



we protect your digital worlds

ESET Gateway Security

*Installation Manual
and User Guide*

Table of contents

1. Introduction	3
2. Terminology and abbreviations.....	5
3. Installation.....	9
4. Architecture Overview	11
5.Integration with Internet Gateway services.....	15
5.1. Transparent HTTP/FTP proxy configuration.....	16
5.2. Manual HTTP/FTP proxy configuration.....	17
5.2.1. Manual proxy configuration of Mozilla Firefox.....	17
5.2.2. Manual proxy configuration of Squid Web Proxy Cache.....	18
5.3. Internet Content Adaptation configuration.....	19
5.4. Large HTTP Objects Handling.....	20
5.4.1. Method of deferred scan.....	20
5.4.2. Partial scan technique.....	20
5.5. ESETS plug-in filter for SafeSquid Proxy Cache.....	21
5.5.1. Operation principle.....	21
5.5.2. Installation and configuration.....	21
6. Important ESET Gateway Security mechanisms.....	23
6.1. Handle Object Policy.....	24
6.2. User Specific Configuration	24
6.3. Black-list and white-list.....	25
6.4. Samples Submission System.....	26
6.5. World WideWeb Interface.....	26
6.6. Remote Administration.....	27
7. ESET Security system update	29
7.1. ESETS update utility.....	30
7.2. ESETS update process description	30
8. Let us know.....	31
A. ESETS setup process description.....	33
A.1. Setting ESETS for scanning of HTTP communication - transparent mode.....	34
A.2. Setting ESETS for scanning of FTP communication - transparent mode.....	34
A.3. Setting ESETS for scanning of ICAP encapsulated HTTP messages.....	35
Appendix A. PHP License	37

ESET Gateway Security Copyright © 2008 ESET, spol. s r.o.

ESET Gateway Security was developed by ESET, spol. s r.o. For more information visit www.eset.com.

All rights reserved. No part of this documentation may be reproduced, stored in a retrieval system or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, scanning, or otherwise without a permission in writing from the author.

ESET, spol. s r.o. reserves the right to change any of the described application software without prior notice.

This product includes PHP software, freely available from <http://www.php.net/software/>.

REV.20080922-008



Chapter 1:

Introduction



Dear user, you have acquired ESET Gateway Security - the premier security system running under the Linux/BSD/Solaris OS. As you will soon find out, ESET's state-of-the-art scanning engine has unsurpassed scanning speed and detection rates combined with a very small footprint that makes it the ideal choice for any Linux/BSD/Solaris OS server.

Key features of the system:

- The ESET antivirus scanning engine algorithms provide the highest detection rate and the fastest scanning times.
- The ESET Gateway Security is developed to run on single-processor as well as on multi-processor units.
- It includes unique advanced heuristics for Win32 worms and back-doors.
- Built-in archivers unpack archived objects without the need for any external programs.
- To increase the speed and efficiency of the system, its architecture is based on the running daemon (resident program) where all scanning requests are sent.
- All executive daemons (except esets_dac) run under non-privileged user account to enhance security.
- The system supports selective configuration based on the user or client/server.
- Multiple logging levels can be configured to get information about system activity and infiltrations.
- Configuration, administration and license management are offered through an intuitive and user-friendly World Wide Web Interface.
- The system supports ESET Remote Administration for management in large computer networks.
- The ESET Gateway Security installation does not require external libraries or programs except for LIBC.
- The system can be configured to notify specific users in the event of a detected infiltration or other important events.

To run efficiently, ESET Gateway Security requires just 16MB of hard-disk space and 32MB of RAM. It runs smoothly under the 2.2.x, 2.4.x and 2.6.x Linux OS kernel versions as well as under 5.x, 6.x FreeBSD OS kernel versions.

From lower-powered, small office servers to enterprise-class ISP servers with thousands of users, ESET Gateway Security delivers the performance and scalability you expect from a UNIX based solution, in addition to the unequalled security of ESET products.

Chapter 2:

Terminology and abbreviations

In this section we will review the terms and abbreviations used in this document. Note that a boldface font is reserved for product component names and also for newly defined terms and abbreviations. Terms and abbreviations defined in this chapter are expanded upon later in this document.

ESETS

ESET Security is a standard acronym for all security products developed by ESET, spol. s r.o. for Linux, BSD and Solaris operating systems. It is also the name (or its part) of the software package containing the products.

RSR

Abbreviation for 'RedHat/Novell(SuSE) Ready'. Note that we also support RedHat Ready and Novell(SuSE) Ready variations of the product. The *RSR* package differs from the "standard" Linux version in that it meets the FHS (File-system Hierarchy Standard defined as a part of Linux Standard Base) criteria required by the RedHat Ready and Novell(SuSE) Ready certificate. This means that the *RSR* package is installed as an add-on application—the primary installation directory is `/opt/ezet/esets/`.

ESETS daemon

The main ESETS system control and scanning daemon: **esets_daemon**.

