield security application can open in its interactions with the Web server. The number of sessions that can be opened, and therefore the number of visitors that can be served simultaneously, depends on the capacity of the Web server.

◆ **Note**

"The number of visitors that can be served simultaneously" mentioned above, refers to the actual number of established connections, while in reality there is a greater number of connections in the process being established or being closed. The maximum session should reflect the total of all three session statuses.

◆ **Tip**

If you are not familiar with your server configuration, you need to consult with your system administrator about the maximum number of simultaneous clients, connection time-out definitions, etc.

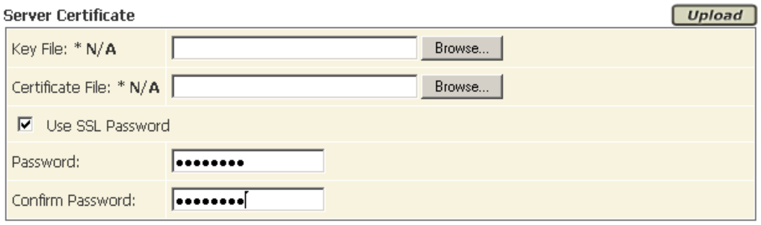
Keep SSL connection to web-server

Checking this box causes TrafficShield security application to maintain SSL connections to the Web server. If you choose not to enable this option, TrafficShield security application will decrypt the SSL traffic and will use HTTP requests to access the Web server.

◆ **Note**

Requests will flow to the server more quickly without encryption.

Server Certificate



Server Certificate

Key File: * N/A

Certificate File: * N/A

☑ Use SSL Password

Password: ••••••••

Confirm Password: ••••••••

Enter the following information:

Key and Certificate Files

Click the **Browse** button and select the files that hold the SSL key and certificate. Then, click the **Upload** button. The files should be in XSO9 format.

Use SSL Password checkbox

If the SSL key file is password-protected, check the Use SSL Password check box.

Password

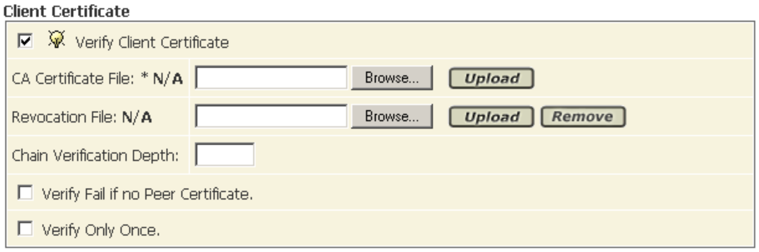
Specify the password for key file.

Confirm Password

Type password again for confirmation.

Client Certificate

If application end-users are required to present a certificate when accessing the Web application, you will need to complete this information in the Client Certificate Window.



Client Certificate

☑ Verify Client Certificate

CA Certificate File: * N/A

Revocation File: N/A

Chain Verification Depth:

☐ Verify Fail if no Peer Certificate.

☐ Verify Only Once.

Enter the following information:

Verify Client Certificate

Select the **Verify Client Certificate** check box to instruct TrafficShield security application to request Client certificate information.

CA Certificate File

Browse to select the CA (Certificate Authority) certificate to verify client certificates and then click the Upload button.

Revocation File

Browse to select the appropriate client's certificate revocation file, if applicable, and then click the **Upload** button. You can remove the revocation file by clicking the **Remove** button.

Chain Verification Depth

The chain verification depth is used to define the level of CA verification required to verify the authenticity of the CA File.

Verify Fail if no Peer Certificate

Check this check box to terminate the SSL handshake if no client certificate was provided.

Verify Only Once

Check this check box to verify the client certificate only during the initial handshake. If this box is not checked, client certificate verification is performed for each request.

◆ **Note**

We highly recommended that you check the "Verify Fail if no Peer Certificate" check box to ensure SSL handshake termination if no client certificate was provided; the client may use SSLv2 or SSLv3 versions.

Additional Aliases

This step is designed to define aliases for the current application.

Click the **Add** button to open a new row, and enter the following information.

Select the check box and click the **Remove** button to remove the Alias from TrafficShield security application.

◆ **Note**

You must add the Service IP Address if you wish to be able to access the site via the IP address instead of the host name.

Enter a new alias if the Web application uses several Web application names (or several DNS CNAME records), all of them pointing to the Web application you are defining now (as specified in Fully Qualified Domain Name earlier).

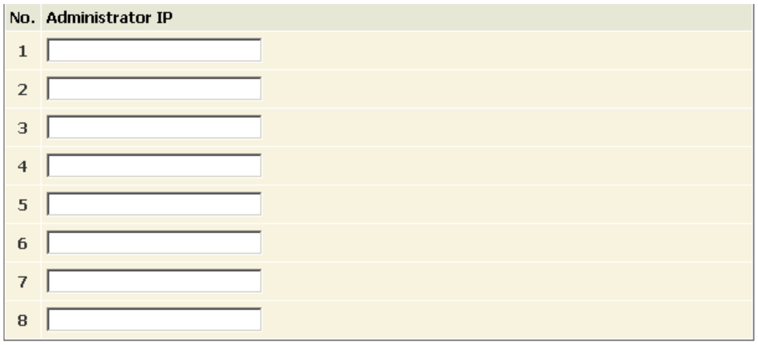
You need to define in advance all of the aliases that might appear in requests addressed to this Web application. TrafficShield security application will block requests containing undefined destinations.

◆ **Tip**

If you wish to allow access to the Web application by specifying its actual IP address, define the IP address as an alias by entering it in the Domain Name box.

Trusted IPs for Extended Methods

Use this section to specify source IP addresses that are allowed to send requests containing extended HTTP methods, such as PUT or DELETE.



No.	Administrator IP
1	
2	
3	
4	
5	
6	
7	
8	

5

Monitoring

- Monitoring tools
- System monitoring area
- Security
- Reports on illegal requests
- Activity

Monitoring tools

Monitoring tools allow the network and policy administrators to monitor request traffic. This chapter explains how to use the TrafficShield® security application monitoring tools to follow up on potential attacks and workload.

The monitoring tools described in this chapter are designed to help network and policy administrators examine both legitimate and potentially malicious traffic. The data collected by the Monitoring tool helps to identify overloaded units and make the necessary decisions on needed deployment changes.

All of the events tracked in Monitoring can also be exported as SNMP traps as well as Syslog messages. In addition, the reports generated can be exported as HTML or PDF files.

To access the monitoring functions

- Click the **Monitoring** tab at the top of the TrafficShield security application.

This tool is divided into four areas, which this chapter explains in detail:

- **System Monitoring area** monitors the TrafficShield security application units and their system status; for example, whether the unit is active or in standby mode. System logs can also be monitored from here.
- **Security Monitoring area** monitors the security events generated by the TrafficShield security application units.
- **Reports area** generates reports and graphs on the ongoing attacks that have occurred on the TrafficShield security application units.
- **User Monitoring area** monitors the authorized users' activities on the TrafficShield security application units.

The filtering tools allow you to retrieve and focus on a set of events of particular interest to you. For example, you can focus on events that took place in the last hour, or events that involve requests that contained a specific text string.

System monitoring area

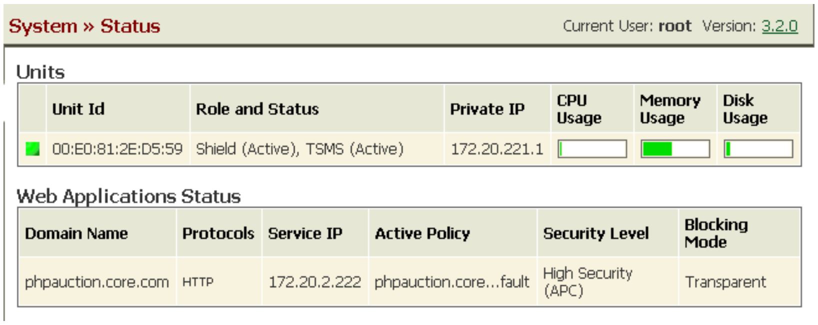
This page displays information about the current status of the TrafficShield units and web applications.

Displaying the system status

Choose **Monitoring > System > Status** to open the Units and Web Application Status window.

Displaying the TrafficShield units status in case of no error

When no error was detected, the following window is displayed.



System » Status

Current User: **root** Version: 3.2.0

Units

	Unit Id	Role and Status	Private IP	CPU Usage	Memory Usage	Disk Usage
🟩	00:E0:81:2E:D5:59	Shield (Active), TSMS (Active)	172.20.221.1			

Web Applications Status

Domain Name	Protocols	Service IP	Active Policy	Security Level	Blocking Mode
phpauction.core.com	HTTP	172.20.2.222	phpauction.core...fault	High Security (APC)	Transparent

This window displays the current status of all the TrafficShield Units.

Unit Id

This is the MAC address of the relevant unit.

Role and Status

There are three possible roles:

Shield - This tool is responsible for blocking requests that violated the security definitions and alerting the user.

TSMS (TrafficShield Management Station) - This tool is responsible for monitoring, configuring and managing the TrafficShield security application components and graphical user interface.

TSMS Backup - indicates whether the Hot Backup unit is active.

Private IP

The unique IP address assigned to the TrafficShield security application unit.

CPU Usage

The current level of CPU Usage.

Memory Usage

The current level of memory usage.

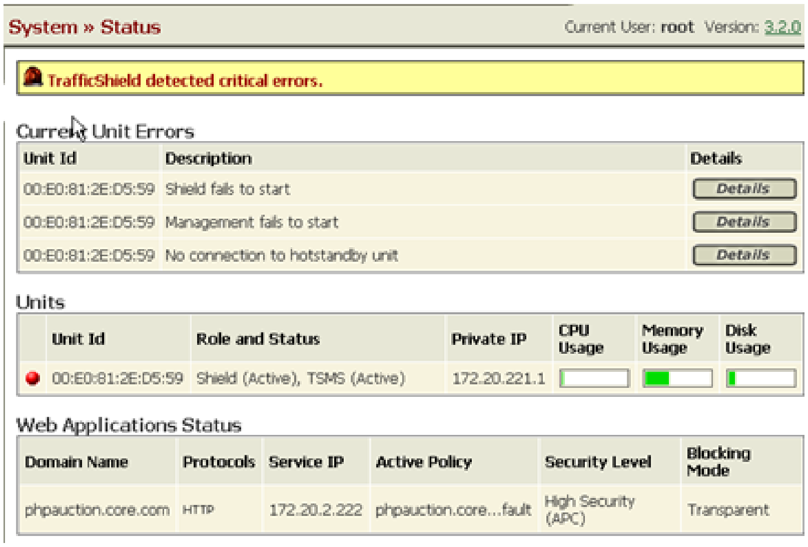
Disk Usage

The current level of disk usage.

Displaying the TrafficShield unit status in case of error

When TrafficShield security application detects a critical error on one of the units, the yellow notification bar is displayed on all user graphical interface pages.

