STORMSHIELD

GUIDE
STORMSHIELD ENDPOINT SECURITY EVOLUTION

INSTALLATION GUIDE
Version 2.7.1

Table of contents

In the documentation, Stormshield Endpoint Security Evolution is referred to in its short form: SES Evolution.

1. Getting started

Welcome to the Stormshield Endpoint Security Evolution installation guide version 2.7.1.

SES Evolution is a global security solution that offers comprehensive workstation protection in organizations of all sizes.

The SES Evolution agent runs on workstations and transparently protects them from known and unknown attacks and intrusions. Since the agent does not rely on signature databases, it can operate with the same level of security in the SES Evolution agent handlers' connected and disconnected modes.

The administration console makes it possible to organize, configure and monitor all agents in a pool. In addition, fully configurable security policies can be set, and agents can be segmented into groups for easier administration. With advanced tools that track logs and analyze attacks, administrators can monitor the status of their pools and trace the source of attacks detected and blocked by SES Evolution agents.

The SES Evolution solution also integrates with your other security solutions, feeding events directly into your SIEM.

In the SES Evolution Installation Center, *SES_Evolution_Installation_Center.exe*, users can:

- Perform a new installation,
- Modify an existing installation,
- Update an existing installation,
- Uninstall databases.

The interface of the Installation Center appears in the language detected on the operating system.

The SES Evolution solution comprises a set of components that communicate with each other securely:

- Administration and log databases,
- One or several agent handlers, which receive data and logs directly from agents, and request updates for administration databases and return the logs to a Syslog server,
- One or more backend application servers, which centralize the operations carried out on the SES Evolution environment and which provide a public REST API. For more information about the public API, see Enable and manage the public API for SES Evolution in the *Administration guide*.
- One or more administration consoles,
- The Stormshield update server, which permits the downloading of the most recent resources, e.g., new built-in security policies, built-in rule set updates.
- Agents deployed on workstations or servers.
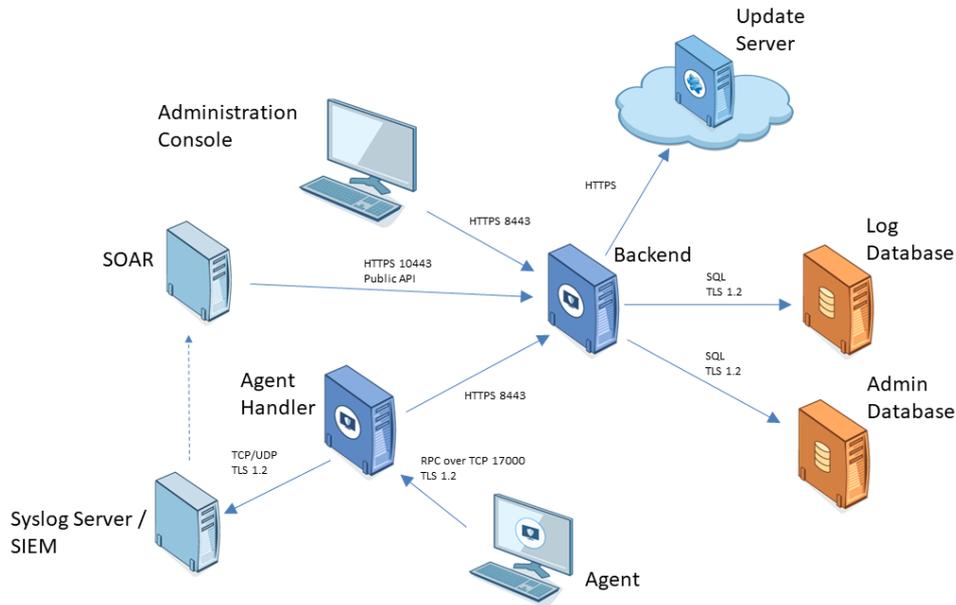
For more information on how to protect network connections that use TLS, refer to the section Configuring TLS connections between components.

The administration console makes it possible to deploy SES Evolution agents on workstations. For further information, refer to Deploying agents on workstations in the *Administration guide*.

Go to your MyStormshield client area, under the **Downloads** section, to obtain the SES Evolution Installation Center in the desired version.

2. System requirements for SES Evolution

To install and use Stormshield Endpoint Security Evolution version 2.7.1 in Microsoft Windows, you must meet these minimum requirements.

Some of the required components can be found in the *resources_x64* folder supplied with the distribution.