ESETS base directory

The directory where *ESETS* loadable modules containing the virus signature database are stored. The abbreviation **@BASEDIR@** will be used for future references to this directory. The **@BASEDIR@** value for the following Operating Systems is listed below:

```
Linux: /var/lib/esets
Linux RSR: /var/opt/ezet/esets/lib
FreeBSD: /var/lib/esets
NetBSD: /var/lib/esets
Solaris: /var/opt/esets/lib
```

ESETS configuration directory

The directory where all files related to the ESET Gateway Security configuration are stored. The abbreviation **@ETCDIR@** will be used for future references to this directory. The **@ETCDIR@** value for the following Operating Systems is listed below:

```
Linux: /etc/esets
Linux RSR: /etc/opt/ezet/esets
FreeBSD: /usr/local/etc/esets
NetBSD: /usr/pkg/etc/esets
Solaris: /etc/opt/esets
```

ESETS configuration file

Main ESET Gateway Security configuration file. The absolute path of the file is as follows:
@ETCDIR@/esets.cfg

ESETS binary files directory

The directory where the relevant ESET Gateway Security binary files are stored. The

abbreviation **@BINDIR@** will be used for future references to this directory. The **@BINDIR@** value for the following Operating Systems is listed below:

```
Linux: /usr/bin
Linux RSR: /opt/eset/esets/bin
FreeBSD: /usr/local/bin
NetBSD: /usr/pkg/bin
Solaris: /opt/esets/bin
```

ESETS system binary files directory

The directory where the relevant ESET Gateway Security system binary files are stored. The abbreviation **@SBINDIR@** will be used for future references to this directory. The **@SBINDIR@** value for the following Operating Systems is listed below:

```
Linux: /usr/sbin
Linux RSR: /opt/eset/esets/sbin
FreeBSD: /usr/local/sbin
NetBSD: /usr/pkg/sbin
Solaris: /opt/esets/sbin
```

ESETS object files directory

The directory where the relevant ESET Gateway Security object files and libraries are stored. The abbreviation **@LIBDIR@** will be used for future references to this directory. The **@LIBDIR@** value for the following Operating Systems is listed below:

```
Linux: /usr/lib/esets
Linux RSR: /opt/eset/esets/lib
FreeBSD: /usr/local/lib/esets
NetBSD: /usr/pkg/lib/esets
Solaris: /opt/esets/lib
```





Chapter 3:

Installation



After purchasing ESET Gateway Security, you will receive your authorization data (username/password and license key). This data is necessary for both identifying you as our customer and allowing you to download updates for ESET Gateway Security. The username/password data is also required for downloading the initial installation package from our web site. ESET Gateway Security is distributed as a binary file:

```
esets.i386.ext.bin
```

In the binary file shown above, 'ext' is a Linux/BSD/Solaris OS distribution dependent suffix, i.e., 'deb' for Debian, 'rpm' for RedHat and SuSE, 'tgz' for other Linux OS distributions, 'fbs5.tgz' for FreeBSD 5.xx, 'fbs6.tgz' for FreeBSD 6.xx, 'nbs4.tgz' for NetBSD 4.xx and 'sol10.pkg.gz' for Solaris 10.

Note that the Linux *RSR* binary file format is:

```
esets-rsr.i386.rpm.bin
```

To install or upgrade the product, use the following command:

```
sh ./esets.i386.ext.bin
```

For the Linux *RSR* variation of the product, use the command:

```
sh ./esets-rsr.i386.rpm.bin
```

to display the product's User License Acceptance Agreement. Once you have confirmed the Acceptance Agreement, the installation package is placed into the current working directory and relevant information regarding the package's installation, un-installation or upgrade is displayed onscreen.

Once the package is installed, you can verify that the main *ESETS* service is running by using the following command:

Linux OS:

```
ps -C esets_daemon
```

BSD OS:

```
ps -ax | grep esets_daemon
```

Solaris:

```
ps -A | grep esets_daemon
```

After pressing ENTER, you should see the following (or similar) message:

```
PID TTY          TIME CMD
2226 ?             00:00:00 esets_daemon
2229 ?             00:00:00 esets_daemon
```

At least two ESETS daemon processes are running in the background. The first PID represents the process and threads manager of the system. The other represents the ESETS scanning process.



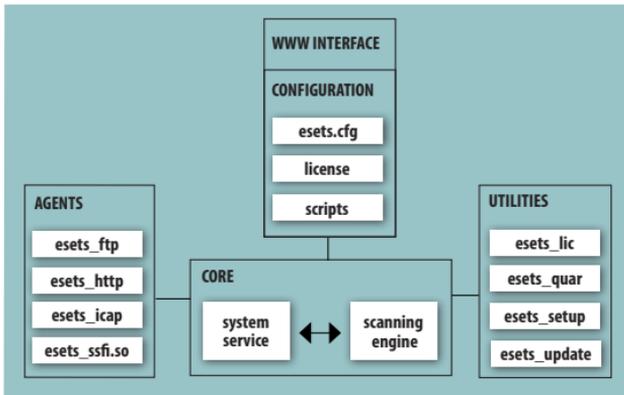
Chapter 4:

Architecture Overview



Once ESET Gateway Security is successfully installed, you should become familiar with its architecture.

Figure 4-1. Structure of ESET Gateway Security.



The structure of ESET Gateway Security is shown in Figure 4-1. The system is comprised of the following parts:

CORE

The Core of ESET Gateway Security is the ESETS daemon (`esets_daemon`). The daemon uses ESETS API library `libesets.so` and ESETS loading modules `em00X_xx.dat` to provide base system tasks such as scanning, maintenance of the agent daemon processes, maintenance of the samples submission system, logging, notification, etc. Please refer to the `esets_daemon(8)` man page for details.

AGENTS

The purpose of ESETS agent modules is to integrate ESETS with the Linux/BSD/Solaris Server environment.

UTILITIES

The utility modules provide simple and effective management of the system. They are responsible for relevant system tasks such as license management, quarantine management, system setup and update.

CONFIGURATION

Proper configuration is the most important aspect of a smooth-running security system—the remainder of this chapter is dedicated to explaining all related components. A thorough understanding of the `esets.cfg` file (page 6) is also highly recommended, as this file contains information essential to the configuration of ESET Gateway Security.