Click the notification bar to display the Current Units Errors window.



System » Status — Current User: root Version: 3.2.0

TrafficShield detected critical errors.

Current Unit Errors

Unit Id	Description	Details
00:E0:81:2E:D5:59	Shield fails to start	Details
00:E0:81:2E:D5:59	Management fails to start	Details
00:E0:81:2E:D5:59	No connection to hotstandby unit	Details

Units

	Unit Id	Role and Status	Private IP	CPU Usage	Memory Usage	Disk Usage
●	00:E0:81:2E:D5:59	Shield (Active), TSMS (Active)	172.20.221.1		🟩	🟩

Web Applications Status

Domain Name	Protocols	Service IP	Active Policy	Security Level	Blocking Mode
phpauction.core.com	HTTP	172.20.2.222	phpauction.core...fault	High Security (APC)	Transparent

This window displays all the critical errors that were detected.

Click **Details** to open a window that displays a full description of the error with troubleshooting instructions.

Displaying the web applications status

Domain Name
The name of the domain in which the monitored web application is operating.

Protocols
The protocols used by the web application

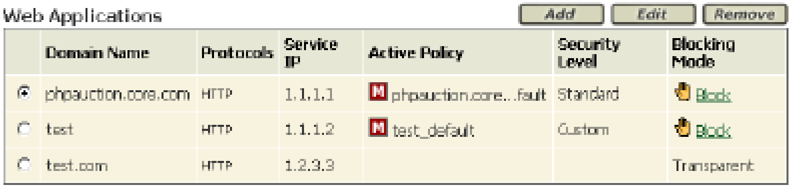
Service IP
The service IP address of the unit on which the web application is running.

Active Policy
The currently active policy that protects the web application.

Security Level
The security level defined by the user.

Blocking Mode
Defines whether the web application runs in Transparent mode or in Blocking mode.

Click the Hand icon to open a window listing the violations that will be blocked if the Blocking option is active.

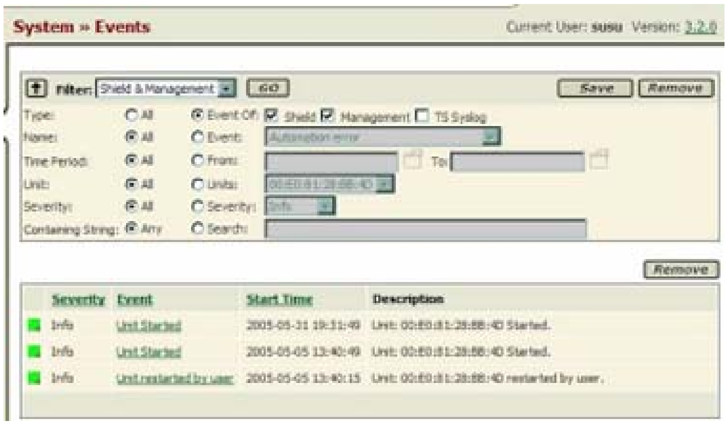


	Domain Name	Protocols	Service IP	Active Policy	Security Level	Blocking Mode
●	phpauction.core.com	HTTP	1.1.1.1	M phpauction.core...fault	Standard	Block
○	test	HTTP	1.1.1.2	M test_default	Custom	Block
○	test.com	HTTP	1.2.3.3			Transparent

Events

This screen displays the system events that have occurred and been recorded in the TrafficShield system. Use this screen with its advanced filter to concentrate on events pertinent to your needs.

1. Open the filtering tool by clicking the down-arrow icon displayed on the Filter row (you can close it by clicking the button again).



Filter: Shield & Management

Type:	○ All	● Event Of:	☑ Shield ☑ Management □ TS Syslog
Name:	● All	○ Event:	Automation error
Time Period:	● All	○ From:	To:
Unit:	● All	○ Units:	00:E0:81:28:88:40
Severity:	● All	○ Severity:	Info
Containing String:	● Any	○ Search:	

	Severity	Event	Start Time	Description
🟩	Info	Unit Started	2005-05-31 19:31:49	Unit: 00:E0:81:28:88:40 Started.
🟩	Info	Unit Started	2005-05-05 13:40:49	Unit: 00:E0:81:28:88:40 Started.
🟩	Info	Unit restarted by user	2005-05-05 13:40:15	Unit: 00:E0:81:28:88:40 restarted by user.

2. Select one or more filtering options.
   The filtering options are those that have a radio button next to them. For example, click the **Severity** radio button and then select a severity level to list only events of the selected severity.

   You can select multiple filtering options to further limit the scope of the retrieval. For example, setting a period in the **From/To** area and selecting a severity, lists the events of the selected severity level that took place within the specified period.

◆ **Note**

To cancel the filter in a certain category, deselect its corresponding ***All*** *radio button.*

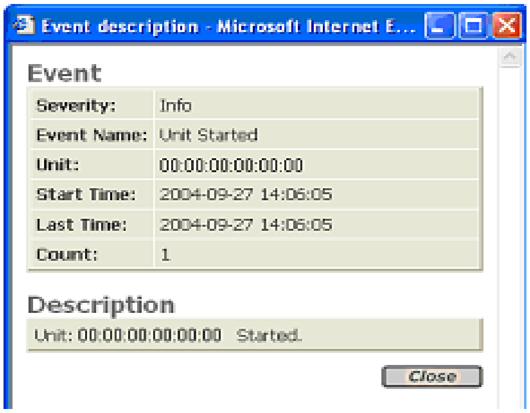
Criteria	Description
Filter	A predefined set of filtering parameters.
Type: Event Of	Filters the events that took place in the units, and events that have been posted to the operating system's log (system Log). Check the box that corresponds to the events you want to retrieve. You can select more than one option.
Name: Event	If you want to focus on a specific event, select the Event radio button and then select the event you want in the drop-down list.
Time Period: From/To	To retrieve events that took place in a certain period, select the From radio button. Then, use the 📅 icon in the From/To fields to select the start date/time and end date/time of the period. Note that you can select the time by clicking the time fields at the bottom of the calendar box.
Unit: Units	If you want to focus on events that took place in a certain unit, select the Units radio button and then select the unit's ID.
Severity: Severity	To retrieve only events of a certain severity level, select the Severity radio button and then select a level from the drop-down list.
Containing String: Search	Use this option to pinpoint events whose message contains a certain text. Select the Search radio button and type the text.

Unit events

If you want to focus on events that took place in a certain unit, select the **Units** radio button and then select the unit's ID.

To display more information about the event

1. Click the **Event link.**
   This displays a description of the event.



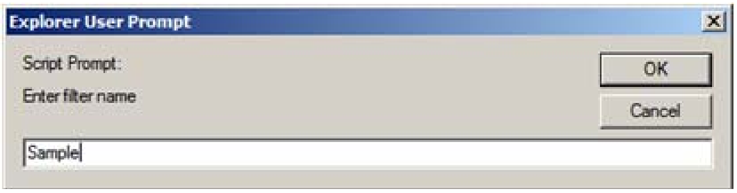
Event

Severity:	Info
Event Name:	Unit Started
Unit:	00:00:00:00:00:00
Start Time:	2004-09-27 14:06:05
Last Time:	2004-09-27 14:06:05
Count:	1

Description

Unit: 00:00:00:00:00:00 Started.

2. When you have read the event summary, click the **Close** button.
3. On the **Events** screen, click the **Go** button to activate the filter.
4. Click the **Save** button, after selecting the retrieval criteria, so you can re-use it whenever you want.
   This opens the following window.



Script Prompt:
Enter filter name

Sample

5. Type a name for the selected criteria and click **OK**.
6. You can delete a criteria definition by selecting it in the Filter list and clicking the **Remove** button.

Security

This page displays information about security violation types under the Status page, and about security violations time of occurrence under the Events page.

Status

The Status tab in the Security menu shows a list of security violations that have occurred. There are two report types available.

In Report Type, select:

- **Violation Report**, to display a list of violations.
- **IP Report**, to display the IP addresses that committed the violations.

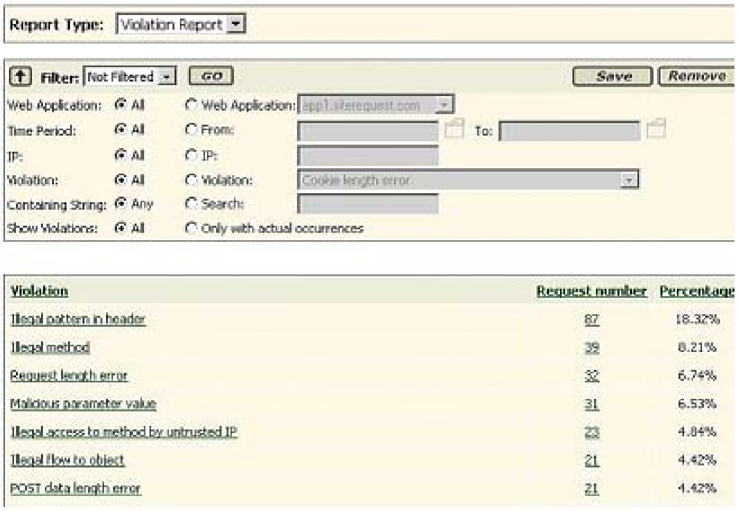
Both reports display the number of requests and the percentage of those requests that occurred from the total requests.

To define the filter criteria

1. Open the filtering tool by clicking the down-arrow icon displayed on the Filter row (you can close it by clicking the button again).
2. Click the **Go** button to update the violation display using the latest filter criteria.
3. Click the **Save** button to save the changes made to the filter criteria, thus creating a customized filter.
4. Use the **Remove** button to remove customized filters.

   Note: *It is not possible to delete the built in filters.*

5. The filter criteria are displayed in the top part of the window while the filtered violation list is displayed in the bottom part of the window.



