

ESET

Remote Administrator 4

Installation Manual and User Guide

ESET Remote Administrator 4

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1. Introduction

ESET Remote Administrator (ERA) is an application which allows you to manage ESET's products in a networked environment, including workstations and servers – from one central location. With ESET Remote Administrator's built-in task management system, you can install ESET security solutions on remote computers and quickly respond to new problems and threats.

ESET Remote Administrator itself does not provide any other form of protection against malicious code. ERA depends on the presence of an ESET security solution on workstations or servers, such as ESET NOD32 Antivirus or ESET Smart Security.

To perform a complete deployment of an ESET security solutions portfolio, the following steps must be taken:

- Installation of ERA Server (ERAS),
- Installation of ERA Console (ERAC),
- Installation on client computers (ESET NOD32 Antivirus, ESET Smart Security, Linux ESET Security client, etc...).

NOTE: Some parts of this document use system variables which refer to an exact location of folders and files:

%ProgramFiles% = typically *C:\Program Files*

%ALLUSERSPROFILE% = typically *C:\Documents and Settings\All Users*

1.1 What's new

ESET Remote Administrator Version 4.0

- support for ESET Smart Security/ESET NOD32 Antivirus 4.2
- support for ESET Mail Security 4 for Microsoft Exchange Server
- support for Linux/Mac desktop security solution (ESET NOD32 Antivirus 4)
- support for ESET Mobile Security

New features

- Remote Installation - new design
- Group Management - new design (Static groups, Parametric Groups, improved Active Directory synchronization)
- Filter - improved functionality (policy filters, static and parametric groups filters)
- Policies - new parameters in policy rules (support for parametric groups), import/export of policies and policy rules, scheduler tasks merging, Policy Rules Wizard
- Notifications - support for parametric groups + several minor improvements
- Centralized view on clients' quarantine (for v4 and higher ESS/EAV clients)
- Reports - support for static and parametric groups, new types of reports (mobile log, quarantine, firewall), new templates
- Firewall rules merge wizard - wizard for merging rules created in learning mode
- Windows/Domain authentication of ERA Console user
- Windows Passive Cluster support
- Supports reinstallation of older ERA versions (3.x, 2.x, 1.x) including data migration support
- Communication encryption with AES-256

New ESET Configuration Editor

- support for new ESET Security products
- support for new ERA Server features
- zipped license files
- possibility to add predefined scheduled tasks

ESET Remote Administrator Version 3.0

- support for ESET Security products 4.x
- support for Linux solutions

New features

- Policy Management
- Notification Manager
- Read-Only Console access
- support for ESET SysInspector
- enhanced data transfer scalability
- deletion of replicated clients
- license key merging /License Manager/
- Mirror for ESET NOD32 Antivirus 2.x
- new setup
- domain-based filtering option added in Find Unregistered Computers
- compression of server logs (zip)
- minor bugs fixed and several minor features added
- Rescue CD

Internal Server enhancements

- support for additional databases (MS Access, MS SQL Server, Oracle, MySQL)

New ESET Configuration Editor

- support for ESET Security products 4.x

ESET Remote Administrator Version 2.0

- support of new ESET Security Products version 3 (ESET Smart Security, ESET NOD32 Antivirus)
- new logs (new columns, ESET Personal Firewall logs)
- new client state information for version 3 clients (Protection Status, Protection Features, System Information)
- tasks (configuration, update now, on-demand scan, interactive task)
- still supports NOD32 version 2 products

New features

- extended client identification (MAC address added)
- extended remote installation (support of msi and custom packages)
- security enhancements (encryption possibility for all new server clients)
- performance improvements (compression in communication protocol)
- added forwarding of ThreatSense.Net data via ERA Server
- GUI improvements (new graphics, enhanced state coloring, extended filters, resizable dialogs)
- new report template (ESS Scheme)
- server performance monitoring (data, queries)
- update functionality in ERA Server (allows updating of important information)
- mirror functionality in ERA Server
- extended remote installation (support of msi and custom packages, possibility of ERA remote installation, diagnostics)

Internal Server enhancements

- new replication (replication priority, better multi-level replication)
- new database structure
- new directory structure
- internal security improvements

New ESET Configuration Editor

- supports ESET Security Products version 2 and version 3
- possibility to configure ERA Server
- other minor new features (search, custom settings)

New installer (MSI)

- database migration from previous versions

New documentation (help, manual)

1.2 Program architecture

Technically, ESET Remote Administrator consists of two separate components: ERA Server (ERAS) and ERA Console (ERAC). You can run an unlimited number of ERA Servers and Consoles on your network as there are no limitations in the license agreement for their use. The only limitation is the total number of clients your installation of ERA can administer.

ERA Server (ERAS)

The server component of ERA runs as a service under the following Microsoft Windows® NT-based operating systems: NT4 SP6, 2000, XP, 2003, Vista, 7 and 2008. The main task of this service is to collect information from clients and to send them various requests. These requests, including configuration tasks, remote installation requests, etc., are created through the ERA Console (ERAC). ERAS is a meeting point between ERAC and client computers – a place where all information is processed, maintained or modified before being transferred to clients or to ERAC.

ERA Console (ERAC)

ERAC is the client component of ERA and is usually installed on a workstation. This workstation is used by the administrator to remotely control ESET solutions on individual clients. Using ERAC, the administrator can connect to the server component of ERA – on TCP port 2223. The communication is controlled by the process console.exe, which is usually located in the following directory:

%ProgramFiles%\ESET\ESET Remote Administrator\Console

When installing ERAC, you may need to enter the name of an ERAS. Upon startup, the console will automatically connect to this server. ERAC can also be configured after installation.

2. Installation of ERA Server and ERA Console

2.1 Requirements

ERAS works as a service, and therefore requires a Microsoft Windows NT-based operating system (NT4 SP6, 2000, XP, 2003, Vista, 7, or 2008). Although the Microsoft Windows Server Edition is not necessary for ERAS to work, we recommend installing ERAS on server-based operating systems for smooth operation. A computer with ERAS installed on it should always be online and accessible via computer network by:

- Clients (usually workstations)
- PC with ERA Console
- Other instances of ERAS (if replicated)

NOTE: ESET Remote Administrator 4 fully supports installation over older versions (3.x, 2.x, 1.x) including data migration.

2.1.1 Software requirements

ERA Server

32 bit operating systems:	Windows NT4 SP6 and later
64 bit operating systems:	Windows XP and later
Databases:	Microsoft Access (built-in) Microsoft SQL Server 2005 and later MySQL 5.0 and later ORACLE 9i and later
Windows Installer:	2.0

ERA Console

32 bit operating systems:	Windows 2000 and later
64 bit operating systems:	Windows XP and later
Windows Installer:	2.0
Internet Explorer:	recommended 6.0, minimum 4.0 (some reports may not be displayed correctly)

2.1.2 Performance requirements

The server performance may vary depending on the following parameters:

1. Database used

- MS Access database - installed with the server by default. We recommend this solution when servicing hundreds of clients. However, there is a 2GB size limit for the database. Consequently, you will need to activate cleanups on the server and define an interval (under **Tools > Server Options > Server Maintenance**) for removing old data.
- Other databases (MySQL, MSSQL, ORACLE) require a separate installation, but may result in better server performance. It is essential to use suitable hardware for each database engine (mainly ORACLE) following the technical recommendations of its distributor.
- If you choose ORACLE as your database solution, you must set the number of cursors higher than the **Maximum number of active connections** value (under **Tools > Server Options > Advanced > Edit Advanced Settings > Advanced**; the default is set to 500). The final number of cursors must take into account the number of lower servers, (if replication is used) and cursors that are used by other applications accessing the database engine.
- Typically, the server's performance is higher when using external databases (i.e. installed on a different physical/

virtual machine).

2. Client connection interval

- The client connection interval is set to 10 minutes by default in ESET Smart Security / ESET NOD32 Antivirus versions 4.2 and later. If you need the client status to update more or less frequently than the default interval, you can change the setting. Keep in mind that a shorter client connection interval will affect server performance.

3. Average number of events reported by clients per connection

- Any information sent from client to server is listed under the particular event (e.g. threat log, event log, scan log, configuration change). This parameter cannot be changed directly, but it can be altered if other settings relevant to it are changed. For example, in advanced server configuration (under **Tools > Server Options > Server Maintenance**) you can setup the maximum amount of logs that can be accepted by the server (this setting includes clients that connect directly as well as replicated clients). In regular operation the long-term average can be estimated at 1 event every 4 hours per client.

4. Hardware and operating system used

- We strongly recommend using the minimum hardware recommended for your server's operating system, accounting for the number of clients to be serviced.

Overload

If a server is overloaded (e.g., we connect 20,000 clients to a server only able to service 10,000 clients at an interval of every 10 minutes) it will skip some of the clients connected. On average every second client connection will be serviced, as if the client connection interval were set to 20 minutes instead of 10 minutes. Every service denial will be logged as follows: "<SERVERMGR_WARNING> ServerThread: maximum number of threads for active connections reached (500), the server will skip this connection". Service denials may also occur during temporary server overloads.

You can change the value under the **Maximum number of active connections** (the default is 500) in the advanced server settings, but we recommend to do so only in exceptional cases (e.g. when solving specific issues). Should there be an overabundance of system resources and database engine performance you can use this setting to adjust the overall server performance.

Data transfer over a network

During a server's standard operation, we can estimate a client connecting every 10 minutes will report 0.04 events per connection, which is 1 event reported every 4 hours per client. This will produce ~2 kilobytes of traffic per connection.

In a virus outbreak scenario, with a client reporting 7 events every time it connects traffic may increase up to 240 kilobytes per connection. If you use compression (default) the data transferred will be approximately 50% smaller in size, i.e. about 120 kilobytes per connection.

The data includes direct client connections, omitting replicated connections. Replication occurs much less often and serves to send new events from lower servers. Events to be automatically replicated and their verbosity level can be configured in the advanced settings of the server (under **Tools > Server Options > Advanced > Edit Advanced Settings > Replication**). In the Server maintenance section you can configure the maximum level of logs, that the upper server will accept - this setting applies to both directly connecting clients and replicated clients.

Storage capacity requirements

Clean installation of the product with an MS Access database takes up to 60 MB of disk space.

Most of the storage space is taken up by client events, that are stored in the database and to a repository on the disk (default directory is C:\Documents and Settings\All Users\Application Data\Eset\ESET Remote Administrator\Server). ERA requires that at least 5% of the disk be free. If this minimum is exceeded the server will stop receiving some of the client events. This setting can be found under **Tools > Server Options > Advanced > Edit Advanced Settings > Advanced > Maximum disk space usage**. Approximately 10GB per 1000 clients of free disk space is required for regular operation under the default cleanup settings (deleting events older than 3 months).

Case study

A server using an MS Access database that has clients connecting to it every 5 minutes and reporting 7 events (e.g. threat log, event log, scan log, configuration change etc.) per connection in average can temporarily service up to 3000 clients. This scenario depicts a temporary overload situation, such as reporting during a virus outbreak etc.

If the server uses an external MySQL database and the client connection interval is set to 10 minutes (generating 0.02 events per connection) the maximum number of clients the server will be able to service increases to 30,000. Such a scenario exhibits optimal database performance, with clients reporting a relatively small number of events.

In regular operation, using an MS Access database and a client connection interval of 10 minutes enables the server to service a maximum of 10,000 clients.

2.1.3 Ports used

The chart below lists the possible network communications used when ERAS is installed. The process EHttpSrv.exe listens on TCP port 2221 and the process era.exe listens on TCP ports 2222, 2223, 2224 and 2846. Other communications occur using native operating system processes (e.g., "NetBIOS over TCP/IP").

Protocol	Port	Description
TCP	2221 (ERAS listening)	Default port used by the Mirror feature integrated in ERAS (HTTP version)
TCP	2222 (ERAS listening)	Communication between clients and ERAS
TCP	2223 (ERAS listening)	Communication between ERAC and ERAS

If all the program features are in use, the following network ports need to be open:

Protocol	Port	Description
TCP	2224 (ERAS listening)	Communication between the agent <i>installer.exe</i> and ERAS during remote install
TCP	2846 (ERAS listening)	ERAS replication.
TCP	139 (target port from the point of view of ERAS)	Copying of the agent <i>installer.exe</i> from ERAS to a client using the share admin\$
UDP	137 (target port from the point of view of ERAS)	"Name resolving" during remote install.
UDP	138 (target port from the point of view of ERAS)	"Browsing" during remote install
TCP	445 (target port from the point of view of ERAS)	Direct access to shared resources using TCP/IP during remote install (an alternative to TCP 139)

The predefined ports 2221, 2222, 2223, 2224 and 2846 can be changed if they are already in use by other applications.

To change the default ports used by ERA, click **Tools > Server Options...** To change port 2221, select the **Updates** tab and change the **HTTP server port** value. Ports 2222, 2223, 2224 and 2846 can be modified in the **Ports** section on the **Other Settings** tab in the **Server options**.

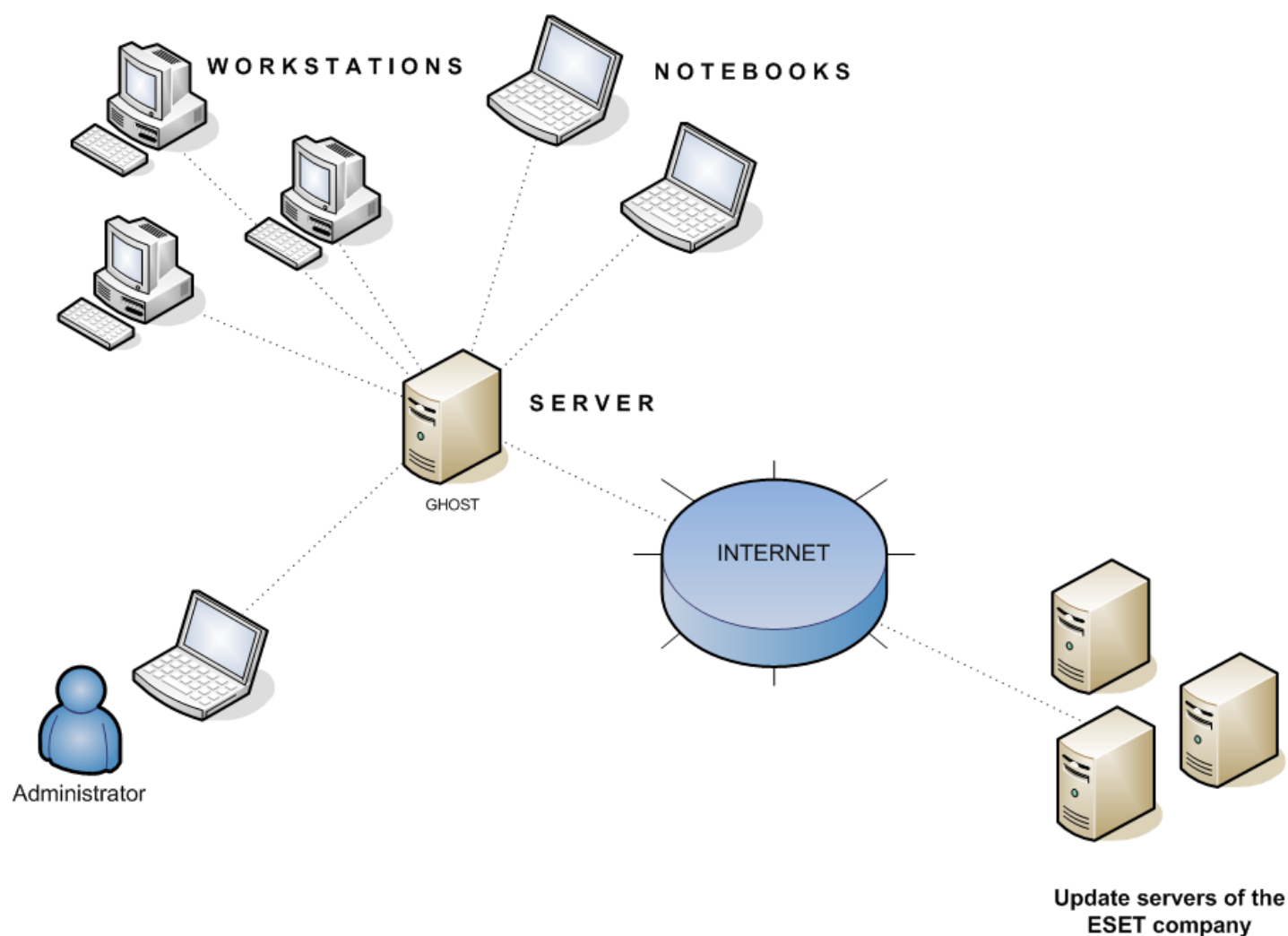
The predefined ports 2222, 2223, 2224 and 2846 can also be modified during the advanced install mode (ERAS).

2.2 Basic Installation guide

2.2.1 Environment overview (network structure)

A company network usually consists of one local area network (LAN), therefore we suggest installing one ERAS and one Mirror server. The Mirror server can either be created in ERAS or in ESET NOD32 Antivirus Business Edition / ESET Smart Security Business Edition.

Suppose all clients are Microsoft Windows 2000/XP/Vista/7 workstations and notebooks, networked within a domain. The server named GHOST is online 24/7 and can be a Windows workstation, Professional, or Server Edition (it does not have to be an Active Directory Server). In addition, suppose that notebooks are not present in the company's network during the installation of ESET client solutions. The network structure may resemble the one displayed below:



2.2.2 Before installation

Before installing, the following installation packages should be downloaded from ESET's website:

ESET Remote Administrator components:

- ESET Remote Administrator – Server
- ESET Remote Administrator – Console

ESET client solutions:

- ESET Smart Security 4.x
- ESET Smart Security 3.x
- ESET NOD32 Antivirus 4.x
- ESET NOD32 Antivirus 3.x
- ESET NOD32 Antivirus 2.7

Only download the client solutions you will use on client workstations.

2.2.3 Installation

2.2.3.1 Installation of ERA Server

Install ERAS on the server named GHOST (see the example in [Environment overview](#)^[11]). You can select either **Typical** or **Advanced** installation mode.

If you select Typical mode, the program will prompt you to insert a license key – a file with the extension .lic or .zip that provides operation of ERAS for the period defined in the license. Next, the program will ask you to set the update parameters (username, password and update server). You can also proceed to the next step and enter the update parameters later.

If you select the Advanced installation mode, the installer will offer additional parameters to be set. These parameters can be modified later via ERAC, but in most cases this is not necessary. The only exception is server name, which should match the DNS name, or %COMPUTERNAME% value of your operating system or the IP address assigned to the computer. This is the most essential piece of information for performing the remote installation. If a name is not specified during installation, the installer will automatically supply the value of the system variable %COMPUTERNAME%, which is sufficient in most cases. It is also important to select the correct database to which ERAS information will be stored. For more information see the chapter titled [Database types supported by ERA Server](#)^[14].

Important: Recent versions of Microsoft Windows (Windows Vista, Windows Server 2008 and Windows 7) enforce security policies limiting local user account permissions, meaning the user may not be able to execute specific network operations. If your ERA service is running on a local user account, push installation issues may occur in certain specific network configurations (e.g. when installing remotely from domain to workgroup). When using Windows Vista, Windows Server 2008 or Windows 7, we recommend running the ERA service on accounts with sufficient networking rights. You can specify the user account on which you want to run ERA in the Advanced installation scenario.

Note: Although ERA Server has full Unicode support, there are situations when the server converts characters to ANSI or vice versa (e.g. email, computername). In such situations the Language for non-Unicode programs setting is used. We recommend you change this setting to match the server environment locale, even if you are not using a localized version of ERA (i.e. you are using the English language mutation). You can find this setting under **Control panel > Regional and language options** on the **Advanced** tab.

ERAS program components are installed by default in the following folder:

```
%ProgramFiles%\ESET\ESET Remote Administrator\Server
```

Other data components such as logs, install packages, configuration, etc. are stored in:

```
%ALLUSERSPROFILE%\Application Data\ESET\ESET Remote Administrator\Server
```

The ERAS service is launched automatically after the installation. The activity of the ERAS service is recorded in the following location:

```
%ALLUSERSPROFILE%\Application Data\ESET\ESET Remote Administrator\Server\logs\era.log
```

Command line installation

ERAS can be installed with the following command line parameters:

/q - Silent installation. No user intervention is possible. No dialog windows are displayed.

/qb - No user intervention is possible, but the installation process is indicated by a progress bar.

Example: *era_server_nt32_ENU.msi /qb*

Parameters and configuration of the command line installation can be further supplemented by the administrator's .xml configuration file the "cfg.xml", which must be in the same folder as the ERA .msi installation file. The configuration file can be created in the ESET Configuration Editor and allows you to configure various ERA settings. See chapter [ESET Configuration Editor](#)^[32] for more details.

2.2.3.1.1 Cluster Mode Installation

The Advanced installation scenario also allows you to activate the **Cluster Mode Installation**. If the Cluster Mode Installation is enabled you will need to specify the path to a cluster shared data folder that is fully accessible for all cluster nodes (i.e. all nodes must have read/write permissions for this folder). It can either be a quorum disk or a UNC shared folder. If a shared folder is used, you must enable sharing for **Computers** in the shared folder's properties. The cluster node name must then be added to **Share Permissions** with full rights.

It is necessary to install ERA Server individually on all cluster nodes. If anything other than the built-in MS Access database is used, it is important to make sure that all ERA Server nodes connect to the same database. In the next steps it is also important to set the name of the cluster node where ERA is to be installed as the server name.

Important: It is necessary to configure the <%ESET_REMOTE_ADMINISTRATOR%> Server service (ERA_SERVER) as the cluster's Generic Service in the Cluster Administrator console.

If you plan to uninstall ERA Server, you must disable the cluster node before uninstalling.

- 1) Break the cluster by bringing down one of the nodes.
- 2) Let failover complete to make sure the other node(s) are working.
- 3) Uninstall ESET Remote Administrator from the disabled node.
- 4) Restart the node
- 5) Relink the node
- 6) Repeat the steps above for any additional node(s) in the cluster

2.2.3.2 Installation of ERA Console

Install the ESET Remote Administrator Console to the administrator's PC/notebook. If you choose the advanced installation mode, at the end you can enter the name of the ERA Server (or its IP address) to which ERAC will automatically connect at startup. It is labeled GHOST in our example.

After installation launch ERAC and check the connection to ERAS. By default, no password is required to connect to an ERA Server (the password text field is blank), but we strongly recommend that one be established. To create a password to connect to an ERA Server click **File > Change Password...** and then modify the Password for Console by clicking the **Change...** button.

The administrator can specify a password for Administrator Access and for Read-Only Access (which only allows users to view the ERAS configuration, not edit it).

2.2.3.3 Mirror

You can use the ERA Console to activate the LAN Update server – the Mirror in the ERA Server. This server can then be used to update workstations located in the LAN. By activating the Mirror you will decrease the volume of data transferred through your Internet connection.

Proceed as follows:

- 1) Connect the ERA Console to the ERA Server by clicking **File > Connect**.
- 2) From the ERA Console click **Tools > Server Options...** and click the **Updates** tab.
- 3) From the **Update server** drop-down menu, select **Choose Automatically**, leave Update interval at 60 minutes. Insert **Update username** (EAV-****) and then click **Set Password...** and type or paste the password you received with your username.
- 4) Select the **Create update mirror** option. Leave the default path for mirrored files and HTTP server port (2221). Leave **Authentication** at NONE.
- 5) Click the **Advanced** tab and click **Edit Advanced Settings...** In the advanced setup tree, navigate to **ERA Server > Setup > Mirror > Create mirror for the selected program components**. Click **Edit** on the right-hand side and select the program components to be downloaded. Components for all language versions that will be used in the network should be selected.
- 6) In the **Updates** tab, click **Update now** to create the Mirror.

For more detailed Mirror configuration options, please see chapter [How to enable and configure the Mirror](#)^[78].

2.2.3.4 Database types supported by ERA Server

By default, the program uses the Microsoft Access (Jet Database) engine. ERAS 4.0 also supports the following databases:

- Microsoft SQL Server 2005 and later
- MySQL 5.0 and later
- Oracle 9i and later

The database type can be selected during the Advanced installation mode of ERAS. After the installation it is not possible to change the database type directly from ERA, however, you can do so using the [ERA Maintenance Tool](#)^[85].

NOTE:

- Microsoft Access database is not supported on Windows Server 2008 Core.
- SQL Server Express has 4 GB database size limit.

2.2.3.4.1 Basic requirements

First, it is necessary to create the database on a database server. The ERAS installer is capable of creating an empty MySQL database, which is automatically named ESETRADB.

By default, the installer automatically creates a new database. To create the database manually, select the option **Export Script**. Make sure that the **Create tables in the new database automatically** option is deselected.

Collation Settings

Sorting will be realized according to the default settings of each database. It is required to activate CASE INSENSIVITY (CI).

To activate:

- For MS SQL and MySQL a COLLATE must be set up with the CI activated
- For ORACLE a NLS_SORT must be set up with the CI activated
- For MS Access no action is required because CI is already activated

Character set

It is important to use the UNICODE character set (UTF-8 is recommended), especially when clients have specific locales or if ERA itself is working in a localized version. If there is no plan for replication and all clients connect to the same server, you can use the character set for the locale of ERA that you want to install.

MARS (Multiple Active Result Sets)

If a MS SQL database is used, an ODBC driver with MARS support is required for smooth operation. Otherwise the server will operate less effectively and log the following error message to the server log:

Database connection problem. It is strongly recommended to use odbc driver that supports multiple active result sets (MARS). The server will continue to run but the database communication may be slower. See the documentation or contact ESET support for more information.

If the problem occurs with other than a MS SQL database the server logs the following message to the server log and stops:

Database connection problem. Updating the odbc driver may help. You can also contact ESET support for more information.

Drivers without MARS support:

- SQLSRV32.DLL (2000.85.1117.00)
- SQLSRV32.DLL (6.0.6001.18000) - natively contained in Windows Vista and Windows Server 2008

Native driver with MARS support:

- SQLNCLI.DLL (2005.90.1399.00)

2.2.3.4.2 Database connection setup

After a new database is created, you must specify connection parameters for the database server using one of two options:

1. Using DSN (data source name)
To open DSN manually, open the ODBC
Data Source Administrator
(Click **Start > Run** – and type *odbcad32.exe*).

Example of a DSN connection:

DSN =ERASqlServer

Important: The use of the *System DSN* is recommended for ERA to work properly.

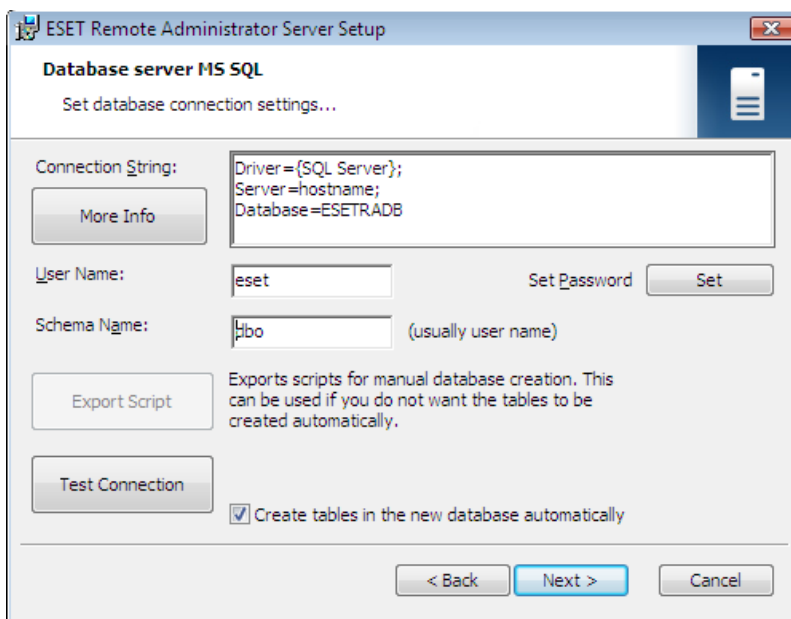
Important: On a 64-bit operating system, *odbcad32.exe* must be run from the *%SystemRoot%\SysWOW64* folder.

To make the installation under MSSQL with Windows/Domain authentication successful make sure you use DSN format when entering the connection string.

2. Directly, using a complete connection string
All required parameters must be specified – driver, server and name of database.

This is an example of a complete connection string for MS SQL Server:

Driver ={SQL Server}; Server =hostname; Database =ESETRADB



This is an example of a complete connection string for Oracle Server:

Driver ={Oracle in instantclient10_1}; dbq =hostname: 1521/ESETRADB

This is an example of a complete connection string for MySQL Server:

Driver ={MySQL ODBC 3.51 Driver}; Server =hostname; Database =ESETRADB

Then set the **Username** and **Password** for the connection (the **Set** button). Oracle and MS SQL Server databases also require a **Schema Name** (for MS SQL Server this is usually the same as username).

Click **Test Connection** to verify the connection to the database server.

Note: We recommend using the database server authentication, instead of windows/domain authentication.

2.2.3.4.3 Installing over an existing database

If there are existing tables in the database, the installer will display a notification. To overwrite contents of an existing table, select **Overwrite** (**Warning**: this command deletes the contents of tables and also overwrites their structure!). Select **Ignore** to leave tables untouched.

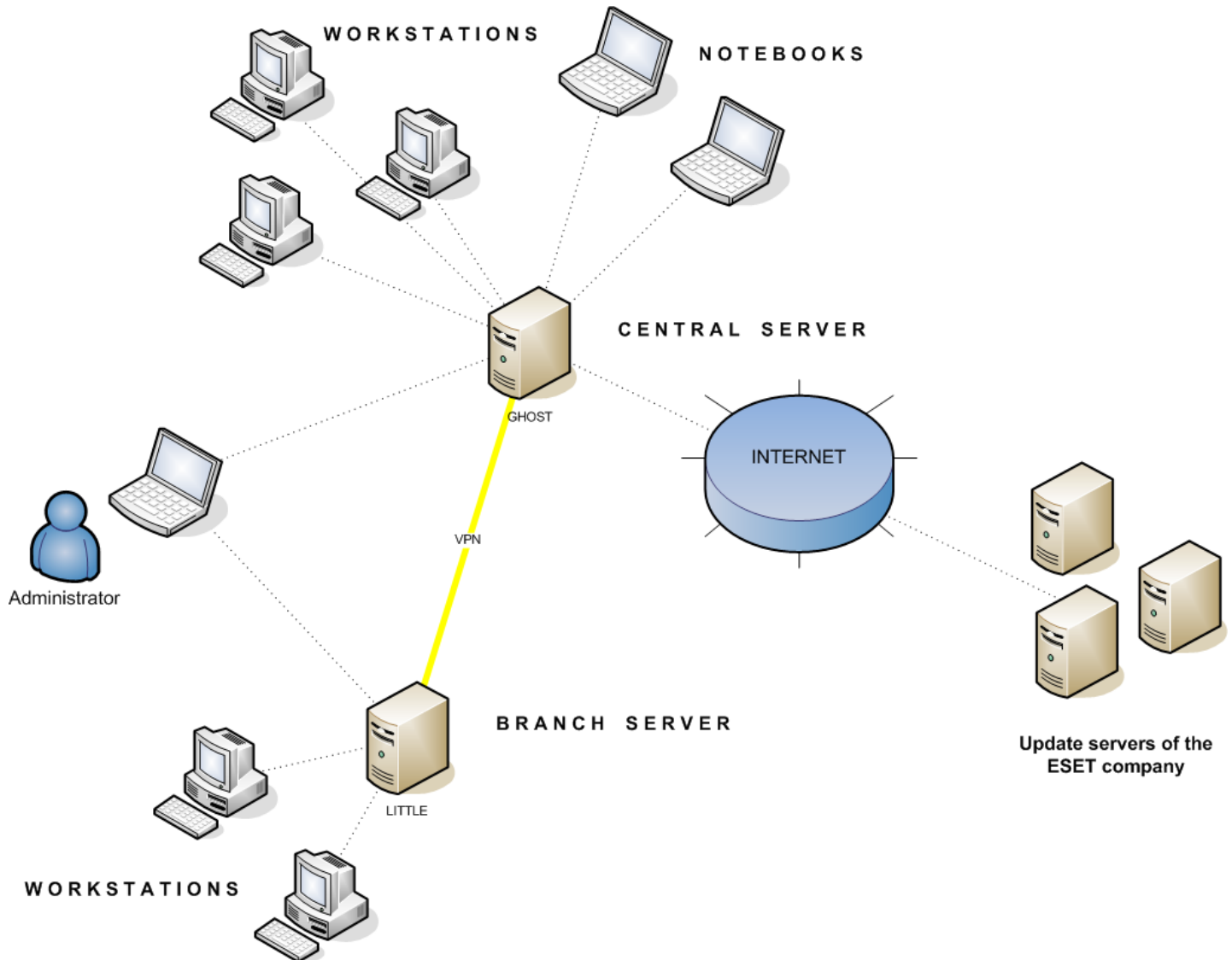
NOTE: Selecting **Ignore** may under certain conditions cause database inconsistency errors; especially when tables are damaged or incompatible with the current version.

To cancel installation of ERAS and analyze the database manually, click **Cancel**.

2.3 Scenario - Installation in an Enterprise environment

2.3.1 Environment overview (network structure)

Below is a copy of the previous network structure with one additional branch office, several clients and one server named LITTLE. Let's suppose there is a slow VPN channel between the headquarters and the branch office. In this scenario, the Mirror server should be installed on the server LITTLE. We will also install a second ERA Server on LITTLE in order to create a more user-friendly environment and minimize the volume of transferred data.



2.3.2 Installation

2.3.2.1 Installation at headquarters

Installations of ERAS, ERAC and client workstations are very similar to the previous scenario. The only difference is in the configuration of the master ERAS (GHOST). In **Tools > Server Options... > Replication** select the **Enable "from" replication** check box and enter the name of the secondary server in **Allowed servers**. In our case, the lower server is named LITTLE.

If there is a password for replication set on the upper server (**Tools > Server Options... > Security > Password for replication**), then that password must be used for authentication from the lower server.

Replication "from" settings

Enable "from" replication

Allowed servers

(if more than one use comma delimiter e.g.: server1,server2)

2.3.2.2 Branch office: Installation of ERA Server

As in the example directly above, install the second ERAS and ERAC. Again, enable and configure the replication settings. This time select the **Enable "to" replication** check box (**Tools > Server Options... > Replication**) and define the name of the master ERAS. We recommend using the IP address of the master server, which is the IP address of the server GHOST.

Replication "to" settings

Enable "to" replication

Upper server port

Replicate

2.3.2.3 Branch office: Installation of HTTP Mirror server

The Mirror server installation configuration in the previous scenario can also be used in this case. The only changes are in the sections defining the username and password.

As in the figure from [Environment overview](#)^[76] chapter, updates for the branch office are not downloaded from ESET's update servers, but from the server at the headquarters (GHOST). The update source is defined by the following URL address:

http://ghost:2221 (or http://IP_address_of_ghost:2221)

By default, there is no need to specify a username or password, because the integrated HTTP server requires no authentication.

For more information on configuring the Mirror in ERAS, see the chapter titled [Mirror Server](#)^[77].

2.3.2.4 Branch office: Remote installation to clients

Once more, the previous model can be used, except that it is suitable to perform all operations with the ERAC connected directly to the ERAS of the branch office (in our example: LITTLE). This is done to prevent installation packages from being transferred via the VPN channel, which is slower.

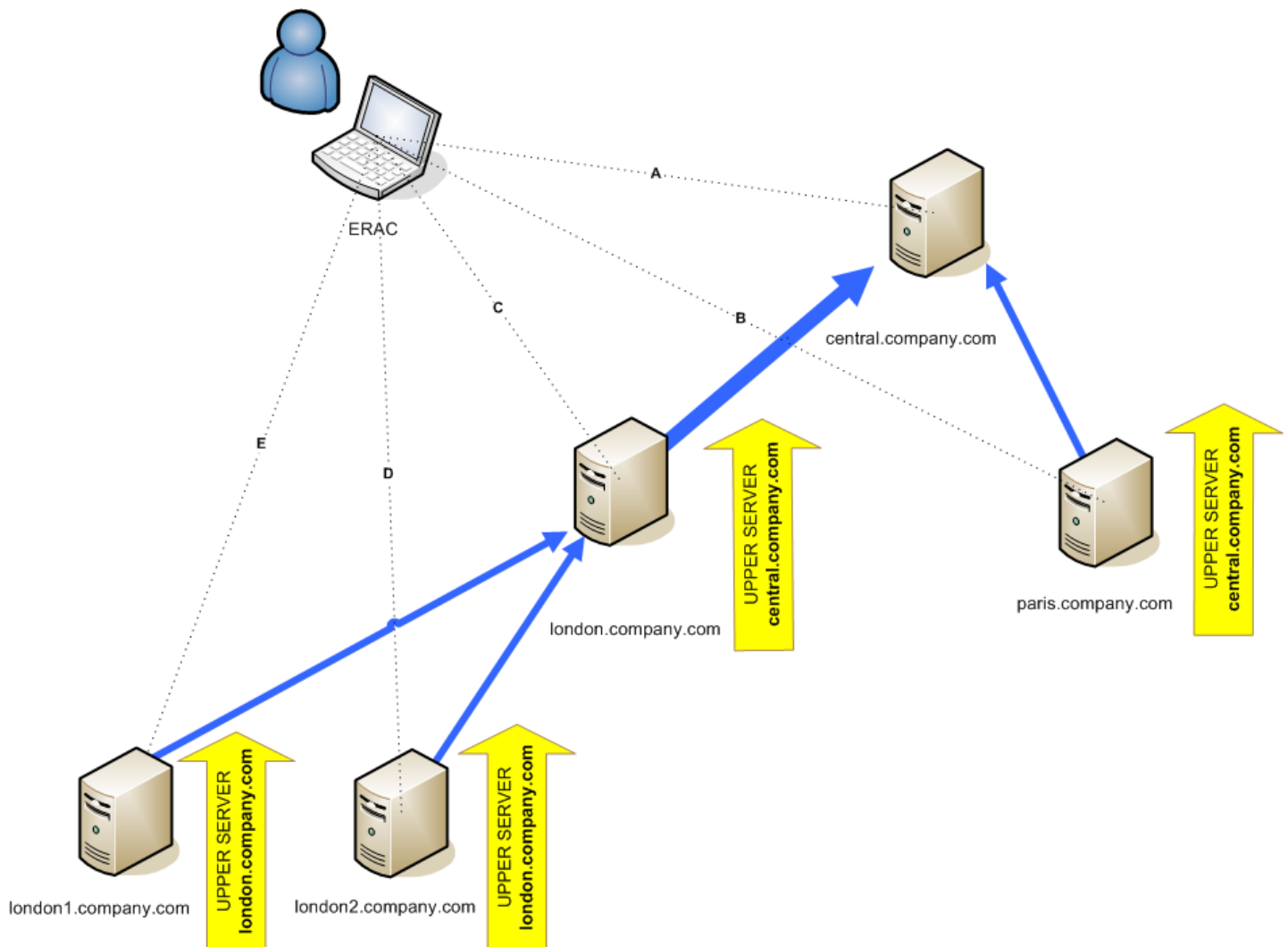
2.3.3 Other requirements for Enterprise environments

In larger networks, multiple ERA Servers can be installed to perform remote installs of client computers from servers which are more accessible. For this purpose, ERAS offers *replication* (see chapter [Installation at headquarters](#)^[17] and [Branch office: Installation of ERA Server](#)^[17]), which allows stored information to be forwarded to a parent ERAS (*upper server*). Replication can be configured using ERAC.