After the product is successfully installed, all its configuration components are stored in the ESETS configuration directory. The directory consists of the following files:

@ETCDIR/sets.cfg

This is the most important configuration file, as it controls all major aspects of the product's functionality. The sets.cfg file is made up of several sections, each of which contains various parameters. The file contains one global and several "agent" sections, with all section names enclosed in square brackets. Parameters in the global section are used to define configuration options for the ESETS daemon as well as default values for the ESETS scanning engine configuration. Parameters in agent sections are used to define configuration options of modules used to intercept various data flow types in the computer and/or its neighborhood, and prepare it for scanning. Note that in addition to the various parameters used for system configuration, there are also rules governing the organization of the file. For detailed information on the most effective way to organize this file, please refer to the sets.cfg(5) and sets_daemon(8) man pages, as well as relevant agents' man pages.

@ETCDIR/certs

This directory is used to store the certificates used by the ESETS Web Interface for authentication. Please see the sets_wwi man page (8) for details.

@ETCDIR/license

This directory is used to store the product(s) license key(s) you have acquired from your vendor. Note that the ESETS daemon will check only this directory for a valid license key, unless the 'license_dir' parameter in the ESETS configuration file is redefined.

@ETCDIR/scripts/license_warning_script

If enabled by the ESETS configuration file parameter 'license_warn_enabled', this script will be executed 30 days (once per day) before product license expiration, sending an email notification about the expiration status to the system administrator.

@ETCDIR/scripts/daemon_notification_script

If enabled by the ESETS configuration file parameter 'exec_script', this script is executed in the event of a detected infiltration by the antivirus system. It is used to send email notification about the event to the system administrator.



Chapter 5:

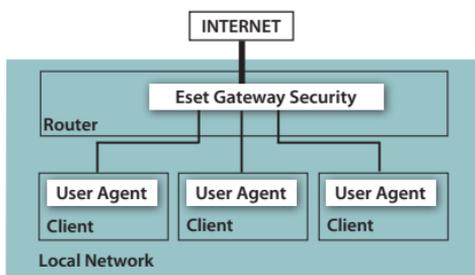
Integration with Internet Gateway services

ESET Gateway Security protects the organization's HTTP and FTP services against viruses, worms, trojans, spyware, phishing and other internet threats. The term 'Gateway Server' refers to layer 3, or 'router' level of the ISO/OSI model. In this chapter we review the process of ESET Gateway Security integration with various services.

5.1. Transparent HTTP/FTP proxy configuration

The configuration for transparent proxying is based on a standard routing mechanism as shown in Figure 5-1 below:

Figure 5-1. Scheme of ESET Gateway Security as a transparent proxy



The configuration is created naturally as kernel IP routing tables are defined on each local network client. These routing tables are used to establish static routes to the default network gateway server (router). On a DHCP network, this is done automatically. All HTTP (or FTP) communication with outbound servers is then routed via network gateway server, where ESET Gateway Security must be installed in order to scan the communication for infiltrations. For this purpose, a generic ESETS HTTP (or FTP) filter has been developed, called **esets_http** (or **esets_ftp**).

To configure ESET Gateway Security to scan HTTP (or FTP) messages routed through the network gateway server, enter the command:

```
/usr/sbin/esets_setup
```

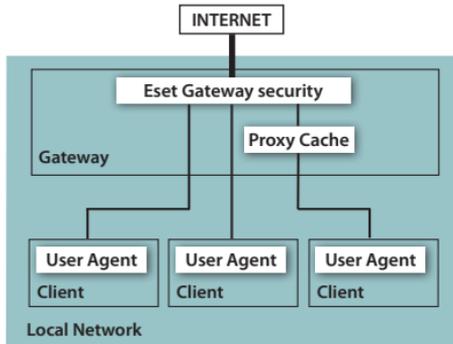
Follow the instructions provided by the script. When the 'Available installations/un-installations' offer appears, choose the 'HTTP' (or FTP) option to display the 'install/uninstall' options, then choose 'install'. This will automatically configure the module to listen on a predefined port. It also redirects IP packets originating from the selected network and with HTTP (or FTP) destination port to the port where **esets_http** (or **esets_ftp**) listens. This means that only requests originally sent to HTTP (or FTP) destination ports will be scanned. If you also wish to monitor other ports, equivalent redirection rules must be assigned.

In default mode, the installer shows all steps which will be performed and also creates a backup of the configuration, which can be restored at any time. The detailed installer utility steps for all possible scenarios are also described in appendix A of this document.

5.2. Manual HTTP/FTP proxy configuration

The manual proxy configuration (see Figure 5-2) is characterized by explicitly configuring the proxied user agent to listen on a specific port and address of the parent proxy.

Figure 5-2. Scheme of ESET Gateway Security as a manual proxy



With this configuration, the proxy server usually modifies transferred requests and/or responses, i.e., non-transparent mode. The manual proxying functionality of `esets_http` has been tested with a wide range of common user agents (i.e., proxy caches) such as Squid Proxy Cache and SafeSquid, as well as web browsers such as Mozilla Firefox, Opera, Netscape, and Konqueror. In general, any HTTP user agent which supports manual parent proxy settings will cooperate with the `esets_http` module. In the next section, we describe the manual proxy configuration setting of `esets_http` with Mozilla Firefox and Squid Web Proxy Cache, as these are the most common HTTP user agent applications.

5.2.1. Manual proxy configuration of Mozilla Firefox

The manual HTTP/FTP proxy configuration of `esets_http` with Mozilla Firefox is illustrated by the left hand side of Figure 5-2.