Report Type: Violation Report

Filter: Not Filtered

Web Application: ● All ○ Web Application: app1.siterequest.com

Time Period: ● All ○ From: To:

IP: ● All ○ IP:

Violation: ● All ○ Violation: Cookie length error

Containing String: ● Any ○ Search:

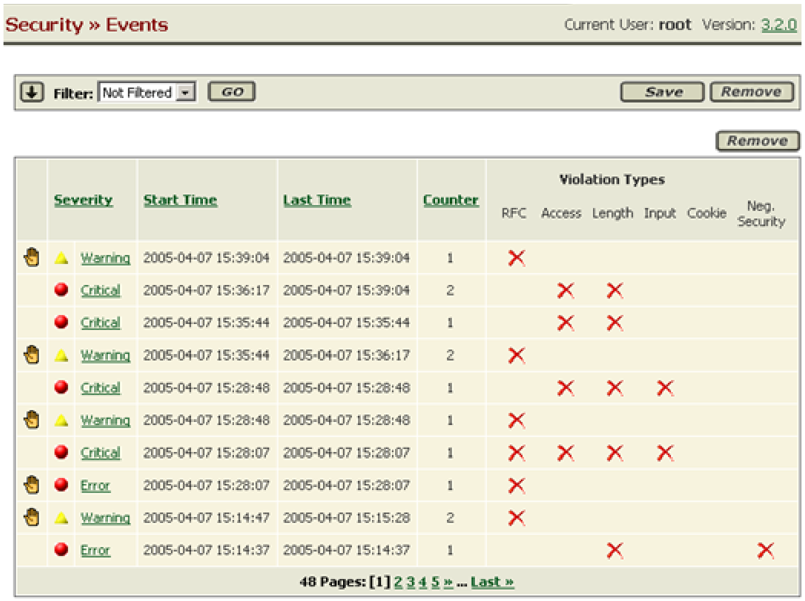
Show Violations: ● All ○ Only with actual occurrences

Violation	Request number	Percentage
Illegal pattern in header	87	18.32%
Illegal method	39	8.21%
Request length error	32	6.74%
Malicious parameter value	31	6.53%
Illegal access to method by untrusted IP	23	4.84%
Illegal flow to object	21	4.42%
POST data length error	21	4.42%

Criteria	Description
Filter	A predefined set of filtering parameters
Web Application	To focus on events relating to one of the protected Web applications, select the Web Application radio button and then select the Web application from the drop-down list.
Time Period From/To	To retrieve events that took place in a certain period, select the From radio button. Then, use the icon in the From/To fields to select the start date/time and end date/time of the period. Note that you can select the time by clicking the time fields at the bottom of the calendar box.
IP	To retrieve events originating from an IP address, select the IP radio button and then enter the address in the adjacent box.
Violations	To list the events that were registered as a result of a specific attack type, select the Violation radio button and then select the standard attack name from the drop-down list.
Containing String: Search	Use this option to pinpoint events whose message contains a certain text. Select the Search radio button and type the text.
Show Violations	To display all of the violations or only those with occurrences.

Displaying the events

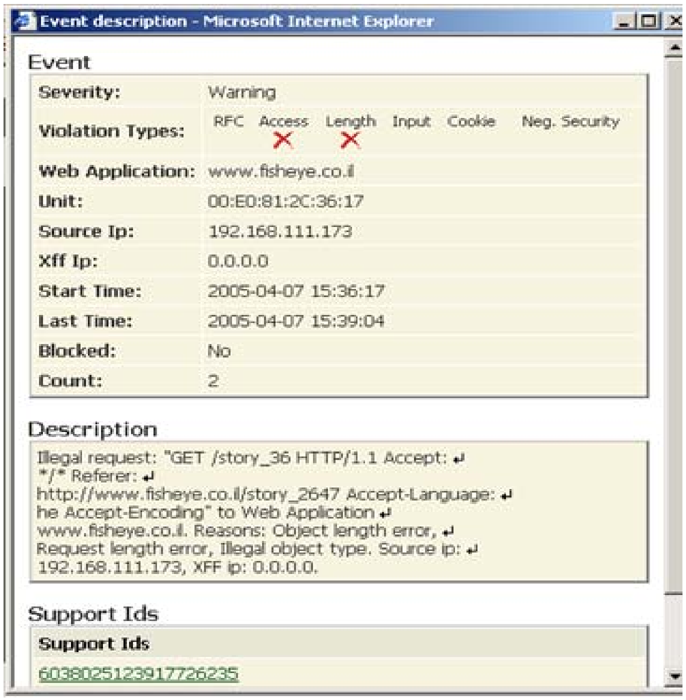
The Security-Events tab lists the events relating to requests that do not comply with the applied security policies. For example, you can see a list of events relating to requests that committed a length violation or a cookie violation.



		Severity	Start Time	Last Time	Counter	Violation Types					
						RFC	Access	Length	Input	Cookie	Neg. Security
✋	▲	Warning	2005-04-07 15:39:04	2005-04-07 15:39:04	1	✕					
	●	Critical	2005-04-07 15:36:17	2005-04-07 15:39:04	2		✕	✕			
	●	Critical	2005-04-07 15:35:44	2005-04-07 15:35:44	1		✕	✕			
✋	▲	Warning	2005-04-07 15:35:44	2005-04-07 15:36:17	2	✕					
	●	Critical	2005-04-07 15:28:48	2005-04-07 15:28:48	1		✕	✕	✕		
✋	▲	Warning	2005-04-07 15:28:48	2005-04-07 15:28:48	1	✕					
	●	Critical	2005-04-07 15:28:07	2005-04-07 15:28:07	1	✕	✕	✕	✕		
✋	●	Error	2005-04-07 15:28:07	2005-04-07 15:28:07	1	✕					
✋	▲	Warning	2005-04-07 15:14:47	2005-04-07 15:15:28	2	✕					
	●	Error	2005-04-07 15:14:37	2005-04-07 15:14:37	1			✕			✕

48 Pages: [1] 2 3 4 5 » ... Last »

Events that have been blocked are marked with the ✋ (stop) icon.
To display more information about the event, click the **Severity** link.



Event

Severity:	Warning
Violation Types:	RFC, Access ✕, Length ✕, Input, Cookie, Neg. Security
Web Application:	www.fisheye.co.il
Unit:	00:E0:81:2C:36:17
Source Ip:	192.168.111.173
Xff Ip:	0.0.0.0
Start Time:	2005-04-07 15:36:17
Last Time:	2005-04-07 15:39:04
Blocked:	No
Count:	2

Description

```
Illegal request: "GET /story_36 HTTP/1.1 Accept: ↵
*/* Referer: ↵
http://www.fisheye.co.il/story_2647 Accept-Language: ↵
he Accept-Encoding" to Web Application ↵
www.fisheye.co.il. Reasons: Object length error, ↵
Request length error, Illegal object type. Source ip: ↵
192.168.111.173, XFF ip: 0.0.0.0.
```

Support Ids

Support Ids
6038025123917726235

Reports on illegal requests

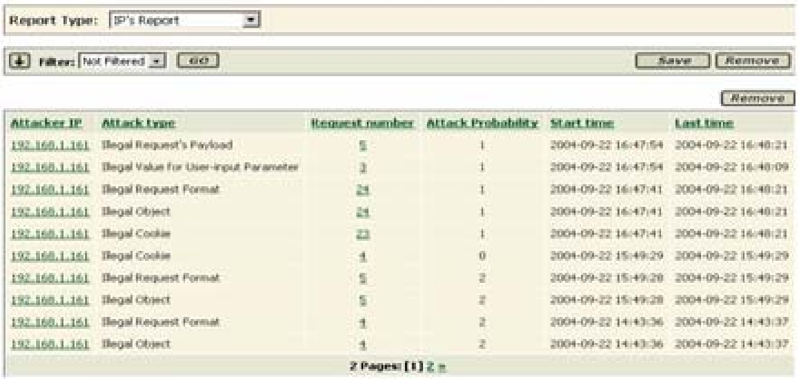
TrafficShield security application generates reports on illegal requests that were detected.

- Attacks report
- Executive report

Attacks report

This report provides a more global view on a number of illegal requests of a given type.

When sent at a high frequency, these illegal requests are considered as a clear intention to cause a specific damage. For example, the TrafficShield security application detects such attack types as “buffer overflow,” “parameter value tempering,” “forceful browsing,” and more. The Reports-Attacks tab displays such sets of illegal requests.



Report Type: IP's Report

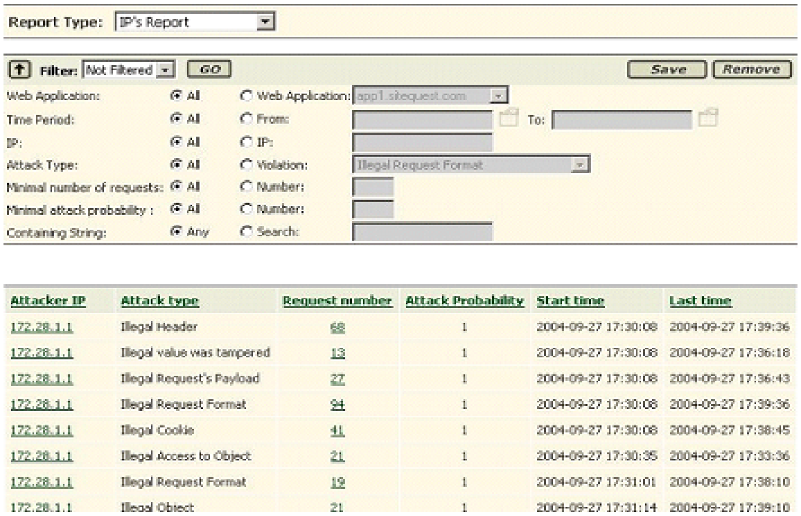
Filter: Not Filtered

Attacker IP	Attack type	Request number	Attack Probability	Start time	Last time
192.168.1.161	Illegal Request's Payload	5	1	2004-09-22 16:47:54	2004-09-22 16:48:21
192.168.1.161	Illegal Value for User-input Parameter	3	1	2004-09-22 16:47:54	2004-09-22 16:48:09
192.168.1.161	Illegal Request Format	24	1	2004-09-22 16:47:41	2004-09-22 16:48:21
192.168.1.161	Illegal Object	24	1	2004-09-22 16:47:41	2004-09-22 16:48:21
192.168.1.161	Illegal Cookie	23	1	2004-09-22 16:47:41	2004-09-22 16:48:21
192.168.1.161	Illegal Cookie	4	0	2004-09-22 15:49:29	2004-09-22 15:49:29
192.168.1.161	Illegal Request Format	5	2	2004-09-22 15:49:28	2004-09-22 15:49:29
192.168.1.161	Illegal Object	5	2	2004-09-22 15:49:28	2004-09-22 15:49:29
192.168.1.161	Illegal Request Format	4	2	2004-09-22 14:43:36	2004-09-22 14:43:37
192.168.1.161	Illegal Object	4	2	2004-09-22 14:43:36	2004-09-22 14:43:37

2 Pages: [1] 2 »

To display illegal requests of a given type

1. Open the filtering tool by clicking the down-arrow icon displayed on the Filter row (you can close it by clicking the button again).



Report Type: IP's Report

Filter: Not Filtered

Web Application:	● All	○ Web Application:	app1.sitequest.com
Time Period:	● All	○ From:	To:
IP:	● All	○ IP:	
Attack Type:	● All	○ Violation:	Illegal Request Format
Minimal number of requests:	● All	○ Number:	
Minimal attack probability :	● All	○ Number:	
Containing String:	● Any	○ Search:	

Attacker IP	Attack type	Request number	Attack Probability	Start time	Last time
172.28.1.1	Illegal Header	68	1	2004-09-27 17:30:08	2004-09-27 17:39:36
172.28.1.1	Illegal value was tampered	13	1	2004-09-27 17:30:08	2004-09-27 17:36:18
172.28.1.1	Illegal Request's Payload	27	1	2004-09-27 17:30:08	2004-09-27 17:36:43
172.28.1.1	Illegal Request Format	94	1	2004-09-27 17:30:08	2004-09-27 17:39:36
172.28.1.1	Illegal Cookie	41	1	2004-09-27 17:30:08	2004-09-27 17:38:45
172.28.1.1	Illegal Access to Object	21	1	2004-09-27 17:30:35	2004-09-27 17:33:36
172.28.1.1	Illegal Request Format	19	1	2004-09-27 17:31:01	2004-09-27 17:38:10
172.28.1.1	Illegal Object	21	1	2004-09-27 17:31:14	2004-09-27 17:39:10

2. Use the **Go** button to update the attack display using the latest filter criteria.
3. Use the **Save** button to save the changes made to the filter criteria, thus creating a customized filter.
4. Use the **Remove** button to remove customized filters.