The replication feature is very useful for companies with multiple branches or remote offices. The model deployment scenario would be as follows: Install ERAS in each office and have each replicate to a central ERAS. The advantage of this configuration is especially apparent in private networks which are connected via VPN, which is usually slower – the administrator will only need to connect to a central ERAS (the communication marked by the letter A in the figure below). There is no need to use VPN to access individual departments (the communications B, C, D and E). The slower communication channel is bypassed through the use of ERAS replication.

The replication setup allows an administrator to define which information will be transferred to upper servers automatically at a preset interval, and which information will be sent upon request from the upper server administrator. Replication makes ERA more user-friendly and also minimizes network traffic.

Another advantage of replication is that multiple users can log in with various permission levels. The administrator accessing the ERAS london2.company.com with the console (communication E) can only control clients connecting to london2.company.com. The administrator accessing the central company.com (A) can control all clients located at company headquarters and departments/branches.



3. Working with ERAC

3.1 Connecting to ERAS

Most features in ERAC are only available after connecting to ERAS. Define the server by name or IP address before connecting:

Open the ERAC and click **File > Edit Connections...** (or **Tools > Console Options...**) and click the **Connection** tab.

Click the **Add/Remove...** button to add new ERA Servers or to modify currently listed servers. Pick the desired server in the **Select connection** drop-down menu. Then, click the **Connect** button.

Other options in this window:

- **Connect to selected server on the console startup**

If this option is selected, the console will automatically connect to the selected ERAS on startup.

- **Show message when connection fails**

If there is a communication error between ERAC and ERAS, an alert will be displayed.

There are two authentication types available:

ERA Server

The user authenticates with ERAS credentials. By default no password is required to connect to an ERAS, but we strongly recommend that one be established. To create a password to connect to an ERAS:

Click **File > Change Password...** (or **Tools > Server Options > Security**) and then click the **Change...** button to the right of **Password for Console**.

When entering a password you can check the **Remember password** option. Please consider the possible security risks associated with this option. To delete all remembered passwords click **File > Clear Cached Passwords...**

Select the access type from the **Access** drop-down menu (options are either **Administrator** or **Read-Only**), enter your password and click **OK**.

Windows/Domain

The user authenticates with Windows/Domain user credentials. In order for the Windows/Domain authentication to work properly ERAS needs to be installed under the Windows/Domain account with sufficient rights. You must also enable this feature in **Tools > Server Options... > Advanced tab > Edit Advanced Settings... > ESET Remote Administrator > ERA Server > Setup > Security**:

Allow Windows/Domain authentication - enables/disables Windows/Domain authentication

Administrator groups - allows you to define groups for which Windows/Domain authentication will be enabled

Read only groups - allows you to define groups with read-only access

When communication has been established the program's header will change to **Connected [server_name]**.

Alternatively you can click **File > Connect** to connect to ERAS.

NOTE: Communication between ERAC and ERAS is encrypted (AES-256)

3.2 ERAC - main window

The screenshot shows the ESET Remote Administrator Console interface. Key elements include:

- Toolbar (3):** Located at the top right, containing various utility icons.
- Client Filter Criteria (6):** A sidebar on the left with a tree view for filtering clients.
- Summary Table (4):** A table at the top showing summary data for 'Server01', including 3 clients, 'Some Old' virus signature DB state, and a last connection 5 seconds ago.
- Detailed Client Grid (5):** A table below the summary table listing individual clients with columns for Client Name, Primary Server, Domain, Product Name, Version, Policy Name, Last Connection, Protection Status, and Virus Signature DB.
- Status Bar (1):** At the bottom, showing the current communication status and connection type (Connected).

The current communication status between ERAC and ERAS is displayed in the status bar (1). All necessary data from ERAS is refreshed regularly (Default is every minute. See **Tools > Console Options...**). The refresh progress can also be seen in the status bar.

NOTE: Press F5 to refresh displayed data.

Information is divided into several tabs in order of importance (2). In most cases data can be sorted in ascending or in descending order by clicking on an attribute (5), while a drag-and-drop operation can be used for reorganization. If multiple data rows are to be processed, you can limit them by using the **Items to show** drop-down menu and the **browse page by page** buttons. Select the **View mode** to display attributes according to your need (for further details, see chapter [Information filtering](#) [21]).

The Server section (4) is important if you replicate ERA Servers. This section displays summary information about the Console to which ERAS is connected, as well as information about child or "lower" ERA Servers. The Servers drop-down menu in section 4 will influence the scope of information displayed in section 5.

- **Use All Servers**
Displays information from all ERA Servers – section (5).
- **Use Only Selected Servers**
Displays information from selected ERA Servers – section (5).
- **Exclude Selected Servers**
Excludes information from selected ERA Servers.

Columns in Section 4:

- **Server Name**
Displays name of server.

- **Clients**
Total number of clients connecting to or in the database of the selected ERAS.
- **Virus Signature DB Range**
Version of virus signature databases among the clients of the selected ERAS.
- **Least Recent Connection**
Time elapsed since the least recent connection to the server.
- **Last Threat Alerts**
Total number of virus alerts (see the attribute **Last Threat Alert** in section 5).
- **Last Firewall Alerts**
The total number of firewall alerts.
- **Last Event Warnings**
Total number of current events (see the attribute **Last Event** in section 5).

If you are not currently connected, you can right-click in the Server section (4) and select **Connect to This Server** to connect to the chosen ERAS.

More information will be displayed in the Server section (4) if replication is enabled.

The most important features of ERAC are accessible from the main menu or from the ERAC toolbar (3).

The last section is **Computer filter criteria** (6) – see the chapter titled [Information filtering](#)^[21].

3.3 Information filtering

ERAC offers several tools and features which provide user-friendly administration of clients and events. Having an advanced filtering system can often be priceless, especially on systems with a large number of clients, when the displayed information needs to be grouped and easily manageable. There are several tools in ERAC that allow you to efficiently sort and filter information about the connected clients.

3.3.1 Filter

Filter allows the administrator to display only information related to specific servers or client workstations. To show the filter options, click **View > Show/Hide Filter Pane** from the ERAC menu.

To activate filtering, select the **Use filter** option in the upper left side of the ERAC. Any future modifications to the filter criteria will automatically update displayed data, unless configured otherwise in the **Tools > Console Options... > Other Settings** tab.

Define the filtering criteria in the Client filter criteria section. Clients can belong to multiple groups and policies. Assigning a client to a Static or Parametric group can prove very useful, not only for filtering purposes, but also for activities such as reporting. To learn more about Group management see the chapter titled [Group Manager](#)^[51]. Using Policies for client segregation can also serve multiple functions; for more information about Policy creation and management see the chapter titled [Policies](#)^[53].

The first filtering tool is the Group and Policy selecting section. There are three options available:

- **Clients in checked**
Clients in selected groups/policies will be displayed in the Clients panel
- **Clients in not checked**
Clients in groups/policies that are not selected and clients in no groups will be displayed in the Clients panel
- **Clients in no groups**
Only clients that do not belong to any group/policy will be displayed

NOTE: When selecting a Group from the list, all its subgroups will be displayed as well.

In the lower part of the Filter section you can specify another set of parameters:

- **Only clients (using whole words)**
Output only includes clients with names identical to the string entered.
- **Only clients beginning like (?,*)**
Output will only list clients with names beginning with the specified string.

- **Only clients like (?,*)**
Output will list only clients with names containing the specified string.
- **Exclude clients (using whole words), Exclude clients beginning like (?,*), Exclude clients like (?,*)**
These options will yield results opposite to the previous three.

The Primary server, Client name, Computer name and MAC Address fields accept whole strings. If any of these are populated, a database query will be run and results will be filtered based on the populated field; the logical operator AND is used.

The last option is problem based filtering – outputs will only include clients with the specified type of problem. To display the list of problems, select the **Only show problems** option and click **Edit....** Select the problems to be displayed and click **OK** to show clients with the selected problems.

All changes made in the filtering setup will be applied after clicking the **Apply Changes** button. To restore defaults, click **Reset**. To automatically generate new outputs at each modification of filter settings, select the **Tools > Console Options... > Other Settings... > Auto apply changes** option.

3.3.2 Context menu

Use the right mouse button to invoke the context menu and adjust output in columns. Context menu options include:

- **Select All**
Selects all entries.
- **Select by '...'**
This option allows you to right-click on any attribute and automatically select (highlight) all other workstations or servers with the same attribute. The string ... is automatically replaced by the value of the current tab.
- **Inverse Selection**
Performs inverted selection of entries.
- **Hide Selected**
Hides selected entries.
- **Hide Unselected**
Hides all unselected entries in the list.
- **Show/Hide Columns**
Opens the **Console Options > Columns - Show/Hide** window where you can define columns that will be available in the selected pane.

The **Hide Selected/Unselected** options are effective if further organization is needed after using previous filtering methods. To disable all filters set by the context menu, click **View > Cropped View**, or click the icon on the ERAC toolbar. You can also press **F5** to refresh displayed information and disable filters.

Example:

- To only display clients with threat alerts:
In the **Clients** tab, right-click on any empty pane with Last Virus Alert and choose **Select by '...'** from the context menu. Then, again from the context menu, click **Hide Selected**.
- To display threat alerts for clients "Joseph" and "Charles":
Click the **Threat Log** tab and right-click any attribute in the Client Name column with the value Joseph. From the context menu click **Select by 'Joseph'**. Then, press and hold the CTRL key, right-click and click **Select by 'Charles'**. Finally, right-click and select **Hide Unselected** from the context menu and release the CTRL key.

The CTRL key can be used to select/deselect specific entries and the SHIFT key can be used to mark/unmark a group of entries.

NOTE: Filtering can also be used to facilitate the creation of new tasks for specific (highlighted) clients. There are many ways to use filtering effectively, please experiment with various combinations.

3.3.3 View mode

In the **Clients** tab, the number of columns displayed can be adjusted by using the **View mode** drop-down menu on the far right side of the Console. The **Full View Mode** displays all columns, while the **Minimal View Mode** only shows the most important columns. These modes are predefined and cannot be modified. To activate the Custom View, select **Custom View Mode**. It can be configured in the **Tools > Console Options... > Columns > Show/Hide** tab.

3.4 Tabs in ERAC

3.4.1 General description of tabs and clients

Most of the information on tabs is related to the connected clients. Each client connected to ERAS is identified by the following attributes:

Computer Name (client name) + MAC Address + Primary Server

The behavior of ERAS related to certain network operations (such as renaming a PC) can be defined in ERAS Advanced Setup. This can help prevent duplicate entries in the **Clients** tab. For example, if one of the computers in the network has been renamed, but its MAC address remained unchanged, you can avoid creating a new entry in the **Clients** tab.

Clients that connect to ERAS for the first time are designated by a **Yes** value in the **New User** column. They are also marked by a small asterisk in the upper right corner of the client's icon (see the figure below). This feature allows an administrator to easily detect a newly connected computer. This attribute can have different meanings depending on the administrator's operating procedures.



If a client has been configured and moved to a certain group, the New status can be disabled by right-clicking the client and selecting **Set/Reset Flags > Reset "New" Flag**. The client's icon will change to the one shown in the figure below and the value in the **New User** column will switch to **No**.



NOTE: The Comment attribute is optional in all three tabs. The administrator may insert any description here (e.g., "Office No. 129").

Time values in ERAS can be displayed either in the relative mode ("2 days ago"), in the absolute mode (20.5.2009) or in the system mode (Regional settings).

In most cases data can be sorted in ascending or in descending order by clicking on an attribute, while a drag-and-drop operation can be used for reorganization.

Clicking on certain values activates other tabs in order to display more detailed information. For example, if you click on a value in the **Last Threat Alert** column, the program will move to the **Threat Log** tab and display Threat Log entries related to the given client. If you click on a value which contains too much information to be displayed in a tabbed view, a dialog window will open showing detailed information about the corresponding client.

3.4.2 Replication & information in individual tabs

If ERAC is connected to an ERAS which is operating as an upper server, clients from the lower servers will be displayed automatically. The types of replicated information can be configured on the lower server in **Tools > Server Options > Replication > Replicate "to" settings**.

In this scenario, the following information may be missing:

- Detailed alert logs (**Threat Log** tab)
- Detailed On-demand scanner logs (**Scan Log** tab)
- Detailed current client configurations in the.xml format (the **Clients** tab, the **Configuration** column, **Protection Status**, **Protection Features**, **System Information**)

Information from the ESET SysInspector program may also be missing. ESET SysInspector is integrated with generation 4.x ESET products and later.

If the information cannot be found in the dialog windows of the program, click the **Request** button (available under

Actions > Properties > Configuration). Clicking this button will download missing information from a lower ERAS. Since replication is always initiated by a lower ERAS, the missing information will be delivered within the preset replication interval.

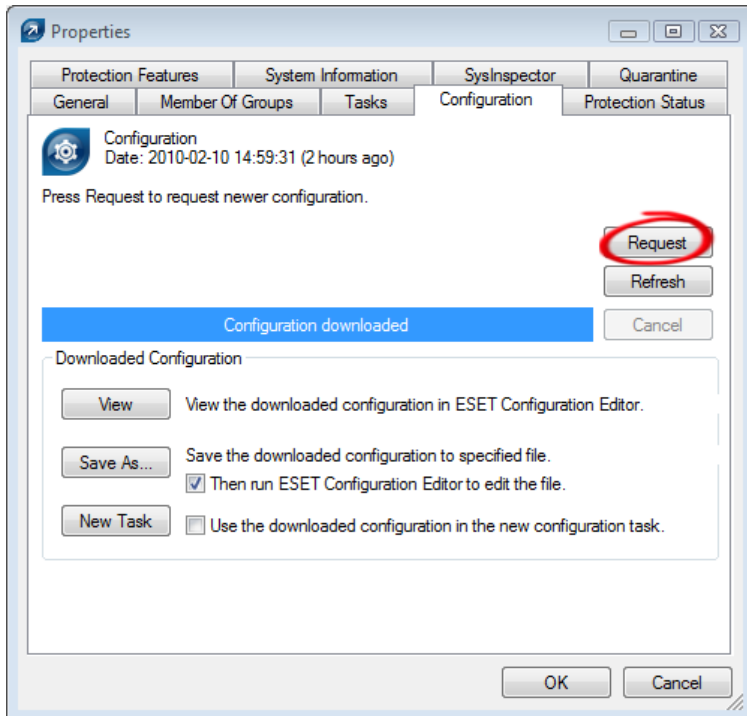


Fig: Click Request to retrieve missing information from lower ERA Servers.

On the upper server you can set the level of logs that will be received by the server (**Tools > Server Options > Advanced > Edit Advanced Settings... > ESET Remote Administrator > ERA Server > Setup > Server Maintenance > logs to accept**).

NOTE: This option applies to all clients connected to the server (not only the replicated ones).

3.4.3 Clients tab

This tab displays general information about individual clients.

Attribute	Description
Client Name	Name of Client (Can be changed in the Client's properties dialog - tab General)
Computer Name	Name of workstation / server (hostname)
MAC Address	MAC address (network adapter)
Primary Server	Name of ERAS with which a client is communicating
Domain	Domain / group name, to which a client belongs (these are not groups created in ERAS)
IP	IP address
Product Name	Name of ESET security product
Product Version	Version of ESET security product
Policy Name	Name of policy assigned to a client
Last Connected	Time that client last connected to ERAS (All other data collected from clients includes this timestamp, except for some data obtained by replication)
Protection Status Text	Current status of the ESET security product installed on a client
Virus Signature DB	Version of virus signature database
Last Threat Alert	Last virus incident
Last Firewall Alert	Last event detected by the ESET Smart Security Personal firewall (Events from the Warning level and higher are shown)

Attribute	Description
Last Event Warning	Last error message
Last Files Scanned	Number of scanned files during the last On-demand scan
Last Files Infected	Number of infected files during the last On-demand scan
Last Files Cleaned	Number of cleaned (or deleted) files during the last On-demand scan
Last Scan Date	Time of last On-demand scan
Restart Request	Is a restart required (e.g., after a program upgrade)
Restart Request Date	Time of first restart request
Product Last Started	Time that client program was last launched
Product Install Date	Date that the ESET security product was installed on the client
Roaming User	Clients with this attribute will perform the "update now" task each time they establish a connection with the ERAS (recommended for notebooks). The update is only performed if the client's virus signature database is not up to date.
New Client	Newly connected computer (see chapter General description of tabs and clients ^[23])
OS Name	Name of client operating system
OS Platform	Operating system platform (Windows / Linux...)
HW Platform	32-bit / 64-bit
Configuration	Client's current.xml configuration (including date/time that the configuration was created)
Protection Status	General status statement (Similar in nature to the Configuration attribute)
Protection Features	General status statement for program components (Similar to Configuration attribute)
System Information	Client submits system information to ERAS (including time that the system information was submitted)
SysInspector	Clients with versions containing the ESET SysInspector tool can submit logs from this complementary application.
Custom Info	Custom Information to be displayed specified by the administrator (this option can be configured in ERAC through Tools > Server Options... > Advanced tab > Edit Advanced Settings... > ESET Remote Administrator > ERA Server > Setup > Other settings > Client custom info).
Comment	A short comment describing the client (entered by the administrator)

NOTE: Some values are for informational purposes only and may not be current when the administrator views them at the Console. For example, at 7 a.m. there may have been an update error, but at 8 a.m. it was performed successfully. These values may include **Last Threat Alert** and **Last Event Warning**. If the administrator knows this information is obsolete, it can be cleared by right-clicking and selecting **Clear Info > Clear "Last Threat Alert" Info** or **Clear "Last Event Warning" Info**. Information about the last virus incident or last system event will be deleted.

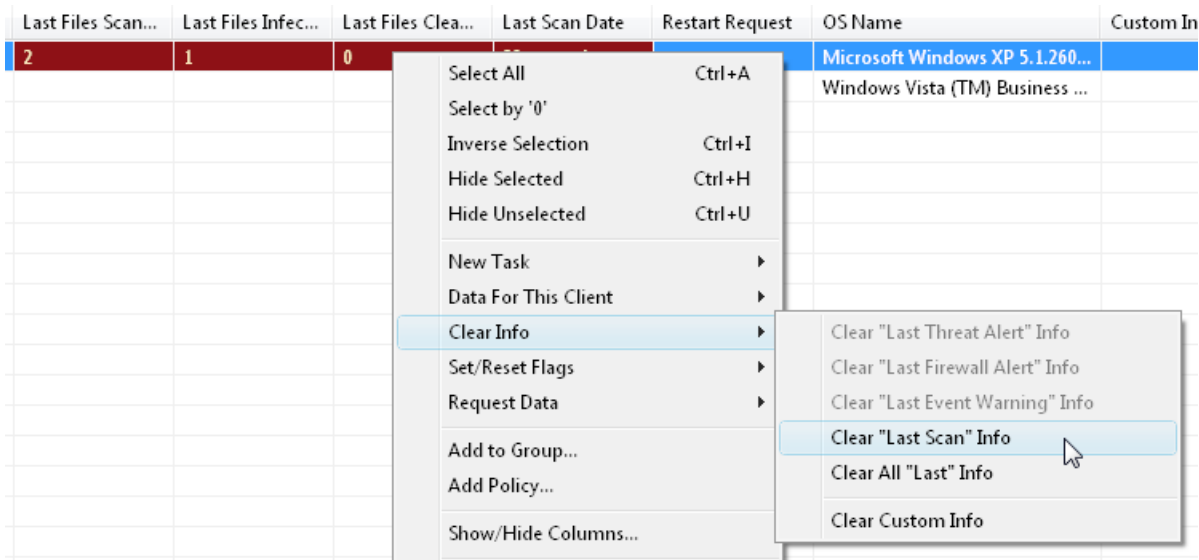


Fig.: Obsolete events from the Last Threat Alert and Last Event Alert Warning columns can easily be removed.

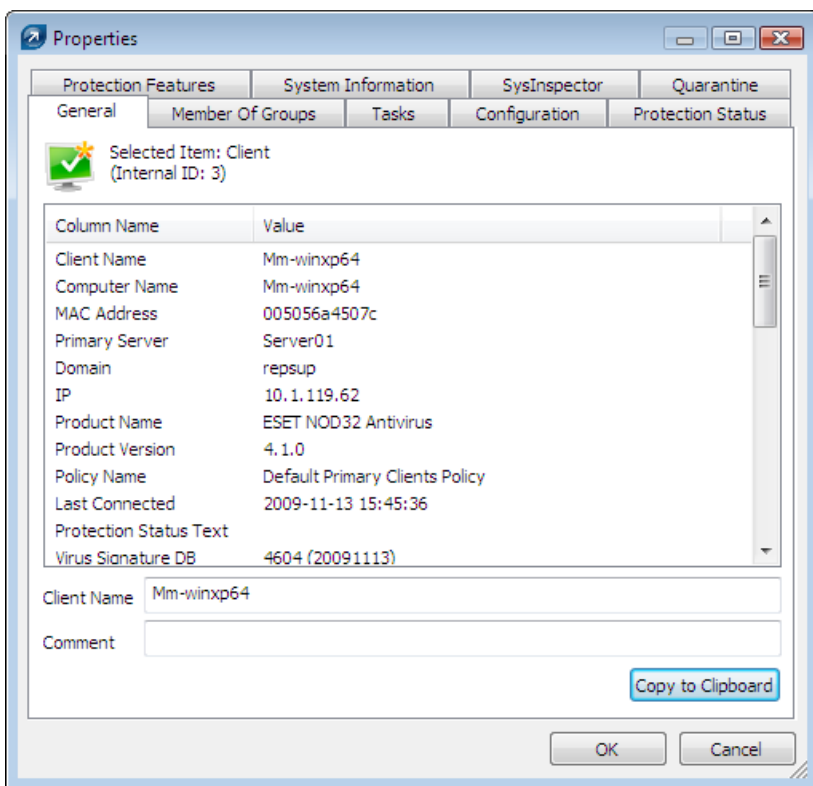


Fig.: Detailed information about a client workstation.

The **Clients** tab offers several options after double-clicking on a client:

- **General**

Contains similar information to that displayed in the Clients tab. Here you can specify the Client Name – the name under which this client is visible in ERA, plus an optional comment.

- **Member Of Groups**

This tab lists all groups to which the client belongs. For more information, see chapter [Information filtering](#)^[21].

- **Tasks**

Tasks related to the given client. For more information see chapter [Tasks](#)^[47].

- **Configuration**

This tab allows you to view or export the current client configuration to an.xml file. Later in this manual, we will explain how .xml files can be used to create a configuration template for *new/modified.xml* configuration files. For more information see chapter [Tasks](#)^[47].

- **Protection Status**

This is a general status statement regarding all ESET programs. Some of the statements are interactive and allow immediate intervention. This functionality is useful in that it prevents the need to manually define a new task to solve a given protection problem.

- **Protection Features**

Component status for all ESET security features (Antispam, Personal firewall, etc.)

- **System Information**

Detailed information about the installed program, its program component version, etc.

- **SysInspector**

Detailed information about startup processes and processes running in the background.

- **Quarantine**

Contains a list of quarantined files. Quarantined files can be requested from a client and saved to a local disk.

3.4.4 Threat Log tab

This tab contains detailed information about individual virus or threat incidents.

Attribute	Description
Client Name	Name of client reporting the threat alert
Computer Name	Workstation/server name (hostname)
MAC Address	MAC address (network adapter)
Primary Server	Name of ERAS with which a client is communicating
Date Received	Time at which the event was logged by ERAS
Date Occurred	Time at which the event occurred
Level	Alert level
Scanner	Name of security feature which detected the threat
Object	Object type
Name	Usually a folder where the infiltration is located
Threat	Name of the detected malicious code
Action	Action taken by the given security feature
User	Name of the user that was identified when the incident occurred
Information	Information about the detected threat
Details	Client log submission status

3.4.5 Firewall Log tab

This tab displays information related to client firewall activity.

Attribute	Description
Client Name	Name of client reporting the event
Computer Name	Workstation/server name (hostname)
MAC Address	MAC address (network adapter)
Primary Server	Name of ERAS with which a client is communicating
Date Received	Time at which the event was logged by ERAS

Date Occurred	Time at which the event occurred
Level	Alert level
Event	Description of the event
Source	Source IP address
Target	Target IP address
Protocol	Protocol concerned
Rule	Firewall Rule concerned
Application	Application concerned
User	Name of the user that was identified when the incident occurred

3.4.6 Event Log tab

This tab shows a list of all system-related events.

Attribute	Description
Client Name	Name of client reporting the event
Computer Name	Name of workstation / server (hostname)
MAC Address	MAC address (network adapter)
Primary Server	Name of ERAS with which a client is communicating
Date Received	Time at which the event was logged by ERAS
Date Occurred	Time at which the event occurred
Level	Alert level
Plugin	Name of the program component reporting the event
Event	Description of the event
User	Name of the user associated with the event

3.4.7 Scan Log tab

This tab lists results of On-demand computer scans that were started remotely, locally on client computers, or as scheduled tasks.

Attribute	Description
Scan Id	ID of the corresponding entry in the database (ID is in the form: <i>Scan Number</i>)
Client Name	Name of client where the scan was performed
Computer Name	Name of workstation / server (hostname)
MAC Address	MAC address (network adapter)
Primary Server	Name of the ERA Server a client is communicating with
Date Received	Time at which the scan event was logged by ERAS
Date Occurred	Time at which the scan took place on client
Scanned Targets	Scanned files, folders and devices
Scanned	Number of checked files
Infected	Number of infected files
Cleaned	Number of cleaned (or deleted) objects
Status	Status of the scan

User	Name of the user that was identified when the incident occurred
Type	User type
Scanner	Scanner type
Details	Client log submission status

3.4.8 Mobile Log tab

This tab displays detailed logs from the mobile phones connected to ERA Server.

Attribute	Description
Mobile Id	Network ID of the mobile device
Client Name	Name of client where action was performed
Computer Name	Name of workstation / server (hostname)
MAC Address	MAC address (network adapter)
Primary Server	Name of the ERA Server a client is communicating with
Date Received	Time at which the event was logged by ERAS
Date Occurred	Time at which the event took place on client
Level	Alert level
Log Type	Type of a log (e.g. Security Audit Log, SMS Antispam Log)
Event	Description of the event
Object Type	Object to which the event is related (e.g. SMS, file, ...)
Object Name	Particular object to which the event is related (e.g. SMS sender phone number, path to file, ...)
Action	Action performed (or error encountered) during the event

3.4.9 Quarantine tab

This tab consolidates all quarantine entries in your network.

Attribute	Description
Quarantine Id	ID number of the quarantined object assigned in order of occurrence
Hash	File hash code
DateReceived	Time at which the scan event was logged by ERAS
Occurred First	Time passed from the first occurrence of the quarantined item
Occurred Last	Time passed from the latest occurrence of the quarantined item
Object Name	Usually a folder where the infiltration is located
File Name	Name of the quarantined file
Extension	Type of extension of the quarantined file
Size	Size of the quarantined file
Reason	Reason for quarantining - usually a description of the threat type
Client Count	Number of clients quarantining the object
Hits	Number of times the object was quarantined
File	Indicates whether the object was requested to be downloaded to the server

3.4.10 Tasks tab

The meaning of this tab is described in the chapter titled "Tasks". The following attributes are available:

Attribute	Description
State	Task status (Active = being applied, Finished = task was delivered to clients)
Type	Task type
Name	Task name
Description	Task description
Date to deploy	Task execution time /date
Date Received	Time at which the event was logged by ERAS
Details	Task log submission status
Comment	A short comment describing the client (entered by the administrator)

3.4.11 Reports tab

This tab contains features which can be used to archive the activity in the network over certain time periods. The **Reports** tab is used to organize statistical information in graph or chart form. For more information, see chapter [Reports](#)^[73].

3.4.12 Remote install tab

This tab provides options for several remote installation methods of ESET Smart Security or ESET NOD32 Antivirus on clients. For detailed information, see chapter [Remote Installation](#)^[35].

3.5 ERA Console setup

ERAC can be configured in the **Tools > Console Options...** menu.

3.5.1 Connection tab

This tab is used to configure the connection from ERAC to ERAS. For more detail, see chapter [Connecting to ERAS](#)^[19].

3.5.2 Columns - Show / Hide tab

This tab allows you to specify which attributes (columns) are displayed in individual tabs. Changes will be reflected in the Custom View Mode (**Clients** tab). Other modes cannot be modified.

3.5.3 Colors tab

This tab allows you to associate different colors with specific system-related events, in order to better highlight problematic clients (Conditional Highlighting). For example, clients with a slightly outdated virus signature database (**Clients: Previous Version**) could be distinguished from clients with an obsolete one (**Clients: Older Versions or N/A**).

3.5.4 Paths tab

This tab allows you to specify the directory to which ERAC will save reports downloaded from ERAS. By default, reports are saved to:

`%ALLUSERSPROFILE%\Application Data\Eset\ESET Remote Administrator\Console\reports`

3.5.5 Date / Time tab

Appearance of the date / time columns:

- **Absolute**
Console will display absolute time (e.g., "14:30:00").
- **Relative**
Console will display relative time (e.g., "2 weeks ago").
- **Regional**
Console will display time according to regional settings (taken from the Windows settings).
- **Recalculate UTC time to your local time (use local time)**
Select this check box to recalculate to your local time. Otherwise, GMT – UTC time will be displayed.

3.5.6 Other settings tab

- **Filter settings > Auto apply changes**
If enabled, filters in individual tabs will generate new outputs upon each modification of filter settings. Otherwise, filtering will only take place after clicking the **Apply Changes** button.
- **Remote Administrator updates**
This section allows you to enable checking for new versions of ESET Remote Administrator. We recommend the default value of **Monthly**. If a new version is available, ERAC displays a notification at program startup.
- **Other settings > Use automatic refresh**
If selected, data in individual tabs is automatically refreshed according to the designated interval.
- **Other settings > Show gridlines**
Select this option to separate individual cells in all tabs by gridlines.
- **Other settings > Prefer showing Client as "Server/Name" instead of "Server/Computer/MAC"**
Affects the display mode for clients in some dialog windows (e.g., New task). This option has only a visual effect.
- **Other settings > Use systray icon**
ERA Console will be represented by an icon in the Windows notification area.
- **Other settings > Show on taskbar when minimized**
If the ERAC window is minimized, it will be accessible from the Windows task bar.
- **Other settings > Use highlighted systray icon when problematic clients found**
Select this option in conjunction with the Edit button to define events which will trigger a change in color to the ERAC icon in the notification area.

If the ERAC on the administrator's PC is going to be connected permanently to ERAS, we recommend that you select the **Show on taskbar when minimized** option and leave the Console minimized when inactive. If a problem occurs, the icon in the notification area will turn red – which is a signal for the administrator to intervene. We also recommend adjusting the option **Use highlighted systray icon when problematic clients found** in order to specify which events will trigger a color change of the ERAC icon. However, the ERAC will disconnect if database compression is enabled on the server.

- **Other settings > Tutorial messages**
Enables (Enable All) or Disables (Disable All) all informative messages.

3.6 Display modes

ERAC offers the user two display modes:

- Administrative mode
- Read-only mode

The administrative mode of ERAC gives the user full control over all features and settings, as well as the ability to administer all client workstations connected to it.

The read-only mode is suitable for viewing the status of ESET client solutions connecting to ERAS; creation of tasks for client workstations, creation of install packages and remote installation are not allowed. The License Manager, Policy Manager and Notification Manager are also inaccessible. Read-only mode does allow the administrator to modify ERAC settings and generate reports.

The Display mode is selected at each console startup in the **Access** drop-down menu, while the password to connect to ERAS can be set for either display mode. Setting a password is especially useful if you want some users to be given full access to ERAS and others read-only access. To set the password, click **Tools > Server Options... > Security** and click the **Change...** button next to Password for Console (Administrator Access) or (Read-Only Access).

3.7 ESET Configuration Editor

The ESET Configuration Editor is an important component of ERAC and is used for several purposes. Some of the most important are the creation of the following:

- Predefined configurations for installation packages
- Configurations sent as tasks or policies to clients
- A general (.xml) configuration file

Configuration Editor is a part of ERAC and is represented mainly by the *cfgedit.** files.



The Configuration Editor allows the administrator to remotely configure many of the parameters available in any ESET security product, especially those installed on client workstations. It also allows the administrator to export configurations to .xml files which can later be used for multiple purposes, such as creating tasks in ERAC, importing a configuration locally in ESET Smart Security, etc.



The structure used by the Configuration Editor is an .xml template which stores the configuration in a tree-like structure. The template is stored in the *cfgedit.exe* file. That is why we recommend that ERAS and ERAC be updated regularly.

Warning: The Configuration Editor allows you to modify any .xml file. Please avoid modifying or rewriting the *cfgedit.xml* source file.

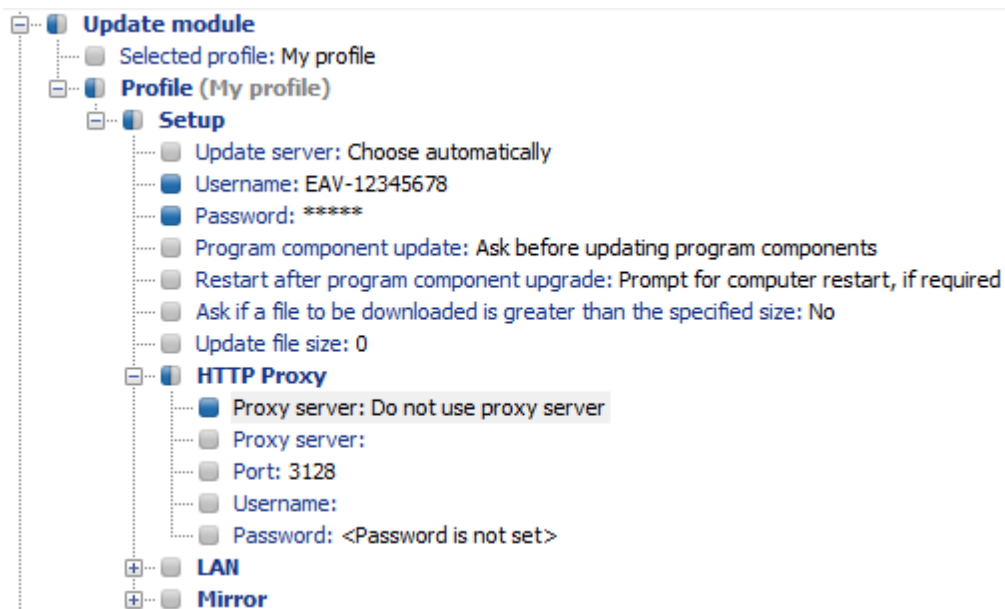
For the Configuration Editor to function, the following files must be available: *eguiEpfw.dll*, *cfgeditLang.dll*, *eguiEpfwLang.dll* and *eset.chm*.

3.7.1 Configuration layering

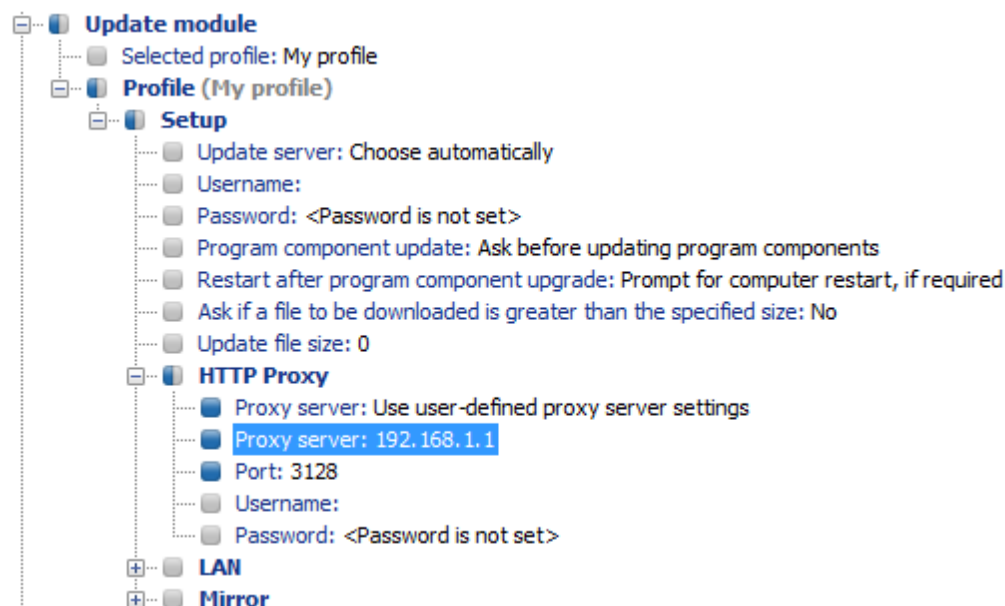
If a value is changed in the Configuration Editor, the change is marked by a blue symbol . Any entry with the grey icon  has not been changed and will not be written to the *.xml* output configuration.