This configuration allows ESET Gateway Security to be installed anywhere within the local network, including the gateway server and the user agent's computer.

In the example below, `esets_http` is configured to listen on port 8080 of a computer with local network IP address 192.168.1.10, by specifying the following parameters in the [http] section of the ESETS configuration file:

```
agent_enabled = yes
listen_addr = "192.168.1.10"
listen_port = 8080
```

The parameter 'listen_addr' can also be the host name which is visible from the local network.

To configure Firefox to use `esets_http`, click **Tools > Options** from the main menu, and click **Advanced**. Click the **Network** tab and then click the **Settings...** button. In the **Connection Settings** window, select the **Manual Proxy Configuration** option. Finally, enter the host name or IP address in the **HTTP Proxy** (or **FTP Proxy**) field, and enter the **Port** values which `esets_http` listens on (in this example, IP address 192.168.1.10 and port 8080 shall be specified). To reread the newly created configuration, reload the ESETS daemon.

It should be noted that the configuration described here is not optimal for networks with a large number of client computers. This is because the HTTP cache (if any) is present only in the user agent—thus, the same source object is scanned multiple times when requested from different user agents.

5.2.2. Manual proxy configuration of Squid Web Proxy Cache

The manual HTTP proxy configuration of `esets_http` with the Squid Web Proxy Cache is illustrated by the right hand side of Figure 5-2.

The significant difference from the previously described configuration is that ESET Gateway Security is installed on the HTTP/FTP Gateway between the proxy cache (Squid Web Proxy in this example) and the Internet. Thus, all inbound HTTP/FTP communications are first scanned for infiltrations and then stored in the dedicated network cache. In other words, all previously requested source objects present within the proxy cache are already checked for viruses and no additional checking is necessary when requested again.

In the following example, `esets_http` is configured to listen on port 8080 of the gateway server, with a local network IP address of 192.168.1.10, by specifying the following parameters in the [http] section of the ESETS configuration file:

```
agent_enabled = yes
listen_addr = "192.168.1.10"
listen_port = 8080
```

Note that the parameter 'listen_addr' can be used to specify the host name visible from the local network and also can be used to allow `esets_http` to listen to all interfaces, by entering an address of 0.0.0.0. Use caution in the latter case, as users outside the local network would be allowed to use the HTTP/FTP scanner unless additional security is added to prevent this.

To set up Squid to use `esets_http` as a parent proxy, add the following lines to the Squid configuration file (/etc/squid/squid.conf):

```
cache_peer 192.168.1.10 parent 8080 0 no-query default
acl all src 0.0.0.0/0.0.0.0
never_direct allow all
```

In the example above, Squid has been configured to use HTTP proxy listening at IP address 192.168.1.10 on port 8080 as a parent proxy. All requests processed by Squid will be passed to this destination. The remaining lines are used to configure error message reporting in the event that the parent proxy is down or becomes unreachable. To configure Squid to attempt direct connections when the parent proxy is unreachable, add the following parameters to the Squid configuration file:

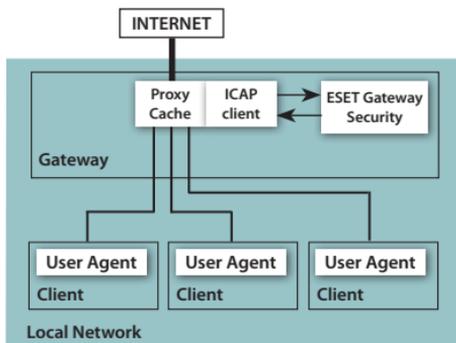
```
cache_peer 192.168.1.10 parent 8080 0 no-query
prefer_direct off
```

To reread the newly created configuration, reload the ESETS daemon.

5.3. Internet Content Adaptation configuration

The Internet Content Adaptation is a well known method aimed at providing object-based content vectoring for HTTP services. It is based on the Internet Content Adaptation Protocol (ICAP) described in the RFC-3507 memo. Configuration for integrating the ICAP services is shown in Figure 5-3:

Figure 5-3. Scheme of ESET Gateway Security as a ICAP server.



The Proxy Cache receives the HTTP request from the User Agent and/or the response from the HTTP server and then encapsulates the message into the ICAP request. The Proxy Cache must also work in this case as the ICAP client and pass the ICAP request for the message adaptation to ESET Gateway Security, namely to a generic ESETS ICAP server - `esets_icap`. The module provides scanning of the encapsulated message body for infiltration. Based on the scanning result, it then provides an appropriate ICAP response which is sent back to the ICAP client, or to the Proxy Cache, for further delivery.

To configure ESET Gateway Security to scan HTTP messages which are encapsulated in ICAP requests, enter the command:

```
/usr/sbin/esets_setup
```

Follow the instructions provided by the script. When the 'Available installations/uninstallations' offer appears, choose the 'ICAP' option to display the 'install/uninstall' options. Choose 'install' to automatically configure the module to listen on a predefined port and reload the ESETS daemon service.

In default mode, the installer shows all steps which will be performed and also creates a backup of the configuration, which can be restored later at any time. The detailed installer utility steps for all possible scenarios are also described in appendix A of this documentation.

The second step of the ICAP configuration method is activating the ICAP client functionality within the Proxy Cache. The ICAP client must be configured in order to properly request the **esets_icap** for the infiltration scanning service. The initial request line of the ICAP request must be entered as follows:

```
METHOD icap://server/av_scan ICAP/1.0
```

In the above example, METHOD is the ICAP method used, 'server' is the server name (or IP address), and /av_scan is the **esets_icap** infiltrations scanning service identifier.