   The columns displayed are:

   - **Request Number**
     The Request Number column indicates the number of requests of the specific attack type. Click a number to display the requests.
   - **Attack Probability**
     The TrafficShield security application calculates and suggests a probability that the certain set of requests already launched an attack. The numbers that appear in this field represent the percentage of attack probability. While **100** is the highest probability and **1** is the lowest, **0** means no probability at all.
   - **Start Time**
     This is the first time this attack was noted.
   - **Last Time**
     This is the last time this attack was noted.

The options in the Report Type section are as follows:

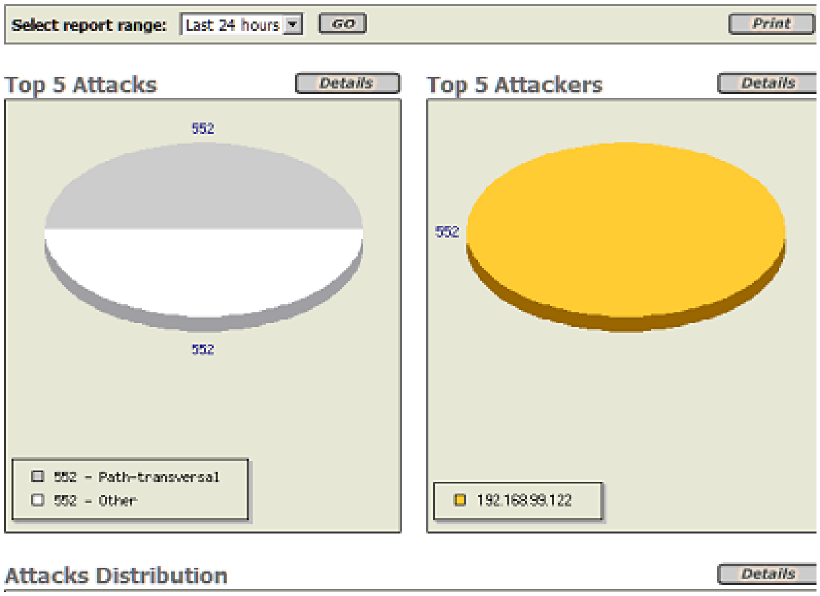
Criteria	Description
IPs Report	The reports are organized by the IP of the computers from which the attacks came.
Attack Types Report	The reports are organized by type of attack.

The options in the Filter section are as follows:

Criteria	Description
Filter	A predefined set of filtering parameters. Options are: Not FIltered Last Hour Last Day Last Week Last Month Custom
Web application	To focus on events relating to one of the protected Web applications, click the **Web Application** button, and then select the Web application from the list.
Time Period From/To	To retrieve events that took place in a certain period, select the From radio button. Then, use the icon in the From/To fields to select the start date/time and end date/time of the period. Note that you can select the time by clicking the time fields at the bottom of the calendar box.
IP	To retrieve events originating from an IP address, select the IP radio button and then enter the address in the adjacent box.
Attack Type	Select an attack type. This applies, especially, to the Attacks Report that groups together requests that have the characteristics of a standard attack type. You can use it in conjunction with “Minimal number of requests”.
Minimal number of requests	Use this parameter to list attacks that included at least a specified number of requests that characterize standard attack types.
Minimal attack probability	This is a sorting option that displays the attacks from the lowest probability.
Containing String	Use this option to pinpoint events whose message contains a certain text. Select the Search radio button and type the text.

Executive report

The report is displayed by selecting the **Reports** and then **Executive**. It graphically displays the attack statistics.



Select report range: Last 24 hours

This report contains the same type of information as in the Attacks report, only it retrieves the five most frequent attacks or attackers (IP). The Details button functions like the links in the Attacks report, listing attacks or IP addresses.

The Attacks Distribution section displays the attack types over time. The Details button displays the same information in textual format.

Activity

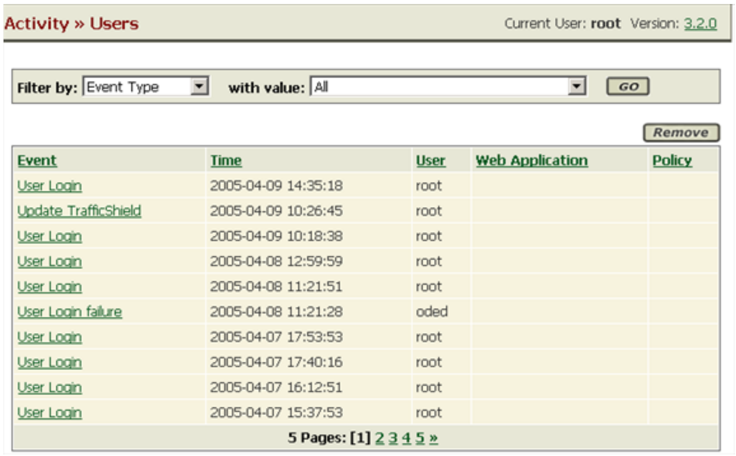
User activity consists of operations such as logging on to TSMS or adding a new policy, removing a policy, adding a web application, modifying the Server SSL files, changing the blocking policy, changing the system configuration, change the character set, restarting the unit, adding a user, adding a Rexpool, and so on.

Users

You can use the monitoring tool to examine the user activities that took place in the system.

To monitor user activities

1. On the top menu, click the **Monitoring** button.
2. In the **Activity** section of the navigation pane, select the **Users** tab.



Activity » Users

Current User: **root** Version: 3.2.0

Filter by: Event Type with value: All

Event	Time	User	Web Application	Policy
User Login	2005-04-09 14:35:18	root		
Update TrafficShield	2005-04-09 10:26:45	root		
User Login	2005-04-09 10:18:38	root		
User Login	2005-04-08 12:59:59	root		
User Login	2005-04-08 11:21:51	root		
User Login failure	2005-04-08 11:21:28	oded		
User Login	2005-04-07 17:53:53	root		
User Login	2005-04-07 17:40:16	root		
User Login	2005-04-07 16:12:51	root		
User Login	2005-04-07 15:37:53	root		

5 Pages: [1] 2 3 4 5 »

3. In **Filter By:** select the type of events to display.
   In **with value:** select the value to be filtered.
   For example, in **Filter By**, select **Policy**, and in **with value**, select the name of a policy, and click the **Go** button to list user activities that took place in relation with the indicated policy.
4. To delete all of the listed events, click the **Remove** button.
5. To list the events that meet the criteria, click the **Go** button.

6

Administration

Users

This chapter describes administrative operations such as defining additional users, backups, downloading helpful utilities, upgrade of the software version, etc. All of the subjects discussed here can be found under the Administration Tab.

During the installation stage you were asked to define the TSMS Administrator as the initial super user. It is possible to add additional users who are authorized to access the TrafficShield® security application and back up TrafficShield security application data.

Adding users

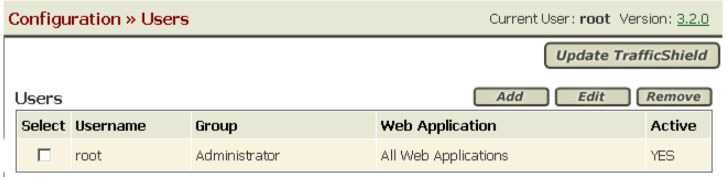
When you add users, you can restrict user access to TSMS management portal based on either source IP address or Network address.

In both cases you define the user's details in the relevant fields.

In the **Access IP/ Access Network** section, select the relevant radio button

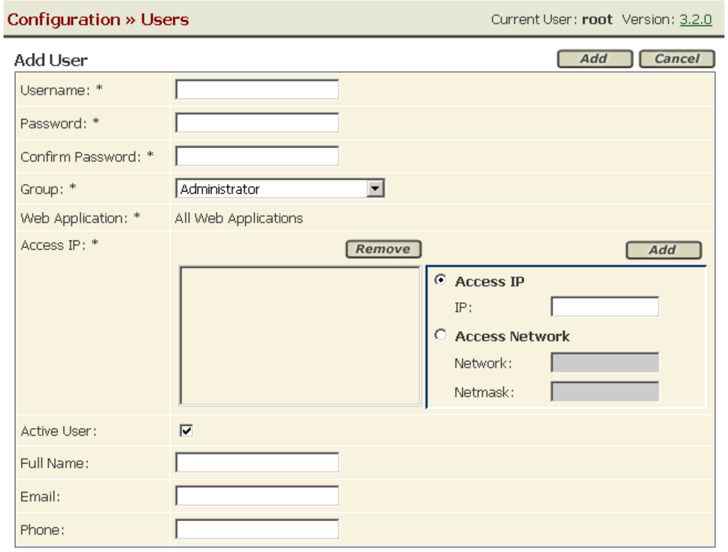
To add users

1. Select the **Administration** button.
2. In the **Configuration** menu, select the **Users** tab.
   The Users screen appears.



Select	Username	Group	Web Application	Active
□	root	Administrator	All Web Applications	YES

3. Click the **Add** button.
   The Add User screen opens.



Configuration » Users

Current User: **root** Version: 3.2.0

Add User

Username: *

Password: *

Confirm Password: *

Group: * Administrator

Web Application: * All Web Applications

Access IP: *

● **Access IP**

IP:

○ **Access Network**

Network:

Netmask:

Active User: ☑

Full Name:

Email:

Phone:

4. In the **Username** field, enter the name that the user should specify when accessing TSMS.

5. In the **Password** field, enter the password that the user should specify when accessing TSMS.

6. In the **Confirm Password** field, enter the password again.

7. In the **Group** field, select the group to which this user belongs. The group determines the operations that this user will be allowed to perform in the TrafficShield security application.

   The following table describes the attributes of each group.

User Type	Authorization
Administrator	The Administrator has access to all Web applications defined in TSMS and can perform all operations in TSMS.
Web Application	AdministratorAccess only to the Web Application. This user can only create additional users for his allowed Web Application. The assignment is made in the Web Application field.
Policy Editor	Access to the Policy Management tool only within the context of the assigned application. Currently this user can access any policy of any web application. The user cannot view the Administration and Monitoring tabs.
Monitoring	Access to the Monitoring tool only. Users in this group can only view data.