When applying a configuration to clients, only modifications which have been saved to the *.xml* output configuration file will be applied () All other items () will remain unchanged. This behavior allows for gradual application of several different configurations without undoing previous modifications.

An example is shown in the figure below. In this configuration the username *EAV-12345678* and password are inserted and using a proxy server is prohibited.



The second configuration (shown in the figure below) sent to clients will ensure that previous modifications are preserved, including the username *EAV-12345678* and password. This configuration will also allow the use of a proxy server and defines its address and port.



3.7.2 Key configuration entries

In this section, we explain several of the key configuration entries for ESET Smart Security and ESET NOD32 Antivirus, available through the ESET Configuration Editor:

- **ESET Smart Security, ESET NOD32 Antivirus > ESET Kernel > Setup > Remote administration**
Here you can enable communication between client computers and the ERAS (**Connect to Remote Administrator server**). Enter the name or IP address of ERAS (**Server address**). The **Interval between connections to server** option should be left at the default value of five minutes. For testing purposes, this value can be decreased to 0, which will establish a connection every ten seconds. If a password is set, use the one which was specified in ERAS. For more information, see the **Password for Clients** option in the [Security tab](#)^[76] chapter. Additional information on password configuration can also be found in this section.
- **ESET Kernel > Setup > License keys**
Client computers require no license keys to be added or managed. License keys are only used for server products.
- **ESET Kernel > Setup > ThreatSense.Net**
This branch defines the behavior of the ThreatSense.Net Early Warning System, which allows submission of suspicious files for analysis to ESET's labs. When deploying ESET solutions to a large network, the **Submit suspicious files** and **Enable submission of anonymous statistical information** options are particularly important: If these are set to **Do not submit** or **No**, respectively, the ThreatSense.Net System is completely disabled. To submit files automatically without user interaction, select **Submit without asking** and **Yes**, respectively. If a proxy server is used with the Internet connection, specify the connection parameters under **ESET Kernel > Setup > Proxy server**.
By default, the client products submit suspicious files to ERAS, which submits them to ESET's servers. Therefore, the proxy server should be correctly configured in ERAS (**Tools > Server Options > Advanced > Edit Advanced Settings > ERA Server > Setup > Proxy server**).
- **Kernel > Setup > Protect setup parameters**
Allows the administrator to password-protect the setup parameters. If a password is established, it will be required in order to access the setup parameters on client workstations. However, the password will not affect any changes to the configuration made from ERAC.
- **Kernel > Setup > Scheduler / Planner**
This key contains the Scheduler/Planner options, which allow the administrator to schedule regular antivirus scans, etc.

NOTE: By default, all ESET security solutions contain several predefined tasks (including regular automatic update and automatic check of important files on startup). In most cases, it should not be necessary to edit or add new tasks.

- **ESET Kernel > Setup > Default user interface values**
The settings under Default user interface values (i.e., **Show splash screen/Don't show splash screen**) only apply modifications to the client's default settings. The client's settings can then be managed on a per-user basis and cannot be changed remotely. To change the setting remotely the **Suppress user settings** option must be set to **Yes**. The **Suppress user settings** option is only available for clients running 4.0 or later ESET security products.
- **Update**
This branch of the Configuration Editor allows you to define how update profiles are applied. Normally, it is only necessary to modify the predefined profile **My profile** and change the **Update server**, **Username** and **Password** settings. If Update server is set to **Choose Automatically**, all updates will be downloaded from ESET's update servers. In this case, please specify the **Username** and **Password** parameters which were provided at the time of purchase. For information on setting client workstations to receive updates from a local server (Mirror), please see the chapter titled [Mirror server](#)^[77]. For more information on using the scheduler, see chapter [Scheduler](#)^[89].

NOTE: On portable devices such as notebooks, two profiles can be configured – one to provide updating from the Mirror server and the other to download updates directly from ESET's servers. For more information, see chapter [Combined update for notebooks](#)^[93] at the end of this document.

4. Installation of ESET client solutions

This chapter is dedicated to the installation of ESET client solutions for Microsoft Windows operating systems. Installations can be performed [directly](#)^[35] on workstations, or [remotely](#)^[35] from ERAS. This chapter also outlines alternative methods of remote installation.

NOTE: Although it is technically feasible, we do not recommend that the remote installation feature be used to install ESET products to servers (workstations only).

Important: Administrators, who use Microsoft Remote Desktop connection to access remote client PCs should read [following article](#) before remotely installing security solutions.

4.1 Direct installation

With a direct installation, the administrator is present at the computer where the ESET security product is to be installed. This method requires no further preparation and is suitable for small computer networks or in scenarios where ERA is not used.

This task can be greatly simplified with the help of a predefined.xml configuration. No further modification, such as defining an update server (username and password, path to a Mirror server, etc.), silent mode, scheduled scan, etc., is required during or after installation.

There are differences in applying the .xml configuration format between versions 4.x, 3.x and 2.x of ESET client solutions:

- Version 4.x: Download the installation file (e.g., *ess_nt32_enu.msi*) from *eset.com* and create your own installation package in the **Installation Packages Editor**. Edit/Select the configuration that you want to associate with this package, press the **Copy...** button next to the **Package for Windows NT xx bit systems** field and save the package as **ESET Install Msi File With Configuration (*.msi)**.

NOTE: Adding a configuration to the .msi installation file means the digital signature of this file will no longer be valid.

In addition, the steps from version 3.x apply to version 4.x as well.

- Version 3.x: Download the installation file (e.g., *ess_nt32_enu.msi*) from *eset.com*. Copy the configuration file (*cfg.xml*) to the directory where the install file is located. Upon execution, the installer will automatically adopt the configuration from the .xml configuration file. If the .xml configuration file has a different name or is located somewhere else, the parameter `ADMINCFG="path_to_xml_file"` can be used (e.g., *ess_nt32_enu.msi ADMINCFG="\server\xml\settings.xml"* to apply the configuration stored on a network drive).
- Version 2.x: Download the installation file (e.g., *ndntenst.exe*) from *eset.com*. Extract the downloaded file to a folder using a file extraction program such as WinRAR. The folder will contain installation files, including *setup.exe*. Copy the *nod32.xml* configuration file to the folder. Run the *setup.exe* file – the configuration within *nod32.xml* will be automatically applied. If the .xml configuration file has a different name, or is located somewhere else, the parameter `/cfg="path_to_xml_file"` can be used. (e.g. *setup.exe /cfg="\server\xml\settings.xml"* to apply the configuration stored on a network drive).

4.2 Remote installation

ERA offers several methods of remote installation. Distribution of installation packages to target workstations can be performed using the following methods:

- Remote push installation
- Logon script remote installation
- Email remote installation
- Upgrade

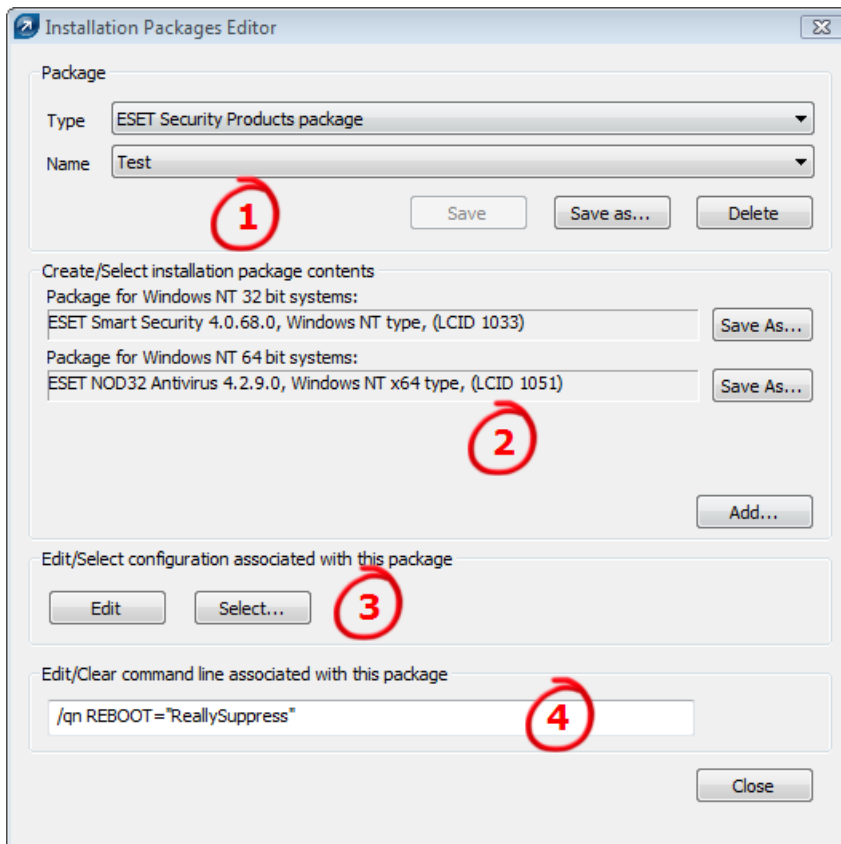
Remote installation by means of ERA consists of these steps:

- Creation of installation packages
- Distribution of packages to client workstations (push installation method, logon script, email, upgrade, external solution)

The first step is initiated through ERAC, but the install package itself is located in ERAS, in the following directory:

%ALLUSERSPROFILE%\Application Data\Eset\ESET Remote Administrator\Server\packages

To launch installation packages through ERAC, click the **Remote Install** tab, select the **Computers** tab and right-click anywhere within its contents. Select **Manage packages** from the context menu.



Each installation package is defined by a Name. See (1) in the figure above. The remaining sections of the dialog window are related to the content of the package, which is applied after it has been successfully delivered to a target workstation. Each package contains:

- ESET client solution installation files (2)
- .xml configuration file for ESET client solutions (3)
- Command line parameters assigned to the package (4)

The **Type** drop-down menu in section (1) provides access to additional ERA features. In addition to remote installation, ESET security products can be uninstalled remotely using the **Uninstall ESET Security Products and NOD32 version 2** option. Remote installation of an external application can also be performed by selecting **Custom package**. This is particularly useful if you want to run various scripts and executables on the remote machine, including uninstall tools for third-party security products or standalone cleaning tools. You can specify custom command-line parameters for use by the **Package Entry File**. See the [Installation of third party products using ERA](#)^[94] chapter for more details.

Each package is automatically assigned an ESET Remote Installer agent, which allows for seamless installation and communication between target workstations and ERAS. The ESET Remote Installer agent is named *installer.exe* and contains the ERAS name and the name and type of package to which it belongs. The following chapters provide a detailed description of the agent.

There are several parameters which can affect the installation process. They can be used either during direct installation with the administrator present at the workstation, or for remote installation. For remote installations, parameters are selected during the process of configuring installation packages – selected parameters are then applied automatically on target clients. Additional parameters for ESET Smart Security and ESET NOD32 Antivirus can be typed after the name of the .msi installation package (e.g., *eav_nt64_ENU.msi /qn*):

- **/qn**
Quiet installation mode – no dialog windows are displayed.
- **/qb!**
No user intervention is possible, but the installation process is indicated by a progress bar in %.

- **REBOOT = "ReallySuppress"**
Suppresses restart after installation of the program.
- **REBOOT = "Force"**
Automatically reboots after installation.
- **REBOOTPROMPT = ""**
After installation, a dialog window prompting the user to confirm rebooting is displayed (can't be used along with */qn*).
- **ADMINCFG = "path_to_xml_file"**
During installation, parameters defined in the specified.xml files are applied to ESET security products. The parameter is not required for remote installation. Installation packages contain their own .xml configuration, which is applied automatically.
- **PASSWORD = "password"**
You need to add this parameter when the ESS/EAV settings are password protected.

Parameters for ESET NOD32 Antivirus 2.x should be typed after the *setup.exe* filename, which can be extracted along with other files from the installation package (e.g., *setup.exe /silentmode*):

- **/SILENTMODE**
Quiet installation mode – no dialog windows are displayed.
- **/FORCEOLD**
Will install an older version over an installed newer version.
- **/CFG = "path_to_xml_file"**
During installation, parameters defined in the specified .xml files are applied to ESET client solutions. The parameter is not required for remote installation. Installation packages contain their own .xml configuration which is applied automatically.
- **/REBOOT**
Automatically reboots after installation.
- **/SHOWRESTART**
After the installation, a dialog window prompting the user to confirm rebooting is displayed. This parameter can only be used if combined with the *SILENTMODE* parameter.
- **/INSTMFC**
Installs MFC libraries for the Microsoft Windows 9x operating system that are required for ERA to function correctly. This parameter can always be used, even if the MFC libraries are available.

Under **Create/Select installation package contents** (2), the administrator can create a standalone install package with a predefined configuration from an already existing and saved install package (the **Save As...** button). Such installation packages can be run on the client workstation where the program is to be installed. The user only needs to run the package and the product will install without connecting back to ERAS during the installation.

NOTE: Adding a configuration to the .msi installation file means the digital signature of this file will no longer be valid.

Important: On Microsoft Windows Vista and later we strongly recommend that you perform a silent remote installation (the */qn*, */qb* parameter). Otherwise interaction with a user might cause the remote installation to fail due to timeout.

4.2.1 Requirements

The basic requirement for remote installation is a correctly configured TCP/IP network which provides reliable client server communication. Installing a client solution using ERA imposes stricter conditions on the client workstation than a direct installation. The following conditions should be met for remote installation:

- Microsoft network client enabled
- File and printer sharing service enabled
- The file sharing ports (445, 135 – 139) are accessible
- TCP/IP protocol
- Administrative share ADMIN\$ enabled

- Client can respond to PING requests
- Connectivity of ERAS and ERAC (ports 2221- 2224 are accessible)
- Administrator username and password exists for client workstations (username cannot be left blank)
- Simple file sharing disabled
- Server service enabled
- Remote Registry service enabled

NOTE: Recent versions of Microsoft Windows (Windows Vista, Windows Server 2008 and Windows 7) enforce security policies limiting local user account permissions so that the user may not be able to execute specific network operations. If your ERA service is running on a local user account, push installation issues may occur in certain specific network configurations (e.g. when installing remotely from domain to workgroup). When using Windows Vista, Windows Server 2008 or Windows 7, we recommend running the ERA service on accounts with sufficient networking rights. To specify the user account on which you want to run ERA, navigate to **Start ? Control Panel → Administrative Tools → Services**. Select ESET Remote Administrator Server service from the list and click the **Log On** tab. ESET Remote Administrator 4 embeds this setting in the Advanced installation scenario so you must select **Advanced** → **Fully customized installation** during the installation. If you are using Push Installation on Windows Vista, Windows Server 2008, or Windows 7 target workstations, make sure that your ERA Server as well as the target workstations are in a domain.

We highly recommend that you check all requirements before installation, especially if there are multiple workstations in the network (on the **Remote Install** tab select the **Computers** tab, right-click the relevant client(s) and select **Diagnostics of Push Installation** from the context menu).

4.2.2 Configuring the environment for remote installation

Before installing ESET security products to network computers, the administrator should appropriately prepare the environment to avoid installation failures.

The **Network View** section in **Remote Install** tab provides a customizable view for the network. There are two ways to explore the network.

Console

The **Console** view provides standard NetBios search from the computer on which ERAC is installed. It shows all available domains and workgroups which can be (un)checked in order to filter the view.

Server

The **Server** view provides more filtering options. Aside from the NetBios search, you can view computers in Active Directory, existing ERA clients and also create your own, custom filters.

The custom filters include two items — **Custom List** and **IP Search**, both of which allow you to create your own groups manually.

In the **Custom list**, you can add computers to a group either manually, by typing their names into the **Computers in group** section, or by importing them from a .txt file. In both cases the computer names must be written one by one, as a list.

The **IP Search** section allows you to create computer IP ranges and groups of computer IP ranges, where the IP range serves as a filtering criterion.

NOTE: The Console/Server branches specify whether computers are browsed from ERAS or ERAC. We recommend taking this into consideration if you are connecting to ERAS from a different network.

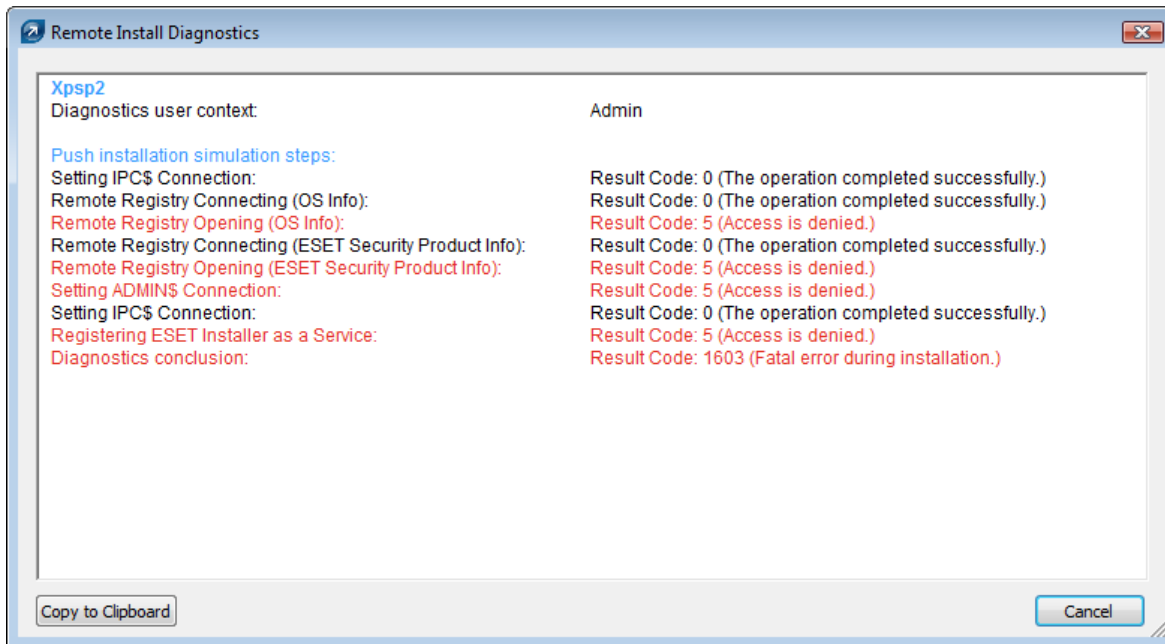
The **Filter Options** section provides two additional filtering options:

Unregistered computers — shows computers that are not listed in the current server database.

Clients with last connected warning — shows computers that are listed in the current server database and have incurred the last connected warning.

After setting up all necessary conditions in the **Network View** and **Filter Options** sections, you can see a list of workstations suitable for installation of a client solution on the right side of the window in the **Computers** tab. You can run push installation diagnostics on computers that are found and displayed in the list by right-clicking on the selected computers and selecting **Diagnostics of Push Installation** from the context menu. The diagnostics help you check

installation requirements and identify potential problems.



4.2.3 Remote Push Install

This method of remote install pushes ESET client solutions to remote target computers. Target computers should be online. Supposing that all workstations are turned on, the push installation method is the most effective method. Before starting a push install, you must first download the .msi install files for ESET Smart Security or ESET NOD32 Antivirus from ESET's website and create an installation package. You can create an .xml configuration file that will automatically be applied when the package runs. Please see the chapter on [Requirements](#) prior to installation.

To initiate a push installation, follow the steps below:

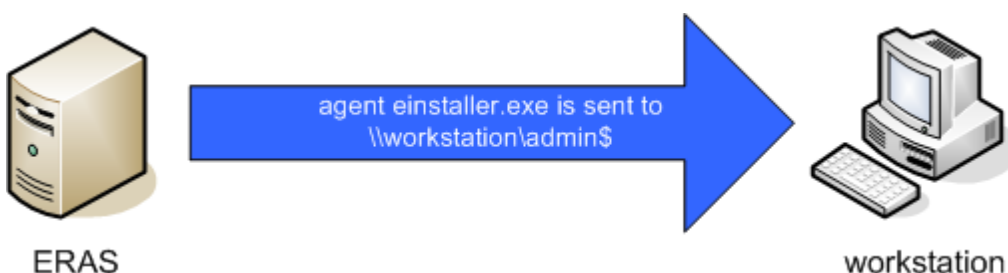
- 1) Once computers suitable for remote installation are listed in the **Computers** tab, you can select all or some of them and run a push installation task by right-clicking in the window and selecting **Push Installation** from the context menu.
- 2) Set the logon information for computers in the list (**Set, Set All**). This must be done while using an account with administrator rights. You can still add clients to the list in this step by using the **Add Clients** Special feature.
- 3) Select the desired install package to deliver to target workstations.
- 4) Set the time when the task is to be run and press **Finish**.

You can view the push installation task status in the **Install Tasks** tab. For details of diagnostic results, select the desired task and press F4. The **Properties** window shows up at the **Details** tab, where you can view remote install diagnostics results by pressing **View All Logs/View Selected Logs**.

NOTE: The maximum number of concurrent push installation threads is set to 20 by default. If you send a push installation task to a number of computers exceeding this limit, the additional computers will be put into queue and will wait for the threads to be free. We do not recommend increasing this value for performance reasons; however, if you consider it necessary, you can change the limit in the configuration editor (**ESET Remote Administrator > ERA Server > Setup > Remote Install**).

Details of the remote installation process are described below:

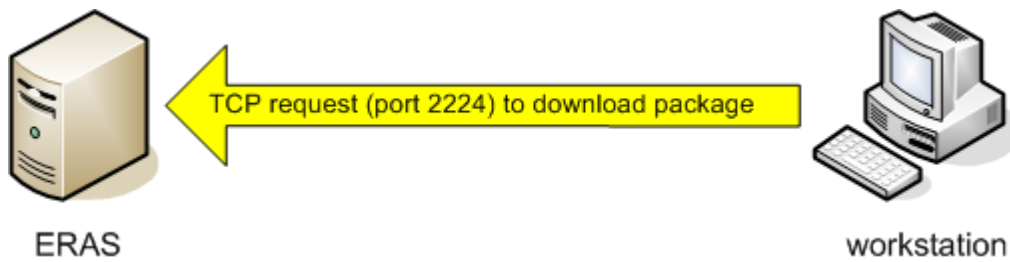
- 5) ERAS sends the *installer.exe* agent to the workstation with the help of the administrative share admin\$.



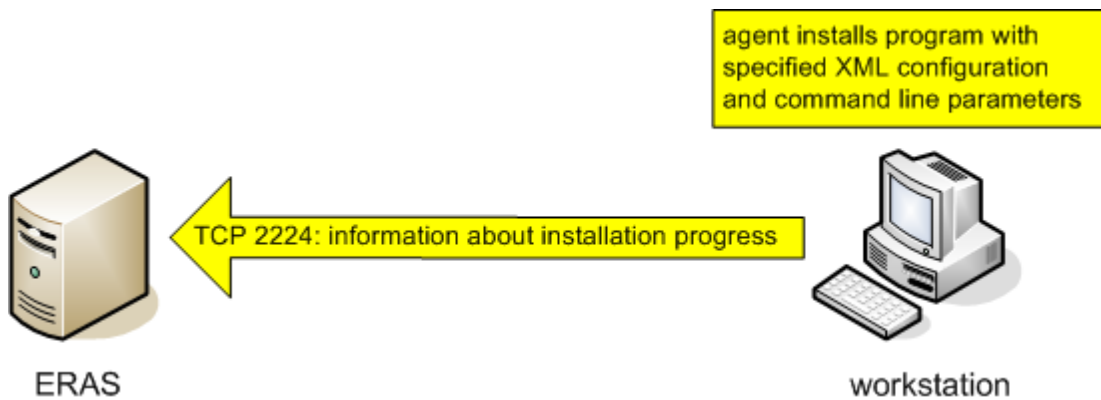
6) Agent starts as a service under the system account.



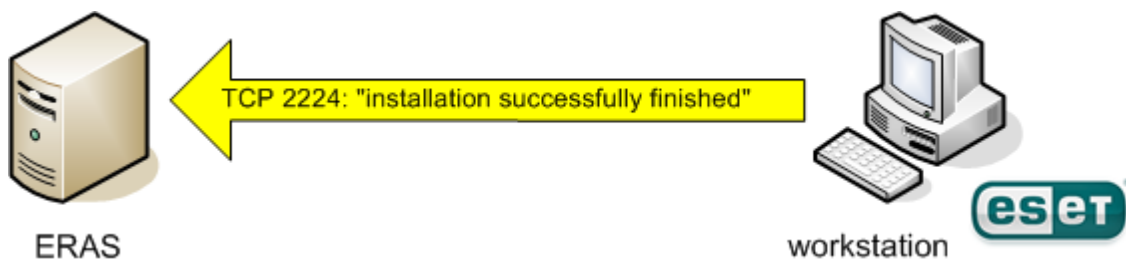
7) Agent establishes communication with its "parent" ERAS and downloads the corresponding install package on TCP port 2224.



8) Agent installs the package under the administrator account defined in step 2; the corresponding .xml configuration and command line parameters are also applied.



9) Immediately after the installation is complete, the agent sends a message back to ERAS. Some ESET security products require a reboot and will prompt you if necessary.



The context menu (right-click) of the **Computers** tab window offers these options:

- **Manage Packages**
Runs the **Installation Package Editor**. See [Remote installation](#)^[35] for details.
- **Upgrade client**
Runs the upgrade task. Use this option if you want to install a newer version of ESS/EAV over the older one.

- **Diagnostics of Push Installation**

Checks the availability of clients and services to be used during the remote install. For more information, see the chapter titled [Configuring the environment for remote installation](#)^[38].

- **Push installation**

Runs the remote install task.

- **Export to Folder or Logon Script**

See [Logon / email remote install](#)^[41] for details.

- **Send via E-mail**

See [Logon / email remote install](#)^[41] for details.

- **Set Default Logon for E-mail and Logon Script Installations**

Opens the **Default Logon** window where you can specify user name and password of an administrator account of the target computer(s).

- **Properties**

Opens **Client Properties** window, where you can find all important information about the client.

For the other context menu options, please see chapter [Context menu](#)^[22].

4.2.4 Logon /email remote install

The logon and email remote install methods are very similar. They only vary in the way that the *einstaller.exe* agent is delivered to client workstations. ERA allows the agent to run via logon script or via email. The *einstaller.exe* agent can also be used individually and run via other methods (for more information, see chapter [Custom remote install](#)^[43]).

The logon method is well suitable for notebooks which are often outside the local network. The installation is performed after they logon to the domain. For these devices, the logon script method is suggested.

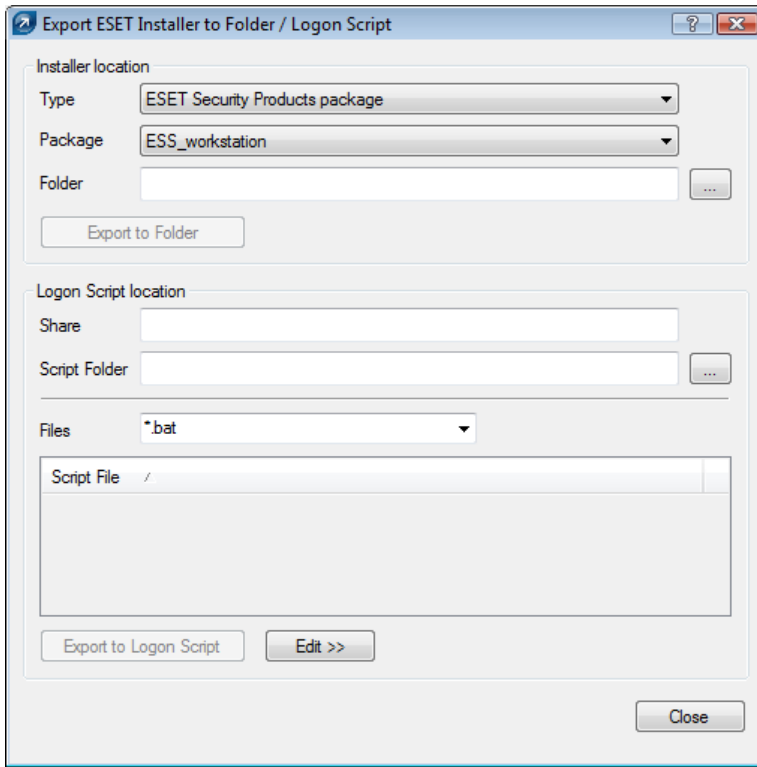
While the logon script runs automatically when the user logs on, the email method requires intervention on the part of the user, who must launch the *einstaller.exe* agent from the email attachment. If launched repeatedly, *einstaller.exe* will not trigger another installation of ESET client solutions. For more information, see chapter [Avoiding repeated installations](#)^[45].

The line calling the *einstaller.exe* agent from the logon script can be inserted using a text editor or other proprietary tool. Similarly, *einstaller.exe* can be sent as an email attachment by any email client. Regardless of the method used, make sure you are using the correct *einstaller.exe* file.

For *einstaller.exe* to launch, the currently logged in user does not necessarily have to be an administrator. The agent adopts the required administrator username/password/domain from ERAS. For more information, see the end of this chapter.

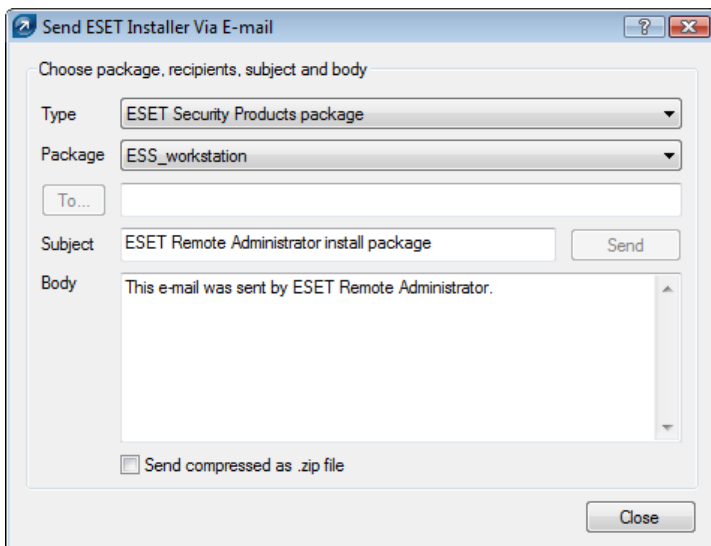
Enter the path to *einstaller.exe* in the logon script:

- 1) Right-click an entry on the **Remote Install** tab, click **Export to Folder or Logon Script** and select the **Type** and name of the **Package** to be installed.
- 2) Click the ... button next to **Folder** and select the directory where the *einstaller.exe* file will be located and available within the network and click **OK**.
- 3) In the **Share** field, make sure that the path is correct, or edit it if necessary.
- 4) Click the ... button next to **Script Folder** to select the folder where the script is located and modify the mask if necessary (**Files**).
- 5) In the **Files** section, select the file to which the line (calling *einstaller.exe*) will be inserted.
- 6) Click **Export to Logon Script** to insert the line.
- 7) Location of the line can be modified by clicking **Edit >>** and saved by clicking the **Save** button.

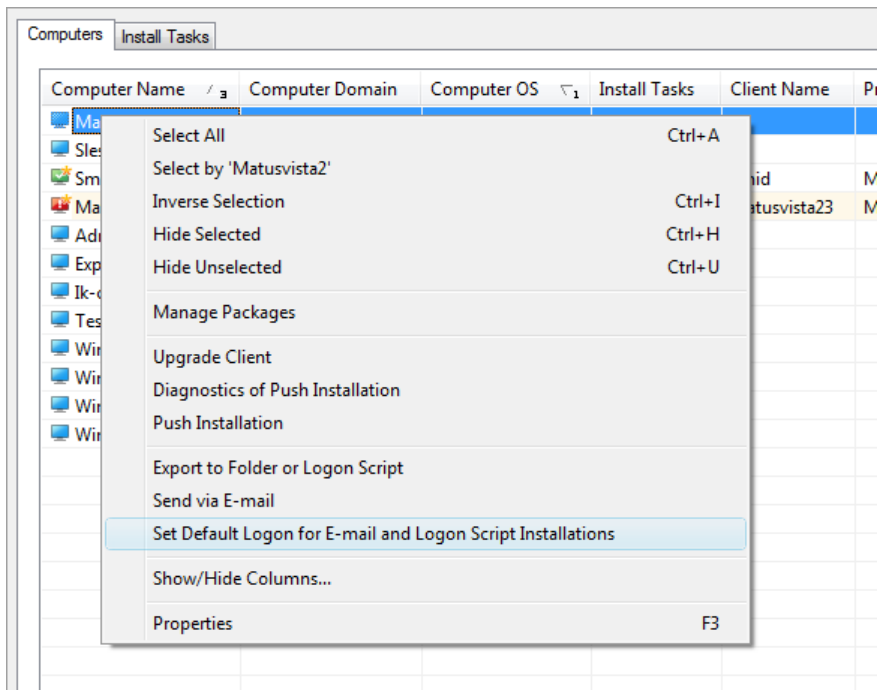


Attaching the agent (*installer.exe*) to email:

- 1) Click **Email...** on the **Remote Install** tab and select the **Type** and name of the **Package** you wish to install.
- 2) Click **To...** to select addresses from the address book (or insert individual addresses).
- 3) Enter a **Subject** in the corresponding field.
- 4) Type a message into the **Body**.
- 5) Check the **Send compressed as .zip file** option if you wish to send the agent as a zipped package.
- 6) Click **Send** to send the message.



During the remote installation process, backward connection to ERAS takes place and the agent (*installer.exe*) adopts settings from the **Set Default Logon for Email and Logon Script Installations** settings in the context menu.



The username and password of the account under which the installation of the package is to be performed must be an account with administrator rights or, preferably, a domain administrator account. Values inserted in the **Default Logon...** dialog window are forgotten after each service (ERAS) restart.

4.2.5 Custom remote install

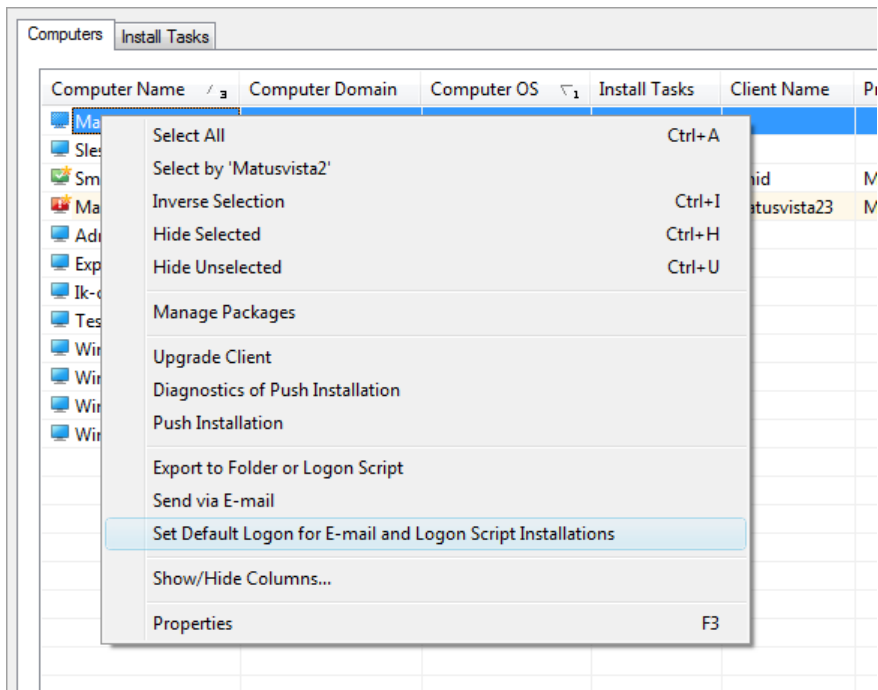
It is not a requirement to use ERA tools to remotely install ESET client solutions. In the end, the most important aspect is to deliver and execute the *installer.exe* file on client workstations.

For *installer.exe* to launch, the user currently logged in does not necessarily have to be an administrator. The agent adopts the required administrator username/password/domain from ERAS. For more information, see the end of this chapter.

The *installer.exe* file can be obtained as follows:

- From the **Computers** tab (in the **Remote Install** tab), right-click anywhere in the tab, choose **Export to Folder or Logon Script** from the context menu and select the **Type** and name of the **Package** to be installed.
- Click the ... button next to **Folder** and select the directory where *installer.exe* will be exported.
- Click the **Export to Folder** button.
- Use the extracted *installer.exe* file.

NOTE: The "Direct installation with predefined XML configuration" method can be used in situations where it is possible to provide administrator rights for the installation. The *.msi* package is launched using the */qn* parameter (version s 4.x, 3.x) or the */silentmode* parameter (version 2.x). These parameters will run the installation without displaying a user interface.