5.4. Large HTTP Objects Handling

Under normal conditions, objects are first transferred from the HTTP server (or client) to **esets_http**, scanned for infiltrations and then transferred to the HTTP client (or server). For large files (the large objects whose transfer time is larger than the timeout defined by the parameter `lo_timeout`) this is not an optimal scenario—the user agent's timeout setting or the user's impatience can cause interrupts or even canceling of the object transfer. Therefore, other methods of processing large objects must be implemented. These are described in the following two sections.

5.4.1. Method of deferred scan

With **esets_http**, a technique known as the 'deferred scan' method of handling large files can be employed. This means that if the object transferred becomes too large, **esets_http** will begin to send the object transparently to an awaiting HTTP end-point, such as a client or server. After the last part of the object has arrived, the object is scanned for infiltrations. If the object has been found as infected, the last part of the object (last 4KB of object's data) is not sent to the awaiting end-point and the connection to the end-point is then dropped. Meanwhile, an email message containing details about the dangerous file transfer is sent to the Gateway administrator. This email notification is sent only in a server-to-client data transfer. Additionally, the URL of the source object is stored in the **esets_http** cache in order to block the source transfer if requested again.

Be aware that the 'deferred scan' technique described above presents a potential risk to the computer requesting the infected file for the first time. This is because some parts of the already transferred data can contain executable, dangerous code. For this reason, ESET developed a modified version of the 'deferred scan' technique, known as the 'partial scan' technique.

5.4.2. Partial scan technique

The 'partial scan' technique has been developed as an additional safeguard to the 'deferred scan' method. The principle of the 'partial scan' technique is based on the idea that the scanning time of a large object is negligible compared to the overall processing time of the object. This concept is especially evident with large object HTTP transfers, as significantly more time is needed to transfer the object than to scan it for infiltrations. This assumption allows us to perform more than one scan during a large object transfer.

To enable this technique, the parameter `lo_partscan_enabled` is entered in the [http] section of the ESETS configuration file. This will cause large objects to be scanned for infiltrations during transfer in predefined intervals, while the data which has already been scanned is sent to an awaiting end-point such as a client or server. This method ensures that no infiltrations are passed to the computer whose user agent has requested the large infected object, because each portion of the sent data is already verified to be safe.

It has been proven that in common circumstances where the speed of the gateway's local network connection is higher than the speed of the gateway connection to the Internet, the total processing time of a large object transfer using the 'partial scan' technique is approximately the same as when the standard 'deferred scan' method is used.

5.5. ESETS plug-in filter for SafeSquid Proxy Cache

In previous sections we described the integration of ESET Gateway Security with HTTP and FTP services using `esets_http` and `esets_ftp`. The methods described are applicable for the most common user agents, including the well known content filtering internet proxy SafeSquid (<http://www.safesquid.com>). However, ESET Gateway Security also offers an alternative method of protecting Gateway services, using the `esets_ssfi.so` module.

5.5.1. Operation principle

The `esets_ssfi.so` module is a plug-in to access all objects processed by the SafeSquid proxy cache. Once the plug-in accesses the object, it is scanned for infiltrations using the ESETS daemon. If the object is infected, SafeSquid blocks the appropriate resource and sends the predefined template page instead. The `esets_ssfi.so` module is supported by SafeSquid Advanced version 4.0.4.2 and later.

5.5.2. Installation and configuration

To integrate the module, you must create links from the SafeSquid modules directory to the appropriate installation locations of the ESET Gateway Security package. In the following examples, it is assumed that SafeSquid is installed on a Linux OS in the `/opt/safesquid/` directory.

If SafeSquid 4.2 or later is installed, enter the following commands:

```
mkdir /opt/safesquid/modules
ln -s @LIBDIR@/ssfi/esets_ssfi.so /opt/safesquid/modules/esets_ssfi.so
ln -s @LIBDIR@/ssfi/esets_ssfi.xml /opt/safesquid/modules/esets_ssfi.xml
```

If an earlier version is installed, enter the following commands:

```
mkdir /opt/safesquid/modules
ln -s @LIBDIR@/ssfi/esets_ssfi.so /opt/safesquid/modules/esets_ssfi.gcc295.so
ln -s @LIBDIR@/ssfi/esets_ssfi.xml /opt/safesquid/modules/esets_ssfi.xml
/etc/init.d/safesquid restart
```

To complete the SafeSquid plug-in installation, first logon to the SafeSquid Web Administration Interface. Select the **Config** menu from the main interface page and browse **Select a Section to Configure** until you find **ESET Gateway Security**. Click **Submit** and create the **antivirus** profile for the **ESET Gateway Security** section by clicking the **Add** button at the bottom. Define the below parameters within the list that appears and click **Submit**. Remember to save the Safesquid

configuration by clicking the **Save settings** button.

```
Comment: ESET Gateway Security
Profiles: antivirus
```

The SafeSquid plug-in is operational immediately after installation, but additional fine tuning should be performed. In the following paragraphs, we explain how to configure SafeSquid to use ESETS predefined blocking templates, in the event that a transferred source object is infected (or not scanned).