8. In the **Web Application** field, select the Web application that this user will be authorized to access.
   Each user may access one application. To allow a user to access more than one Web application, define a separate user record for each.
   This field is not accessible if the user group is Administrator, as administrators have access to all applications.

9. In the **Access IP** field, specify the IP addresses of the computers from which this user is entitled to access TSMS. You can specify a single IP address or a network address.

   a) To add a user and allow him access from individual IP addresses, select the **Access IP** radio button.

   b) To allow access from any IP address in a network, select the **Access Network** radio button.

10. Enter the IP address or the network address.

11. Click the **Add** button.
    The address moves to the box on the left.

    ***Note**: You can remove an address by selecting it in the left box and clicking the **Remove** button.*

12. Clear the **Active User** box to withdraw this user's access permissions without deleting the user record.
    Select the check box again to re-enable the user.

13. In the **Full Name**, **E-mail** and **Phone** fields, enter the full name, e-mail address and the telephone number of this user.

14. To complete the process of adding a user, click the **Add** button.
    This closes the Add User page. The user record appears in the main page.

15. Click **Update TrafficShield** button.

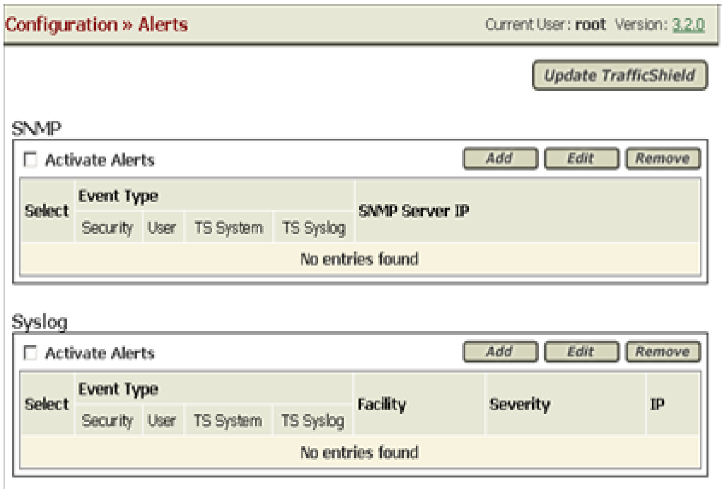
16. Repeat the procedure for all relevant addresses.

Alerts

The alerts feature allows you to collect events and to send them to the SNMP Server. The TrafficShield security application Alerts mechanism can collect events of different types.

To configure alerts

1. Select the **Administration** button.
2. In the **Configuration** menu, select **Alerts**.
   The Alerts page opens.
3. Examine the sections to see the types of alerts that your version of the TrafficShield security application sends out. The procedure is identical in all cases; only the destination server parameters are different.



SNMP

□ Activate Alerts

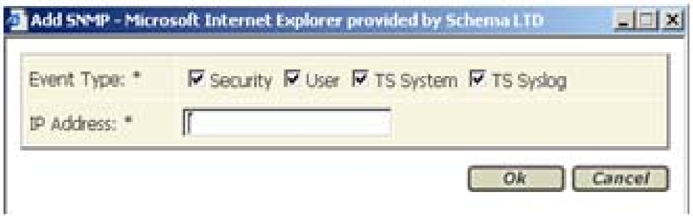
Select	Event Type				SNMP Server IP
	Security	User	TS System	TS Syslog	
No entries found					

Syslog

□ Activate Alerts

Select	Event Type				Facility	Severity	IP
	Security	User	TS System	TS Syslog			
No entries found							

4. Click the **Activate Alerts** check box to enable the desired alerts.
5. Click the **Add** button in a section.
   The **Add SNMP** dialog box opens.


Add SNMP - Microsoft Internet Explorer provided by Schema LTD
Ok
Cancel

Event Type: * ☑ Security ☑ User ☑ TS System ☑ TS Syslog

IP Address: *

6. Select the types of events to capture by checking one or more of the options described below.

Option	Collects
Security	Events identified as attacks.
User	Operations performed by TSMS users. For example, logging in to TSMS is a user event.
TrafficShield System	Events related to operations at system level. For example, rebooting units is a system event.
TrafficShield Syslog	Events registered at the OS system log.

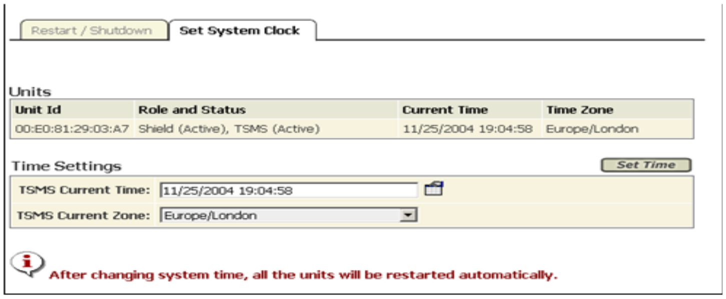
7. Enter the server IP address relating to the server that will receive the events.
8. If necessary, repeat the operation to create alert collection records that combine different types of alerts and/or send alerts to different servers.
9. Click the **Update TrafficShield** button.

System

You can shut down or reboot a TrafficShield unit, or restart the TSMS from within the TSMS user interface. Major modifications in the configuration require you to restart the units. For example, when you modify the system configuration (system page), a verification object in a Web application page, or the system time in one of the units.

To set the system time

1. Click **Administration > Maintenance > System**.
   In the screen that appears, click the **Set System Clock** tab and set the system time.



Units

Unit Id	Role and Status	Current Time	Time Zone
00:E0:81:29:03:A7	Shield (Active), TSMS (Active)	11/25/2004 19:04:58	Europe/London

Time Settings

TSMS Current Time: 11/25/2004 19:04:58

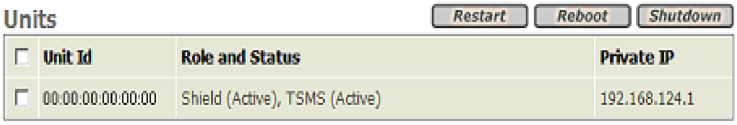
TSMS Current Zone: Europe/London

After changing system time, all the units will be restarted automatically.

2. Set the **Time zone**, **Time** and **date**, and when finished, click the **Set Time** button.
   The unit restarts and you will be sent to the Login page.

To restart, reboot, or shut down TrafficShield system

1. In the **Administration** tool, select the **System** tab under **Maintenance**.
   The existing TrafficShield security application unit records are listed.



Units

□	Unit Id	Role and Status	Private IP
□	00:00:00:00:00:00	Shield (Active), TSMS (Active)	192.168.124.1

2. Select the unit by checking its checkbox in the leftmost column.
3. Click the appropriate button > **Restart**, **Reboot**, or **Shutdown**.

Restart

Restart affects only the TrafficShield Management Station [TSMS].

◆ **Note**

Restart affects only the TrafficShield security application components and not the Operating System.

The following actions require Restart:

- Changing verification object in HTTP/HTTPS
- Changing any parameter in client certificate
- Changing any internal parameter
- Changing any parameter in system page

Reboot

Reboot halts the system and resets the hardware. You must wait several minutes before connecting to your unit.

◆ **Note**

If you have a Standby unit installed, it will become the Active unit and the other re-booted unit will become the Standby unit.

Shutdown

Shutdown powers the unit down.

To turn the power back on, you will need to manually turn on the power button.

Upgrades

This section describes the upgrade package wizard workflow.

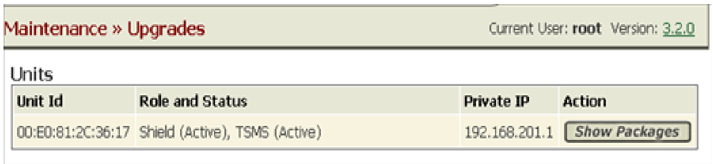
By following this wizard, you can install a new package.

At the end of the installation, dependant on the package contents, you may be required to restart or reboot the TrafficShield unit.

Adding a Software Package

To add a Software Package

1. Select the **Administration** tab at the top of the TSMS window.
2. In the **Maintenance** menu, select **Upgrades**.
   A list of the installed TrafficShield security application units appears. If you have one Active unit and a Standby unit, you must upgrade each unit separately.



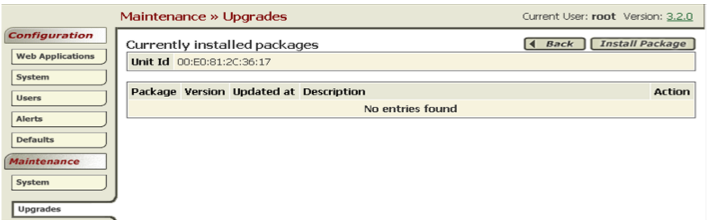
Maintenance » Upgrades

Current User: root Version: 3.2.0

Units

Unit Id	Role and Status	Private IP	Action
00:E0:81:2C:36:17	Shield (Active), TSMS (Active)	192.168.201.1	Show Packages

3. Choose the relevant unit to upgrade and click the **Show Packages** button. The Currently Installed packages window will be displayed. If this is the first upgrade you perform on the system, no row will be displayed.