The username and password of the account under which the installation of the package is to be performed must be an account with administrator rights or, preferably, a domain administrator account.

During the remote installation process, backward connection to ERAS takes place and the agent (*einstaller.exe*) adopts settings from the **Set Default Logon for E-mail and Logon Script Installations** option.

If the *einstaller.exe* agent is started manually on a target workstation, the remote installation is handled in the following way:

- The *einstaller.exe* agent sends a request to ERAS (TCP port 2224)
- ERAS starts a new push installation (with a new agent) of the corresponding package (sent via the share *admin\$*). The agent waits for an answer from ERAS (sending the package via the share *admin\$*). In the event that no answer arrives, the agent will attempt to download the install package (via the TCP/IP port 2224). In this case, the administrator username and password specified in **Remote Install > Logon ...** on the ERAS is not transferred and the agent attempts to install the package under the current user. On the operating systems Microsoft Windows 9x/Me, the administrative share cannot be used, therefore the agent automatically establishes a direct TCP/IP connection to the server. The new agent then starts downloading the package from ERAS via TCP/IP protocol.

The installation of the package is launched, applying the associated .xml parameters under the account defined in ERAS (the **Set Default Logon for E-mail and Logon Script Installations** option).

4.2.6 Upgrade

This type of installation is designated for clients with ESS/EAV version 4.2 and later. Beginning with version 4.2, a new upgrade mechanism was implemented that allows ERA to initiate the upgrade process on the client side without the need of the *einstaller.exe* agent. This mechanism works in a manner similar to the program component update, - or PCU, which upgrades clients to a newer version of the program. For version 4.2 and later ESS/EAV clients, we strongly recommend this type of upgrade.

NOTE: If a custom configuration file has been defined for the installation package it will be ignored during the upgrade.

4.2.7 Avoiding repeated installations

Immediately after the agent successfully completes the remote installation process, it marks the remote client with a flag prohibiting repeated installations of the same installation package. The flag is written to the following registry key:

```
HKEY_LOCAL_MACHINE\Software\ESET\ESET Remote Installer
```

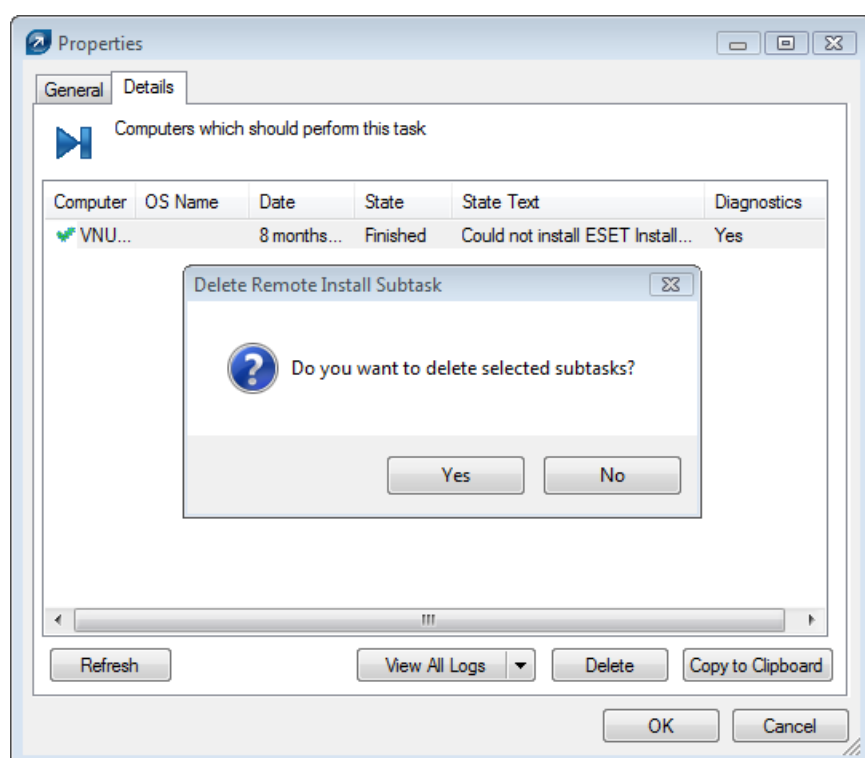
If the Type and Name of the package defined in the *installer.exe* agent match the data in the registry, the installation will not be performed. This prevents repeated installations from targeting the same workstations.

NOTE: The remote push install method ignores this registry key.

ERAS provides an additional feature to prevent repeated installations that activates when the installer establishes backward connection to ERAS (TCP 2224). If there is an error message related to the workstation, or the installation has been successfully completed any additional installation attempts will be denied.

The agent records the following error to the installer log located in *%TEMP%\installer.log*:

Eset Installer was told to quit by the server 'X:2224'.



To prevent repeated installations from being denied by ERAS the related entries in the **Remote Install Task details** tab must be removed. To delete an entry, select it, click on the **Delete** button and confirm by pressing **Yes**.

4.3 Installation in an Enterprise environment

When deploying programs in large networks, it is important to use a tool capable of performing remote program installations on each and every computer in the network.

Installing through Group Policy

In the Active Directory environment, this task can be elegantly solved by a Group Policy installation. Installation uses the MSI installer, which is distributed directly to all clients connecting to the domain via Group Policy.

To configure a domain controller to automatically install ESET Smart Security or ESET NOD32 Antivirus on each workstation after logging in, proceed as follows:

- 1) Create a shared folder on your domain controller. All workstations should have "read" permission to this folder.
- 2) Copy the ESET Smart Security or ESET NOD32 Antivirus installation package (.msi) to the folder.
- 3) Insert an .xml configuration file, which is to be applied to the program, to the same folder. The file should be named *cfg.xml*. To create a configuration file, the ESET Configuration Editor can be used. For more information see chapter

- 4) Click **Start > Programs > Administrative tools > Active Directory Users and Computers**.
- 5) Right-click the domain name and select **Properties > Group Policy > Edit > User Configuration**.
- 6) Right-click **Software Settings** and select **New > Package**.
- 7) In the **Open** window, specify the UNC path to the shared installation package, i.e. `\computer_name\path\installation_package.msi` and click **Open**. Do not use the **Browse** option to locate the installation package, because it will be displayed as a local network path rather than a UNC network path.
- 8) In the next dialog window select the **Assigned** option. Then click **OK** to close the window.

By following the steps above, the installer package will be installed on each computer that enters the domain. To install the package to computers which are currently up and running, those users should log out and log back in again.

If you wish to give users the ability to accept or deny the installation of the package, select **Publish** instead of **Assigned** in step 8. The next time the user logs in, the package will be added to **Control Panel > Add or Remove programs > Add new program > Add programs from your network**. The package will then be available to users for future installations from that location.

5. Administering client computers

5.1 Tasks

Client workstations that are correctly connected to ERAS and displayed in ERAC can be configured and administered using various types of tasks.

The general workflow below applies for all tasks described in the following sub-chapters except the [Interactive Task](#)^[50] (see the chapter for an explanation of the workflow).

Stage I - New Task

Tasks can be applied to multiple clients, or to one or more groups of clients.

- 1) To apply a task to one or more client workstations, select and right-click the workstations in the **Clients** pane.
- 2) Click **New Task** and select the type of task you wish to perform.

NOTE: Alternatively, the task wizard can be opened from the ERAC main menu by clicking **Actions > New Task**.

Stage II - Select one of the following tasks:

[Configuration Task](#)^[48]

[On-demand Scan \(Cleaning Disabled\)](#)^[49]

[On-demand Scan \(Cleaning Enabled\)](#)^[49]

[Update Now](#)^[49]

[SysInspector Script Task](#)^[49]

[Restore/Delete From Quarantine Task](#)^[50]

[Generate Security Audit Log](#)^[50]

[Show Notification](#)^[50]

- 3) After choosing the desired task you will have to perform the task-specific actions described in each of the chapters (see links above).

Stage III - Select Clients

- 4) You can modify your client selections in the **Select Clients** window, which will appear once you have set up the task. You can refine your client selection by adding clients from the **All items** client overview tree (left half of the window) to the **Selected items** list (right half of the window) or by removing the client entries that are already on the list.

NOTE: Click **Add Special ...** to open a new window in which you can add clients from the **Clients pane** or add clients by **Server** and/or **Groups**.

Stage IV - Task Report, Finish

- 5) The last dialog window, **Task Report** shows a preview of the configuration task. Enter a name or description for the task (optional). The **Apply task after** option can be used to set the task to run after a specified date/time. The **Delete tasks automatically by cleanup if successfully completed** option deletes all tasks which have been successfully delivered to target workstations.
- 6) Click **Finish** to register the task to run.

The following subchapters outline the individual types of tasks for client workstations, with an accompanying example scenario for each task type.

5.1.1 Configuration Task

Configuration tasks are used to modify protection settings on client workstations. These tasks are delivered to client workstations in configuration packages which contain the modification parameters. The *.xml* files created in the ESET Configuration Editor or exported from clients are also compatible with configuration tasks. All parameters are organized into a comprehensive structure and all items in the Editor are assigned an icon. Clients will only adopt active parameters (marked by a blue icon). All inactive (greyed out) parameters will remain unchanged on target computers. The same principle applies to inherited and merged policies – a child policy will adopt only active parameters from a parent policy. The example below demonstrates how to create a configuration task that changes the username and password on target computers. Any switches and options not used in this example will follow at the end of this chapter.

First, designate the workstations to which the task is to be delivered. Mark those workstations in the **Clients** pane in ERAC.

- 1) Right-click any of the selected workstations and select **New Task > Configuration Task** from the context menu.
- 2) The **Configuration for Clients** window will open, which serves as a configuration task wizard. You can specify the source of the configuration file by clicking **Create...**, **Select...**, or **Create from Template...**
- 3) Click the **Create** button to open the ESET Configuration Editor and specify the configuration to be applied. Navigate to **ESET Smart Security, ESET NOD32 Antivirus > Update Module > Profile > Setup > Username and Password**.
- 4) Insert the ESET-supplied username and password and click **Console** on the right to return to the task wizard. The path to the package is displayed in the **Create/Select configuration** field.
- 5) If you already have a configuration file that contains the desired modifications, click **Select**, find the file and assign it to the configuration task.
- 6) Alternatively, you can click **Create from Template**, select the *.xml* file and make changes if needed.
- 7) To view or edit the configuration file that you have just created or edited, click the **View** or **Edit** buttons.
- 8) Click **Next** to proceed to the **Select Clients** window which shows the workstations to which the task will be delivered. In this step, you can add more clients (or 2 from selected Servers or Groups). Click **Next** to proceed to the next step.
- 9) The last dialog window, **Task Report** shows a preview of the configuration task. Enter a name or description for the task (optional). The **Apply task after** option can be used to set the task to run after a specified date/time. The **Delete tasks automatically by cleanup if successfully completed** option deletes all tasks which have been successfully delivered to target workstations.
- 10) Click **Finish** to register the task to run.

NOTE: If you want to delete existing exclusions or scheduled tasks on a client with a configuration task, you have to go to the ESET Configuration Editor by editing the task, select the exclusions and scheduled tasks and mark them for deletion using the **Mark for deletion** button. The option **Remove** only removes the exclusions and scheduled tasks from the list, but does not enforce the deletion on a client. This is best done by using an already existing configuration from a task forced to clients and editing it. In the **Clients** tab, mark a Client and press F4, the **Configuration** will open where you can save the configuration (In the **Tasks** tab, mark the task and press F4, the **Properties** will open and then click on the **Configuration** tab). If you check the box **Then run ESET Configuration Editor to edit the file** before saving the configuration, you can edit it right after. Click the **Save As...** button and the configuration will be saved. If you want to create a new task, check the box **Use the downloaded configuration in the new configuration task** and click the **New Task** button. The saved configuration will be used in a new task where you can edit it and then continue to create a task (as described above).

Warning: If you edit an existing configuration downloaded from a client and you plan to use it for other clients in the network, be aware that most of the parameters of such a configuration are active (marked by a blue icon) and these will be forced to a client. Therefore you have to deactivate the parameters you do not want to change on clients - i.e. change the blue icon to grey (right-click on a parameter and select **Unmark** from the context menu).

5.1.2 On-demand Scan Task

The **New Task** context menu option contains two variants of the On-demand scan. The first option is **On-demand scan (cleaning disabled)** – this scan only creates a log, no action is taken on infected files. The second option is **On-demand scan (cleaning enabled)**.

The **On-demand Scan** window contains the same default settings for both variants, aside from the **Scan without cleaning** option. This option determines whether the scanner should or should not clean infected files. The example below demonstrates how to create an On-demand scan task.

1) The **Configuration Section** drop-down menu allows you to select the type of ESET product for which the On-demand scan task is being defined. Select those that are installed on target workstations.

NOTE: The **Exclude this section from On-demand scan** option disables all settings in the window for the selected product type – they will not be applied on workstations with the product type defined in **Configuration section**. Therefore, all clients with the specified product will be excluded from the list of recipients. If the administrator marks clients as receivers and excludes the product using the above-mentioned parameter, then the task will fail with a notification that the task could not be applied. To avoid this, the administrator should always specify clients to which the task will be assigned.

2) In **Profile name** you can select a scanning profile to be applied for the task.

3) In the **Drives to scan** section, select the types of drives to be scanned on client computers. If the selection is too general, you can add an exact path to objects to be scanned. Use the **Path** field or the **Add Path** button for this purpose. Select **Clear History** to restore the original list of drives to scan.

4) Click **Next** to proceed to the dialog windows labeled **Select Clients** and **Task Report** which are described in detail in the [Tasks](#)^[47] chapter.

5) After the task is finished executing on the client workstations, the results are sent back to the ERAS and they can be viewed in ERAC in the **Scan Log** pane.

5.1.3 Update Now Task

The purpose of this task is to force updates on target workstations (virus signature database updates as well as program component upgrades).

1) Right-click on any workstation from the **Clients** pane and select **New Task > Update Now**.

2) If you wish to exclude certain types of ESET security products from the task, select them in the **Configuration section** drop-down menu and select the **Exclude this section from Update Task** option.

3) To use a specific update profile for the **Update Now** task, enable the **Specify profile name** option and select the desired profile. You can also select **User defined profile name** and enter the profile name; the value of the field will return to default if you click **Clear History**.

4) Then click **Next** to proceed to the dialog windows, **Select Clients** and **Task Report**. For a description of these dialogs, see chapter [Tasks](#)^[47].

5.1.4 SysInspector Script Task

The SysInspector Script task lets you run scripts on target computers. It is used to remove unwanted objects from the system. For more details see the [ESET SysInspector](#)^[95] help page.

1) After completing Stage I and Stage II described in chapter [Tasks](#)^[47] click **Select** to choose a script to run on the target workstation.

2) Click **View & Edit** to adjust the script.

3) Click **Next** to proceed to the **Select Clients** and **Task Report** dialog windows which are described in detail in the [Tasks](#)^[47] chapter.

4) After the task finishes on the client workstation, the information will display in the **State** column of the **Tasks** pane.

NOTE: SysInspector script tasks are supported only by ESET Smart Security/ESET NOD32 Antivirus version 4.0 and later.

5.1.5 Restore/Delete from Quarantine Task

With this task you can restore or delete specified quarantined objects from the client quarantine.

- 1) After you open the **Restore/Delete from Quarantine** window (see chapter [Tasks](#)^[47]) click the **Restore/Delete** radio-button depending on the kind of action you would like to perform with the quarantined object.

NOTE: When you restore a quarantined object that is still detected as a threat you might want to select the option **Add exclusion too**, otherwise the antivirus may stop the action or add the object to the quarantine again.

- 2) Select a condition to specify which quarantined objects you would like to restore/delete and click **Next**.

NOTE: If you opened the Restore/Delete from Quarantine window by right-clicking a quarantine entry directly from the Quarantine tab (and selecting the **Restore/Delete from Quarantine task** option) you will not need to specify conditions (the **By hash** option will be automatically selected and the hash code of the quarantined file used as an identifier).

- 3) Select the clients for your restore/delete operation (see chapter [Tasks](#)^[47]) and click **Next**.
- 4) Review your settings in the **Task Report** window, name your task, specify the time you would like to apply the task and cleanup options, if desired, and then click **Finish** to confirm. See chapter [Tasks](#)^[47] for more details.

5.1.6 Generate Security Audit Log Task

This task applies to ESET Mobile Security only.

Security Audit checks: battery level, Bluetooth status, free disk space, device visibility, home network and running processes. A detailed report will be generated, indicating whether or not the item value is below the specified threshold or if it could represent a potential security risk (e.g., device visibility turned on, etc.).

To run security audit on the phone:

- 1) Right-click the client's name from the **Clients** pane and select **New Task > Generate Security Audit Log** from the context menu.
- 2) Click **Next** to proceed to the **Select Clients** and **Task Report** windows. For a description of these windows, see the chapter titled [Tasks](#)^[47].

5.1.7 Show Notification Task

This task applies to ESET Mobile Security only.

To send a notification (e.g., a warning message) to the phone:

- 1) Right-click the client's name from the **Clients** pane and select **New Task > Show Notification** from the context menu.
- 2) Type the notification **Title** and message **Body** in the appropriate fields and select the notification **Verbosity**.
- 3) Click **Next** to proceed to the **Select Clients** and **Task Report** windows. For a description of these windows, see the chapter titled [Tasks](#)^[47].

5.1.8 Interactive Task

This task is different from all other tasks described here in its execution and application.

From the **Clients** tab, you can see the **Protection Status Text** column monitoring the protection status of all connected ESET clients. A blank field denotes that the protection status of a specific client is on the **Maximum protection** level. If the protection level of a client is lower than maximum, a protection status warning highlighted in red or orange will appear in the **Protection Status Text** (e.g., **ESET Personal firewall is disabled**).

ERA enables the administrator to manipulate these settings from the **Clients** tab as follows:

- 1) Double-click a relevant client entry on the **Client** tab.
- 2) In the **Properties** window, click the **Protection Status** tab.

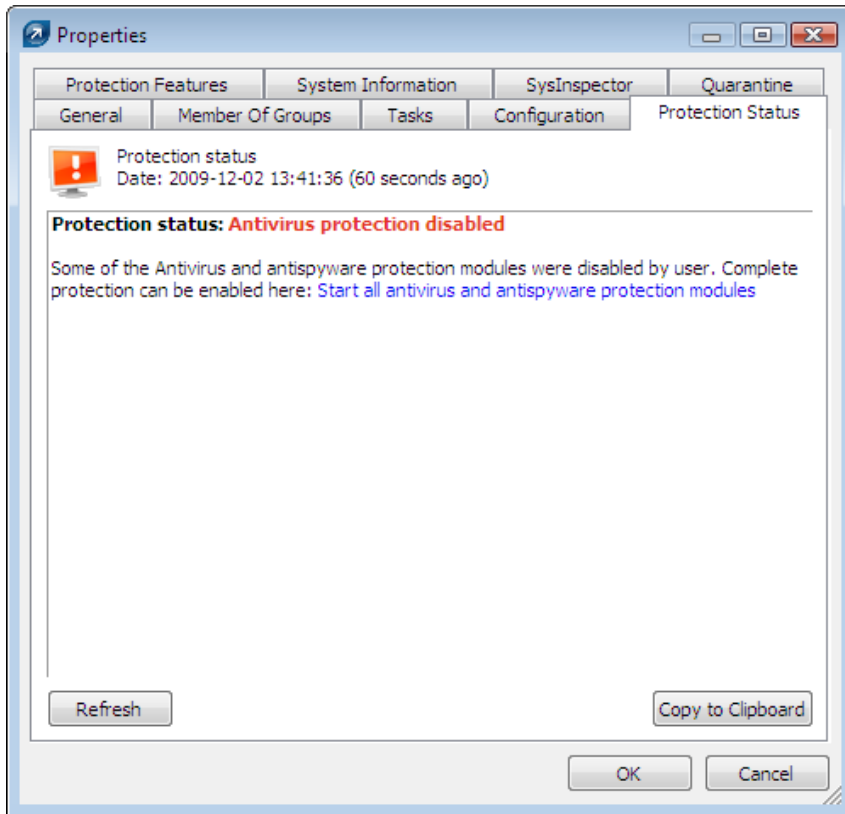


Figure: Click the suggested solution text to send an interactive task to the client.

- 3) The **Protection status** field will contain one or more warnings. Click the blue text suggesting a solution at the end of each message.
- 4) Click **Yes** to confirm execution of the interactive task.
- 5) After repeating steps 3 and 4 for every message displayed, click **Refresh** several times to see if the status message(s) disappear.

Once you have resolved all the issues successfully, the protection status message will change to **Protection status: System is secure**.

NOTE: The Interactive task feature is supported by ESET Smart Security/ESET NOD32 version 3 and later.

5.2 Group Manager

Group Manager is a powerful tool for managing your clients, separating them into different groups and applying different settings, tasks, restrictions, etc. It is easily accessible via **Tools > Group Manager** or **CTRL+G**. Groups are independent for each ERAS and are not replicated.

You can create your own groups to fit your needs in your company network, or simply synchronize ERAC client groups with your Microsoft Active Directory using the **Active Directory Synchronization** wildcard from the main Group Manager window.

There are two main types of client groups:

- Static Groups
- Parametric Groups

Both Static and Parametric Groups can be used in various places within ERA, which significantly improves client management capabilities.

5.2.1 Static Groups

Static groups are created to separate clients in your network into named groups and subgroups; i.e. you can create a Marketing group that will contain all marketing clients and also create specialized division subgroups — Local sales, EMEA Management, etc.

The Static Groups main window is divided into two parts. The left side contains existing, hierarchically displayed groups and subgroups. Clients included in the selected group are listed on the right side of the window. By default, only clients in the selected group are listed. If you wish to see clients included in subgroups of the currently selected group, check the **Show clients in subgroups** check box on the right side of the window.

To create a new group, click **Create** and select a name for the group. A new group is created as a subgroup of the currently selected parent group. If you wish to create a new main group, select the root of the hierarchical tree — **Static Groups**. The Parent group field contains the name of the parent group for the newly created group (i.e. "/" for the root). We recommend using a name that indicates where the computers are located (e.g. *Business Department, Support* etc.). The Description field can be used to further describe the group (e.g. "Computers in office C", "HQ workstations" etc.). Newly created and configured groups can also be edited later.

NOTE: When a task is sent to the Parent group, all stations that belong to its subgroup(s) will accept this task as well.

It is also possible to create empty groups for future use.

Click **OK** to create the group. Its name and description will appear on the left and the **Add/Remove** button will become active. Click this button to add clients you would like included in the group (either double-click or drag-and-drop them from left to right). To find and add clients, enter all or part of a client name in the **Quick search** field and all clients containing the typed string will be displayed. To mark all clients, click **Select All**. Click the **Refresh** button to check for any new clients recently connected to the server.

If manually selecting clients is not convenient you can click the **Add Special...** button for more options.

Select the **Add clients loaded in the Clients pane** option to add all clients displayed in the client section, or select the **Only selected** option. To add clients that already belong to another server or group, select them from the lists on the left and right and click **Add**.

Click **OK** in the **Add/Remove** dialog window to return to the main Static Group Manager window. The new group should be displayed with its corresponding clients.

Click the **Add/Remove** button to add or remove clients from groups, or click the **Delete** button to delete an entire group. Click the **Copy to Clipboard** button to copy the client and group lists. To refresh the group clients press the **Refresh** button.

You can also **Import/Export** currently selected group clients to an *.xml* file.

5.2.2 Parametric Groups

In addition to Static Groups, Parametric Groups can be very useful. Client stations are dynamically assigned to a certain parametric group when the group's conditions are met. The advantage of parametric groups is the ability to use them in various places, including filters, policies, reports and notifications.

The Parametric Groups main window is composed of four sections. **Parametric Groups** lists the parent groups and subgroups that have been created. When you have selected a certain group from Parametric Groups, clients that belong to the currently selected group are listed in the **Selected Group** part.

NOTE: When a parent group is selected, the list contains subgroup members as well.

Parameters set for a selected group are listed in the **Parameters** section of the window. You can edit or add parameters at any time by clicking the **Edit...** button.

The **Synchronization status** part displays a progress bar for the synchronization process.

To create a new group, simply click the **Create...** button. The new group will be created as a subgroup of the currently selected parent group. If you wish to create a main group, select the root of the hierarchical tree — **Parametric Groups**. The Parent group field contains the name of the parent group for the newly created group (i.e. "/" for the root). Enter **name** and a short **description** for the new group. The next step is the creation of **Client filter parameters**, which can be done by selecting options after pressing the **Edit...** button. If you enable the **Sticky** check box, clients will be automatically added to this group when they match the conditions, but will never be removed. The content of a sticky group can be reset manually at the root level.

NOTE: This parameter can only be set when creating a new group.

To edit an existing group, simply select it from the Parametric Groups list and then press the **Edit...** button in the bottom of the window. For group deletion, select the desired group and press the **Delete** button.

You can manually refresh the group list by pressing the **Refresh** button. To import a group from a file select a group in the **Parametric Groups** section under which you want the new group to be imported and click the **Import...** button. Confirm your selection by clicking **Yes**. Locate the file you want to import and click **Open**. The group (and all of its subgroups) will be imported under the selected location. To export a group (and all of its subgroups) select it in the **Parametric Groups** section, click the arrow on the **Import...** button and select **Export...** Confirm by clicking **Yes**, select a name and a location for your export file and click **Save**.

NOTE: You can use your mouse to drag and drop groups already in the **Parametric Groups** section.

5.2.3 Active Directory Synchronization

The Active Directory Synchronization uses automatic group creation (with corresponding clients) based on the structure defined by Active Directory. It allows the administrator to sort clients to groups, as long as the client name matches the object type *computer* at the side of Active Directory (AD) and belongs to groups in the AD.

There are two main options that determine the manner of synchronization:

The **Synchronize groups** option allows you to choose which AD groups will be synchronized. The **All groups** option results in synchronization of the complete AD tree structure whether or not the AD groups contain ERA clients. The next two options (**Only groups containing ERA Server clients** and **Only groups containing ERA primary server clients**) mean stricter synchronization and result in the synchronization of only groups containing existing ERA clients.

With the **Synchronization type** option you define whether the AD groups to be synchronized will be added to the existing AD groups (**AD groups import**) or if the existing AD groups will be completely replaced by those to be synchronized (**AD groups synchronize**).

The **Synchronize** option allows you to schedule the AD synchronization to a certain time interval.

Detailed configuration of Active Directory synchronization can be done using the Configuration Editor (**ESET Remote Administrator > ERA Server > Setup > Groups > Active Directory Synchronization options**). By default, only **Computer security groups and Computer organization units** are synchronized. However, you can add other Active Directory objects by checking the desired option.

NOTE: For ERAS to synchronize with Active Directory, ERAS does not need to be installed on your Domain Controller. The Domain Controller only needs to be accessible from the computer where your ERAS is located. To configure authentication to your Domain Controller, go to **Tools > Server Options > Advanced > Edit Advanced Settings > ESET Remote Administrator > ERA Server > Setup > Active directory**. The format of the server name is `LDAP://servername` or `GC://servername`. When empty, global catalog (GC) is used.

5.3 Policies

Policies are in many ways similar to Configuration tasks, except they are not one-shot tasks sent to one or more workstations. Rather, they provide continuous maintenance of certain configuration settings for ESET security products. In other words, a Policy is a configuration that is repeatedly forced to a client.

5.3.1 Basic principles and operation

Access the Policy Manager by selecting **Tools > Policy Manager...** The Policy Tree on the left lists the policies that are present on individual servers. The right side is divided into four sections – **Policy settings**, **Policy configuration**, **Policy action** and **Global policy settings** – the options in these sections enable an administrator to manage and configure policies.

The primary functions of the Policy Manager include creating, editing and removing policies. Clients receive policies from ERAS. ERAS can use multiple policies which can inherit settings from each other or from policies from an upper server.

The system of adopting policies from an upper server is called *inheritance*; policies that are created as a result of inheritance are referred to as *merged policies*. Inheritance is based on the Parent – Child principle, i.e. a child policy inherits settings from a parent policy.

5.3.2 How to create policies

The default installation only implements one policy labeled "Server Policy". This name can be changed in the **Policy settings > Policy name field**. The policy itself is configurable from the ESET Configuration Editor – click **Edit** and define parameters for the selected ESET security product (or client). All parameters are organized into a comprehensive structure and all items in the Editor are assigned an icon. Clients will only adopt active parameters (marked by a blue icon). All inactive (greyed out) parameters will remain unchanged on target computers. The same principle applies to inherited and merged policies – a child policy will adopt only active parameters from a parent policy.

If you want to delete existing exclusions or scheduled tasks on a client with a policy, you have go to the ESET Configuration Editor by editing the policy, select the exclusions and scheduled tasks and mark them for deletion using the **Mark for deletion** button . The option **Remove** only removes the exclusions and scheduled tasks from the list, but does not enforce the deletion on a client.

ERA Servers allow for multiple policies (**Add New Child Policy**). The following options are available for new policies: policy name, linking to a **Parent policy** and configuration (configuration can be empty, copied from an existing policy, or copied from an .xml configuration file). Policies can only be created on the server you are currently connected to via ERAC. To create a policy on a lower server you need to connect directly to that server.

Each policy has two basic attributes – **Override any child policy** and **Down replicable policy**. These attributes define how active configuration parameters are adopted by child policies.

Override any child policy – Forces all active parameters to inherited policies. If the child policy differs, the merged policy will contain all active parameters from the parent policy (even though the **Override...** is active for the child policy). All inactive parameters from the parent policy will adjust to the child policy. If the attribute **Override any child policy** is not enabled, settings in the child policy have priority over those in the parent policy for the resulting merged policy. Such merged policies will be applied to other policies, if they are linked to it as their parent policy.

Down replicable policy – Activates replication to child policies – i.e., it can serve as a default policy for lower servers and can also be assigned to clients connected to lower servers.

Policies can also be imported/exported from/to an .xml file or imported from Groups. For more information see chapter titled [Importing/Exporting policies](#)⁵⁶.



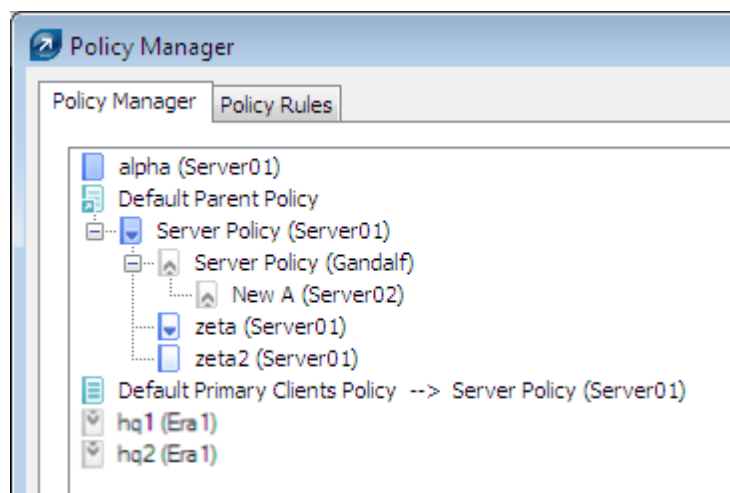
5.3.3 Virtual policies

In addition to created policies, as well as those replicated from other servers (see chapter [Replication tab](#)^[80]), the Policy Tree also contains a Default Parent Policy and Default Primary Clients Policy, which are referred to as virtual policies.

The default Parent Policy is located on an upper server in the Global Policy Settings and selected as **Default policy for lower servers**. If the server is not replicated, this policy is empty (will be explained later on).

The default Primary Clients Policy is located on the given server (not on upper server) in Global Policy Settings and picked up in Default policy for primary clients. It is automatically forced to newly connected clients (primary clients) of the given ERAS, unless they have already adopted some other policy from Policy Rules (for more information, see chapter [Assigning policies to clients](#)^[56]). Virtual policies are links to other policies located on the same server.

5.3.4 Role and purpose of policies in the policy tree structure



Each policy in the Policy Tree is assigned an icon on the left. The meaning of icons are as follows:

1) Policies with blue icons refer to those present on the given server. There are three subgroups of blue icons:

Icons with white targets – Policy was created on that server. In addition, it is not down replicable, which means it is not assigned to clients from lower servers and also it does not serve as a parent policy for the child servers. These policies can only be applied within the server – to clients connected to the server. It can also serve as a parent policy for another policy from the same server.

Icons with blue targets – Policy was also created on the server, however, the option **Override any child policy** is selected (for more information, see chapter [How to create policies](#)^[54]).

Icons with downward arrows – these policies are replicated – the option **Down replicable policy** is enabled. You can apply these policies on the given server and on its child servers.

2) Policies with grey icons originate from other servers.

Icons with upward arrows – These policies are replicated from child servers. They can only be viewed or deleted with the option **Delete Policy Branch**. This option will not delete the policy itself, it will only remove the policy from the Policy Tree. Therefore they can reappear after replication. If you do not want to display policies from lower servers, use the option **Hide foreign servers policies not used in policy tree**.

Icons with downward arrows – These policies are replicated from upper servers. They can be used as Parent policies for other policies, assigned to clients (**Add Clients**) or removed (**Delete Policy**). Please note that deleting will only delete the policy – it will reappear after replication from the upper server (unless the attribute **Down replicable policy** has been disabled on the upper server).

NOTE: To move and assign policies within the structure, you can either select the parent policy, or drag-and-drop it with the mouse.

Existing policy rules can be imported/exported from/to an *.xml* file by clicking on the **Import.../Export...** button. Name conflicts during the import (existing and imported policy with the same name) are solved by assigning a random string after the name of an imported policy.

5.3.5 Viewing policies

Policies in the Policy Tree structure can be viewed directly in the Configuration Editor by clicking **View...** or **View Merged...**

View Merged – Displays the merged policy created as a result of inheritance (the process of inheriting applies settings from the parent policy). This option is displayed by default, because the current policy is already a merged policy.

View – Displays the original policy before it was merged with a parent policy.

On lower servers, the following options are available for policies inherited from upper servers:

View Merged – Same as above

View Override Part – This button applies for policies with the attribute **Override any child policy**. This option only shows the forced part of the policy – i.e. the one which has priority over other settings in child policies.

View Non-force part – Has opposite effect of **View Override Part** – only displays active items, to which **Override...** is not applied.

5.3.6 Importing/Exporting policies

The Policy Manager allows you to import/export policies and policy rules. Existing policies can be imported/exported from/to an *.xml* file by clicking the **Import Policies.../Export Policies...** button. The policies can furthermore be imported from groups by clicking the **Import from Groups...** button. Policy rules can be imported/exported by clicking the **Import.../Export...** button and, in addition, they can be created using the **Policy Rules Wizard**.

Name conflicts (the existing and the imported policy names are identical) are solved during the import by adding a random string to the name of the imported policy. If a conflict cannot be resolved in this fashion (usually due to the new name being too long) the import finishes with the warning *Unresolved policy name conflict*. The solution is to delete or rename the conflicting policies or policy rules.

5.3.7 Assigning policies to clients

There are two main rules for assigning policies to clients:

1. Local (primary) clients can be assigned any local policy or any policy replicated from upper servers.
2. Clients replicated from lower servers can be assigned any local policy with the **Down replicable** attribute or any policy replicated from upper servers. They cannot be forced to adopt policies from their own primary server (to do so, you must connect to that server with ERAC).

An important feature is that each client is assigned some policy (there is no such thing as clients with no policy). Also, you cannot take a policy away from a client. You can only replace it with another policy. If you do not want to apply a configuration from any policy to a client, create an empty policy.

5.3.7.1 Default Primary Clients Policy

One method of assigning policies is automatic application of the Default Primary Clients Policy, a virtual policy that is configurable in Global Policy Settings. This policy is applied to primary clients, i.e. those directly connected to that ERAS. For more information see chapter [Virtual policies](#) [55].

5.3.7.2 Manual assigning

There are two ways to manually assign policies: Right-click a client in the **Clients** pane and select **Add Policy** from the context menu, or click **Add Clients > Add/Remove** in the Policy Manager.

Clicking **Add Clients** in the Policy Manager opens the **Add/Remove** dialog window. Clients are listed on the left in the format **Server/Client**. If the **Down replicable policy** is selected, the window will also list clients replicated from lower servers. Select clients to receive the policy by using the drag-and-drop method or clicking **>>** to move them to **Selected items**. Newly selected clients will have a yellow asterisk and can still be removed from **Selected items** by clicking the **<<** or **C** button. Click **OK** to confirm the selection.

NOTE: After confirming, if you reopen the **Add/Remove** dialog window, clients cannot be removed from **Selected items**, you can only replace the policy.

You can also add clients using the **Add Special** feature, which can add all clients at once, add selected clients or add clients from selected servers or groups.

5.3.7.3 Policy Rules

The **Policy Rules** tool allows an administrator to automatically assign policies to client workstations in a more comprehensive way. Rules are applied immediately after the client connects to the server; they have priority over the **Default Primary Clients Policy** and over manual assigning. The **Default Primary Clients Policy** only applies if the client does not fall under any current rules. Likewise, if there is a manually assigned policy to be applied and it is in conflict with the policy rules, the configuration forced by the policy rules will take precedence.

Policy rules have a tab within the Policy Manager, where they can be created and managed. The process of creation and application is very similar to that of rule creation and management in email clients: each rule can contain one or more criteria, the higher the rule is in the list, the more important it is (it can be moved up or down).

To create a new rule, click the **New...** button. Then enter a **Name**, **Description**, **Client filter parameter** and **Policy** (a policy that will be applied to any clients matching the specified criteria).

To configure the filtering criteria, click the **Edit** button.

The available criteria are:

(NOT) FROM Primary Server – if (not) located on primary server

IS (NOT) New Client – if it is (not) a new client

HAS (NOT) New Flag – applies to clients with/without the New Client flag.