Logon to the SafeSquid Web Administration Interface. Select the **Config** menu from the main interface page and browse **Select a Section to Configure** until you find **ESET Gateway Security**. Next, edit the newly created **antivirus** profile by clicking **Edit** at the bottom of the **ESET Gateway Security** section. Then define the following parameters in the list that appears:

```
Infected template: esets_infected
Not scanned template: esets_not_scanned
```

After submitting the list of templates, navigate to the **Templates** page of the main **Config** menu. You will see a **Path** parameter that defines the SafeSquid templates directory path. Assuming the parameter is `/opt/safesquid/templates`, ensure that an appropriate directory exists and if not, create it. In order to access the ESETS predefined templates from within this directory, add the appropriate links using the following commands:

```
ln -s @LIBDIR@/ssfi/templates/ssfi_infected.html /opt/safesquid/ssfi_infected.html
ln -s @LIBDIR@/ssfi/templates/ssfi_not_scanned.html /opt/safesquid/ssfi_not_scanned.html
```

Next, click **Add** in the **Templates** section to add the new template definitions to the SafeSquid configuration. The following parameters must be defined within the list that appears for the infected ESETS blocking page:

```
Comment: ESET Gateway Security infected template
Name: esets_infected
File: ssfi_infected.html
Mime type: text/html
Response code: 200
Type: File
Parsable: Yes
```

For the unscanned ESETS blocking page, the list is as follows:

```
Comment: ESET Gateway Security not scanned template
Name: esets_not_scanned
File: ssfi_not_scanned.html
Mime type: text/html
Response code: 200
Type: File
Parsable: Yes
```

To reread the newly created configuration, reload SafeSquid and the ESETS daemon.

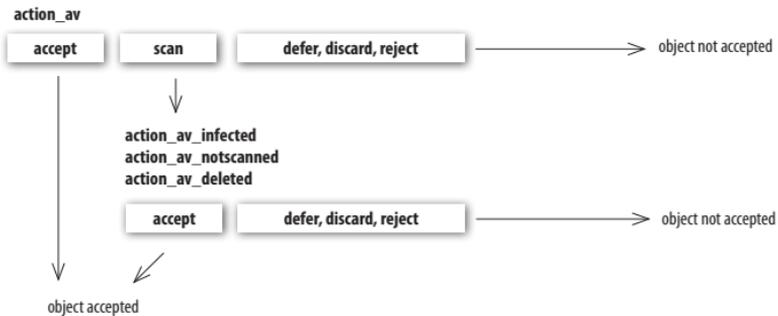
Chapter 6:

Important ESET Gateway Security mechanisms

6.1. Handle Object Policy

The Handle Object Policy (see figure 6-1) mechanism provides filtering of scanned objects based on their status. This functionality is based on the following configuration options: 'action_av', 'action_av_infected', 'action_av_notscanned', 'action_av_deleted'. For detailed information on these options, please refer to the `esets.cfg(5)` man page.

Figure 6-1. Scheme of Handle Object Policy mechanism.



Every object processed is first handled according to the configuration of the 'action_av' option. If this option is set to 'accept' (or 'defer', 'discard', 'reject') the object is accepted (or deferred, discarded, rejected). If the option is set to 'scan' the object is scanned for virus infiltrations, and if the 'av_clean_mode' option is set to 'yes', the object is also cleaned. In addition, the configuration options 'action_av_infected', 'action_av_notscanned' and 'action_av_deleted' are taken into account to further evaluate handling of the object. If an 'accept' action has been taken as a result of these three action options, the object is accepted. Otherwise, the object is blocked.

NOTE: Some modules have been written to integrate ESETS into an environment which does not allow scanned objects to be modified. Thus the modification of scanned objects is disabled in such modules and the value of the configuration option 'av_clean_mode' is ignored. For detailed information on this topic refer to the relevant modules' man pages.

6.2. User Specific Configuration

The purpose of the User Specific Configuration mechanism is to provide a higher degree of customization and functionality. It allows the system administrator to define ESETS antivirus scanner parameters based on the user who is accessing file system objects.

A detailed description of this functionality can be found in the `esets.cfg(5)` manual page; in this section we will provide only a short example of a user-specific configuration.

In this example, the `esets_http` module is used to control HTTP traffic on port 8080 of the gateway server, with a local network IP address of 192.168.1.10. The functionality of `esets_http` is based on the [http] section of the ESETS configuration file. See the following lines:

```
[http]
agent_enabled = yes
listen_addr = "192.168.1.10"
listen_port = 8080
action_av = "scan"
```

To provide individual parameter settings, define the 'user_config' parameter with the path to the special configuration file where the individual setting will be stored. In the next example, we create a reference to the special configuration file 'esets_http_spec.cfg', which is located in the ESETS configuration directory. See below:

```
[http]
agent_enabled = yes
listen_addr = "192.168.1.10"
listen_port = 8080
action_av = "scan"
user_config = "esets_http_spec.cfg"
```

Once the special configuration file is referenced from within the [http] section, create the esets_http_spec.cfg file in the ESETS configuration directory and add the appropriate individual settings. The next example shows the individual setting for parameter 'action_on_processed', for the client computer with IP address 192.168.1.40. See below:

```
[|192.168.1.40]
action_av = "reject"
```

Note that the section header identifies the HTTP client for which the individual settings have been created, and the section body contains individual parameters for that HTTP client. With this special configuration, HTTP traffic for all local network clients will be processed normally, i.e. scanned for infiltrations. However, access for the HTTP client with the IP address 192.168.1.40 will be rejected (blocked).

6.3. Blacklist and whitelist

In the following example we demonstrate blacklist and whitelist creation for the **esets_http** configured as an HTTP proxy scanner. Note that the configuration described in the previous section is used for this purpose.