Maintenance » Upgrades

Current User: root Version: 3.2.0

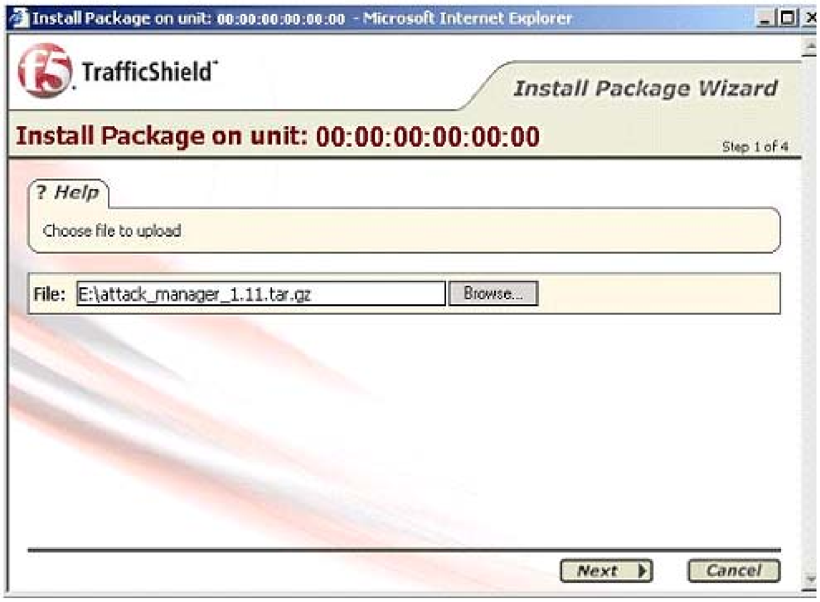
Currently installed packages

Unit Id 00:E0:81:2C:36:17

Package	Version	Updated at	Description	Action
			No entries found	

4. Click **Install Package** to open the Install Package Wizard.

Install Package Wizard



Install Package on unit: 00:00:00:00:00:00 - Microsoft Internet Explorer

Install Package on unit: 00:00:00:00:00:00

Step 1 of 4

? Help

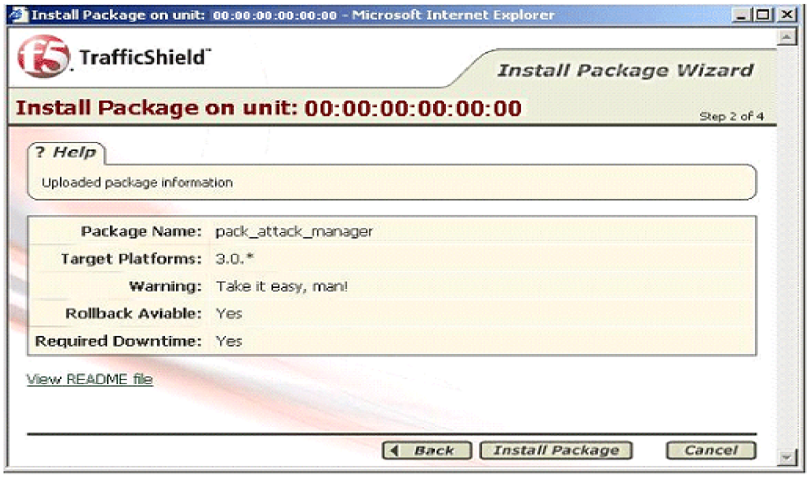
Choose file to upload

File: E:\attack_manager_1.11.tar.gz

Step 1: Upload the package file

1. Use the browser to locate the package file you wish to upgrade.
2. Click the **Next** button.

Step 2: Package Information uploaded and displayed



Install Package on unit: 00:00:00:00:00:00 - Microsoft Internet Explorer

Install Package on unit: 00:00:00:00:00:00

Step 2 of 4

? Help

Uploaded package information

Package Name:	pack_attack_manager
Target Platforms:	3.0.*
Warning:	Take it easy, man!
Rollback Aviable:	Yes
Required Downtime:	Yes

View README file

Fill in the fields as indicated:

Package Name

Logical name of the package is not necessarily identical to the file name.

Target Platforms

This is the TrafficShield security application minimum version number required to install this package.

Warning

Sometimes the user needs to be aware of a certain risk or problem that the installation of this package may cause under specific circumstances (for example: the user must reboot the unit, reactivate the policy etc.).

We highly recommended that you read the notes and explanations provided in the README file that can be accessed by clicking the View README file link.

Rollback Available

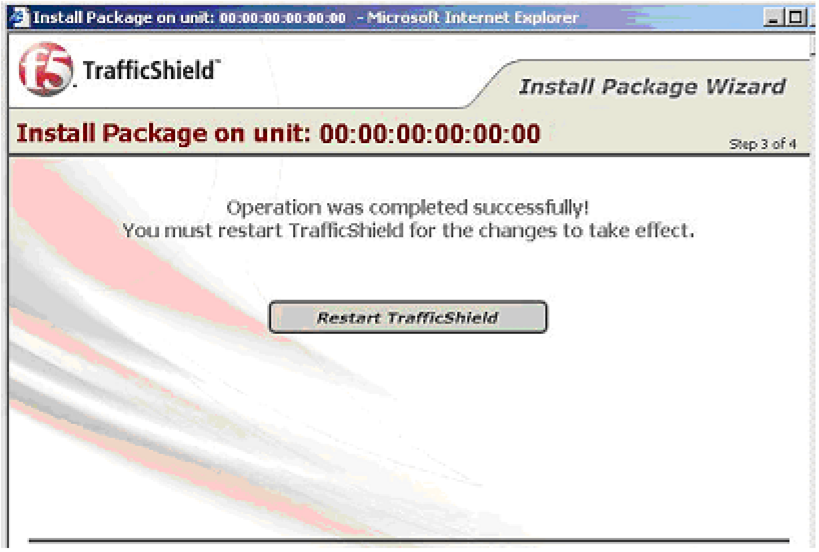
This field indicates whether it would be possible to roll back to previous status after installation, should problems occur.

Required Downtime

Sometimes the new package may take effect only after the TrafficShield unit has been reactivated. The user needs to know that the TrafficShield security application will not be protecting the user's application during the installation time.

- Click the **Back** button, to go to the previous step or choose Install Package to continue.

Step 3: Package successfully installed


Install Package on unit: 00:00:00:00:00:00 - Microsoft Internet Explorer
TrafficShield
Install Package Wizard

Install Package on unit: 00:00:00:00:00:00

Step 3 of 4

Operation was completed successfully!
You must restart TrafficShield for the changes to take effect.

- This screen indicates the successful completion of the package installation to TrafficShield security application. In the example above, the specific package requires the user to restart the unit. Should this not be required, the Restart TrafficShield button will not be displayed.
- Click the **Finish** button, to close the Wizard without restarting the unit.

Rebooting

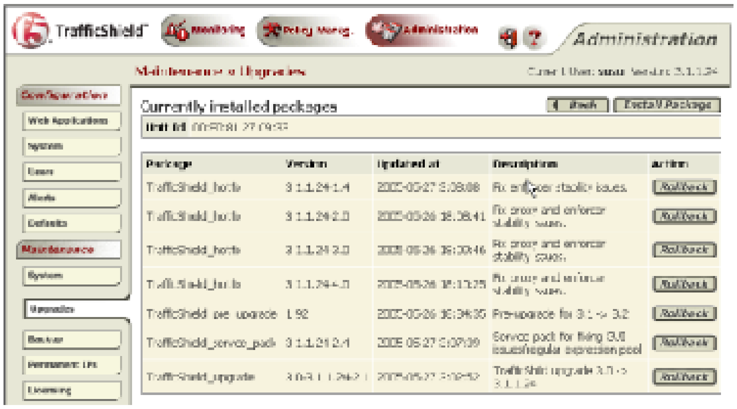
In this case, it is the user responsibility to reboot the unit later, in order to activate the changes created by the package installation.

Rollback

After installing a new software package, problems may occur due to unforeseen circumstances. In some cases it is possible to roll back to a previous software version after installing a new software package.
If you have already installed five sequential packages and you roll back the fifth package, you will roll back to the fourth package.

To roll back from an installation

1. Select the **Administration** tab at the top of the TSMS window.
2. In the **Maintenance** menu, select **Upgrades**.
   A list of the installed TrafficShield units appears.
   If you have an Active unit and a Standby unit, you will need to roll back each unit separately.
3. Choose the relevant Unit to roll back and click the **Show Packages** button. The Currently Installed packages window will be displayed.
4. Click the **Rollback** button next to the relevant package to roll back.
   A message will be displayed only if the rollback was unsuccessful.



Currently installed packages

Unit Id: 00-FE-81 27 C9:33

Package	Version	Updated at	Description	action
TrafficShield_hotfix	3.1.1.24-1.4	2005-05-27 5:08:08	Fix enforcer stability issues.	Rollback
TrafficShield_hotfix	3.1.1.24-2.0	2005-05-26 16:38:41	Fix proxy and enforcer stability issues.	Rollback
TrafficShield_hotfix	3.1.1.24-3.0	2005-05-26 16:30:46	Fix proxy and enforcer stability issues.	Rollback
TrafficShield_hotfix	3.1.1.24-4.0	2005-05-26 16:13:25	Fix proxy and enforcer stability issues.	Rollback
TrafficShield_pre_upgrade	1.92	2005-05-26 16:34:35	Pre-upgrade for 3.1 -> 3.2	Rollback
TrafficShield_service_pack	3.1.1.21-2.4	2005-05-27 6:07:09	Service pack for fixing GUI issues/regular expression pool	Rollback
TrafficShield_upgrade	3.0-3.1.1.24-2.1	2005-05-27 [illegible]	TrafficShield upgrade 3.0 -> 3.1.1.24	Rollback

A unit reboot may be required in order to activate the rollback changes.

◆ **Note**

Please note that if you have installed several packages, and you wish to roll back to a specific package, please roll back in an orderly sequence without skipping any of them (5, 4, 3, etc.).

Backing up TrafficShield security application

You can set a schedule for automatically backing up the TrafficShield security application configuration parameters and the security policies. The configuration parameters and the security policies can be backed up separately or in a single operation. You can also define different backup schedules for the same material and thus create backup “generations” and even create different schedules that direct the data to different backup computers.

The backup procedure utilizes the SSH protocol. The TrafficShield security application initiates an SCP procedure to the backup server, using the backup user name and password that must reside on the backup machine.

The backup file is compressed using the tar.gz compression software.

The backup file size is dependent on the TrafficShield system configuration, however, it can reach up to around 100MB.

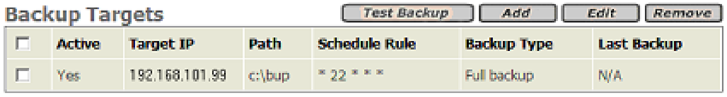
A built in test backup feature enables you to check the accuracy of your settings. See below for details.

Defining Backup Schedules

To secure yourself against hardware failures or unintended modifications to the system, in which case you might want to rollback to the system previous stage, we recommend that you regularly schedule backups.

To schedule backups

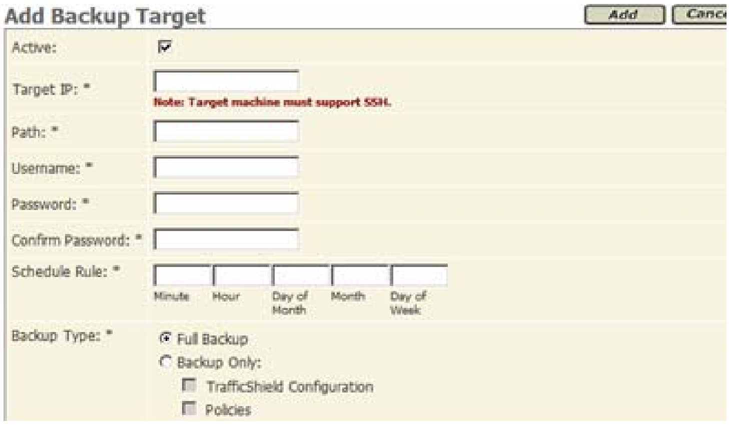
1. Click the **Administration** button.
2. In the **Maintenance** menu, select the **Backup** tab.
   The Backup page opens.



Backup Targets

□	Active	Target IP	Path	Schedule Rule	Backup Type	Last Backup
□	Yes	192.168.101.99	c:\bup	* 22 * * *	Full backup	N/A

3. Click the **Add** button.
   The Add Backup Target page opens.



Add Backup Target

Active: ☑

Target IP: *

Note: Target machine must support SSH.

Path: *

Username: *

Password: *

Confirm Password: *

Schedule Rule: * Minute Hour Day of Month Month Day of Week

Backup Type: *
● Full Backup
○ Backup Only:
□ TrafficShield Configuration
□ Policies

4. Enter the information described below.

Active
If you want this schedule to work, make sure that this box is checked.