Primary Server (NOT) IN (specify) – if name of the primary server contains/does not contain...

ERA GROUPS IN (specify) – if client belongs to the group...

ERA GROUPS NOT IN (specify) – if client does not belong to the group...

DOMAIN/WORKGROUP (NOT) IN (specify) – if client belongs/does not belong to the domain...

Computer Name Mask (specify) – if computer name is

HAS IP Mask (specify) – if client belongs to the group defined by the IP address and mask...

HAS IP Range (specify) – if client belongs to the group defined by the IP range...

HAS (NOT) Defined Policy (specify) – if client does (or does not) adopt the policy...

Product Name (NOT) IN - if product name is...

Product Version IS (NOT) - if product version is...

Client Custom Info Mask (NOT) IN - if Client Custom Info contains...

HAS (NOT) Protection Status (specify) - if client's protection status is...

Virus Signature DB Version IS (NOT) - if virus signature database is...

Last Connection IS (NOT) older than (specify) - if last connection is older than...

IS (NOT) Waiting For Restart - if client is waiting for restart

Policy rules can be imported/exported from/to an *.xml* file and they can also be created automatically by using the **Policy Rules Wizard**, which allows you to create a policy structure based on the existing group structure and map created policies to groups by creating correspondent policy rules. For more information on importing/exporting policy rules see chapter titled [Importing/Exporting policies](#)^[56].

To remove a policy rule, click the **Delete** button from the **Policy Manager** window. Click **Run Policy Rules Now** if you want to immediately apply all rules.

5.3.8 Deleting policies

As with rule creation, deleting is only possible for policies located on the server you are currently connected to. To delete policies from other servers, you must directly connect to them with the ERAC.

NOTE: A policy may be linked to other servers or policies (as a parent policy, as a default policy for lower servers, as a default policy for primary clients, etc.), therefore, in some cases it would need to be replaced rather than deleted. To see options for deleting and replacing, click the **Delete Policy** button. The options described below may or may not be available, depending on the position of the given policy in the policy hierarchy.

New policy for primary clients with the currently deleted policy – Allows you to select a new policy for primary clients to substitute the one you are deleting. Primary clients can adopt the **Default policy for primary clients**, as well as other policies from the same server (either assigned manually – **Add Clients** or forced by **Policy Rules**). As a replacement you can use any policy from the given server or a replicated policy.

New parent policy for the currently deleted policy's children policies (if existing) – If a policy to be deleted served as a parent policy for other child policies, it must also be substituted. It can be substituted by a policy from that server, by a policy replicated from upper servers, or by the N/A flag, which means that child policies will be assigned no substitute policy. We highly recommend that you assign a substitute even if no child policy exists. Another user assigning a child policy to that policy during the deletion process would cause a conflict.

New policy for replicated clients with the currently deleted or modified policy – Here you can select a new policy for clients replicated from lower servers – those that were applied to the one you are currently deleting. As a replacement you can use any policy from the given server or a replicated policy.

New default policy for lower servers – If the deleted policy serves as a virtual policy (see section **Global Policy Settings**), it must be substituted by another one (for more information, see chapter [Virtual policies](#)^[55]). As a replacement you can use any policy from the given server or the N/A flag.

New default policy for primary clients – If the deleted policy serves as a virtual policy (see section **Global Policy Settings**), it must be substituted by another one (for more information, see chapter [Virtual policies](#)^[55]). You can use a policy from the same server as a replacement.

The same dialog will also open if you disable the **Down replicable** option for a policy and click **OK, Apply** or if you select another policy from the Policy Tree. This will activate the items **New policy for replicated clients with the currently deleted or modified policy** or **New default policy for lower servers**.

5.3.9 Special settings

Two additional policies are not located in the Policy Manager but in **Tools > Server Options > Advanced > Edit Advanced Settings > ESET Remote Administrator > ERA Server > Setup > Policies**.

Interval for policy enforcement (minutes):

This feature applies to policies in the specified interval. We recommend the default setting.

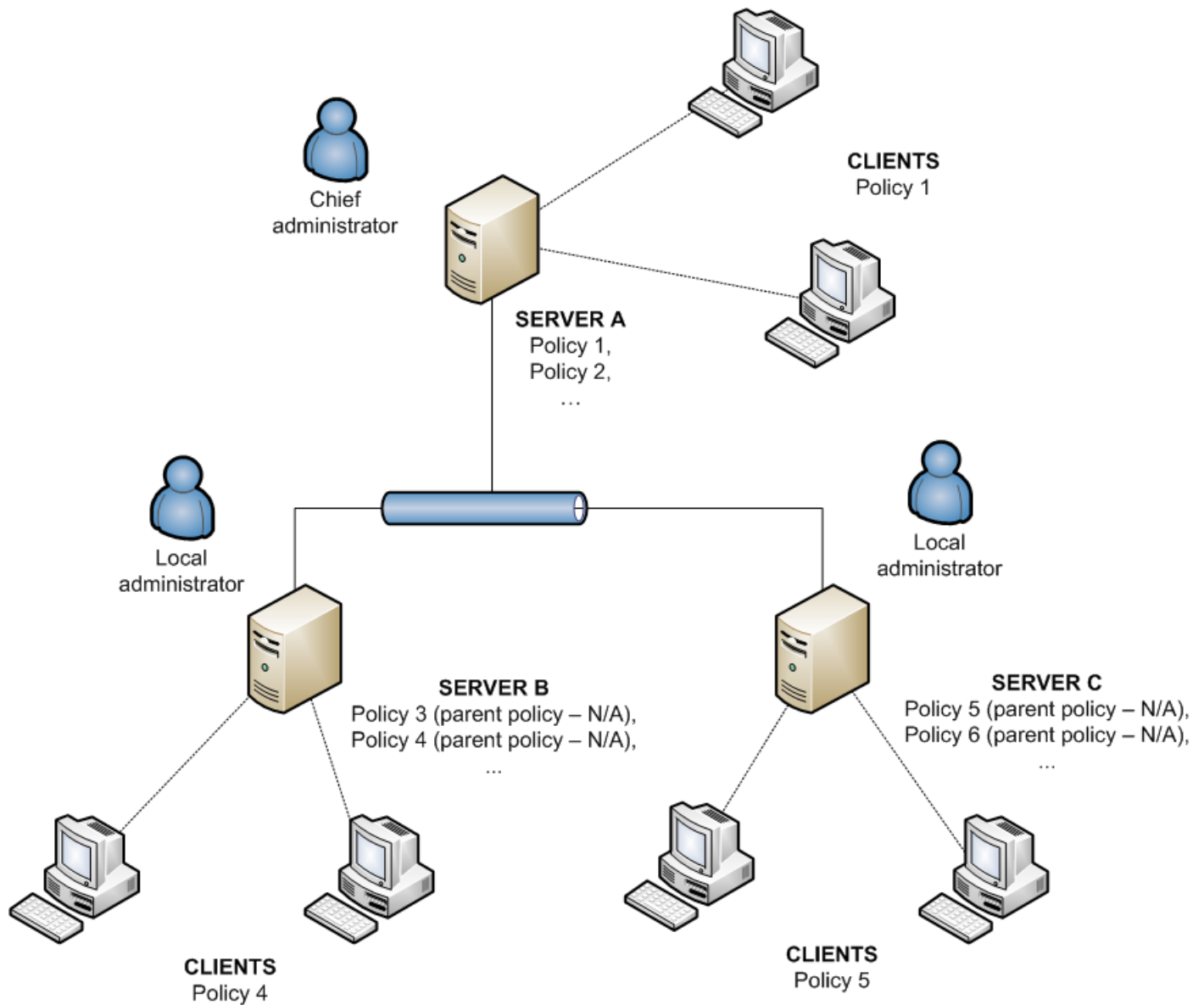
Disable policy usage:

Enable this option to cancel application of policies to servers. We recommend this option if there is a problem with the policy. If you wish to avoid applying a policy to some clients, then a better solution is to assigning an empty policy.

5.3.10 Policy deployment scenarios

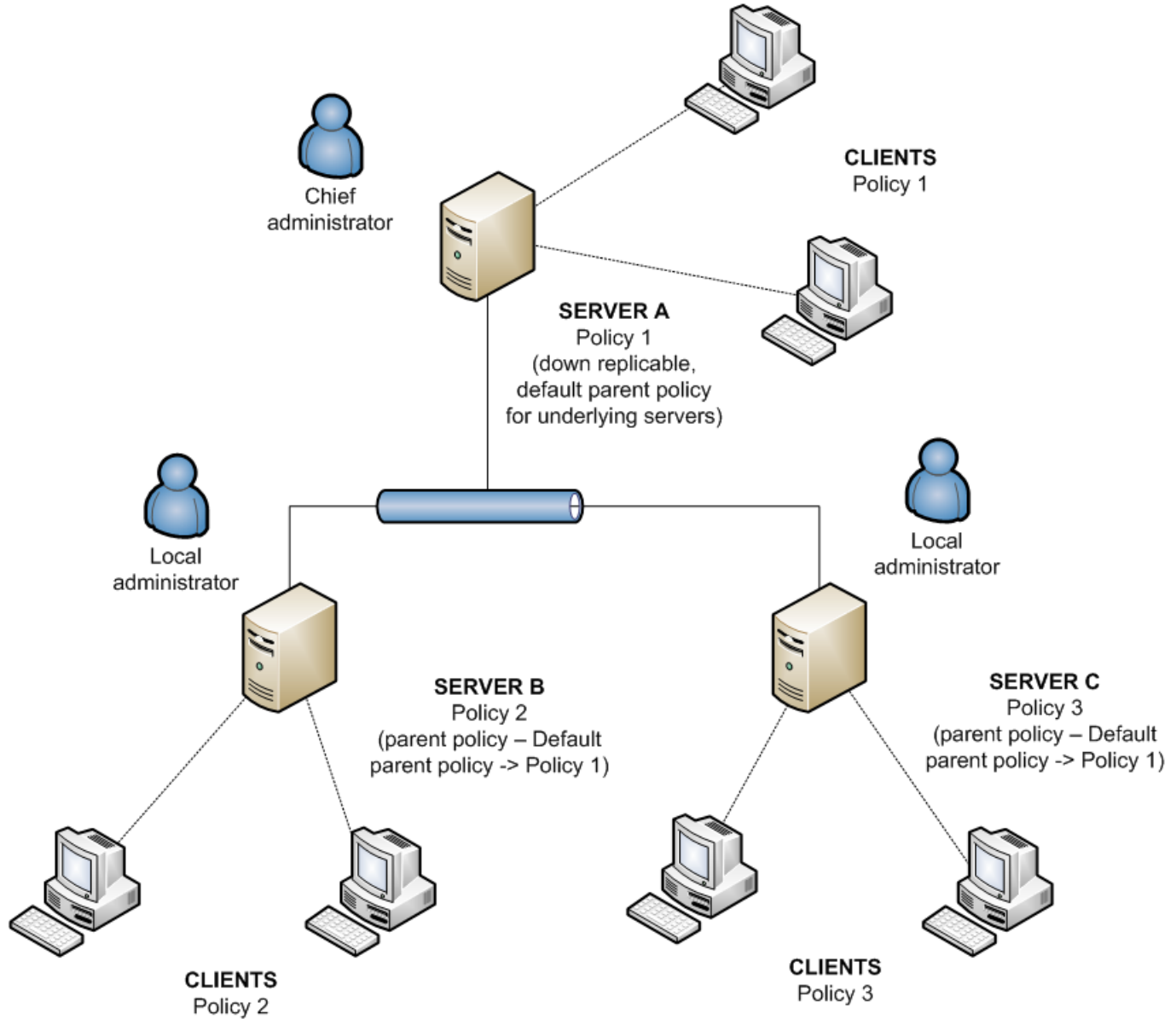
5.3.10.1 Each server is a standalone unit and policies are defined locally

For the purpose of this scenario suppose there is a small network with one main and two lower servers. Each server has several clients. On each server, there is at least one or more policies created. The lower servers are located at the company's branch offices; both servers are managed by their local administrators. Each administrator decides which policies are to be assigned to which clients within their servers. The main administrator does not intervene in the configurations made by the local administrators and he does not assign any policies to clients from their servers. From a server policy perspective, this means that Server A has no **Default policy for lower servers**. It also means that Server B and Server C have the N/A flag or another local policy (aside from the **Default parent policy**) set as a parent policy. (e. g., Servers B and C do not have any parent policies assigned from the upper server).



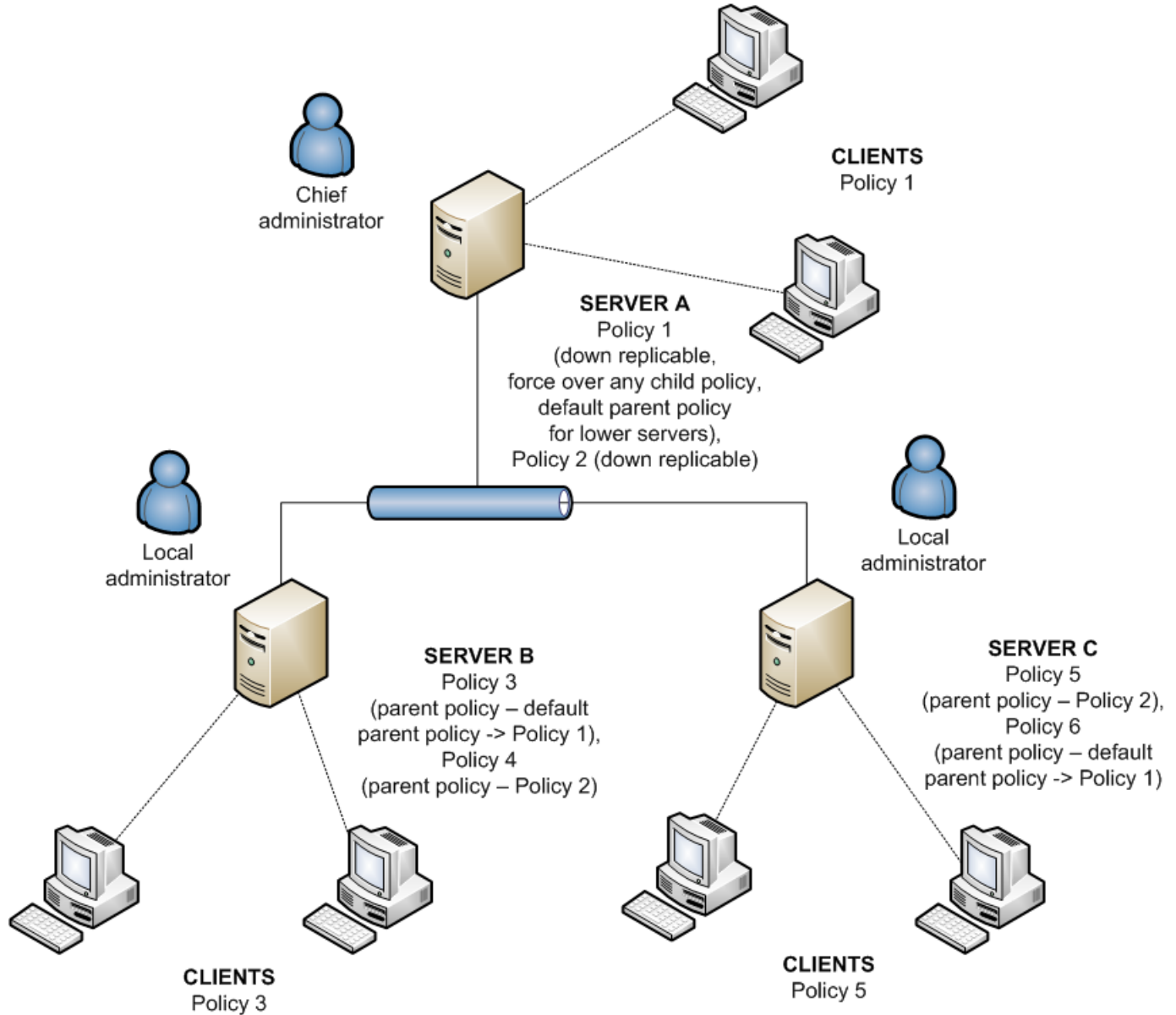
5.3.10.2 Each server is administered individually - policies are managed locally but the Default Parent Policy is inherited from the upper server

The configuration from the previous scenario also applies to this scenario. However, Server A has the Default Policy for Lower Servers enabled and policies on the lower servers inherit the configuration of the Default Parent Policy from the master server. In this scenario, the local administrators are given a large degree of autonomy to configure policies. While the child Policies on lower servers may inherit the Default Parent Policy, the local administrators can still modify it by their own policies.



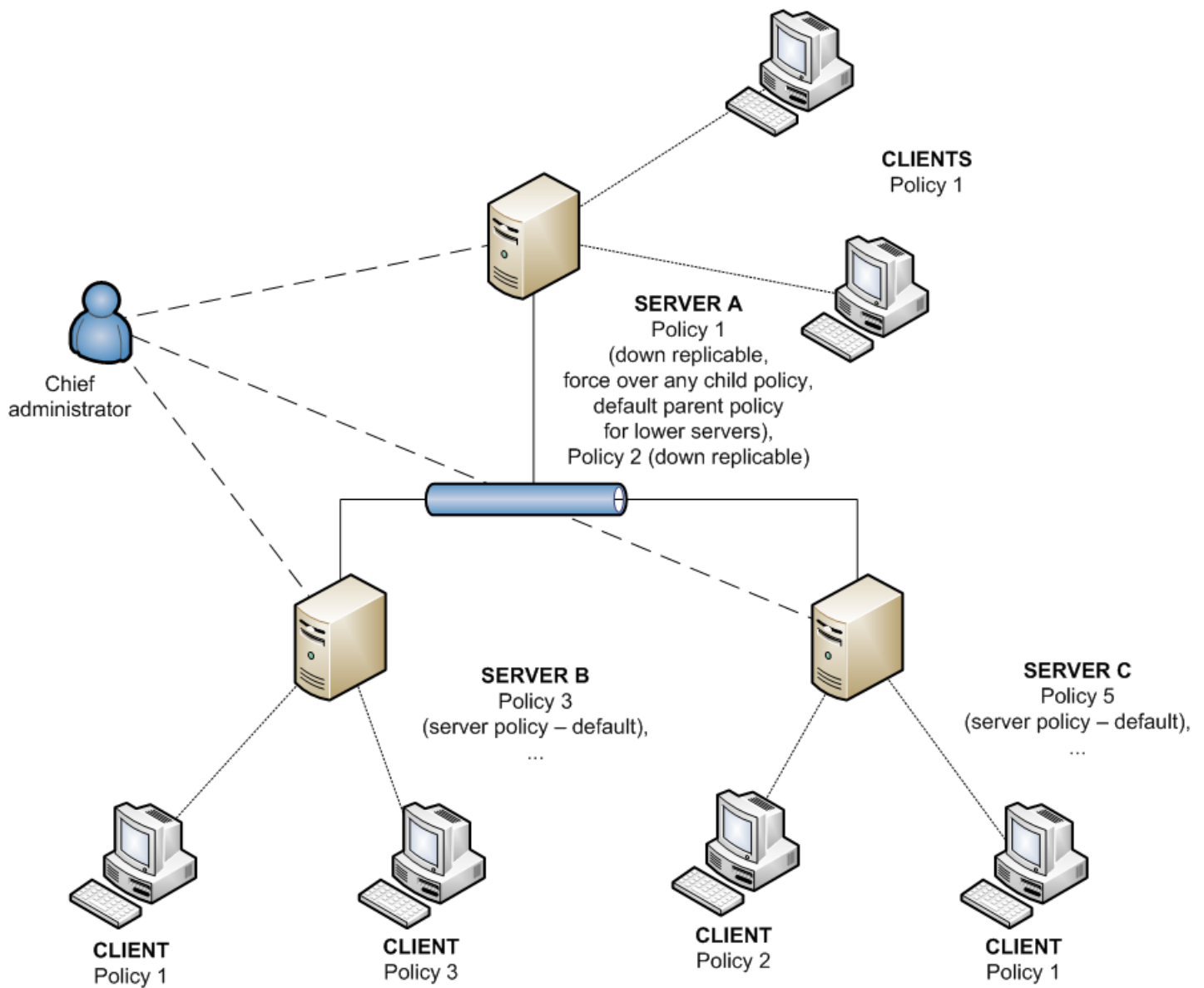
5.3.10.3 Inheriting policies from an upper server

The network model for this scenario is the same as the previous two scenarios. In addition, the master server, along with the Default Parent Policy, contains other policies, that are down replicable and serve as parent policies on the lower servers. For Policy 1 (see the figure below), the attribute **Override any child policy** is activated. The local administrator still has a large degree of autonomy, but the main administrator defines which policies are replicated down and which of them serve as parent policies for local policies. The attribute **Override...** dictates that configurations set in the selected policies override those set on the local servers.



5.3.10.4 Assigning policies only from the upper server

This scenario represents a centralized system of policy management. Policies for clients are created, modified and assigned only on the main server - the local administrator has no rights to modify them. All lower servers have only one basic policy, which is empty (by default titled Server Policy). This policy serves as the Default Parent Policy for Primary Clients.



5.3.10.5 Using policy rules

Our next example involves automatically assigning policies based on policy rules. This method is complementary and should be used in combination with previously described scenarios, rather than as a standalone scenario.

If each server is managed by a local administrator, each administrator can create individual policy rules for their clients. In this scenario it is important that no conflicts exist between policy rules, such as when the upper server assigns a policy to clients based on the policy rules, while the lower server simultaneously assigns separate policies based on local policy rules.

In the end, a centralized system greatly reduces the probability of conflicts, as the entire management process takes place on the main server.

5.3.10.6 Using groups

In some situations, assigning policies to groups of clients can complement previous scenarios. Groups can be created manually or by using the **Active Directory Synchronization** option.

Clients can be added to groups either manually (**Static Groups**) or automatically — by the group properties (**Parametric Groups**). See chapter [Group Manager](#) for more details.

To assign a policy to a group of clients, you can use the one-time assignment option in **Policy Manager (Add Clients > Add Special)**, or deliver policies automatically via **Policy Rules**.

One of the possible scenarios is as follows:

The administrator wants to assign different policies for clients belonging to different AD groups and change the client's policy automatically when the client is moved to another AD group.

- 1) The first step is to set **Active Directory Synchronization** in **Group Manager** according to your needs. The important thing here is to properly schedule the AD synchronization (possible options: hourly, daily, weekly, monthly).
- 2) After the first successful synchronization, the AD groups appear in the **Static Groups** section.
- 3) Create a new policy rule and mark **ERA Groups IN** and/or **ERA Groups NOT IN** as a rule condition.
- 4) Specify the AD groups that you want to add to the condition.
- 5) In the next step define the policy that will be applied to clients matching the rule condition(s) and press **OK** to save the rule.

NOTE: Steps 3 - 5 can be replaced by using the **Policy Rules Wizard**, which allows you to create a policy structure based on the existing group structure and map created policies to groups by creating corresponding policy rules.

This way it is possible to define a particular policy rule for each AD group. Assigning a certain policy to a certain client now depends on the client's membership in a certain AD group. Since the AD synchronization is scheduled to occur regularly, all changes in the client's AD groups membership are refreshed and taken into account when a policy rule is applied. In other words, policies are applied to clients automatically depending on their AD group. Once the rules and policies are defined thoroughly, no more intervention regarding policy application is needed from the administrator.

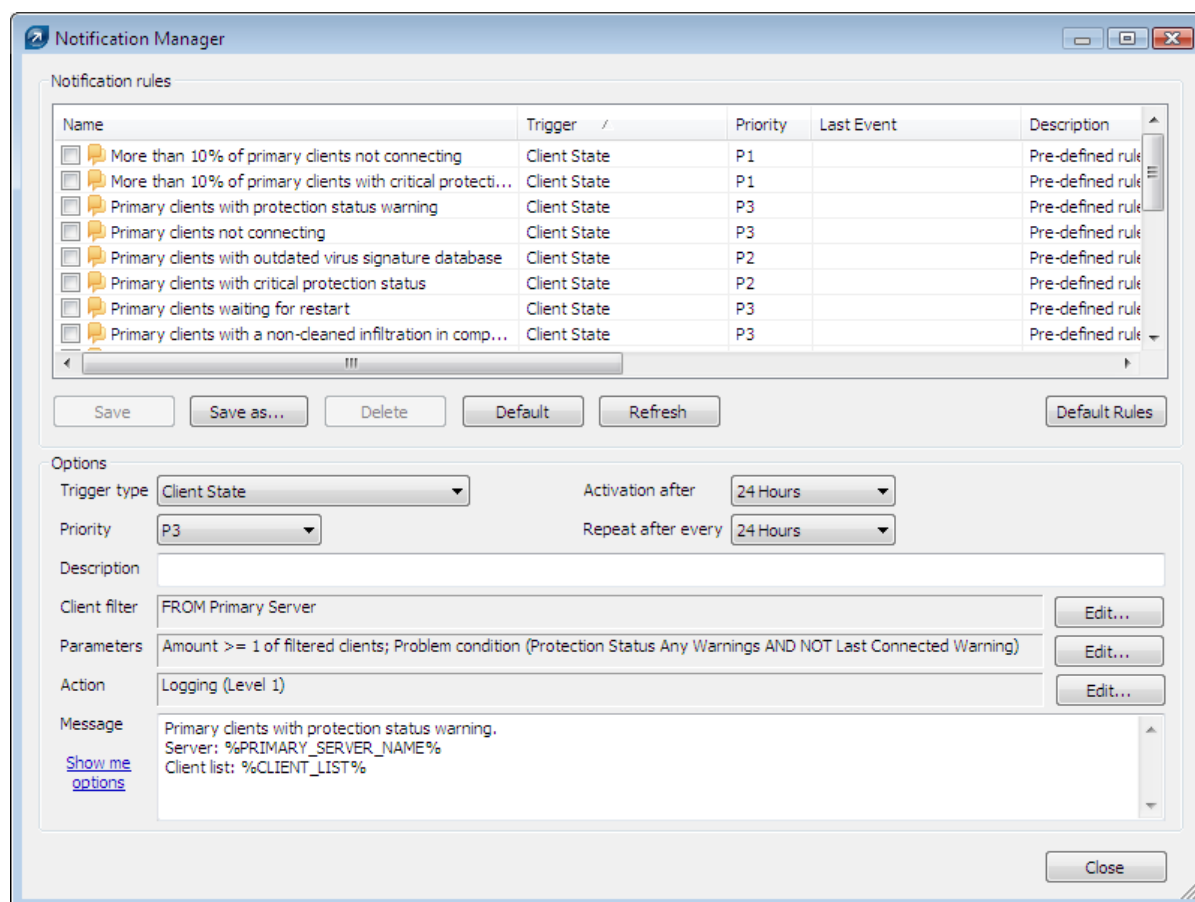
The main advantage of this approach is direct, automatic linking between AD group membership and policy assignment.

5.4 Notifications

The ability to notify system and network administrators about important events is an essential aspect of network security and integrity. An early warning about an error or malicious code can prevent enormous losses of time and money needed to eliminate the problem later on. The next three sections outline the notification options offered by ERA.

5.4.1 Notification Manager

To open the **Notification Manager** main window, click **Tools > Notification Manager**.



The main window is divided in two sections. The **Notification rules** section in the top part of the window contains a list of existing (either predefined or user defined) rules. A rule in this section must be checked to generate notification messages. By default, no notifications are enabled. Therefore, we recommend checking whether your rules are active.

The functional buttons under the list of rules include **Save** (save modifications to a rule), **Save as...** (save modifications to a rule with a new name), **Delete**, **Default** (restore default settings for selected trigger type), **Refresh** and **Default Rules** (update the list with default rules).

The **Options** section in the bottom half of the window provides information about the currently selected rule. All fields and options in this section are described using the sample rule from chapter [Rule creation](#)^[69].

In each rule, you can specify the criteria, known as a Trigger, which activates the rule. The following triggers are available:

- **Client State** – Rule will be run if there is a problem on some of the clients
- **Server State** – Rule will be run if there is a problem on some of the servers
- **Finished Task Event** – Rule will be run after the specified task is finished
- **New Client Event** – Rule will run if there is a new client connecting to the server (including replicated clients)
- **New Log Event** – Rule will run if there is the specified event found in some of the logs

Based on the type of trigger other rule options can be activated or deactivated, therefore we recommend to set the trigger type first when creating new rules.

The **Priority** drop-down menu allows you to set the rule priority. **P1** is the highest priority, **P5** is the lowest priority. Priority does not in any way affect the functionality of rules. To assign priority to notification messages, the `%PRIORITY%` variable can be used. Under the **Priority** menu, there is a **Description** field. We recommend that each rule is given a meaningful description, such as "rule that warns on detected infiltrations".

As soon as the system detects the trigger event for a certain client or clients and finds a rule to be run, the client filter is applied. The filter can be assigned to any rules in which clients are involved; to enter the client filter setup, click **Edit** in the **Client filter** section. In the window that opens, define client filtering parameters. When a rule is applied, only clients meeting the client filter criteria are taken into consideration. The filtering criteria are:

- **FROM Primary Server** – Only clients from primary server; (the negative NOT FROM can also be applied)
- **Primary Server IN** – Includes primary server in the output
- **HAS New Flag** – Clients marked by the flag "New" (the negative HAS NOT can also be applied).
- **ERA Groups IN** – Clients belonging to the specified group
- **Domain/Workgroup IN** – Clients belonging to the specified domain
- **Computer Name Mask** – Clients with the specified computer name
- **HAS IP Mask** – Clients falling into the specified IP mask
- **HAS IP Range** – Clients within the specified IP address range
- **HAS Defined Policy** – Clients with the specified policy assigned (the negative HAS NOT can also be applied).

After you have specified a client filter for your notification rule, click **OK** and proceed to the rule parameters. Client parameters define what condition a client or a group of clients must meet in order to run the notification action. To view the available parameter, click the **Edit...** button in the **Parameters** section.

The availability of parameters depends on the selected Trigger type. The following is a complete list of parameters available by Trigger type.

The following parameters are available for Client State Triggers:

- **Protection Status Any Warnings** – Any warning found in the Protection Status column
- **Protection Status Critical Warnings** – A critical warning found in the Protection Status column
- **Virus Signature DB version** – Problem with virus signature database (6 possible values)
 - **Previous** – Virus signature database is one version older than the current one
 - **Older or N/A** – Virus signature database is more than one version older than the current one
 - **Older than 5 versions or N/A** – Virus signature database is more than 5 versions older than the current one
 - **Older than 10 versions or N/A** – Virus signature database is more than 10 versions older than the current one
 - **Older than 7 days or N/A** – Virus signature database is more than 7 days older than the current one
 - **Older than 14 days or N/A** – Virus signature database is more than 14 days older than the current one
- **Last Connected Warning** – The last connection was established before the specified time period
- **Has Last Threat Event** – The Threat column contains a threat warning
- **Has Last Event** – The Last Event column contains an entry
- **Has Last Firewall Event** – The Firewall Event column contains a firewall event entry
- **Has New Flag** – Client has the "New" flag
- **Waiting For Restart** – Client is waiting for restart
- **Last Scan Found Threat** – On client, the specified number of threats was found during the last scan
- **Last Scan Not Cleaned Threat** – On client, the specified number of uncleaned threats was found during the last scan

All parameters can be negated, but not all negations are usable. It is only suitable to negate those parameters that include two logical values: true and not true. For example, the parameter **Has New Flag** only covers clients with the "New" flag. The negative parameter would include all clients that are not marked by the flag.

All conditions above can be logically combined and inverted. The drop-down menu for **The rule is applied when** offers two choices:

- **all of the options are met** – Rule will only run if **all** specified parameters are met

- **any of the options is met** – Rule will run if at least **one** condition is met

The following parameters are available for the Server State Triggers:

- **Server updated** – Server is up-to-date
- **Server not updated** – Server is not up-to-date for longer than specified
- **Server logs** – The server log contains the following entry types:
 - **Errors** – Error messages
 - **Errors+Warnings** – Error messages and warning messages
 - **Errors+Warnings+Info(Verbose)** - Error, warning and informative messages
 - **Filter log entries by type** – Enable this option to specify error and warning entries to be watched in the server log. Note that for notifications to work properly, the log verbosity (**Tools > Server Options > Logging**) must be set to the corresponding level. Otherwise such notification rules would never find a trigger in the server log. The following log entries are available:
 - **ADSI_SYNCHRONIZE** – Active Directory group synchronization
 - **CLEANUP** – Server cleanup tasks
 - **CREATEREPORT** – On-demand report generating
 - **DEINIT** – Server shutdown
 - **INIT** – Server startup
 - **INTERNAL 1** – Internal server message
 - **INTERNAL 2** – Internal server message
 - **LICENSE** – License administration
 - **MAINTENANCE** – Server maintenance tasks
 - **NOTIFICATION** – Notification management
 - **PUSHINST** – Push install
 - **RENAME** – Internal structure renaming
 - **REPLICATION** – Server replication
 - **POLICY** – Policy management
 - **POLICYRULES** – Policy rules
 - **SCHEDREPORT** – Automatically generated reports
 - **SERVERMGR** – Internal server thread management
 - **SESSION** – Server’s network connections
 - **SESSION_USERACTION** - various user actions
 - **THREATSENSE** – ThreatSense.Net – statistical information submission
 - **UPDATER** – Server update and mirror creation

An example of a helpful parameter is UPDATER, which sends a notification message when the Notification Manager finds a problem related to update and mirror creation in the server logs.

- **License Expiration** – License will expire in the specified number of days, or it already has expired. Select the option **Warn only if this will cause the number of clients in the license fall below the number or actual clients in the server database** to send a notification if expiration will cause the number of clients in the license to fall below the number of currently connected clients.
- **Limit license** – If percent of free clients falls under the specified value

The following parameters are available for the New Log Event Triggers:

- **Log type** – Select Event Log, Threat Log, or Firewall Log
- **Log level** – Log entry level in the given log
 - **Level 1 – Critical Warnings** – Critical errors only
 - **Level 2 – Above + Warnings** – The same as 1, plus alert notifications
 - **Level 3 – Above + Normal** – The same as 2, plus informative notifications
 - **Level 4 – Above + Diagnostic** – The same as 3, plus diagnostic notifications
- **1000 occurrences in 60 minutes** – Type the number of occurrences and select the time period to specify the event frequency that must be reached for the notification to be sent. The default frequency is 1000 occurrences in one hour.
- **Amount** – Number of clients (either absolute or in percent)

Other trigger types do not have any specific parameters.

If the specified parameters for a rule are met, the action defined by the administrator is automatically performed. To configure actions, click **Edit...** in the **Action** section. The action editor offers these options:

- **Email** – The program sends the notification text of the rule to the specified email address; enter a **Subject** and click **To** to open the address book.
- **SNMP Trap** – Generates and sends SNMP notification
- **Execute (on server)** – Enable this option and specify the application to run on the server
- **Log To File (on server)** – Generates log entries in the specified log file. The **Verbosity** of this log is configurable.
- **Also Log Message** - the message body will also be written to the log.
- **Log To Syslog** - sends a syslog message to the specified syslog server on a specified port (default server is localhost, default port is 514) ; the **Verbosity** of notifications can be configured.
- **Logging** – Records notifications to server logs; the **Verbosity** of notifications can be configured. For this feature to work correctly, you must enable logging in the ERA Server (**Tools > Server Options > Logging**).

For more information about the **Verbosity** of the logs see the chapter [Logging](#)^[82].

The notification format can be edited in the **Message** box in the bottom section of the Notification Manager main window. In the text you can use special variables, using this syntax: %VARIABLE_NAME%. To view the list of available variables, click **Show me options**.

- **Server_Last_Updated** – Last update of the server
- **Primary_Server_Name**
- **Rule_Name**
- **Rule_Description**
- **Client_Filter** – Client filter parameters
- **Client_Filter_Short** – Client filter settings (in short form)
- **Client_List** – List of clients
- **Triggered** – Date of the most recent notification sent (repeats excluded)
- **Triggered Last**– Date of the most recent notification sent (repeats included)
- **Priority** – Notification rule priority
- **Log_Text_Truncated** – Log text that activated the notification (truncated)
- **Task_Result_List** – List of finished tasks
- **Parameters** – Rule parameters
- **Last_Log_Date** – Date of the last log
- **License_Info_Merged** – License information (summary)
- **License_Info_Full** – License information (full)
- **License_Days_To_Expiry** – Days left until expiration
- **License_Expiration_Date** - nearest expiration date
- **License_Clients_Left** – Free slots in the current license for clients to connect to the server
- **License_Customer** - license customer (merged)
- **Actual_License_Count** – Number of clients currently connected to the server
- **Virus_Signature_Db_Version** - Latest virus signature database version
- **Pcu_List** - Latest Program Component Update list

The last parameter to be specified is time and date. Activation of the rule can be delayed to a time period ranging from one hour to three months. If you wish to activate the rule as soon as possible, set the **Activation after** drop-down menu to **ASAP**. The Notification Manager is activated every 10 minutes by default, so if you select **ASAP**, the task should run within 10 minutes. If a specific time period is selected from this menu, the action will automatically be performed after the time period has elapsed (provided that the rule condition is met).

The **Repeat after every...** menu allows you to specify a time interval after which the action will be repeated. However, the condition to activate the rule must still be met. In **Server > Advanced > Edit Advanced Settings > ESET Remote Administrator > Server > Setup > Notifications > Interval for notification processing (minutes)** you can specify the time interval in which the server will check and execute active rules.

The default value is 10 minutes. We do not recommend decreasing it, since this may cause significant server slowdown.

By default, the Notification Manager window contains predefined rules. To activate a rule, select the check box next to the rule. The following notification rules are available. If they are activated and the rule conditions are met, they generate log entries.