To create a blacklist used by **esets_http**, create the following group section within the special configuration file 'esets_http_spec.cfg', introduced in the previous section. See below:

```
[black-list]
action_av = "reject"
```

Next, add the HTTP server to the 'black-list' group. To do this, the following special section must be created:

```
[aaa.bbb.ccc.ddd]
parent_id = "black-list"
```

In the example above, 'aaa.bbb.ccc.ddd' is the IP address of the server added to the 'black-list'. All HTTP traffic related to the specified server will now be rejected, i.e. the server will be blocked.

To create the 'white-list' used by `esets_http` it is necessary to create the following group section within the special configuration file 'esets_http_spec.cfg' which was introduced in the previous section. See below:

```
[white-list]
action_av = "accept"
```

Adding HTTP servers to the list is self-explanatory.

6.4. Samples Submission System

The Samples submission system is an intelligent ThreatSense.NET technology that collects infected objects which have been detected by advanced heuristics and delivers them to the samples submission system server. All virus samples collected by the sample submission system will be processed by the ESET virus laboratory and if necessary, added to the ESET virus signature database.

NOTE: ACCORDING TO OUR LICENSE AGREEMENT, BY ENABLING SAMPLE SUBMISSION SYSTEM YOU ARE AGREEING TO ALLOW THE COMPUTER AND/OR PLATFORM ON WHICH THE `ESETS_DAEMON` IS INSTALLED TO COLLECT DATA WHICH MAY INCLUDE PERSONAL INFORMATION ABOUT YOU AND/OR THE USER OF THE COMPUTER AND SAMPLES OF NEWLY DETECTED VIRUSES OR OTHER THREATS AND SEND THEM TO OUR VIRUS LAB. THIS FEATURE IS TURNED OFF BY DEFAULT. ALL INFORMATION COLLECTED WILL BE USED ONLY TO ANALYZE NEW THREATS AND WILL NOT BE USED FOR ANY OTHER PURPOSE.

In order to activate the Samples Submission System, the samples submission system cache must be initialized. This can be achieved by enabling the 'samples_enabled' option in the [global] section of the ESETS configuration file. To allow for the actual delivery of samples to the ESET virus laboratory servers, the parameter 'samples_send_enabled' must also be enabled in the same section.

In addition, users can choose to provide the ESET virus laboratory team with supplementary information using the 'samples_provider_mail' and/or 'samples_provider_country' configuration options. The information collected using these options will assist in providing the ESET team with an overview about a given infiltration which may be spreading over the Internet.

For more information on the Samples Submission System, refer to the `esets_daemon` (8) man page.

6.5. Web Interface

The Web Interface allows user-friendly configuration, administration and license management of ESET Security systems. This module is a separate agent and must be explicitly enabled. To quickly configure the Web Interface, set the following options in the ESETS configuration file and then restart the ESETS daemon:

```
[wwwi]
agent_enabled = yes
listen_addr = address
listen_port = port
username = name
password = pass
```

Substitute your own values for the parameters in italics and direct your browser to 'https://address:port' (note the https). Login with 'username/pass'. Basic usage instructions can be found on the help page and technical details about *esets_wwwi* can be found on the *esets_wwwi* (1) man page.

6.6 Remote Administration

ESETS supports ESET Remote Administration for file security management in large computer networks. For more information, please read the ESET Remote Administrator Manual. This manual is located on our web site, here:

http://download.eset.com/manuals/ESET_ERA_User_Guide_EN.pdf

The ESETS Remote Administration Client is part of the main ESETS daemon. For basic set up, specify the address of your ERA Server using the 'racl_server_addr' parameter in the [global] section of the ESETS configuration file. If an ERA Console password has been established, the 'racl_password' parameter must be defined. All ERA Client variables are listed in the *esets_* daemon (8) man page.

The Unix ESETS ERA Client performs the following functions:

- Communicates with the ERA Server and provides System Information, Configuration, Protection Status and Features
- Allows client configurations to be viewed/modified using the ESET Configuration Editor and applied with a Configuration Task
- Performs On-demand scan and Update Now Tasks as requested, and sends the Scan Logs back to the ERA Server
- Sends notable scans performed by the ESETS daemon to the Threat Log
- Sends all non-debug messages to the Event Log

These functions are not supported:

- Firewall Log
- Remote installation



Chapter 7:

ESET Security system update

7.1. ESETS update utility

To maintain the effectiveness of ESET Gateway Security, the virus signature database must be kept up to date. The `esets_update` utility has been developed for this purpose (see the `esets_update (8)` man page for details). To launch an update, the configuration options `'av_update_username'` and `'av_update_password'` must be defined in the `[global]` section of the ESETS configuration file. In the event that your server accesses the Internet via HTTP proxy, the additional configuration options `'proxy_addr'`, `'proxy_port'` must be defined. If access to the HTTP proxy requires a username and password, the `'proxy_username'` and `'proxy_password'` options must also be defined in this section. To initiate an update, enter the following command:

```
@SBINDIR@/esets_update
```

To provide the highest possible security for the end user, the ESET team continuously collects virus definitions from all over the world—new patterns are added to the virus signature database in very short intervals. For this reason, we recommend that updates be initiated on a regular basis. To specify the update frequency, the `'av_update_period'` option must be defined in the `[global]` section of the ESETS configuration file. The ESETS daemon must be up and running in order to successfully update the virus signature database.