At first, you may want to create schedules with this box cleared in order to prevent the system from running backups before you are ready to do so. You can activate a schedule at any time by checking this box.

Target IP
Specify the IP address of the computer where the backed up data will be stored.

Note that the backup procedure uses Secure Shell (SSH). The target computer should be configured to use this protocol.

Path
Specify the path to the folder where you want to store the data on the backup computer's disk.

Username, Password
Specify the user name and the password that are needed to access the backup computer.

Confirm Password
Type the password again.

Schedule Rule
Specify the schedule using the UNIX cron syntax.

Note: *The Format is in this order: minute hour day month weekday. The command is: Minute: Minutes after the hour (0-59), Hour: 24 hour format (0-23), Day: Day of the month (1-31), Month: Month of the year (1-12), Weekday: Day of the week (0-6; the 0 refers to Sunday). For more information, please refer to relevant web sites.*

Backup Type
Select what to back up.
If you select the **Backup Only** radio button, TrafficShield security application allows you to mark the type of information to back up via this definition.

5. Click the **Add** button.
   The backup definition appears on the main page.

6. Repeat the above procedure for all the backup schedules you want to define.
   Defining different schedules for the same material creates "generations." A "generation" helps you restore data as it was at the time the generation was created.

7. Click the **Update TrafficShield** button.

Testing the Destinations

This procedure is designed to check that the data supplied in the backup definition is correct. The test checks the correctness of the destination IP address, the user name and password, and the path, as entered in the backup definition.

To test a destination

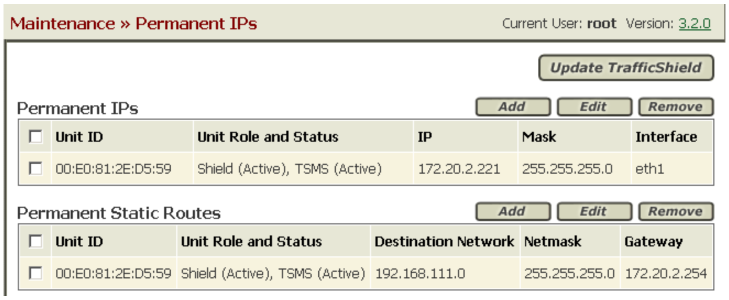
1. In the Backup Targets page, select the backup entry to test.
2. To select an entry, mark its check box on the leftmost column. You can test one backup entry at a time.
3. Click the **Test Backup** button.
   If all data is correct, a confirmation message appears.

Permanent IP Addresses

Each TrafficShield security application unit may have one or more permanent IP addresses that remain usable even when TrafficShield system processes are down. This is not mandatory. If you need permanent addresses, define them as explained below. You can either add/edit a Permanent IP, or add/edit a Permanent Static Route.

To set a permanent IP address

1. Click the **Administration** button at the top of the TSMS window.
2. In the **Maintenance** menu, select **Permanent IPs**.



Maintenance » Permanent IPs

Current User: **root** Version: 3.2.0

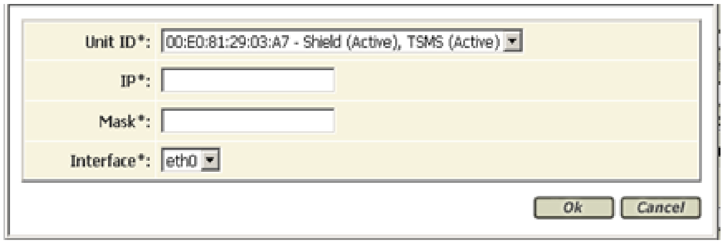
Permanent IPs

□	Unit ID	Unit Role and Status	IP	Mask	Interface
□	00:E0:81:2E:D5:59	Shield (Active), TSMS (Active)	172.20.2.221	255.255.255.0	eth1

Permanent Static Routes

□	Unit ID	Unit Role and Status	Destination Network	Netmask	Gateway
□	00:E0:81:2E:D5:59	Shield (Active), TSMS (Active)	192.168.111.0	255.255.255.0	172.20.2.254

3. Click the **Add** button above the Permanent IPs window to add a new Permanent IP.



Unit ID*:	00:E0:81:29:03:A7 - Shield (Active), TSMS (Active)
IP*:	
Mask*:	
Interface*:	eth0

4. Enter the following information:

   Unit ID
   Select the unit to which you want to assign a permanent IP address.

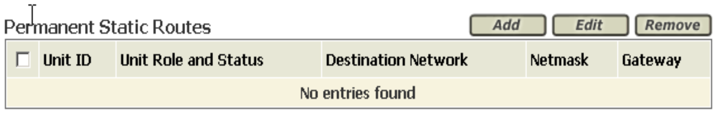
   IP, Mask
   Enter the unit's permanent IP address and its network mask.

   Interface
   Each unit has two network cards. Select the card to which you want to assign a permanent IP address.

5. Click **OK**.
   The permanent IP address definition appears on the main page.
6. Repeat the above procedure for all the permanent IP addresses you need to define.
7. Click the **Update TrafficShield** button to update the unit.

To set a permanent Static Route

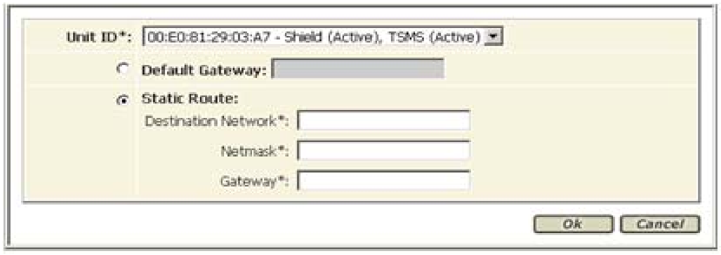
1. Click the **Administration** button at the top of the TSMS window.
2. In the **Maintenance** menu, select **Permanent IPs**.
3. Click the **Add** button above the Permanent Static Route window to add a new Permanent Static Route.



Permanent Static Routes

☐	Unit ID	Unit Role and Status	Destination Network	Netmask	Gateway
No entries found					

The following window opens.



Unit ID*: 00:E0:81:29:03:A7 - Shield (Active), TSMS (Active)

○ Default Gateway:

● Static Route:

Destination Network*:

Netmask*:

Gateway*:

4. If the PC resides in an external network, enter the following:

   Unit ID
   Select the unit to which you want to assign a permanent IP address.

   Default Gateway
   The IP address of the default gateway

   Static Route Network
   Item Description

   Static Route Mask
   The netmask of the destination network address.

   Static Route Gateway
   The IP address of the gateway

5. Click **OK**.
   The permanent Static Route definition appears on the main page.
6. Repeat the above procedure for all the permanent Static Route addresses you need to define.
7. Click the **Update TrafficShield** button to update the unit.

Downloads

TrafficShield security application supports four types of Policy Browser downloads. Two for the Windows® platform, and two for the Linux platform.

Select the appropriate Policy Browser that corresponds to your system configuration.

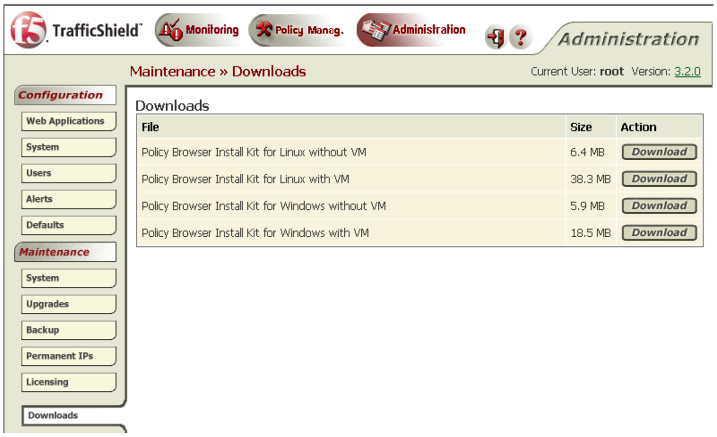
Policy Browser

The Policy Browser is an add-on tool that enables you to record your navigation activities on your Website into an output file.

This output file will be loaded later on onto the policy and can be used to build up the policy,

To download the Policy Browser software

1. In the **Administration** tool, select the **Downloads** tab under **Maintenance**.



Maintenance » Downloads

Current User: root Version: 3.2.0

Downloads

File	Size	Action
Policy Browser Install Kit for Linux without VM	6.4 MB	Download
Policy Browser Install Kit for Linux with VM	38.3 MB	Download
Policy Browser Install Kit for Windows without VM	5.9 MB	Download
Policy Browser Install Kit for Windows with VM	18.5 MB	Download

2. Select the relevant Policy Browser Installation Kit from the Downloads list.

3. Click the **Download Action** button and download to a selected folder.

4. Run the downloaded executable file to install the Policy Browser on your machine.

5. At the end of the installation, run the policy browser.

◆ **Note**

The recorded scan is saved in mybrowser.csv. Load this file from browser recordings.

Support tools

The TrafficShield security application offers you the following support tools:

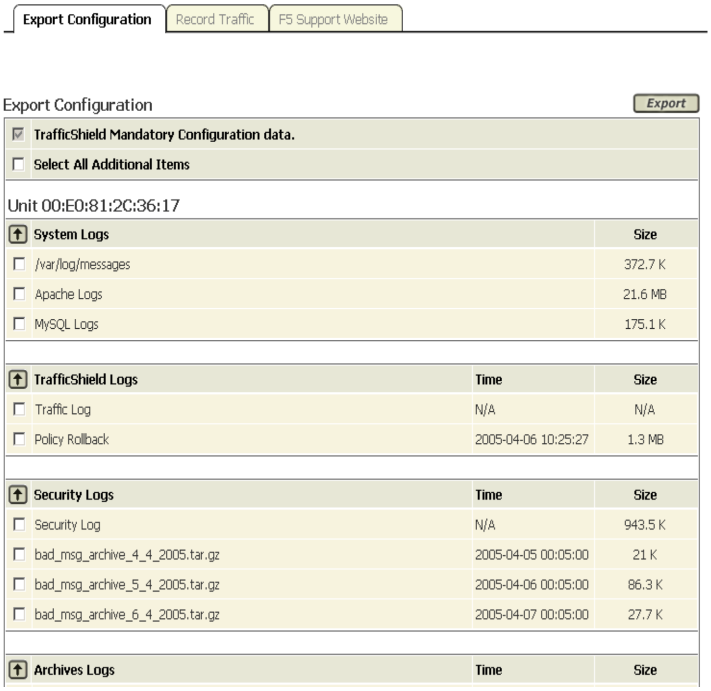
- Export Configuration
- Record Traffic
- F5 Support Website

Export configuration data and logs

Using the Export Configuration tool, you can export TrafficShield security application log activity and configuration data. The export tool performance is influenced by the unit performance at the time the export process is run.