- **More than 10% of primary clients are not connecting** – If more than 10 percent of clients have not connected to the server for more than a week; the rule runs ASAP.
- **More than 10% of primary clients with critical protection status** – If more than 10 percent of clients generated a Protection status critical warning and have not connected to the server for more than a week; the rule runs ASAP.
- **Primary clients with protection status warning** – If there is at least one client with a protection status warning that has not connected to the server for at least one week.
- **Primary clients not connecting** – If there is at least one client that has not connected to the server for more than one week.
- **Primary clients with outdated virus signature database** – If there is a client with a virus signature database two or more versions older than the current one and has not been disconnected from the server for more than one week.
- **Primary clients with critical protection status** – If there is a client with a critical protection status warning that has not been disconnected for more than one week.
- **Primary clients with newer virus signature database than server** – If there is a client with a newer virus signature database than that on the server and that has not been disconnected for more than one week.
- **Primary clients waiting for restart** – If there is a client waiting for restart that has not been disconnected for more than one week.
- **Primary clients with a non-cleaned infiltration in computer scan** – If there is a client on which a computer scan could not clean at least one infiltration and that client has not been disconnected for more than one week; the rule runs ASAP.
- **Completed task** – If there was a task completed on a client; the rule runs ASAP.
- **New primary clients** – If a new client has connected to the server; the rule runs ASAP.
- **New replicated clients** – If there is a new replicated client in the list of clients; the rule runs after one hour.
- **Possible virus outbreak** - If the frequency of Threat log entries on a client has exceeded 1000 critical warnings in one hour on at least 10% of all clients.
- **Possible network attack** – If the frequency of ESET Personal firewall log entries on a client has exceeded 1000 critical warnings in one hour on at least 10% of all clients.
- **Server updated** – If the server has been updated
- **Server not updated** – If the server has not been updated for more than five days; the rule runs ASAP.
- **Error in server text log** – If the server log contains an error entry.
- **License expiration** – If the current license will expire within 20 days and after expiration, the maximum number of client slots will be lower than the current number of clients; the rule runs ASAP.
- **License limit** – If the number of free client slots decreases under 10% of all client slots available.

If not stated otherwise, all rules are run and repeated after 24 hours and are applied to the primary server and primary clients.

5.4.1.1 Notifications via SNMP Trap

SNMP (Simple Network Management protocol) is a simple and wide spread management protocol suitable for monitoring and identifying network problems. One of the operations of this protocol is TRAP, which sends specific data. In ERA, we use TRAP to send notification messages.

In order for the TRAP tool to run effectively, the SNMP protocol must be correctly installed and configured on the same computer as ERAS (**Start > Control Panel > Add or Remove programs > Add/Remove Windows Components**). The SNMP service should be configured as described in this article: <http://support.microsoft.com/kb/315154>. In ERAS, you need to activate an SNMP notification rule.. In ERAS, you need to activate an SNMP notification rule.

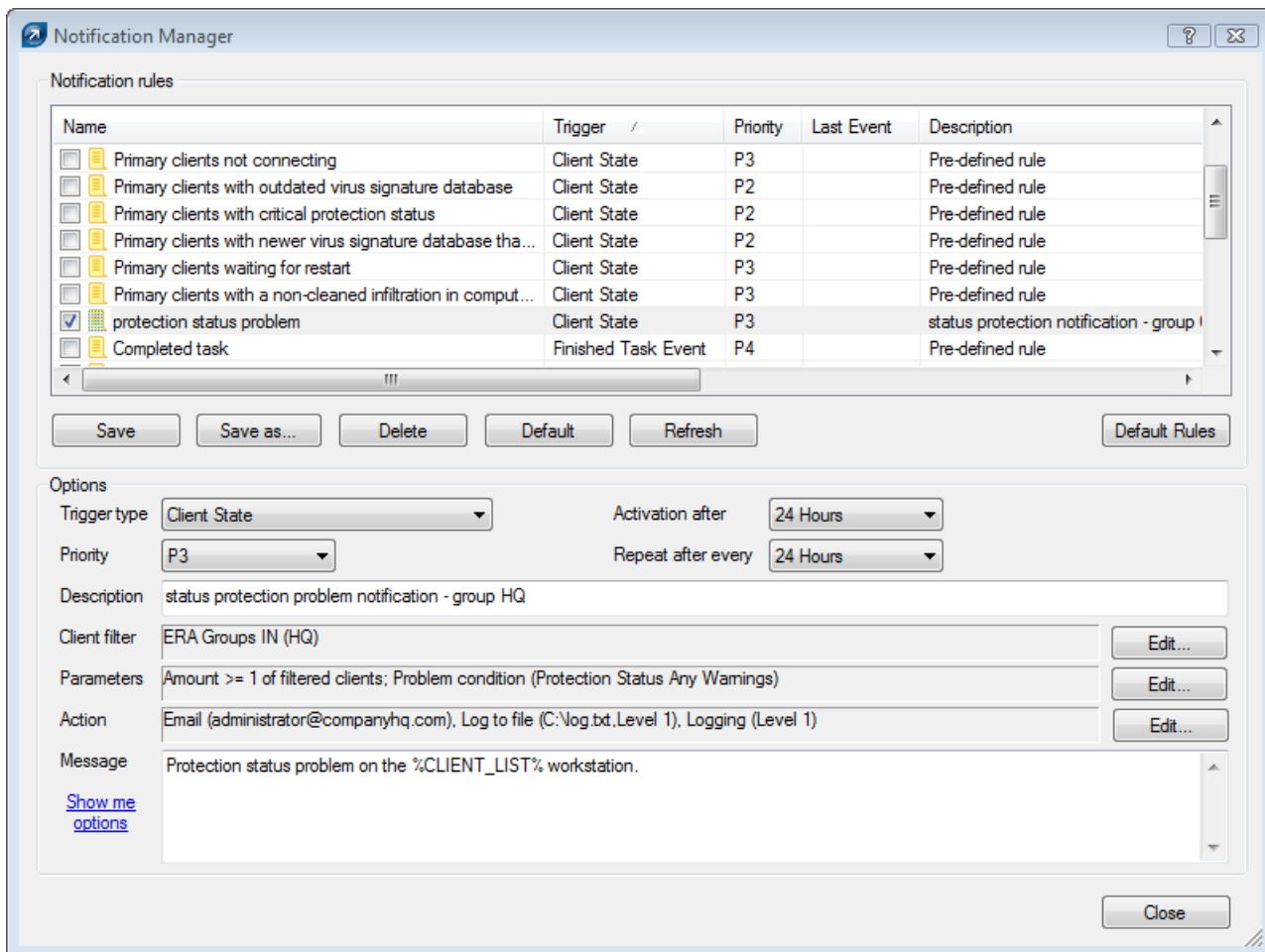
Notifications can be viewed in the SNMP manager, which must be connected to an SNMP server where the configuration file *eset_ras.mib* is imported. The file is a standard component of an ERA install, and is usually located in the folder *C:\Program Files\ESET\ESET Remote Administrator\Server\snmp*.

5.4.2 Rule creation

The following steps demonstrate how to create a rule that will send email notification to the administrator if there is a problem with the Protection Status of any client workstations. The notification will also be saved to a file named *log.txt*.

- 1) Set the **Trigger type** drop-down menu to **Client State**.
- 2) Leave the options **Priority**, **Activation after:** and **Repeat after every:** at the predefined values. The rule will automatically be assigned priority 3 and will be activated after 24 hours.
- 3) In the **Description** field, type **protection status notification for HQ clients**
- 4) Click **Edit...** in the **Client filter** section and only activate the **ERA Groups IN** section rule condition. In the lower part of this window click the link **specify** and type *HQ* in the new window. Click **Add** and then click **OK** (twice) to confirm. This designates that the rule is only applied to clients from the HQ group.
- 5) Further specify parameters for the rule in **Parameters > Edit...** Deselect all options except for **Protection Status Any Warnings**.
- 6) Proceed to the **Action** section and click the **Edit...** button. In the **Action** window, activate **Email**, specify recipients (**To...**) and **Subject** for the email. Then select the **Log to file** check box and enter the name and path of the log file to be created. As an option, you can select the **Verbosity** of the log file. Click **OK** to save the action.
- 7) Finally, use the **Message** text area to specify the verbiage that will be sent in the body of the email when the rule is activated. Example: *"The client %CLIENT_LIST% reports protection status problem"*.
- 8) Click **Save as...** to name the rule, e.g., *"protection status problems"* and select the rule in the list of notification rules.

The finished rule should resemble the Figure below:



The rule is now active. If there is a problem with the protection status on a client from the HQ group, the rule will be run. The administrator will receive an email notification with an attachment containing the name of the problematic client. Click **Close** to exit the Notification Manager.

5.5 Detailed information from clients

ERA allows you to extract information about running processes, startup programs, etc. from client workstations. This information can be retrieved using the integrated ESET SysInspector tool, which is integrated directly with ERAS. Along with other useful functions, ESET SysInspector thoroughly examines the operating system and creates system logs. To open it, click **Tools > ESET SysInspector** from the ERAC main menu.

If there are problems with a specific client, you can request an ESET SysInspector log from that client. To do this, right-click the client in the Clients pane and select **Request data – Request SysInspector Information**. Logs can only be obtained from generation 4.x products and later; earlier versions do not support this feature. A window with the following options will appear:

- **Create snapshot (remember resulting log also on the client)** – Saves a copy of the log to the client computer.
- **Include comparison to the last snapshot before specified time** – Displays a comparative log, comparative logs are created by merging the current log with a previous log if available. ERA will choose the first log that is older than the specified date.

Click **OK** to obtain the selected logs and save them to the server. To open and view the logs, proceed as follows.

ESET SysInspector options for individual client workstations can be found in the **Client Properties – SysInspector** tab. The window is divided into three sections; the top section shows text information about the most recent logs from the given client. Click **Refresh** to load the most current information.

The middle section of the **Request Options** window is almost identical to the window which appears in the above described process of requesting logs from client workstations. The **Request** button is used to get an ESET SysInspector log from the client.

The bottom section is comprised of these buttons:

- **View** – Opens the log listed in the top section directly in ESET SysInspector
- **Save As...** – Saves the current log to a file. The Then Run ESET SysInspector Viewer to view this file option automatically opens the log after it is saved (as it would after clicking **View**).

Generating and displaying new log files can sometimes be slowed by the local client, due to the size of the log and data transfer speed. The date and time assigned to a log in **Client Properties > SysInspector** marks the date and time of delivery to the server.

5.6 Centralized quarantine

Centralized quarantine is a powerful feature that enables administrators to work with quarantined files on clients with ease. It makes operations like viewing, deleting, restoring quarantined files and excluding them from further scanning simpler tasks. It is accessible via the **Quarantine** window in the main console panel or client properties. The main quarantine window displays complete information about the file and threat name, hash, date/time of the first and last occurrence, file size and the number of occurrences.

NOTE: Please note that the fields **Object Name**, **File Name** and **Extension** shows first three objects only. For detailed information open the Properties window either by pressing the **F3** key or by double-clicking the selected item.

Centralized quarantine provides an overview of quarantined files which are stored locally on the clients with an option to request them on demand. When a file is requested, it is copied to the ERA Server in a safe, encrypted form. For safety reasons, decryption is performed upon saving the file to the disk. For instructions on working with quarantined files, see chapter [Restore/Delete from Quarantine Task](#)^[50].

NOTE: Centralized quarantine requires installation of EAV/ESS version 4.2 or newer on clients.

Qua...	Hash	DateReceived	Occurred First	Occurred Last	Object Name	File Name	Extension	Size	Reason	Client Cou...	Hits	File
3	d2726507...	8 days ago	12 months ago	3 months ago	http://www.eicar.o...	eicar_com....	zip	184	Eicar test file	1	32	Ready
2	bec1b52d...	8 days ago	12 months ago	12 months ago	https://secure.eica...	eicarcom2....	zip	308	Eicar test file	1	4	No Data
1	3395856c...	8 days ago	12 months ago	9 months ago	C:\Users\smid\Ap...	eicar.com, ...	com, bc...	68	Eicar test file...	1	14	No Data

6. Firewall Rules Merge Wizard

Firewall Rules Merge Wizard allows you to merge the firewall rules for selected clients. This is especially useful when you need to create a single configuration containing all firewall rules that were gathered by clients in learning mode. The resulting configuration can then be sent to clients via a configuration task or can be applied as a policy.

The wizard is accessible from the **Tools** drop-down menu and from the context menu in the **Clients** tab after right-clicking selected clients (the selected clients are then automatically added to the selected items in the first step).

NOTE: To perform this action successfully, all the selected clients must have the latest configuration stored (sent or replicated) on the server.

The process is as follows. First, you need to choose the clients or groups of clients from which the firewall rules will be merged. In the next step you can see a list of selected clients and their configuration status. If a client's configuration is not on the server, you can request it using the **Request** button. In the last steps you can choose which of the merged rules will be used in the configuration and save them to an *.xml* file.

7. Reports

The Reports tab is used to turn statistical information into graphs or charts. These can be saved and processed later in the Comma Separated Value format (.csv) by using ERA tools to provide graphs and graphical outputs. By default, ERA saves output in HTML format. Most of the reports related to infiltrations are generated from the Threat log.

To browse and select graphical styles, use the **Style** drop-down menu in the **Report** section.

ERA provides several predefined templates for reports. To select a report, use the **Type** drop-down menu:

- **Top Clients with most Threats**
Lists the most "active" client workstations (measured by number of detected threats).
- **Top Users with most Threats**
Lists the most "active" users (measured by number of detected threats).
- **Top Threats**
List of the most frequently detected threats.
- **Top Threats by Spread**
Shows top threats by spread
- **Threats Progress**
Progress of malware events (number).
- **Threats Comparative Progress**
Progress of malware events by selected threats (using filter) compared with the total number of threats.
- **Threats By Scanner**
Number of threat alerts from the individual program modules.
- **Threats By Object**
Number of threat alerts according to the way they attempted to infiltrate (emails, files, boot sectors).
- **Combined Top Clients with most Threats / Top Threats**
Combination of the above-mentioned types.
- **Combined Top Threats / Threats Progress**
Combination of the above-mentioned types.
- **Combined Top Threats / Threats Comparative Progress**
Combination of the above-mentioned types.
- **Clients of Groups**
Shows clients count of selected groups.
- **Clients of Groups to All**
Shows ratio of clients count of selected groups to all clients count, in percentage.
- **Combined Clients of Groups / Clients Report**
Shows clients count of selected groups and clients of each group in the table (After you click the name of the group).
- **Top Clients with most Network Attacks**
Shows top clients with most Network Attacks.
- **Top Network Attacks**
Shows top Network Attacks.
- **Top Network Attacks Sources**
Shows top Network Attacks Sources.
- **Network Attacks Progress**
Shows progress of Network Attacks.
- **Combined Top Clients with most Network Attacks / Top Network Attacks**
Shows top clients with most Network Attacks and top Network Attacks for each client in the top table (After you click the name of the client).
- **Top Clients with most SMS Spam**
Shows top clients with most SMS Spam.

- **Top SMS Spammers**
Shows top SMS Spammers for specified Targets.
- **SMS Spam Progress**
Shows progress of SMS Spam.
- **Combined Top Clients with most SMS Spam / Top SMS Spammers**
Shows top clients with most SMS Spam and top SMS Spammers for each client in the top table (After you click the name of the client).
- **Clients Report, Threats Report, Firewall Report, Events Report, Scans Report, Tasks Report, Mobile Report, Quarantine Report**
Typical reports that can be viewed in the Clients, Threat Log, Event Log, Scan Log or Tasks tab.
- **Comprehensive Threats Report**
Summary of Combined Top Clients with most Threats/ Top Threats; Combined Top Threats / Threats Comparative Progress; Threats Progress
- **Comprehensive Network Attacks Report**
Summary of Combined Top Clients with most Network Attacks / Top Network Attacks; Top Network Attacks; Top Network Attacks Sources; Network Attacks Progress
- **Comprehensive SMS Spam Report**
Summary of Combined Top Clients with most SMS Spam / Top SMS Spammers; Top SMS Spammers; SMS Spam Progress

In the **Filter** section you can use the **Target clients** or **Threat** drop-down menus to select which clients or viruses will be included in the report.

Other details can be configured by clicking the **Additional Settings...** button. These settings apply mostly to data in the heading and in the types of graphical diagrams used. However, you can also filter data according to the status of chosen attributes as well as choose which report format will be used (.html, .csv).

The **Interval** tab allows you to define an interval for which the report will be generated:

- **Current**
Only events which occurred in a chosen time period will be included in the report – e.g., if a report is created on Wednesday and the interval is set to Current Week, then the events from Sunday, Monday, Tuesday, and Wednesday will be included.
- **Completed**
Only events which occurred in a chosen, closed period will be included in the report (i.e., the entire month of August, or a whole week – from Sunday to next Saturday). If the option **Add also the current period** is selected, the report will include events from the last completed period up to the moment of creation.

Example:

We want to create a report including events from the last calendar week, i.e., from Sunday to next Saturday. We want this report to be generated on the following Wednesday (after Saturday).

In the **Interval** tab, select **Completed** and **1 Weeks**. Remove **Add also the current period**. In the **Scheduler** tab set **Frequency** to **Weekly** and select **Wednesday**. The other settings can be configured according to the administrator's discretion.

- **From / To**
Use this setting to define a period for which the report will be generated.

The **Scheduler** tab allows you to define and configure an automatic report in chosen time or intervals (Using the **Frequency** section).

After scheduling the report, click the **Select Target...** button to specify where the report is to be saved. Reports can be saved to ERAS (default), sent via email to a chosen address, or exported to a folder. The latter option is useful if the report is sent to a shared folder on your organization's intranet where it can be viewed by other employees.

To send generated reports via email, you need to enter the SMTP server and sender address information in **Tools > Server Options > Other settings**.

To save settings of defined reports to a template, click the **Save** or **Save as...** buttons. If you are creating a new template, click the **Save as...** button and give the template a name.

At the top of the Console window in the **Report templates** section, you can see names of templates that were already created. Next to the template names, you can find information about time/intervals and when the reports are generated according to the preset templates. Click the **Generate Now** button (make sure the **Options** tab is selected) to generate a report at any moment regardless of the schedule.

Existing report templates can be imported/exported from/to an *.xml* file by clicking on the **Import.../Export...** button. Name conflicts during the import (existing and imported template with the same name) are solved by assigning a random string after the name of an imported template.

Previously generated reports can be viewed in the **Generated Reports** tab. For more options, select individual (or multiple) reports and use the context menu (right-click).

Templates placed in the **Favorites** list can be used later to immediately generate new reports. To move a template to Favorites, right-click the report and click **Add to Favorites** from the context menu.

7.1 Example report scenario

To maintain your clients' network security at the top level, you will need to have a good overview of the network's security status. You can easily create reports with full details about threats, updates, client product versions, etc. (for more information, see the [Reports](#)^[73] section). Typically, a weekly report will provide all the necessary information. However, there may be situations during which additional vigilance is necessary, as in the event of a found threat.

To provide an example, we will create a parametric group called *Quarantine*. This group will contain only computers in which a threat was detected and cleaned during the last-performed on-demand scan. Set this condition by checking the **HAS Last Scan Found Threat** option. To create this parametric group, follow the instructions in the [Parametric Groups](#)^[52] section.

NOTE: When creating the *Quarantine* group, verify that the **Sticky** option is disabled. The computer will be assigned dynamically and removed once the conditions are no longer met.

Create the *Quarantine Computers* report. To create a report for this parametric group, follow the instructions in the [Reports](#)^[73] section.

The specific settings for our example are as follows:

- **Options** wildcard settings:

Type:	Quarantine Report with Details
Style:	Blue Scheme
Target clients:	Only Selected Groups
Threat:	n/a

- **Interval** wildcard settings:

Current:	Day
-----------------	------------

- **Scheduler** wildcard settings:

Frequency:	Daily
Every:	1 day

TIP: You can store results to the report database or set a folder where report copies will be stored. Reports can also be sent via email. All these settings are available after clicking the button **Select Target...**

Generated reports can be reviewed in the **General Reports** wildcard in the **Reports** section.

Summary: We created the parametric group *Quarantine*, containing computers on which a threat was reported during the most recent on-demand scan. Next, we created an automated report that will inform us, daily, what computers belong to the *Quarantine* group, giving us a good overview of the status of our client network so we can keep potential threats under control.

TIP: If you want to see the last scan log details, you can use the **Scan Report with Details** report type.

8. ESET Remote Administrator Server (ERAS) setup

8.1 Security

Version 3.x and later ESET security solutions (ESET Smart Security, etc.) offer password protection for decrypted communication between the client and ERAS (communication at the TCP protocol, port 2222).

Earlier versions (2.x) do not have this functionality. To provide backward compatibility for earlier versions, the **Enable unauthenticated access for Clients** mode must be activated.

The Security tab contains options which allow the administrator to use 2.x and 3.x security solutions in the same network simultaneously.

- **Password for Console (Administrator Access, Read-Only Access)**
Enables specifying a password for the administrator and limited users to protect against unauthorized changes to ERAC settings.
- **Password for Clients (ESET Security Products)**
Sets password for clients accessing the ERAS.
- **Password for Replication**
Sets password for lower ERA Servers if replicated to the given ERAS.
- **Password for Eset Remote Installer (Agent)**
Sets password for the installer agent to access ERAS. Relevant for remote installations.
- **Enable unauthenticated access for Clients (ESET Security Products)**
Enables access to ERAS for those clients which do not have a valid password specified (if current password is different from Password for Clients).
- **Enable unauthenticated access for Replication**
Enables access to ERAS for clients of lower ERA Servers which do not have a valid password for replication specified.
- **Enable unauthenticated access for ESET Remote Installer (Agent)**
Enables access to ERAS for ESET Remote Installer which does not have a valid password specified.

NOTE: If authentication is enabled both in ERAS and on all (generation 3.x and later) clients, the **Enable unauthenticated access for Clients** option can be disabled.

- **Use Windows/Domain authentication**
Enables Windows/Domain authentication and allows you to define administrator groups (with full access to ERA Server) as well as groups with read-only access (enabled with the **Treat all other users as with read-only access** option).

8.2 Server Maintenance

If correctly configured in the Server Maintenance tab, the ERAS database will be maintained automatically and optimized, with no need for further configuration. By default, entries and logs older than six months are deleted, and the Compact & repair task is performed every fifteen days. All server maintenance options are accessible from **Tools > Server Options > Server Maintenance**.

The options include:

- **Delete clients not connected for the last X months (days)**
Deletes all clients that have not connected to ERAS for more than the specified number of months (or days).
- **Delete threat logs older than X months (days)**
Deletes all virus incidents older than the specified number of months (or days).
- **Delete firewall logs older than X months (days)**
Deletes all firewall logs older than the specified number of months (or days).
- **Delete event logs older than X months (days)**
Deletes all system events older than the specified number of months (or days).

- **Delete scan logs older than X months (days)**
Deletes all scanner logs older than the specified number of months (or days).
- **Delete mobile logs older than X months (days)**
Deletes all mobile logs older than the specified number of months (or days).
- **Delete quarantine entries with no clients older than X months (days)**
Deletes all scanner logs older than the specified number of months (or days).

Cleanup scheduler

Performs the above selected option every ... minutes.

Compact & repair scheduler

Compacts the database in specified time interval at specified hour. Compacting and repairing eliminates inconsistencies and glitches and makes the communication with the database faster.

8.3 Mirror server

The Mirror feature allows a user to create a local update server. Client computers will not download virus signature updates from ESET's servers on the Internet, but will connect to a local Mirror server on your network instead. The main advantages of this solution are to save Internet bandwidth and to minimize Internet network traffic, since only the mirror server connects to the Internet for updates, rather than hundreds of client machines. This configuration means it is important for the Mirror server to always be connected to the internet.

Warning: A Mirror server which performed a program component upgrade (PCU) and has not been rebooted may cause an outage. In this scenario, the server would be unable to download ANY updates or distribute them to client workstations. **DO NOT SET AUTOMATIC PROGRAM COMPONENT UPGRADES FOR ESET SERVER PRODUCTS!** This does not apply to Mirrors created in ERAS.

The Mirror feature is available in two locations:

- ESET Remote Administrator (Mirror physically running within ERAS, manageable from ERAC)
- ESET Smart Security Business Edition or ESET NOD32 Antivirus Business Edition (provided that the Business Edition has been activated by a license key).

The administrator selects the method for activating the Mirror feature.

In large networks it is possible to create multiple Mirror servers (e.g., for various company departments), and establish one as central (at company headquarters) in cascade-style – similar to an ERAS configuration with multiple clients.

The administrator must insert the product license key for a purchased product and enter the username and password to enable the Mirror feature in ERAS. If the administrator uses a license key, username and password for ESET NOD32 Antivirus Business Edition, then later upgrades to ESET Smart Security Business Edition, the original license key, username and password must be replaced as well.

NOTE: ESET NOD32 Antivirus clients can also be updated using a ESET Smart Security license, but not vice versa.

8.3.1 Operation of the Mirror server

The computer hosting the Mirror server should always be running, and connected to the Internet or to an upper Mirror server for replication. Mirror server update packages can be downloaded in two ways:

1. Using the HTTP protocol (recommended)
2. Using a shared network drive (SMB)

ESET's update servers use the HTTP protocol with authentication. A central Mirror server should access the update servers with a username (usually in the following form: EAV-XXXXXX) and password.

The Mirror server which is a part of ESET Smart Security/ESET NOD32 Antivirus has an integrated HTTP server (variant 1).

NOTE: If you decide to use the integrated HTTP server (with no authentication), please ensure that it will not be accessible from outside your network (i.e., to clients not included in your license). The server must not be accessible

from the Internet.

By default, the integrated HTTP server listens at TCP port 2221. Please make sure that this port is not being used by any other application.

NOTE: If the HTTP server method is in use, we recommend a maximum of 400 clients updating from one mirror. In large networks with more clients, we recommend balancing mirror updates among more ERA (or ESS/EAV) mirror servers. If the mirror needs to be centralized on a single server, we recommend using another type of HTTP server, such as Apache or IIS. ERA also supports additional authentication methods (e.g., on Apache Web Server the .htaccess method is used).

The second method (shared network folder) requires sharing ("read" rights) of the folder containing update packages. In this scenario, the username and password of a user with "read" rights for the update folder must be entered into the client workstation.

NOTE: ESET client solutions use the SYSTEM user account and thus have different network access rights than a currently logged-in user. Authentication is required even if the network drive is accessible for "Everyone" and the current user can access them, too. Also, please use UNC paths to define the network path to the local server. Using the DISK:\ format is not recommended.

If you decide to use the shared network folder method (variant 2), we recommend that you create a unique username (e.g., NODUSER). This account would be used on all client machines for the sole purpose of downloading updates. The NODUSER account should have "read" rights to the shared network folder which contains the update packages.

For authentication to a network drive, please enter the authentication data in the full form: *WORKGROUP\User* or *DOMAIN\User*.

In addition to authentication, you must also define the source of updates for ESET client solutions. The update source is either a URL address to a local server (*http://Mirror_server_name:port*) or UNC path to a network drive: (*\\Mirror_server_name\share_name*).

8.3.2 Types of updates

In addition to virus signature database updates (which can include ESET software kernel updates), program component upgrades are also available. Program component upgrades add new features to ESET security products and require a reboot.

The Mirror server allows an administrator to disable automatic downloading of program upgrades from ESET's update servers (or from an upper Mirror server) and disable its distribution to clients. Distribution can later be triggered manually by the administrator, if he is sure there will be no conflict between the new version and existing applications.

This feature is especially useful if the administrator wishes to download and use virus signature database updates when there is also a new program version available. If an older program version is used in conjunction with the most recent virus database version, the program will continue to provide the best protection available. Still, we recommend that you download and install the newest program version to gain access to new program features.

By default, program components are not automatically downloaded and must be manually configured in ERAS. For more information see chapter [How to enable and configure Mirror](#)⁷⁸.

8.3.3 How to enable and configure the Mirror

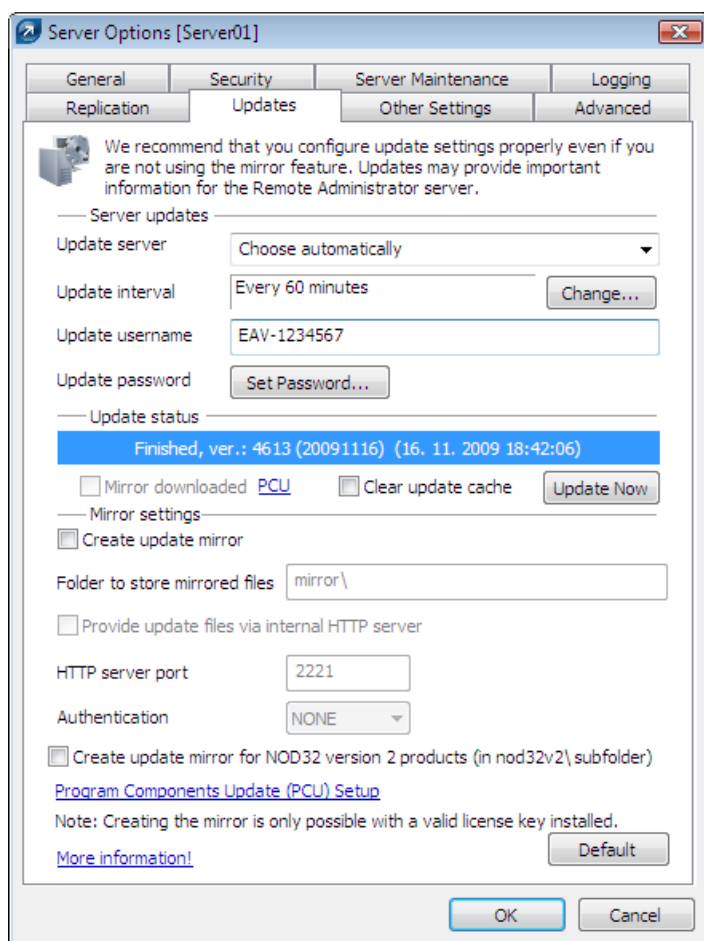
If the Mirror is directly integrated into ERA (a Business Edition component), connect to ERAS using ERAC and follow these steps:

- From the ERAC click **Tools > Server Options... > Updates**.
- From the **Update server:** drop-down menu, select **Choose Automatically** (updates will be downloaded from ESET's servers), or enter the *URL/UNC* path to a Mirror server.
- Set the Update interval for updates (we recommend sixty minutes).
- If you selected **Choose Automatically** in the previous step, insert the username (Update username) and password (Update password) which were sent after purchase of your license. If accessing an upper server, enter a valid domainuser name and password for that server.
- Select the **Create update mirror** option and enter a path to the folder where the update files will be stored. By default this is a relative path to the Mirror folder in the ERA data folder (*%AllUsersProfile%/Application Data/ESET/ESET Remote Administrator*) and can be changed to an absolute path according to your needs. To enable update via http, select the **Provide update files via internal HTTP server** option. HTTP server will be available on the HTTP port

defined in **HTTP server port** option (by default 2221). Set **Authentication** to **NONE** (For more information see chapter [Operation of the Mirror server](#) ⁷⁷).

NOTE: In case of problems with updates, select the **Clear Update Cache** option to flush the folder in which temporary update files are stored.

- The **Mirror Downloaded PCU** option allows you to activate mirroring of program components. To set up PCU mirroring go to **Advanced > Edit Advanced Settings** and configure settings in **ESET Remote Administrator > ERA Server > Setup > Mirror** (or **Mirror for NOD32 version 2**).
- Select the language components to be downloaded in **Advanced > Edit Advanced Settings...** the branch **ERA Server > Setup > Mirror > Create Mirror for the selected program components**. Components for all language versions to be used in the network should be selected. Note that downloading a language version not installed in the network will unnecessarily increase network traffic.



The Mirror feature is also available directly from the program interface in ESET Smart Security Business Edition and ESET NOD32 Antivirus Business Edition. It is left to the administrator's discretion as to which is used to implement the Mirror server.

To activate and launch the Mirror server from ESET Smart Security Business Edition or ESET NOD32 Antivirus Business Edition, follow these steps:

- 1) Install ESET Smart Security Business Edition or ESET NOD32 Antivirus Business Edition
- 2) From the **Advanced Setup** window (F5), click **Miscellaneous > Licenses**. Click the **Add...** button, browse for the *.lic file and click **Open**. This will install the license and allow configuration of the Mirror feature.
- 3) From the **Update** branch click the **Setup...** button and select the **Mirror** tab.
- 4) Select the **Create update mirror** and **Provide update files via internal HTTP server** option.
- 5) Enter the full directory path to the folder (**Folder to store mirrored files**) where update files are to be stored.
- 6) The **Username** and **Password** serve as authentication data for client workstations attempting to gain access to the Mirror folder. In most cases, it is not required to populate these fields.
- 7) Set Authentication to **NONE**.

8) Select components to be downloaded (components for all language versions which will be used in the network should be selected). Components are only displayed if they are available from ESET's update servers.

NOTE: To maintain optimal functionality, we recommend that you enable downloading and mirroring of program components. If this option is disabled, only the virus signature database is updated, not program components. If the Mirror is used as a part of ERA, this option can be configured in ERAC through **Tools > Server Options... > Advanced tab > Edit Advanced Settings... > ESET Remote Administrator > ERA Server > Setup > Mirror**. Enable all program language versions present in your network.

8.3.4 Mirror for clients with NOD32 version 2.x

ESET Remote Administrator also allows an administrator to create update file copies for client computers with ESET NOD32 Antivirus 2.x installed. To do this, click **Tools > Server Options > Updates > Create update mirror NOD32 version 2 products**. This only applies to ERA; the Mirror included in the client solution of the Business Edition (v 3.x) does not contain this option.

If you have a mix of 2.x and 3.x clients in your network, we recommend that you use the Mirror integrated in ERA. If both Mirrors are activated on the same computer – one in ERAS for 2.x clients, and the other in a Business Edition client for 3.x clients – it could result in a conflict between two HTTP servers using the same TCP port.

Updates for 2.x clients are stored in the folder "nod32v2", a subfolder of the main Mirror folder. It is accessible via the URL address:

`http://Mirror_server_name:port/nod32v2`

or UNC path to a network drive:

`\\Mirror_server_name\share_name\nod32v2`

ERA is also capable of downloading program components for 2.x clients. To select program components to be downloaded, navigate to **Tools > Server Options... > Advanced tab > click Edit Advanced Settings...** and expand the branch **ESET Remote Administrator > ERA Server > Setup > Mirror for NOD32 version 2**. To minimize the volume of downloaded data, only select language versions that are present on your network.

8.4 Replication

Replication is used in large networks where multiple ERA Servers are installed (e.g., a company with several branches). For more information, see chapter [Installation](#) ¹⁷.

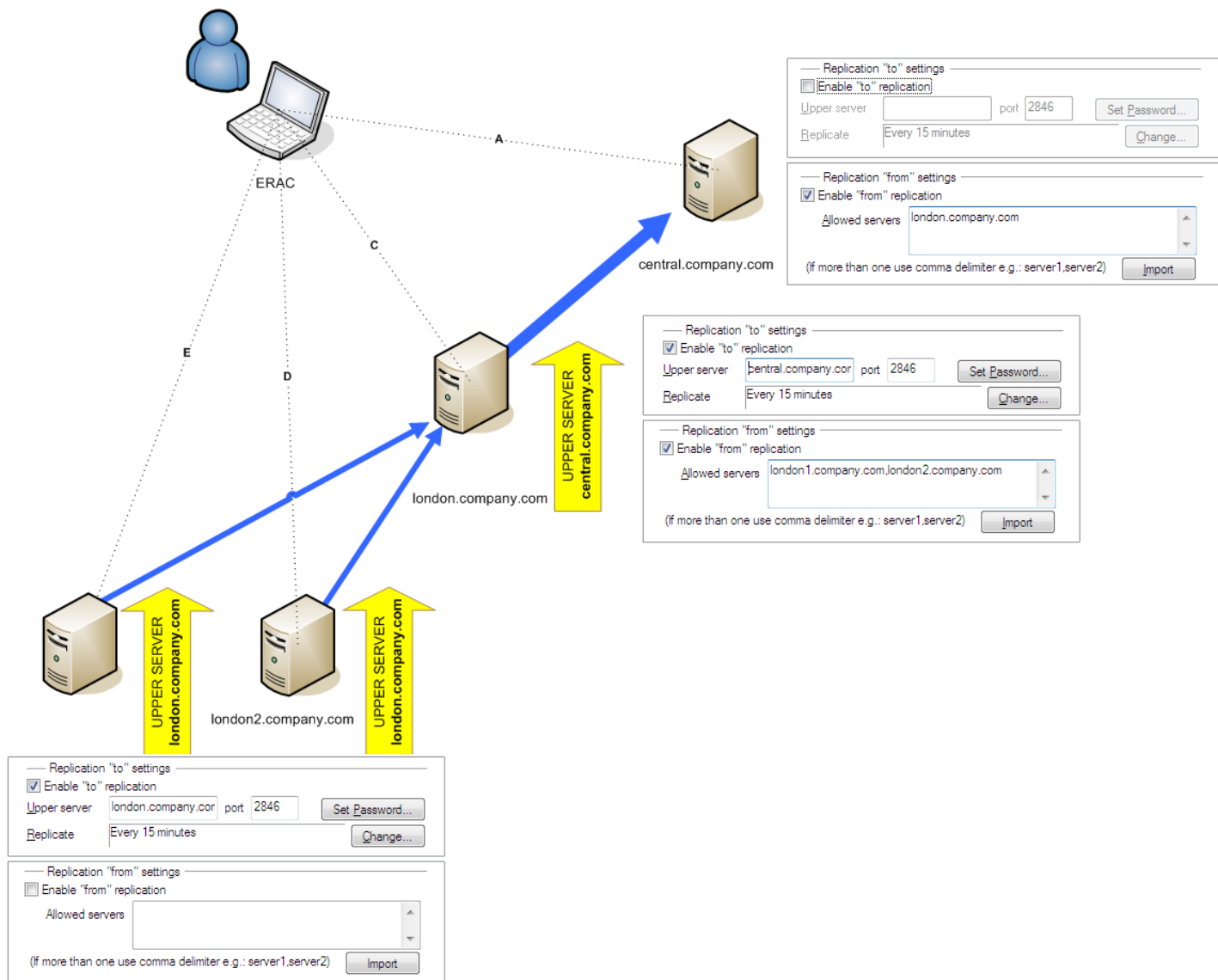
The options in the Replication tab (**Tools > Server Options...**) are divided into two sections:

- Replication "to" settings
- Replication "from" settings

The **Replication "to" settings** section is used to configure lower ERA Servers. The **Enable "to" replication** option must be enabled and the IP address or name of the master ERAS (Upper server) entered. Data from the lower server is then replicated to the master server. The **Replication "from" settings** allow master (upper) ERA Servers to accept data from lower ERA Servers, or to transfer them to their master servers. The **Enable "from" replication** must be enabled and names of lower servers should be defined (delimited by a comma).