7.2. ESETS update process description

The update process consists of two stages: First, the precompiled update modules are downloaded from the ESET server. If the option `'av_mirror_enabled'` is present in the `[global]` section of the ESETS configuration file, copies (or mirror) of these update modules are created in the following directory:

```
@BASEDIR@/mirror
```

If desired, the Mirror directory path can be redefined using the `'av_mirror_dir'` option in the `[update]` section of the ESETS configuration file. The newly created Mirror thus serves as a fully functional update server and can be used to create lower (child) Mirrors. However, the following conditions must be fulfilled. First, there must be an HTTP server installed on the lower computer where the modules will be downloaded from. Second, the update modules to be downloaded by other computers must be placed in the following directory:

```
/http-serv-base-path/eset_upd
```

In the above example, `'http-serv-base-path'` is a base HTTP server directory path—this is the first place the update utility will search for update modules.

The second stage of the update process is the compilation of modules loadable by the ESET Mail Security scanner from those stored in the local mirror. Typically, the following ESETS loading modules are created: loader module (`em000.dat`), scanner module (`em001.dat`), virus signature database module (`em002.dat`), archives support module (`em003.dat`), advanced heuristics module (`em004.dat`), etc. The modules are created in the following directory:

```
@BASEDIR@
```

This is the directory where the ESETS daemon loads modules from and thus can be redefined using the `'base_dir'` option in the `[global]` section of the ESETS configuration file.



Chapter 8:

Let us know



Dear user, we hope this Guide has provided you with a thorough understanding of the requirements for ESET Gateway Security installation, configuration and maintenance. However, our goal is to continually improve the quality and effectiveness of our documentation. If you feel that any sections in this Guide are unclear or incomplete, please let us know by contacting Customer Care:

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

We are dedicated to providing the highest level of support and look forward to helping you should you experience any problems concerning this product.



Appendix A. *ESETS* setup process description

A.1. Setting *ESETS* for scanning of HTTP communication - transparent mode

HTTP scanning is performed using the `esets_http` daemon. In the [http] section of the *ESETS* configuration file, set the following parameters:

```
agent_enabled = yes
listen_addr = "192.168.1.10"
listen_port = 8080
```

In the example above, 'listen_addr' is the address of the local network interface named *if0*. Restart the *ESETS* daemon. The next step is to redirect all HTTP requests to `esets_http`. If IP-filtering is being performed by the `ipchains` administration tool, an appropriate rule would be:

```
ipchains -A INPUT -p tcp -i if0 --dport 80 \
-j REDIRECT 8080
```

If IP-filtering is being performed by the `iptables` administration tool, the rule is:

```
iptables -t nat -A PREROUTING -p tcp -i if0 \
--dport 80 -j REDIRECT --to-ports 8080
```

On FreeBSD, the rule is:

```
ipfw add fwd 192.168.1.10,8080 tcp \
from any to any 80 via if0 in
```

On NetBSD and Solaris, the rule is:

```
echo 'rdr if0 0.0.0.0/0 port 80 -> 192.168.1.10 \
port 8080 tcp' | ipnat -f -
```

A.2. Setting *ESETS* for scanning of FTP communication - transparent mode

FTP scanning is performed using the `esets_ftp` daemon. In the [ftp] section of the *ESETS* configuration file, set the following parameters:

```
agent_enabled = yes
listen_addr = "192.168.1.10"
listen_port = 2121
```

In the above example, 'listen_addr' is the address of the local network interface named *if0*. Restart the *ESETS* daemon. Then, redirect all FTP requests to `esets_ftp`. If IP-filtering is being performed by the `ipchains` administration tool, an appropriate rule would be:

```
ipchains -A INPUT -p tcp -i if0 --dport 21 \
-j REDIRECT 2121
```

If IP-filtering is being performed by the iptables administration tool, the rule is:

```
iptables -t nat -A PREROUTING -p tcp -i if0 \  
--dport 21 -j REDIRECT --to-ports 2121
```

On FreeBSD, the rule is:

```
ipfw add fwd 192.168.1.10,2121 tcp \  
from any to any 21 via if0 in
```

On NetBSD and Solaris, the rule is:

```
echo 'rdr if0 0.0.0.0/0 port 21 -> 192.168.1.10 \  
port 2121 tcp' | ipnat -f -
```

A.3. Setting ESETS for scanning of ICAP encapsulated HTTP messages

ICAP encapsulated HTTP message scanning is performed using the `esets_icap` daemon. In the `[icap]` section of the ESETS configuration file, set the following parameters:

```
agent_enabled = yes  
listen_addr = "192.168.1.10"  
listen_port = 1344
```

In the example above, 'listen_addr' is the address of the local network interface named *if0*. After adding these parameters, restart the ESETS daemon.





Appendix B. PHP License



The PHP License, version 3.01 Copyright (c) 1999 - 2006 The PHP Group. All rights reserved. Redistribution and use in source and binary forms, with or without modification, is permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name "PHP" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact group@php.net.
4. Products derived from this software may not be called "PHP", nor may "PHP" appear in their name, without prior written permission from group@php.net. You may indicate that your software works in conjunction with PHP by saying "Foo for PHP" instead of calling it "PHP Foo" or "phpfoo".
5. The PHP Group may publish revised and/or new versions of the license from time to time. Each version will be given a distinguishing version number. Once covered code has been published under a particular version of the license, you may always continue to use it under the terms of that version. You may also choose to use such covered code under the terms of any subsequent version of the license published by the PHP Group. No one other than the PHP Group has the right to modify the terms applicable to covered code created under this License.
6. Redistributions of any form whatsoever must retain the following acknowledgment: "This product includes PHP software, freely available from <http://www.php.net/software/>".

THIS SOFTWARE IS PROVIDED BY THE PHP DEVELOPMENT TEAM ``AS IS'' AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE PHP DEVELOPMENT TEAM OR ITS CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.