To export your configuration to a disk

1. In the **Administration** tool, select **Maintenance** and click the **Export Configuration tab** under the **Support Tools**.
   The Export Configuration tab appears



Export Configuration

☑ TrafficShield Mandatory Configuration data.

□ Select All Additional Items

Unit 00:E0:81:2C:36:17

System Logs		Size
□ /var/log/messages		372.7 K
□ Apache Logs		21.6 MB
□ MySQL Logs		175.1 K

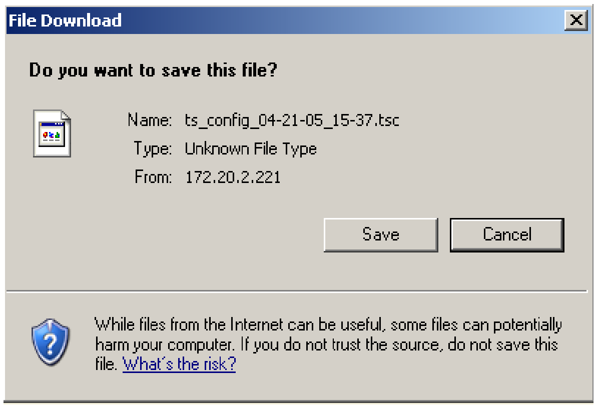
TrafficShield Logs	Time	Size
□ Traffic Log	N/A	N/A
□ Policy Rollback	2005-04-06 10:25:27	1.3 MB

Security Logs	Time	Size
□ Security Log	N/A	943.5 K
□ bad_msg_archive_4_4_2005.tar.gz	2005-04-05 00:05:00	21 K
□ bad_msg_archive_5_4_2005.tar.gz	2005-04-06 00:05:00	86.3 K
□ bad_msg_archive_6_4_2005.tar.gz	2005-04-07 00:05:00	27.7 K

Archives Logs	Time	Size

2. Choose the required logs you wish to export.

3. Click the **Export** button.
   The file Download screen opens.



File Download

Do you want to save this file?

Name: ts_config_04-21-05_15-37.tsc
Type: Unknown File Type
From: 172.20.2.221

While files from the Internet can be useful, some files can potentially harm your computer. If you do not trust the source, do not save this file. What's the risk?

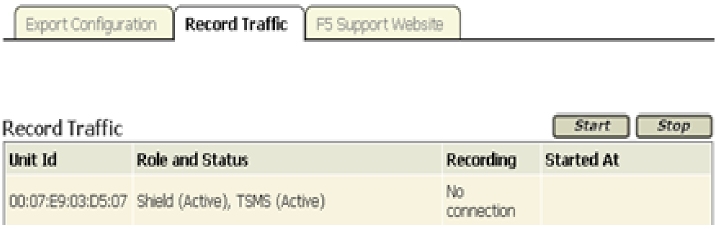
4. Click **Save** to open the browser, and select the export target folder.
   The file is saved to the disk and the Download complete window appears.
5. Click **Close** to return to the TrafficShield security application.
   The file is saved with a default name:
   ts_config_mm-dd-yy_hh-mm.tsc
   You can modify that name before saving it.

Record Traffic

This tool is used to record the traffic between the clients and the TrafficShield security application, as received on the IP to Web interface, through either http (**80**) or https (**443**) ports. This output is used for internal support purposes only, and is exported as part of the system configuration or copied directly. The name of the file is: **/ts/log/temp/rec_traffic.new**.

To record the Traffic

1. In the **Administration** tool, select **Maintenance** under **Support Tools**.
2. Click the **Record Traffic** tab, and then click **Start**.
   You are required to confirm the action, and upon confirmation, the recording operation starts.



Record Traffic

Unit Id	Role and Status	Recording	Started At
00:07:E9:03:D5:07	Shield (Active), TSMS (Active)	No connection	

3. To end the recording, click **Stop**.

To view the recording files

1. Stop the recording process.
2. Export the configuration.
3. Open the export file using tar (UNIX/Linux) or WinZip (windows) and extract the recording file named **traffic_log.tar.gz**.
4. Open this archive again using an archiving software, and extract the recording files from it.
5. Open the **tcpdump** files with a network analyzer software (such as Ethereal).

◆ **Note**

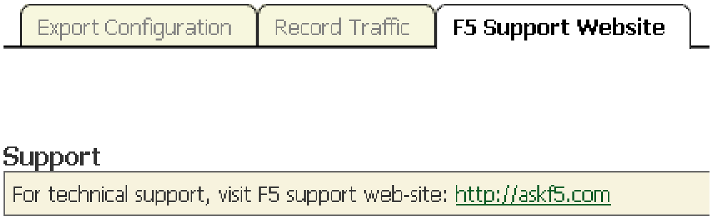
We recommend that you not leave the tool running for long periods of time while TrafficShield system is under stress, otherwise the output file may reach its maximum size limit and the oldest part of the recording might be lost.

F5 Support Website

This tool provides information about the F5 Support site, and a link to the Ask F5 Technical Support Center, where you can find additional information, solutions, and documentation for the product.

To access the F5 Support Website

1. In the **Administration** tool, select **Maintenance** under the **Support Tools**.
2. Click the **F5 Support Website** tab to display the relevant web site details.



Support

For technical support, visit F5 support web-site: http://askf5.com

3. Click the **http://askf5.com** link.
   The F5 support web site displays, where you can check on solutions, and locate additional product documentation.

Glossary

ARP

Address Request Protocol: (a networking protocol). A method for finding a host's IP address from its Ethernet address. The sender broadcasts an ARP packet containing the IP address of another host and waits for it (or some other host) to send back its Ethernet address. Each host maintains a cache of address translations to reduce delay and loading. ARP allows the IP address to be independent of the Ethernet address, but it only works if all hosts support it.

ARP is defined in RFC 826.

The alternative for hosts that do not do ARP is constant mapping.

Check Object

Indicates whether TrafficShield security application should check the Object requested in the HTTP/HTTPS request against the list of its known objects before it forwards the request to the server. In case it doesn't find the requested object in the list, it generates a violation that, based on the blocking policy, can cause the request to be blocked

Cookie

A packet of information sent by an HTTP server to a World-Wide Web browser and then sent back by the browser each time it accesses that server. Cookies can contain any arbitrary information the server chooses and are used to maintain state between otherwise stateless HTTP transactions. Typically this is used to authenticate or identify a registered user of a Web application without requiring them to sign in again every time they access that Web application. Other uses are maintaining a "shopping basket" of goods you have selected to purchase during a session at a Web application, Web application personalization (presenting different pages to different users), and tracking a particular user's access to a Web application.

DELETE

An HTTP request type that requests to delete a resource on the web server.

Domain Name

A series of alphanumeric strings separated by periods, such as **www.siterequest.com**, that is an address of a computer network connection, and that identifies the owner of the address.

Dynamic Parameter

A dynamic parameter is a parameter in a request where the set of legal values this parameter can have is changing dynamically, and usually depends of the user session. For example, in a banking application the account number is a dynamic parameter, since each user has its own set of legal account numbers that this parameter can have. This set of legal account numbers is dynamically generated by the server and embedded in the web page sent to user. TrafficShield security application extracts this list of legal values from the web page that is sent to the user, and uses them to verify that the value sent in the request for the dynamic parameter is legal.

Dynamic Value

See dynamic parameter

Entry Point

A web page that could be the first requested page in the Web application: an end-user could get to the Entry Point by typing a URL in the browser window, opening a favorites menu, be linked from a different Web application or e-mail client. The end user could also get to the Entry Point by clicking a back button of the browser.

Flow

The defined access path for a browser to get from one object to another specific object.

GET

A type of HTTP request that does not have a content body.

Learning

A process of making a policy more accurate by verifying how the policy complies with the traffic requests, and if there are discrepancies between the policy and the traffic requests, then translating these discrepancies into a suggestion for modifying the policy. The learning phase also enables the system administrator to verify that the policy is not generating any false positives before turning on the blocking feature. The learning process can be used to fine-tune any policy component such as requests length, parameters, and values. In case new objects are added in the Web application, TrafficShield security application can learn those objects and their flows using the learning engine.

Length-Cookie

The length of the cookie.

Length-Post Data

The length of the Data that comes with a POST request.

Length-Query String

The length of the Query string.

Length-Request

See Request Length.

Length-URI

The length of the URI in characters.

Meta character

A character or a sequence of characters that has a special meaning (<SCRIPT >, \ , SELECT, INSERT, ; ,`, <).

Method

The HTTP/HTTPS request method, for example, GET, POST, HEAD, PUT, and DELETE.

Non Existent Object

The flow did not match the defined flows.

Object

A file or a script that generates web pages on the web server that can be requested by a user.

Object is Allowed to modify domain Cookie

In case an Object (i.e., a web page) includes a JavaScript/java applet/flash as part of the client-side and can change a domain cookie value, the object should by defined as "Object is allowed to modify Cookie."

Path Traversal

An HTTP Attack that uses patterns like ../../ to get access to files not intended to viewed above the WWW root, or in order to cross directories on the server.

Policy

A set of rules that enables TrafficShield security application to understand if a request is valid.

POST

A type of HTTP request, in which a query is put into a content body and possibly compressed or encoded.

PUT

An HTTP request type that requests a content change on the web server.

Query String

Part of an HTTP request that specifies a list of parameters and values into a CGI script. For instance:

http://www.siterequest.com/index.cgi?param1=value1&param2=value2

Anything that comes after the question mark in the example above is a query string.

Referrer

A web page that requests other objects. An HTML page could request picture files and other HTML objects to be downloaded, but pictures cannot cause other objects to be downloaded. For example, HTML, ASP, or PHP pages are usually Referrers, while GIF and JPEG images are not.

Regular Expression

Used by UNIX utilities such as **grep**, **sed** and **awk**, and by editors such as **vi** and **Emacs**. A regular expression (**regexp**) is a sequence of characters which provides the user with a powerful, flexible and efficient test processing tool.

For more details on how to write regular expressions please refer to the many books written on this subject; for example: ***Mastering Regular Expressions***, by Jeffrey E.F. Frieldl, published by O'Reilly & Associates, Inc.

Request Length

The total Length of the HTTP request (in characters) which includes the request line, all headers, cookies, and post data.

Server IP

The IP address of the Web Server that TrafficShield security application is protecting (usually this is an internal IP address).

Service IP

The external IP address on which TrafficShield security application is listening for http requests. (Usually this is the IP address that the DNS **A** record of the Web Server is mapped to.)

Shield Unit

The on-line enforcing mechanism responsible for TCP session termination, requests parsing, and analyzing.

Static Parameter

A parameter in the request where its values are chosen from a known set of values: Name of a Country, Yes/No, etc.

Static Value

See static parameter.

Target Frame

The frame to which the object is loaded.

Undefined Flow

The flow did not match the defined flows.

Undefined Object

The object did not match any objects on the list of allowed objects.

URI

Part of the URL that specifies the name of the object requested: in **http://www.siterequest.com/index.html**, **index.html** is the URI.