Both of these options must be enabled for ERA Servers located anywhere in the middle of the replication hierarchy (i.e., they have both upper and lower servers).

All of the previously mentioned scenarios are visible in the figure below. The beige computers represent individual ERA Servers. Each ERAS is represented by its name (which should be the same as *%Computer Name%* to avoid confusion) and the corresponding settings in the replication dialog window.



Other options that influence the replication behavior of servers include:

- **Replicate threat log, Replicate firewall log, Replicate event log, Replicate scan log, Replicate mobile log, Replicate quarantine log**
If these options are selected, all information displayed on the **Clients, Threat Log, Firewall Log, Event Log, Scan Log, Mobile Log, Quarantine Log** and **Tasks** tab is replicated in individual columns and lines. Information not stored directly in the database, but in individual files (i.e., .txt or.xml format), may not be replicated. Enable these options to also replicate entries in those files.
- **Automatically replicate threat log details, Automatically replicate scan log details, Automatically replicate client details, Automatically replicate mobile log details, Automatically replicate quarantine files**
These options enable automatic replication of the complementary information stored in individual files. They can also be downloaded on demand by clicking the **Request** button).

NOTE: Some logs are automatically replicated, while detailed logs and client configuration logs are only replicated on demand. This is because some logs contain large amounts of data that may not be relevant. For example, a scan log with the Log all files option enabled will consume a significant amount of disk space. Such information is usually not necessary and can be requested manually. Child servers do not automatically submit information about deleted clients. Therefore upper servers may continue to store information about deleted clients from lower servers. If you want to delete a client from the Client tab on upper servers, select the Enable deletion of replicated clients option on the underlying server located in **Server Options > Advanced > Edit Advanced Settings > Setup > Replication**.

To set the log maintenance level in ERAS, click **Tools > Server Options > Advanced > Edit Advanced Settings... > Setup > Server Maintenance**.

If you want to only replicate clients with a status change, select the **Tools > Server Options > Replication > Mark all clients for replication by "Replicate Up Now"** option.

8.5 Logging

While running, ERAS creates a log (**Log filename**) about its activity which is configurable (**Log verbosity**). If the **Log to text file** option is selected, new log files will be created (**Rotate when greater than X MB**) and deleted on a daily basis (**Delete rotated logs older than X days**).

The **Log to OS application log** option allows information to be copied to the system event viewer log (**Windows Control Panel > Administrative Tools > Event viewer**).

The **Database Debug Log** option should be disabled under normal circumstances.

The **Log to Syslog** option sends a syslog message to the specified syslog server on a specified port (default server is localhost, default port is 514).

For advanced syslog settings go to **Tools > Server Options > Advanced > Edit Advanced Settings... > Setup > Logging**. Here you can edit the syslog options - syslog server name, syslog server port, syslog facility and the syslog verbosity.

By default, the text file output is saved to the following location:

```
%ALLUSERSPROFILE%\Application data\Eset\ESET Remote Administrator\Server\logs\era.log
```

We recommend leaving the Log verbosity set to Level 2 – Above + Session Errors. Change the log level only if you are experiencing problems, or if you are advised to do so by ESET Customer Care.

Click **Tools > Server Options > Advanced > Edit Advanced Settings... > Setup > Logging > Rotated debug log compression** to configure compression level for individual rotated logs.

The **Verbosity** of a log means the level of details in a log and the information included.

- **Level 1 - Critical Information** - Faulty behavior (in this case, please contact the ESET technical support).
- **Level 2 - Above + Important Session Information** - Information about the server communication (who, when and why logged on to the ERA Server).
- **Level 3 - Above + Various Information** - Information about internal processes in the ERA Server.
- **Level 4 - Above + Installer** - Information about the einstaller.exe agent (information about the ERA Server - agent connection/disconnection and the results).
- **Level 5 - Above + Clients** - Client informations (information about the ERA Server - client connection/disconnection and the results).

8.6 License management

In order for ERA to function properly, a license key must be uploaded. After purchase, license keys are delivered along with your username and password to your email. The **License manager** serves to manage licenses.

In ERA 3.x and later, support for multiple license keys has been added. This feature makes management of license keys more convenient.

The main License Manager window is accessible from **Tools > License manager**.

To add a new license key:

- 1) Navigate to **Tools > License manager** or press **CTRL + L** on your keyboard.
- 2) Click **Browse** and find the desired license key file (license keys have the extension *.lic*).
- 3) Click **Open** to confirm.
- 4) Verify that the license key information is correct and select **Upload to Server**.
- 5) Click **OK** to confirm.

The **Upload to Server** button is only active if you have selected a license key (using the **Browse** button). Information about the currently viewed license key is shown in this part of the window. This allows for a final check before the key is copied to the server.

The central part of the window displays information about the license key which is currently used by the server. To see

details about all license keys present on the server, click the **Details...** button.

ERAS is capable of selecting the most relevant license key and merging multiple keys into one. If there is more than one license key uploaded, ERAS will always try to find the key with the most clients and furthest expiration date.

The ability to merge multiple keys works if all keys are owned by the same customer. Merging licenses is a simple process which creates a new key containing all clients involved. The expiration date of the new license key becomes the expiration date of the key that would expire first.

The bottom part of the License Manager window is dedicated to notifications when there is a problem with licenses. The available options include:

- **Warn if the server is about to expire in 20 days** – Displays a warning X days before license expires
- **Warn only if this will cause the number of clients in the license to fall below the number or actual clients in the server database** – Activate this option to only show a warning if the expiration of the license key or a part of the license will cause a decrease in the number of clients below the number of currently connected clients, or clients in the ERAS database
- **Warn if there is only 10% free clients left in the server license** – Server will display a warning if the number of free client slots falls under specified value (in %)

ERAS is capable of merging multiple licenses from multiple customers. This feature must be activated by a special key. If you need a special key, please specify it in your order, or contact your local ESET distributor.

8.7 Advanced settings

To access ERA Advanced settings, click **Tools > Server Options > Advanced > Edit Advanced Settings**.

Advanced settings include the following:

- **Maximum disk space usage (percent)**
When exceeded, some server features may not be available. When connecting to ERAS, ERAC displays a notification if the limit is exceeded.
- **Communication protocol encoding**
Defines the type of encoding. We recommend the default setting.
- **Enable MAC address renaming (from unknown to valid)**
After reinstalling from an ESET client solution that does not support sending a MAC address (e.g., ESET NOD32 Antivirus 2.x) to a client solution that does (e.g., a 3.x client), the old client record will be converted to the new one. We recommend the default setting (Yes).
- **Enable MAC address renaming (from valid to unknown)**
After reinstalling from an ESET client solution that does support sending a MAC address (e.g., ESET NOD32 Antivirus 3.x) to a client solution that does not (e.g., a 2.x client), the old client record will be converted to the new one. We recommend the default setting (No).
- **Enable MAC address renaming (from valid to another valid)**
Enables renaming of valid MAC addresses. The default value does not allow for renaming, which means that the MAC address is a part of the unique identification of clients. Disable this option if there are multiple entries for one PC. We also recommend disabling this option if a client is identified as the same client after the MAC address has been changed.
- **Enable computer name renaming**
Allows for renaming of client computers. If disabled, the computer name will be a part of the unique identification of clients.
- **Also use default server logon during push installation**
ERAS allows the user to set the username and password for logon script and email remote installation only. Enable this option to use the predefined values also for remote push installations.

8.8 Other settings

SMTP settings

Some features in ERA require correct SMTP server configuration. Those features include remote email installation and generating reports to be sent by email.

New clients

Allow new clients

If disabled, no new clients will be added in the Clients tab – even if new clients communicate with ERA Servers, they will not be visible in the Clients tab.

Automatically reset “New” flag by new clients

If enabled, the New flag is removed from clients connecting to ERAS for the first time. For more information please see chapter [Clients tab](#)^[24].

Ports

Enables you to customize ports where ERAS is listening to communications, established by **Console** (by default 2223), **Client** (by default 2222), the replication process (**Replication port** – by default 2846), **ESET Remote Installer** (by default 2224).

ThreatSense.Net

If enabled, ERAS will forward suspicious files and statistical information from clients to ESET's servers in specified interval. Note that it is not always possible for client workstations to submit this information directly, due to the network configuration.

9. ESET Remote Administrator Maintenance Tool

The purpose of the ESET Remote Administrator Maintenance Tool is to execute specific tasks for server operation and maintenance. It can be accessed by clicking **Start > Program Files > ESET Remote Administrator > Server**. When you launch the ERA Maintenance tool, an interactive wizard will display to help you in performing the required tasks.

NOTE: For ERA Maintenance Tool to work properly on Windows NT4 SP6, Internet Explorer v5.0 and later is required, or at least to upgrade the Common Controls library (comctl32.dll). ComCtl32 library is a part of Platform SDK ComCtl32 Redistributables and can be downloaded from [Microsoft website](#).

9.1 ERA Server Information

The tool displays summary information about the ERA Server installed. The displayed information can be viewed in more detail in a separate window by clicking **More Information**, it can be copied by clicking **Copy to clipboard** and it can be refreshed by clicking **Refresh**. After you verify the information, proceed to the next step by clicking **Next**.

9.2 Task Type

The Maintenance tool contains a list of available tasks. At the end of each task setup, you can save the settings for the current task by clicking **Save all settings to a file**. The settings can be then used at any time in the future by clicking **Load all settings from a file**. Each individual step in a task setup also has the option to **Save all settings to a file** or **Load all settings from a file**.

9.2.1 Stop ERA Server

This task stops the ESET Remote Administrator Server service.

9.2.2 Start ERA Server

This task starts the ESET Remote Administrator Server service.

9.2.3 Database Transfer

This task allows you to convert the database format. The tool can convert between the following databases:

- MS Access
- MS SQL Server
- Oracle
- My SQL

The first step is to select the database.

If the database is an MS Access database, specify the path to the *.mdb* file. The path specified during ERA Server installation is used by default.

All other database formats require additional parameters to be set:

- Connection string: Special string used to identify the source database
- Username: Username for accessing the database
- Password: Password for accessing the database
- Schema name: Name of a schema (available for Oracle and MS SQL only)

Click **Load current server configuration** to use the current ERA Server settings. Click **Test Connection** to test the database connection. If the connection cannot be established, check the parameters for errors. After the database test is successful, continue by clicking **Next**.

Select the target database. Select **Replace server connection settings** to connect the server and use the new database after successful conversion. Not selecting this option will cause the new database to be created without the server updating to the new database version.

For all database types besides MS Access database, select whether to create the database tables automatically (**Create tables in the database automatically**) or insert the tables into the database later (**View Script > Save to File**) in the next step. For an MS SQL database, the **Create a new database ESETRADB automatically** option automatically creates a new MYSQL database named ESETRADB. The final step is to confirm the database conversion.

9.2.4 Database Backup

This tool allows you to create a backup file of the database. The settings in the first window are similar to those in the database conversion (see chapter [Database Transfer](#)^[85]); in this window the source database is selected. The source database will be copied to a backup file specified in the next step.

Optional parameters in the lower part of the window enable you to overwrite the existing file (**Overwrite if exists**) as well as to stop ESET Remote Administrator Server during the backup process (**Stop server during processing task**). Click **Next** to confirm the task execution.

9.2.5 Database Restore

This task allows you to restore the database from a backup file. The settings in the first window are similar to those in the database conversion (see chapter [Database Transfer](#)^[85]); in this window the database type is selected.

For all database types besides MS Access database select whether to create the database tables automatically (**Create tables in the database automatically**) or insert the tables into the database later (**View Script > Save to File**) in the next step. For an MS SQL database the **Create a new database ESETRADB automatically** option automatically creates a new MySQL database named ESETRADB. The final step is to confirm the database conversion.

Select the file from which the database is to be restored in the next step. Optional parameters in the lower part of the window enable you to import a file from a different database type as selected in the previous step (**Allow import from a different type of database**) as well as to stop ESET Remote Administrator Server during database restore (**Stop server during processing task**). Click **Next** to confirm the task execution.

9.2.6 Delete Tables

This deletes data in current tables in the database. As a result, the database will return to the state from right after ERA Server installation. The settings in the first window are similar to those in the database conversion (see chapter [Database Transfer](#)^[85]); in this window the database type is selected. In the next step you will be prompted to confirm the action. Select **Yes, I agree** and then click **Next** to confirm the action.

NOTE: It is necessary that you stop ERA Server service before deleting the tables, otherwise the deletion will fail.

If an MS Access database is used, it will be replaced with the default empty database.

9.2.7 Install New License Key

To insert a new license key to be used by the server enter the location of the new license key.

Overwrite the existing license key if required (**Overwrite if exists**) and restart the server if required (**Force server start (in case it is not running)**). Click **Next** to confirm and complete the action.

9.2.8 Modify server configuration

This task launches the Configuration Editor (if installed). Finishing the task opens the Configuration Editor window and allows you to edit advanced ERA Server settings. These settings are also accessible via **Tools > Server Options > Advanced > Edit Advanced Settings**.

NOTE: In order for this feature to work, ERA Console must be installed.

10. Troubleshooting

10.1 FAQ

This chapter contains solutions to the most frequently asked questions and problems related to installation and operation of ERA.

10.1.1 Problems installing ESET Remote Administrator to Windows server 2000/2003

Cause:

One of the possible causes may be the Terminal Server running on the system in the *execution* mode.

Solution:

Microsoft advises switching the Terminal Server to “*install*” mode while installing programs to a system with Terminal Server service running. This can be done either through **Control Panel > Add/Remove programs** or by opening a command prompt and issuing the *change user /install* command. After installation, type *change user /execute* to return the Terminal Server to execution mode. For step-by-step instructions on this process, see the following article: <http://support.microsoft.com/kb/320185>.

10.1.2 What is the meaning of the GLE error code?

Installing ESET Smart Security or ESET NOD32 Antivirus via the ESET Remote Administrator Console can occasionally generate a GLE error. To find the meaning of any GLE error number, follow the steps below:

- 1) Open a command prompt by clicking **Start > Run**. Type *cmd* and click **OK**.
- 2) At the command prompt, type: *net helpmsg error_number*

Example: *net helpmsg 55*

Example result: The specified network resource or device is no longer available.

10.2 Frequently encountered error codes

During the operation of ERA, you may encounter error messages which contain error codes indicating a problem with some feature or operation. The following chapters outline the most frequently encountered error codes when performing push installs, as well as errors that can be found in the ERAS log.

10.2.1 Error messages displayed when using ESET Remote Administrator to remotely install ESET Smart Security or ESET NOD32 Antivirus

SC error code 6, GLE error code 53 Could not set up IPC connection to target computer

To set up an IPC connection, these requirements should be met:

1. TCP/IP stack installed on the computer where ERAS is installed, as well as on the target computer.
2. File and Printer Sharing for Microsoft Network must be installed.
3. File sharing ports must be open (135-139, 445).
4. The target computer must answer ping requests.

SC error code 6, GLE error code 67 Could not install ESET installer on target computer

The administrative share *ADMIN\$* must be accessible on the client's system drive.

SC error code 6, GLE error code 1326 Could not set up IPC connection to target computer, probably due to a wrong username or password

Administrator's username and password have not been typed correctly or have not been entered at all.

SC error code 6, GLE error code 1327 Could not set up IPC connection to target computer

Administrator's password field is blank. A remote push installation cannot work with a blank password field.

SC error code 11, GLE error code 5 Could not install ESET installer on target computer

The installer cannot access the client computer due to insufficient access rights (Access Denied).

SC error code 11, GLE error code 1726 Could not install NOD32 Installer onto target computer

This error code displays after repeated attempts to install if the Push Installation window was not closed after the first attempt.

10.2.2 Frequently encountered error codes in era.log

Ox1203 – UPD_RETVAL_BAD_URL

Update module error – incorrectly entered update server name.

Ox1204 – UPD_RETVAL_CANT_DOWNLOAD

This error can appear:

- when updating through HTTP
 - update server returns an HTTP error code between 400- 500 except for 401, 403, 404, and 407
 - if updates are downloaded from a CISCO based server and the HTML authentication response format has been changed
- when updating from a shared folder:
 - returned error does not fall into the categories bad authentication or file not found (e.g., *connection interrupted* or *non existing server*, etc.)
- both update methods
 - if all of the servers listed in the file *upd.ver* could not be found (the file is located in %ALLUSERSPROFILE%\Application Data\ESET\ESET Remote Administrator\Server\updfiles)
 - failed to contact the failsafe server (probably due to deletion of the corresponding ESET entries in the registry)
- incorrect proxy server configuration in ERAS
 - The administrator must specify proxy server in the format

Ox2001 – UPD_RETVAL_AUTHORIZATION_FAILED

Authentication to update server failed, incorrect username or password.

Ox2102 – UPD_RETVAL_BAD_REPLY

This update module error can be encountered if a proxy server is used to mediate Internet connection – namely Webwasher proxy.

Ox2104 – UPD_RETVAL_SERVER_ERROR

Update module error indicating an HTTP error code higher than 500. If the ESET HTTP server is being used, error 500 indicates a problem with memory allocation.

Ox2105 – UPD_RETVAL_INTERRUPTED

This update module error can be encountered if a proxy server is used to mediate the Internet connection – namely Webwasher proxy.

10.3 How to diagnose problems with ERAS?

If you suspect that there is something wrong with ERAS or if it is not functioning correctly, we recommend that you follow these steps:

- 1) Check the ERAS log: Click **Tools > Server Options** from the ERAC main menu. From the **Server Options** window, click the **Logging** tab and then click **View log**.
- 2) If you see no error messages, increase the **Log verbosity** level in the **Server Options** window to Level 5. After you have tracked down the problem, we recommend switching back to the default value.
- 3) You may also be able to troubleshoot problems by turning on the database debug log in the same tab – see section **Debug Log**. We recommend that you only activate the **Debug log** when attempting to duplicate the problem.
- 4) If you see any error codes other than those mentioned in this documentation, please contact ESET Customer Care. Please describe the behavior of the program, how to replicate the problem or how to avoid it. It is very important to include the program version of all ESET security products involved (i.e., ERAS, ERAC, ESET Smart Security, ESET NOD32 Antivirus).

11. Hints & tips

11.1 Scheduler

ESET NOD32 Antivirus and ESET Smart Security contain an integrated task scheduler which allows for scheduling regular computer scans, updates, etc. All specified tasks are listed in the Scheduler.

Following types of tasks can be configured using ERA:

- Run external application
- Log maintenance
- Computer scan
- Create a computer status snapshot
- Update
- Automatic startup file check

In most cases, there is no need to configure a **Run external application** task. The task **Automatic startup file check** is a default task and we recommend not changing its parameters. If no changes have been made after installation, ESET NOD32 and ESET Smart Security contain two predefined tasks of this type. The first task checks system files at each user logon, the second task does the same after a successful virus signature database update. From an administrator's point of view, the tasks **Computer scan** and **Update** are probably the most useful:

- **Computer scan**

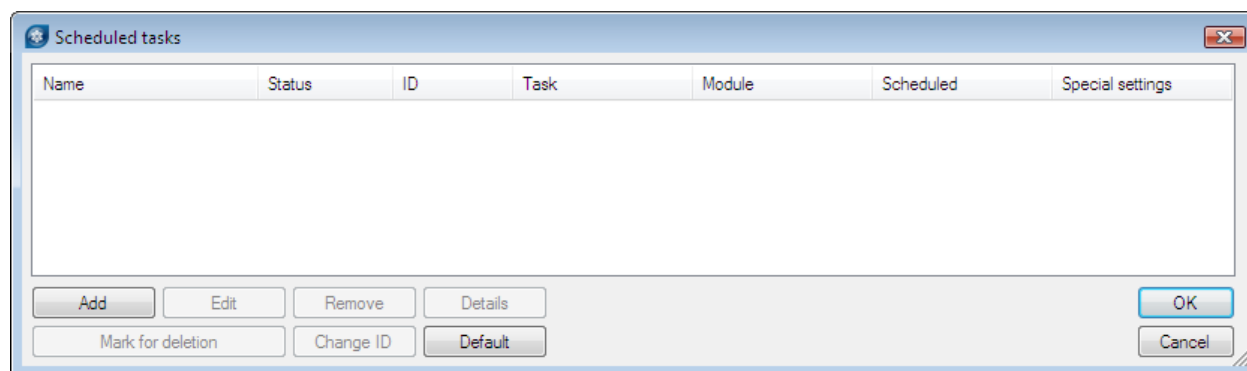
It provides regular antivirus scan (usually of local drives) on clients.

- **Update**

This task is responsible for updating ESET client solutions. It is a predefined task and by default runs every 60 minutes. Usually there is no reason to modify its parameters. The only exception is for notebooks, since their owners often connect to the Internet outside of the local networks. In this case, the update task can be modified to use two update profiles within one task. This will allow notebooks to update from the local Mirror server, as well as from ESET's update servers.

The Scheduler setup can also be found in the **ESET Configuration Editor** in ESET Smart Security / ESET NOD32 Antivirus > **ESET Kernel** > **Setup** > **Scheduler/Planner** > **Scheduler/Planner** > **Edit**.

For more information see chapter [ESET Configuration Editor](#)^[32].



The dialog window may contain existing tasks (click **Edit** to modify them) or it may be empty. It depends on whether you have opened a configuration from a client (e.g., from a previously configured and working client) or opened a new file with the default template containing no tasks.

Every new task is assigned an attribute ID. Default tasks have decimal IDs (1, 2, 3...) and custom tasks are assigned hexadecimal keys (e.g., 4AE73D6C), which are automatically generated when creating a new task.

If the check box for a task is selected, it means that the task is active and that it will be performed on the given client.

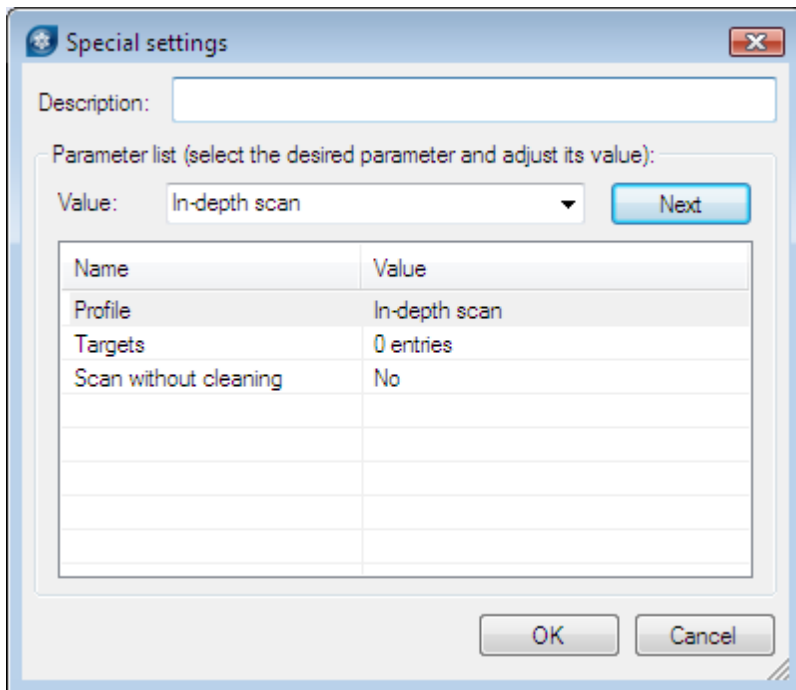
The buttons in the Scheduled tasks window function in the following way:

- **Add** – Adds a new task

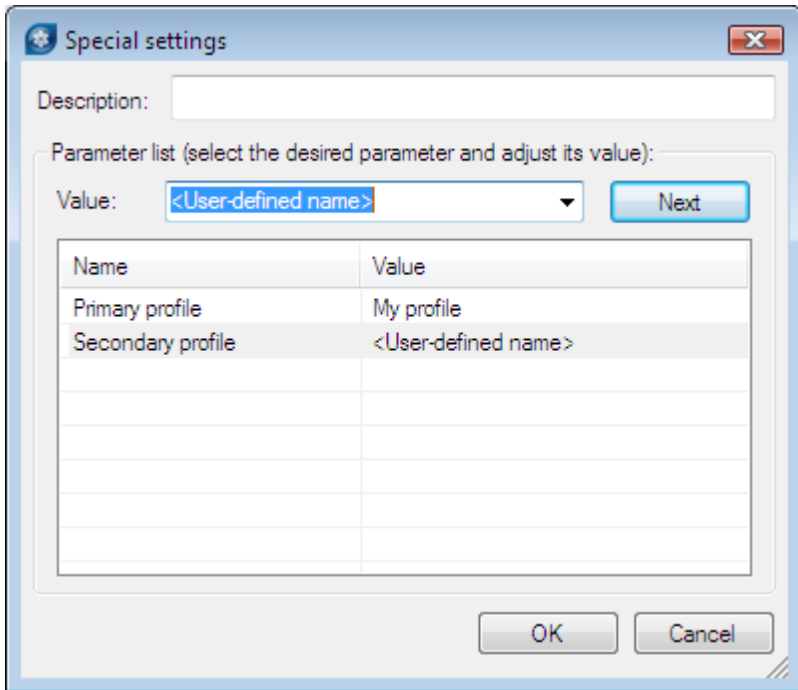
- **Edit** – Modifies selected tasks
- **Change ID** – Modifies ID of selected tasks
- **Details** – Summary information about the selected tasks
- **Mark for deletion** – Application of .xml file will remove tasks (with the same ID) selected by clicking this button from target clients.
- **Remove from list** – Deletes selected tasks from the list. Please note that tasks removed from the list in the.xml configuration will not be removed from target workstations.

When creating a new task (**Add** button) or when editing an existing one (**Edit**), you must specify when it will run. The task can repeat after a certain period of time (each day at 12, each Friday, etc.) or it can be triggered by an event (after a successful update, the first time the computer starts each day, etc.).

The last step of the task **On-demand computer scans** shows the special settings window, where you can define which configuration will be used for scanning – i.e., which scanning profile and scan targets will be used.



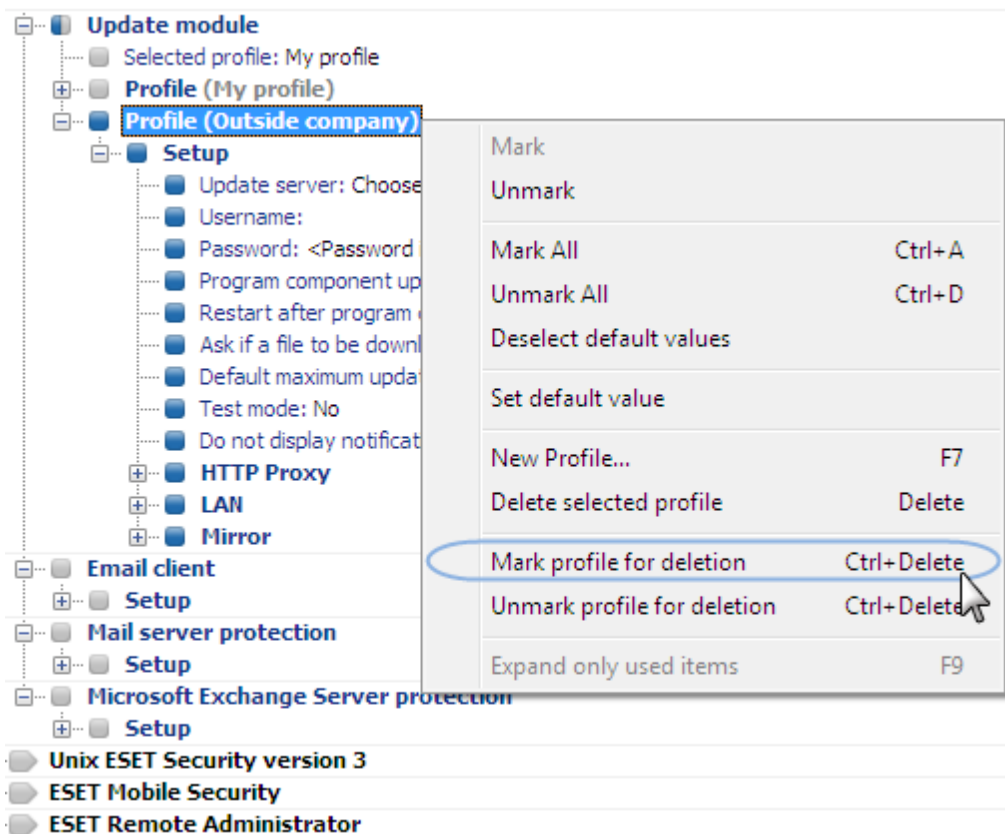
The last step of the **Update** task specifies what update profiles will run within the given task. It is a predefined task and runs every 60 minutes by default. Usually there is no reason to modify its parameters. The only exception is for notebooks, since their owners also connect to the Internet from outside of company networks. The last dialog allows you to specify two different update profiles, covering updates either from a local server or from ESET's update servers.



11.2 Removing existing profiles

Occasionally you may come across duplicate profiles (either update or scan profiles) that were created by mistake. To remove those profiles remotely without damaging other settings in the Scheduler, follow the steps below:

- From ERAC, click the **Clients** tab and then double-click a problematic client.
- From the **Client Properties** window, click the **Configuration** tab. Select the **Then Run ESET Configuration Editor to edit the file** and **Use the downloaded configuration in the new configuration task** options and then click the **New Task** button.
- In the new task wizard, click **Edit**.
- In the Configuration Editor, press **CTRL + D** to deselect (grey) all settings. This helps prevent accidental changes, as any new changes will stand out in blue.
- Right-click on the profile you wish to remove and select **Mark profile for deletion** from the context menu. The profile will be deleted as soon as the task is delivered to clients.



- Click the **Console** button in the ESET Configuration Editor and save the settings.
- Verify that the client you selected is in the **Selected items** column on the right. Click **Next** and then click **Finish**.

11.3 Export and other features of client XML configuration

From ERAC, select any clients in the **Clients** tab. Right-click and select **Configuration...** from the context menu. Click **Save As...** to export the assigned configuration of the given client to an *.xml* file (*.xml* configuration files can also be extracted directly from the ESET Smart Security program interface). The *.xml* file can be used afterwards for various operations:

- For remote installations, the *.xml* file can be used as a template for a predefined configuration. This means that no new *.xml* file is created and the existing *.xml* file is assigned (**Select...**) to a new install package. The *.xml* configuration files can also be extracted directly from the ESET Smart Security program interface.
- For configuring multiple clients, selected clients receive a previously downloaded *.xml* file and adopt the settings which are defined in the file (no new configuration is created, only assigned by the **Select...** button).

Example

An ESET security product is only installed on one workstation. Adjust the settings directly through the program's user interface. When finished, export the settings to an *.xml* file. This *.xml* file can then be used for remote installations to other workstations. This method can be very useful for tasks such as fine-tuning firewall rules, if the "Policy-based" mode is to be applied.

11.4 Combined update for notebooks

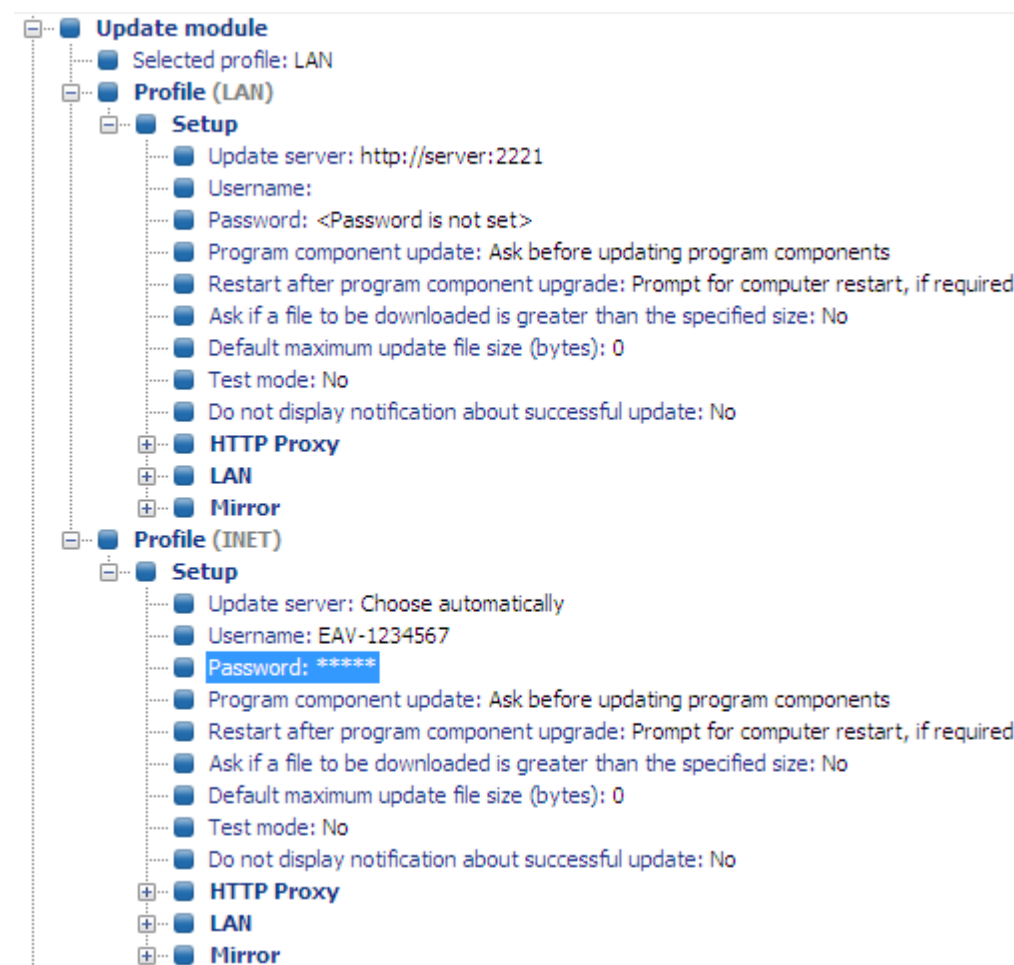
If there are any mobile devices in your local network (i.e., notebooks), we recommend that you configure a combined update from two sources: ESET's update servers and the local Mirror server. First, notebooks contact the local Mirror server, and if the connection fails (they are outside of the office), they download updates directly from ESET's servers. To allow for this functionality:

- Create two update profiles, [Export and other features of client XML configuration](#) one directed to the Mirror server (referred to as "LAN" in the following example) and the second one to ESET's update servers (INET)
- Create a new update task or modify an existing update task through the Scheduler (**Tools > Scheduler** from the main program window of ESET Smart Security or ESET NOD32 Antivirus).

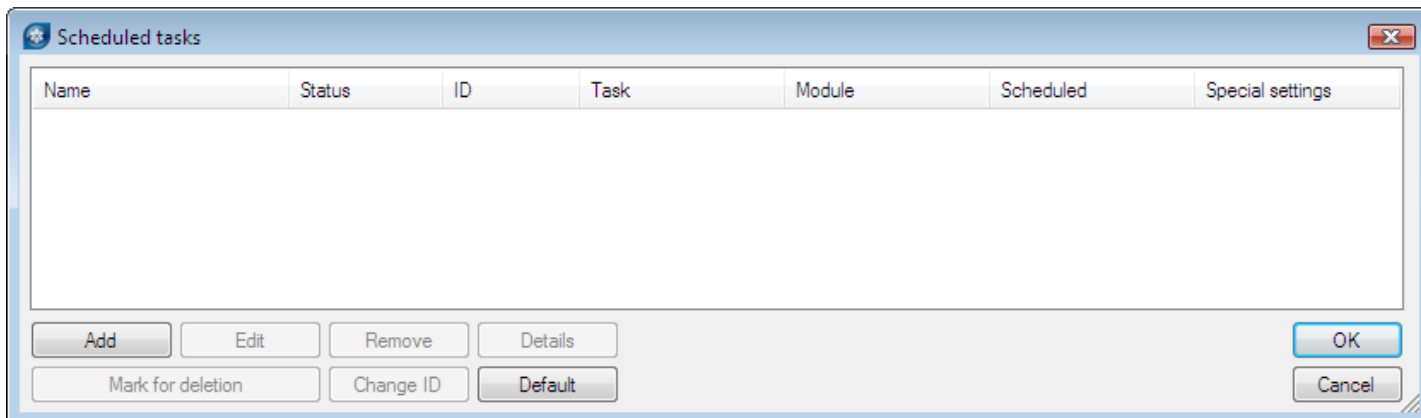
The configuration can be made directly on notebooks or remotely using the ESET Configuration Editor. It can be applied either during installation or anytime later as a configuration task.

To create new profiles in ESET Configuration Editor, right-click the **Update** branch and select **New profile** from the context menu.

The result of modifications should resemble the one displayed below:



The profile LAN downloads updates from the company's local Mirror server (*http://server:2221*), while the profile INET connects to ESET's servers (**Choose Automatically**). Next, define an update task which runs each update profile in succession. To do this, navigate to **ESET Smart Security, ESET NOD32 Antivirus > Kernel > Setup > Scheduler/Planner** in the ESET Configuration Editor. Click the **Edit** button to display the **Scheduled tasks** window.



To create a new task, click **Add**. From the **Scheduled task** drop-down menu, select **Update** and click **Next**. Enter the **Task name** (e.g., "combined update"), select **Repeatedly every 60 minutes** and proceed to the selection of a primary and secondary profile.

If the notebook workstations should contact the Mirror server first, the Primary profile should be set to LAN and the Secondary profile should be set to INET. The profile INET would only be applied if the update from LAN fails.

Recommendation: Export the current *.xml* configuration from a client (for more information, see chapter [How to diagnose problems with ERAS?](#)^[88]) and perform the above-mentioned modifications on the exported *.xml* file. This will prevent any duplication between the Scheduler and non-working profiles.

11.5 Installation of third party products using ERA

In addition to remote installation of ESET products, ESET Remote Administrator is capable of installing other programs. The only requirement is that the custom install package must be in the *.msi* format. The remote installation of custom packages can be performed using a process very similar to the one described in chapter [Remote installation](#)^[35].

The main difference is in the package creation process, which is as follows:

- 1) From ERAC, click the **Remote Install** tab.
- 2) Click the **Packages...** button.
- 3) From the Package type drop-down menu select **Custom package**.
- 4) Click **Add...**, click **Add file** and select the desired *.msi* package.
- 5) Select the file from the **Package Entry File** drop-down menu and click **Create**.
- 6) After returning to the original window you can specify command line parameters for the *.msi* file. The parameters are the same as for a local installation of the given package.
- 7) Click **Save as...** to save the package.
- 8) Click **Close** to exit the installation package editor.

The newly created custom package can be distributed to client workstations in the same manner as the remote installations described in previous chapters. A remote push install, logon or email push install will send the package to target workstations. From the moment the package is executed, installation is handled by the Microsoft Windows Installer service.

12. ESET SysInspector

12.1 Introduction to ESET SysInspector

ESET SysInspector is an application that thoroughly inspects your computer and displays gathered data in a comprehensive way. Information like installed drivers and applications, network connections or important registry entries can help you to investigate suspicious system behavior be it due to software or hardware incompatibility or malware infection.

You can access ESET SysInspector two ways: From the integrated version in ESET Security solutions or by downloading the standalone version (*SysInspector.exe*) for free from ESET's website. Both versions are identical in function and have the same program controls. The only difference is how outputs are managed. The standalone and integrated versions each allow you to export system snapshots to an *.xml* file and save them to disk. However, the integrated version also allows you to store your system snapshots directly in **Tools > ESET SysInspector** (except ESET Remote Administrator).

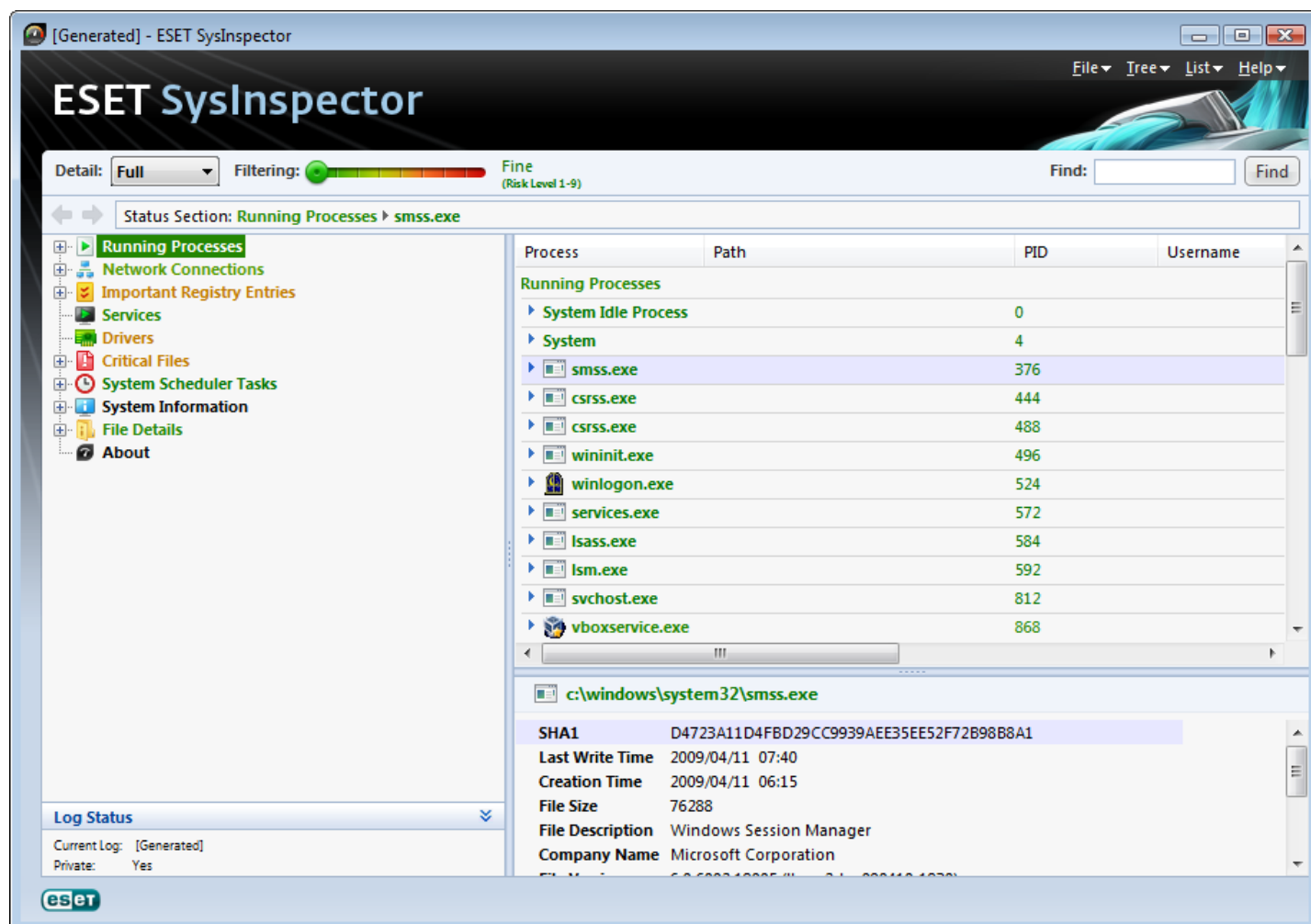
Please allow some time while ESET SysInspector scans your computer. It may take anywhere from 10 seconds up to a few minutes depending on your hardware configuration, operating system and the number of applications installed on your computer.

12.1.1 Starting ESET SysInspector

To start ESET SysInspector, simply run the *SysInspector.exe* executable you downloaded from ESET's website. If you already have one of the ESET Security solutions installed, you can run ESET SysInspector directly from the Start Menu (**Programs > ESET > ESET Remote Administrator**). Please wait while the application inspects your system, which could take up to several minutes depending on your hardware and data to be gathered.

12.2 User Interface and application usage

For clarity the Main window is divided into four major sections – Program Controls located on the top of the Main window, the Navigation window on the left, the Description window on the right in the middle and the Details window on the right at the bottom of the Main window. The Log Status section lists the basic parameters of a log (filter used, filter type, is the log a result of a comparison etc.).



12.2.1 Program Controls

This section contains the description of all program controls available in ESET SysInspector.

File

By clicking **File** you can store your current system status for later investigation or open a previously stored log. For publishing purposes we recommend that you generate a log **Suitable for sending**. In this form, the log omits sensitive information (current user name, computer name, domain name, current user privileges, environment variables, etc.).

NOTE: You may open previously stored ESET SysInspector reports by simply dragging and dropping them into the Main window.

Tree

Enables you to expand or close all nodes and export selected sections to Service script.

List

Contains functions for easier navigation within the program and various other functions like finding information online.

Help

Contains information about the application and its functions.

Detail

This setting influences the information displayed in the Main window to make the information easier to work with. In "Basic" mode, you have access to information used to find solutions for common problems in your system. In the "Medium" mode, the program displays less used details. In "Full" mode, ESET SysInspector displays all the information needed to solve very specific problems.

Item filtering

Item filtering is best used to find suspicious files or registry entries in your system. By adjusting the slider, you can filter items by their Risk Level. If the slider is set all the way to the left (Risk Level 1), then all items are displayed. By moving the slider to the right, the program filters out all items less risky than current Risk Level and only display items which are more suspicious than the displayed level. With the slider all the way to the right, the program displays only known harmful items.

All items labeled as risk 6 to 9 can pose security risk. If you are not using a security solution from ESET, we recommend that you scan your system with [ESET Online Scanner](#) if ESET SysInspector has found any such item. ESET Online Scanner is a free service.

NOTE: The Risk level of an item can be quickly determined by comparing the color of the item with the color on the Risk Level slider.

Search

Search can be used to quickly find a specific item by its name or part of its name. The results of the search request are displayed in the Description window.

Return



By clicking the back or forward arrow, you may return to previously displayed information in the Description window. You may use the backspace and space keys instead of clicking back and forward.

Status section

Displays the current node in Navigation window.

Important: Items highlighted in red are unknown, which is why the program marks them as potentially dangerous. If an item is in red, it does not automatically mean that you can delete the file. Before deleting, please make sure that files are really dangerous or unnecessary.

12.2.2 Navigating in ESET SysInspector

ESET SysInspector divides various types of information into several basic sections called nodes. If available, you may find additional details by expanding each node into its subnodes. To open or collapse a node, double-click the name of the node or alternatively click  or  next to the name of the node. As you browse through the tree structure of nodes and subnodes in the Navigation window you may find various details for each node shown in the Description window. If you browse through items in the Description window, additional details for each item may be displayed in the Details window.

The following are the descriptions of the main nodes in the Navigation window and related information in the Description and Details windows.

Running processes

This node contains information about applications and processes running at the time of generating the log. In the Description window you may find additional details for each process such as dynamic libraries used by the process and their location in the system, the name of the application's vendor and the risk level of the file.

The Detail window contains additional information for items selected in the Description window such as the file size or its hash.

NOTE: An operating system comprises of several important kernel components running 24/7 that provide basic and vital functions for other user applications. In certain cases, such processes are displayed in the tool ESET SysInspector with file path beginning with `\??\`. Those symbols provide pre-launch optimization for those processes; they are safe for the system.

Network connections

The Description window contains a list of processes and applications communicating over the network using the

protocol selected in the Navigation window (TCP or UDP) along with the remote address where to which the application is connected to. You can also check the IP addresses of DNS servers.

The Detail window contains additional information for items selected in the Description window such as the file size or its hash.

Important Registry Entries

Contains a list of selected registry entries which are often related to various problems with your system like those specifying startup programs, browser helper objects (BHO), etc.

In the Description window you may find which files are related to specific registry entries. You may see additional details in the Details window.

Services

The Description window Contains a list of files registered as windows Services. You may check the way the service is set to start along with specific details of the file in the Details window.

Drivers

A list of drivers installed in the system.

Critical files

The Description window displays content of critical files related to the Microsoft windows operating system.

System information

Contains detailed information about hardware and software along with information about set environmental variables and user rights.

File details

A list of important system files and files in the Program Files folder. Additional information specific for the files can be found in the Description and Details windows.

About

Information about ESET SysInspector.

12.2.3 Compare

The Compare feature allows the user to compare two existing logs. The outcome of this feature is a set of items not common to both logs. It is suitable if you want to keep track of changes in the system, a helpful tool for detecting activity of malicious code.

After it is launched, the application creates a new log which is displayed in a new window. Navigate to **File > Save log** to save a log to a file. Log files can be opened and viewed at a later time. To open an existing log, use **File > Open log**. In the main program window, ESET SysInspector always displays one log at a time.

The benefit of comparing two logs is that you can view a currently active log and a log saved in a file. To compare logs, use the option **File > Compare log** and choose **Select file**. The selected log will be compared to the active one in the main program windows. The comparative log will display only the differences between those two logs.

NOTE: If you compare two log files, select **File > Save log** to save it as a ZIP file; both files are saved. If you open this file later, the contained logs are automatically compared.

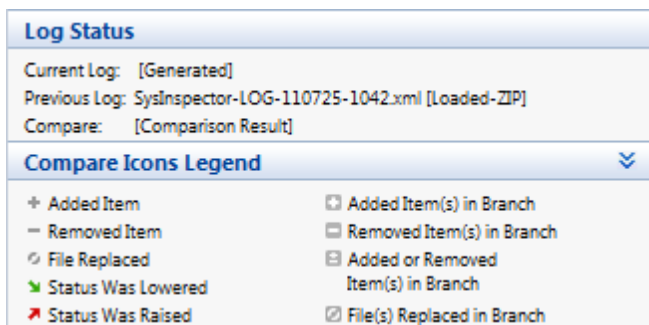
Next to the displayed items, ESET SysInspector shows symbols identifying differences between the compared logs.

Items marked by a **-** can only be found in the active log and were not present in the opened comparative log. Items marked by a **+** were present only in the opened log and are missing in the active one.

Description of all symbols that can be displayed next to items:

- + new value, not present in the previous log
- ☐ tree structure section contains new values
- - removed value, present in the previous log only
- ☐ tree structure section contains removed values
- ↻ value / file has been changed
- ☑ tree structure section contains modified values / files
- 📉 the risk level has decreased / it was higher in the previous log
- 📈 the risk level has increased / it was lower in the previous log

The explanation section displayed in the left bottom corner describes all symbols and also displays the names of logs which are being compared.



Any comparative log can be saved to a file and opened at a later time.

Example

Generate and save a log, recording original information about the system, to a file named `previous.xml`. After changes to the system have been made, open ESET SysInspector and allow it to generate a new log. Save it to a file named `current.xml`.

In order to track changes between those two logs, navigate to **File > Compare logs**. The program will create a comparative log showing differences between the logs.

The same result can be achieved if you use the following command line option:

```
SysInspector.exe current.xml previous.xml
```

12.3 Command line parameters

ESET SysInspector supports generating reports from the command line using these parameters:

/gen	generate a log directly from the command line without running the GUI
/privacy	generate a log excluding sensitive information
/zip	store the resulting log directly on the disk in a compressed file
/silent	suppress the display of the log generation progress bar
/help, /?	display information about the command line parameters

Examples

To load a specific log directly in the browser, use: `SysInspector.exe "c:\clientlog.xml"`

To generate a log to a current location, use: `SysInspector.exe /gen`

To generate a log to a specific folder, use: `SysInspector.exe /gen="c:\folder\"`

To generate a log to a specific file/location, use: `SysInspector.exe /gen="c:\folder\mynewlog.xml"`

To generate a log excluding sensitive information directly in a compressed file, use: `SysInspector.exe /gen="c:\mynewlog.zip" /privacy /zip`

To compare two logs, use: `SysInspector.exe "current.xml" "original.xml"`

NOTE: If the name of the file/folder contains a gap, then should be taken into inverted commas.

12.4 Service Script

Service script is a tool that provides help to customers that use ESET SysInspector by easily removing unwanted objects from the system.

Service script enables the user to export the entire ESET SysInspector log, or its selected parts. After exporting, you can mark unwanted objects for deletion. You can then run the modified log to delete marked objects.

Service Script is suited for advanced users with previous experience in diagnosing system issues. Unqualified modifications may lead to operating system damage.

Example

If you have a suspicion that your computer is infected by a virus which is not detected by your antivirus program, follow the step-by-step instructions below:

- Run ESET SysInspector to generate a new system snapshot.
- Select the first item in the section on the left (in the tree structure), press Ctrl and select the last item to mark all items.
- Right click the selected objects and select the **Export Selected Sections To Service Script** context menu option.
- The selected objects will be exported to a new log.
- This is the most crucial step of the entire procedure: open the new log and change the – attribute to + for all objects you want to remove. Please make sure you do not mark any important operating system files/objects.
- Open ESET SysInspector, click **File > Run Service Script** and enter the path to your script.
- Click **OK** to run the script.

12.4.1 Generating Service script

To generate a script, right-click any item from the menu tree (in the left pane) in the ESET SysInspector main window. From the context menu, select either the **Export All Sections To Service Script** option or the **Export Selected Sections To Service Script** option.

NOTE: It is not possible to export the service script when two logs are being compared.

12.4.2 Structure of the Service script

In the first line of the script's header, you can find information about the Engine version (ev), GUI version (gv) and the Log version (lv). You can use this data to track possible changes in the .xml file that generates the script and prevent any inconsistencies during execution. This part of the script should not be altered.

The remainder of the file is divided into sections in which items can be edited (denote those that will be processed by the script). You mark items for processing by replacing the "-" character in front of an item with a "+" character. Sections in the script are separated from each other by an empty line. Each section has a number and title.

01) Running processes

This section contains a list of all processes running in the system. Each process is identified by its UNC path and, subsequently, its CRC16 hash code in asterisks (*).

Example:

```
01) Running processes:
- \SystemRoot\System32\smss.exe *4725*
- C:\Windows\system32\svchost.exe *FD08*
+ C:\Windows\system32\module32.exe *CF8A*
[...]
```

In this example a process, module32.exe, was selected (marked by a "+" character); the process will end upon execution of the script.

02) Loaded modules

This section lists currently used system modules.

Example:

```
02) Loaded modules:
- c:\windows\system32\svchost.exe
- c:\windows\system32\kernel32.dll
+ c:\windows\system32\khhbkb.dll
- c:\windows\system32\advapi32.dll
[...]
```

In this example the module khhbkb.dll was marked by a "+". When the script runs, it will recognize the processes using that specific module and end them.

03) TCP connections

This section contains information about existing TCP connections.

Example:

```
03) TCP connections:
- Active connection: 127.0.0.1:30606 -> 127.0.0.1:55320, owner: ekrn.exe
- Active connection: 127.0.0.1:50007 -> 127.0.0.1:50006,
- Active connection: 127.0.0.1:55320 -> 127.0.0.1:30606, owner: OUTLOOK.EXE
- Listening on *, port 135 (epmap), owner: svchost.exe
+ Listening on *, port 2401, owner: fservice.exe Listening on *, port 445 (microsoft-ds), owner:
System
[...]
```

When the script runs, it will locate the owner of the socket in the marked TCP connections and stop the socket, freeing system resources.

04) UDP endpoints

This section contains information about existing UDP endpoints.

Example:

```
04) UDP endpoints:
- 0.0.0.0, port 123 (ntp)
+ 0.0.0.0, port 3702
- 0.0.0.0, port 4500 (ipsec-msft)
- 0.0.0.0, port 500 (isakmp)
[...]
```

When the script runs, it will isolate the owner of the socket at the marked UDP endpoints and stop the socket.

05) DNS server entries

This section contains information about the current DNS server configuration.

Example:

```
05) DNS server entries:
+ 204.74.105.85
- 172.16.152.2
[...]
```

Marked DNS server entries will be removed when you run the script.

06) Important registry entries

This section contains information about important registry entries.

Example:

```
06) Important registry entries:
* Category: Standard Autostart (3 items)
  HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Run
- HotKeysCmds = C:\Windows\system32\hkcmd.exe
- IgfxTray = C:\Windows\system32\igfxtray.exe
  HKCU\SOFTWARE\Microsoft\Windows\CurrentVersion\Run
- Google Update = "C:\Users\antoniak\AppData\Local\Google\Update\GoogleUpdate.exe" /c
* Category: Internet Explorer (7 items)
  HKLM\Software\Microsoft\Internet Explorer\Main
+ Default_Page_URL = http://thatcrack.com/
[...]
```

The marked entries will be deleted, reduced to 0-byte values or reset to their default values upon script execution. The action to be applied to a particular entry depends on the entry category and key value in the specific registry.

07) Services

This section lists services registered within the system.

Example:

```
07) Services:
- Name: Andrea ADI Filters Service, exe path: c:\windows\system32\aeadisrv.exe, state: Running,
startup: Automatic
- Name: Application Experience Service, exe path: c:\windows\system32\aelupsvc.dll, state: Running,
startup: Automatic
- Name: Application Layer Gateway Service, exe path: c:\windows\system32\alg.exe, state: Stopped,
startup: Manual
[...]
```

The services marked and their dependant services will be stopped and uninstalled when the script is executed.

08) Drivers

This section lists installed drivers.

Example:

```
08) Drivers:
- Name: Microsoft ACPI Driver, exe path: c:\windows\system32\drivers\acpi.sys, state: Running,
startup: Boot
- Name: ADI UAA Function Driver for High Definition Audio Service, exe path: c:\windows\system32\
drivers\adihdaud.sys, state: Running, startup: Manual
[...]
```

When you execute the script, the drivers selected will be unregistered from the system and removed.

09) Critical files

This section contains information about files that are critical to the operating system.

Example:

```
09) Critical files:
* File: win.ini
- [fonts]
- [extensions]
- [files]
- MAPI=1
[...]
```

```
* File: system.ini
- [386Enh]
- woafont=dosapp.fon
- EGA80WOA.FON=EGA80WOA.FON
[...]
```

```
* File: hosts
- 127.0.0.1 localhost
- ::1 localhost
[...]
```

The selected items will either be deleted or reset to their original values.

12.4.3 Executing Service scripts

Mark all desired items, then save and close the script. Run the edited script directly from the ESET SysInspector main window by selecting the **Run Service Script** option from the File menu. When you open a script, the program will prompt you with the following message: **Are you sure you want to run the service script "%Scriptname%"?** After you confirm your selection, another warning may appear, informing you that the service script you are trying to run has not been signed. Click **Run** to start the script.

A dialog window will confirm that the script was successfully executed.

If the script could only be partially processed, a dialog window with the following message will appear: **The service script was run partially. Do you want to view the error report?** Select **Yes** to view a complex error report listing the operations that were not executed.

If the script was not recognized, a dialog window with the following message will appear: **The selected service script is not signed. Running unsigned and unknown scripts may seriously harm your computer data. Are you sure you want to run the script and carry out the actions?** This may be caused by inconsistencies within the script (damaged heading, corrupted section title, empty line missing between sections etc.). You can either reopen the script file and correct the errors within the script or create a new service script.

12.5 Shortcuts

Key shortcuts that can be used when working with the ESET SysInspector include:

File

Ctrl+O	opens existing log
Ctrl+S	saves created logs

Generate

Ctrl+G	standard system status check
Ctrl+H	performs a system check that may also log sensitive information

Item Filtering

1, O	fine, risk level 1-9 items are displayed
2	fine, risk level 2-9 items are displayed
3	fine, risk level 3-9 items are displayed
4, U	unknown, risk level 4-9 items are displayed
5	unknown, risk level 5-9 items are displayed
6	unknown, risk level 6-9 items are displayed
7, B	risky, risk level 7-9 items are displayed
8	risky, risk level 8-9 items are displayed
9	risky, risk level 9 items are displayed
-	decreases risk level
+	increases risk level
Ctrl+9	filtering mode, equal level or higher
Ctrl+O	filtering mode, equal level only

View

Ctrl+5	view by vendor, all vendors
Ctrl+6	view by vendor, only Microsoft
Ctrl+7	view by vendor, all other vendors
Ctrl+3	displays full detail
Ctrl+2	displays medium detail
Ctrl+1	basic display
BackSpace	moves one step back
Space	moves one step forward
Ctrl+W	expands tree
Ctrl+Q	collapses tree

Other controls

Ctrl+T	goes to the original location of item after selecting in search results
--------	---

Ctrl+P	displays basic information about an item
Ctrl+A	displays full information about an item
Ctrl+C	copies the current item's tree
Ctrl+X	copies items
Ctrl+B	finds information about selected files on the Internet
Ctrl+L	opens the folder where the selected file is located
Ctrl+R	opens the corresponding entry in the registry editor
Ctrl+Z	copies a path to a file (if the item is related to a file)
Ctrl+F	switches to the search field
Ctrl+D	closes search results
Ctrl+E	run service script

Comparing

Ctrl+Alt+O	opens original / comparative log
Ctrl+Alt+R	cancel comparison
Ctrl+Alt+1	displays all items
Ctrl+Alt+2	displays only added items, log will show items present in current log
Ctrl+Alt+3	displays only removed items, log will show items present in previous log
Ctrl+Alt+4	displays only replaced items (files inclusive)
Ctrl+Alt+5	displays only differences between logs
Ctrl+Alt+C	displays comparison
Ctrl+Alt+N	displays current log
Ctrl+Alt+P	opens previous log

Miscellaneous

F1	view help
Alt+F4	close program
Alt+Shift+F4	close program without asking
Ctrl+I	log statistics

12.6 System requirements

For seamless operation of ESET SysInspector, the system should meet the following hardware and software requirements:

Windows 2000, XP, 2003

400 MHz 32-bit (x86) / 64-bit (x64)
 128MB RAM of system memory
 10MB available space
 Super VGA (800 x 600)

Windows 7, Vista, 2008

1 GHz 32-bit (x86) / 64-bit (x64)
 512MB RAM of system memory
 10MB available space
 Super VGA (800 x 600)

12.7 FAQ

Does ESET SysInspector require Administrator privileges to run ?

While ESET SysInspector does not require Administrator privileges to run, some of the information it collects can only be accessed from an Administrator account. Running it as a Standard User or a Restricted User will result in it collecting less information about your operating environment.

Does ESET SysInspector create a log file ?

ESET SysInspector can create a log file of your computer's configuration. To save one, select **File > Save Log** from the main menu. Logs are saved in XML format. By default, files are saved to the %USERPROFILE%\My Documents\ directory, with a file naming convention of "SysInspector-%COMPUTERNAME%-YYMMDD-HHMM.XML". You may change the location and name of the log file to something else before saving if you prefer.

How do I view the ESET SysInspector log file ?

To view a log file created by ESET SysInspector, run the program and select **File > Open Log** from the main menu. You can also drag and drop log files onto the ESET SysInspector application. If you need to frequently view ESET SysInspector log files, we recommend creating a shortcut to the SYSINSPECTOR.EXE file on your Desktop; you can then drag and drop log files onto it for viewing. For security reasons Windows Vista/7 may not allow drag and drop between windows that have different security permissions.

Is a specification available for the log file format? What about an SDK ?

At the current time, neither a specification for the log file or an SDK are available since the program is still in development. After the program has been released, we may provide these based on customer feedback and demand.

How does ESET SysInspector evaluate the risk posed by a particular object ?

In most cases, ESET SysInspector assigns risk levels to objects (files, processes, registry keys and so forth) using a series of heuristic rules that examine the characteristics of each object and then weight the potential for malicious activity. Based on these heuristics, objects are assigned a risk level from **1 - Fine (green)** to **9 - Risky (red)**. In the left navigation pane, sections are colored based on the highest risk level of an object inside them.

Does a risk level of "6 - Unknown (red)" mean an object is dangerous ?

ESET SysInspector's assessments do not guarantee that an object is malicious – that determination should be made by a security expert. What ESET SysInspector is designed for is to provide a quick assessment for security experts so that they know what objects on a system they may want to further examine for unusual behavior.

Why does ESET SysInspector connect to the Internet when run ?

Like many applications, ESET SysInspector is signed with a digital signature "certificate" to help ensure the software was published by ESET and has not been altered. In order to verify the certificate, the operating system contacts a certificate authority to verify the identity of the software publisher. This is normal behavior for all digitally-signed programs under Microsoft Windows.

What is Anti-Stealth technology ?

Anti-Stealth technology provides effective rootkit detection.

If the system is attacked by malicious code that behaves as a rootkit, the user may be exposed to data loss or theft. Without a special anti-rootkit tool, it is almost impossible to detect rootkits.

Why are there sometimes files marked as "Signed by MS", having a different "Company Name" entry at the same time ?

When trying to identify the digital signature of an executable, ESET SysInspector first checks for a digital signature embedded in the file. If a digital signature is found, the file will be validated using that information. If a digital signature is not found, the ESI starts looking for the corresponding CAT file (Security Catalog - %systemroot%\system32\catroot) that contains information about the executable file processed. If the relevant CAT file is found, the digital signature of that CAT file will be applied in the validation process of the executable.

This is why there are sometimes files marked as "Signed by MS", but having a different "CompanyName" entry.

Example:

Windows 2000 includes the HyperTerminal application located in C:\Program Files\Windows NT. The main application executable file is not digitally signed, but ESET SysInspector marks it as a file signed by Microsoft. The reason for this is a reference in C:\WINNT\system32\CatRoot\{F750E6C3-38EE-11D1-85E5-00C04FC295EE}\sp4.cat pointing to C:\Program Files\Windows NT\hypertrm.exe (the main executable of the HyperTerminal application) and sp4.cat is digitally signed by Microsoft.

13. ESET SysRescue

ESET SysRescue is a utility which enables you to create a bootable disk containing one of the ESET Security solutions - it can be ESET NOD32 Antivirus, ESET Smart Security or even some of the server-oriented products. The main advantage of ESET SysRescue is the fact that ESET Security solution runs independent of the host operating system, while it has a direct access to the disk and the entire file system. This makes it possible to remove infiltrations which normally could not be deleted, e.g., when the operating system is running, etc.

13.1 Minimum requirements

ESET SysRescue works in the Microsoft Windows Preinstallation Environment (Windows PE) version 2.x, which is based on Windows Vista.

Windows PE is a part of the free package Windows Automated Installation Kit (Windows AIK), and therefore Windows AIK must be installed before creating ESET SysRescue (<http://go.eset.eu/AIK>). Due to the support of the 32-bit version of Windows PE, it is necessary to use a 32-bit installation package of ESET Security solution when creating ESET SysRescue on 64-bit systems. ESET SysRescue supports Windows AIK 1.1 and higher.

NOTE: Since Windows AIK is over 1 GB in size, a high-speed internet connection is required for smooth download.

ESET SysRescue is available in ESET Security solutions version 4.0 and higher.

Supported operating systems

- Windows 7
- Windows Vista
- Windows Vista Service Pack 1
- Windows Vista Service Pack 2
- Windows Server 2008
- Windows Server 2003 Service Pack 1 with KB926044
- Windows Server 2003 Service Pack 2
- Windows XP Service Pack 2 with KB926044
- Windows XP Service Pack 3

13.2 How to create rescue CD

To launch the ESET SysRescue wizard, click **Start > Programs > ESET > ESET Remote Administrator > ESET SysRescue**.

First, the wizard checks for the presence of Windows AIK and a suitable device for the boot media creation. If Windows AIK is not installed on the computer (or it is either corrupt or installed incorrectly), the wizard will offer you the option to install it, or to enter the path to your Windows AIK folder (<http://go.eset.eu/AIK>).

NOTE: Since Windows AIK is over 1 GB in size, a high-speed internet connection is required for smooth download.

In the [next step](#)^[106], select the target media where ESET SysRescue will be located.

13.3 Target selection

In addition to CD/DVD/USB, you can choose to save ESET SysRescue in an ISO file. Later on, you can burn the ISO image on CD/DVD, or use it some other way (e.g. in the virtual environment such as VMware or VirtualBox).

If you select USB as the target medium, booting may not work on certain computers. Some BIOS versions may report problems with the BIOS - boot manager communication (e.g. on Windows Vista) and booting exits with the following error message:

```
file : \boot\bcd
status : 0xc000000e
info : an error occurred while attempting to read the boot configuration data
```

If you encounter this message, we recommend selecting CD instead of USB medium.

13.4 Settings

Before initiating ESET SysRescue creation, the install wizard displays compilation parameters in the last step of the ESET SysRescue wizard. These can be modified by clicking the **Change...** button. The available options include:

- [Folders](#)^[107]
- [ESET Antivirus](#)^[107]
- [Advanced](#)^[107]
- [Internet protocol](#)^[108]
- [Bootable USB device](#)^[108] (when the target USB device is selected)
- [Burning](#)^[108] (when the target CD/DVD drive is selected)

The **Create** button is inactive if no MSI installation package is specified, or if no ESET Security solution is installed on the computer. To select an installation package, click the **Change** button and go to the **ESET Antivirus** tab. Also, if you do not fill in username and password (**Change > ESET Antivirus**), the **Create** button is greyed out.

13.4.1 Folders

Temporary folder is a working directory for files required during ESET SysRescue compilation.

ISO folder is a folder, where the resulting ISO file is saved after the compilation is completed.

The list on this tab shows all local and mapped network drives together with the available free space. If some of the folders here are located on a drive with insufficient free space, we recommend that you select another drive with more free space available. Otherwise compilation may end prematurely due to insufficient free disk space.

External applications – Allows you to specify additional programs that will be run or installed after booting from a ESET SysRescue medium.

Include external applications – Allows you to add external programs to the ESET SysRescue compilation.

Selected folder – Folder in which programs to be added to the ESET SysRescue disk are located.

13.4.2 ESET Antivirus

For creating the ESET SysRescue CD, you can select two sources of ESET files to be used by the compiler.

ESS/EAV folder – Files already contained in the folder to which the ESET Security solution is installed on the computer.

MSI file – Files contained in the MSI installer are used.

Next, you can choose to update the location of (.nup) files. Normally, the default option **ESS/EAV folder/MSI file** should be set. In some cases, a custom **Update folder** can be chosen, e.g., to use an older or newer virus signature database version.

You can use one of the following two sources of username and password:

Installed ESS/EAV – Username and password will be copied from the currently installed ESET Security solution.

From user – Username and password entered in the corresponding text boxes will be used.

NOTE: ESET Security solution on the ESET SysRescue CD is updated either from the Internet or from the ESET Security solution installed on the computer on which the ESET SysRescue CD is run.

13.4.3 Advanced settings

The **Advanced** tab lets you optimize the ESET SysRescue CD according to the amount of memory on your computer. Select **576 MB and more** to write the content of the CD to the operating memory (RAM). If you select **less than 576 MB**, the recovery CD will be permanently accessed when WinPE will be running.

In the **External drivers** section, you can insert drivers for your specific hardware (usually network adapter). Although WinPE is based on Windows Vista SP1, which supports a large range of hardware, occasionally hardware is not recognized. This will required that you add a driver manually. There are two ways of introducing a driver into an ESET SysRescue compilation - manually (the **Add** button) and automatically (the **Aut. Search** button). In the case of manual inclusion, you need to select the path to the corresponding .inf file (applicable *.sys file must also be present in this folder). In the case of automatic introduction, the driver is found automatically in the operating system of the given computer. We recommend using automatic inclusion only if ESET SysRescue is used on a computer that has the same

network adapter as the computer on which the ESET SysRescue CD was created. During creation, the ESET SysRescue driver is introduced into the compilation so you do not need to look for it later.

13.4.4 Internet protocol

This section allows you to configure basic network information and set up predefined connections after ESET SysRescue.

Select **Automatic private IP address** to obtain the IP address automatically from DHCP (Dynamic Host Configuration Protocol) server.

Alternatively, this network connection can use a manually specified IP address (also known as a static IP address). Select **Custom** to configure the appropriate IP settings. If you select this option, you must specify an **IP address** and, for LAN and high-speed Internet connections, a **Subnet mask**. In **Preferred DNS server** and **Alternate DNS server**, type the primary and secondary DNS server addresses.

13.4.5 Bootable USB device

If you have selected a USB device as your target medium, you can select one of the available USB devices on the **Bootable USB device** tab (in case there are more USB devices).

Select the appropriate target **Device** where ESET SysRescue will be installed.

Warning: The selected USB device will be formatted during the creation of ESET SysRescue. All data on the device will be deleted.

If you choose the **Quick format** option, formatting removes all the files from the partition, but does not scan the disk for bad sectors. Use this option if your USB device has been formatted previously and you are sure that it is not damaged.

13.4.6 Burn

If you have selected CD/DVD as your target medium, you can specify additional burning parameters on the **Burn** tab.

Delete ISO file – Check this option to delete the temporary ISO file after the ESET SysRescue CD is created.

Deletion enabled – Enables you to select fast erasing and complete erasing.

Burning device – Select the drive to be used for burning.

Warning: This is the default option. If a rewritable CD/DVD is used, all the data on the CD/DVD will be erased.

The Medium section contains information about the medium in your CD/DVD device.

Burning speed – Select the desired speed from the drop-down menu. The capabilities of your burning device and the type of CD/DVD used should be considered when selecting the burning speed.

13.5 Working with ESET SysRescue

For the rescue CD/DVD/USB to work effectively, you must start your computer from the ESET SysRescue boot media. Boot priority can be modified in the BIOS. Alternatively, you can use the boot menu during computer startup – usually using one of the F9 - F12 keys depending on the version of your motherboard/BIOS.

After booting up from the boot media, ESET Security solution will start. Since ESET SysRescue is used only in specific situations, some protection modules and program features present in the standard version of ESET Security solution are not needed; their list is narrowed down to **Computer scan**, **Update**, and some sections in **Setup**. The ability to update the virus signature database is the most important feature of ESET SysRescue, we recommend that you update the program prior starting a Computer scan.

13.5.1 Using ESET SysRescue

Suppose that computers in the network have been infected by a virus which modifies executable (.exe) files. ESET Security solution is capable of cleaning all infected files except for *explorer.exe*, which cannot be cleaned, even in Safe mode. This is because *explorer.exe*, as one of the essential Windows processes, is launched in Safe mode as well. ESET Security solution would not be able to perform any action with the file and it would remain infected.

In this type of scenario, you could use ESET SysRescue to solve the problem. ESET SysRescue does not require any component of the host operating system, and is therefore capable of processing (cleaning, deleting) any file on the disk.