2.1 Backend

> **ℹ NOTES**
> - Virtual machines with a backend component installed cannot be cloned. This would make SES Evolution unstable, and it would then be impossible to uninstall the component.
> - The backend component must not be installed on a domain controller.

Operating systems	Refer to the Product life cycle guide to find out more on compatibility with Microsoft Windows versions.
Processors for physical machines	At least a dual-core 2 GHz 64-bit processor or the equivalent. Itanium processors are not supported. > **ℹ NOTE** > The more cores the machine has, the faster the deployment of the environment on the pool agents.
Processors for virtual machines	At least one virtual socket and two 2 GHz cores per socket.
Physical memory	At least 2 GB or more if the operating system requires it.
Disk space	• At least 100 MB for installation • At least 1 GB for data storage These are the disk space requirements for the NTFS file system. More space will be needed for updates and log storage.

Network configuration	• No static IP address requirements
	• Incoming communications:
	  ○ TCP 8443
	  ○ TCP 10443 (Public API)
	• Outgoing communications (SQL ports by default, but may depend on the settings of the SQL Server instance):
	  ○ TCP 1433 (SQL)
	  ○ TCP 1434 (SQL)
	  ○ UDP 1434 (SQL)

Software	• IIS server to install before SES Evolution. The IIS role must be enabled. • Framework .NET 4.6.2

2.2 Administration console

> ℹ️ **NOTE**
> Virtual machines with an SES Evolution administration console installed cannot be cloned. This would make SES Evolution unstable, and it would then be impossible to uninstall the component.

Operating systems	Refer to the Product life cycle guide to find out more on compatibility with Microsoft Windows versions.
Processors for physical machines	64-bit processors with minimum 2 GHz Intel Pentium 4 or equivalent. Itanium processors are not supported.
Processors for virtual machines	At least one virtual socket and two 1 GHz cores per socket. Stormshield recommends one virtual socket and two 2 GHz cores per socket.
Physical memory	At least 1 GB. Stormshield recommends 2 GB.
Disk space	• At least 100 MB for installation • At least 100 MB for data storage These are the disk space requirements for the NTFS file system.
Network configuration	• Outgoing communication: ○ TCP 8443 (HTTPS)
Software	Framework .NET 4.6.2
Display	At least 1680x1050.

2.3 Agent handlers

> ℹ️ **NOTES**
> • Virtual machines with an agent handler installed cannot be cloned. This would make SES Evolution unstable, and it would then be impossible to uninstall the component.
> • The agent handler must not be installed on a domain controller.

Operating systems	Refer to the Product life cycle guide to find out more on compatibility with Microsoft Windows versions.
Processors for physical machines	At least a dual-core 2 GHz 64-bit processor or the equivalent. Itanium processors are not supported.
Processors for virtual machines	At least one virtual socket and two 2 GHz cores per socket.
Physical memory	At least 2 GB or more if the operating system requires it.
Disk space	• At least 100 MB for installation • At least 1 GB for data storage These are the disk space requirements for the NTFS file system. More space will be needed for updates and log storage.

Network configuration	• No static IP address requirements
	• Incoming communications:
	  ○ TCP 17000
	• Outgoing communication:
	  ○ TCP 8443 (HTTPS)
	  ○ TCP port for Syslog
	  ○ UDP port for Syslog

Software	Framework .NET Core 8

2.4 SQL Server databases

Operating systems	• Windows Server 2016 • Windows Server 2019 • Windows Server 2022
Processors	At least a 2 GHz 64-bit processor. Itanium processors are not supported. SQL Server runs more slowly on a virtual machine than in native mode due to the additional workload involved in virtualization.
Physical memory	SQL Server Express: at least 1 GB and a maximum of 1.41 GB SQL Server: at least 4 GB You must define the RAM quota that matches the amount of memory to allocate to the SQL Server, so that it does not use up all the memory on the server. This value can be configured in *SQL Server Management Studio* after the databases have been installed. Please see the recommendations in the **RAM** column of the table Adapting the size of the SES Evolution server according to the number of agents.
Disk space	• At least 6 MB for installation. • The space required for data storage depends on the environment. Stormshield recommends NTFS (New Technology File System).

Network configuration	• No static IP address requirements.
	• Incoming communications (SQL ports by default, but may depend on the settings of the SQL Server instance):
	  ○ TCP 1433 (SQL)
	  ○ TCP 1434 (SQL)
	  ○ UDP 1434 (SQL)

Software	Refer to the Product life cycle guide to find out more on compatibility with Microsoft SQL Server versions.

For more information about adapting the size and installing SQL Server, refer to *SQL Server Recommendations guide*.

2.5 Agents

2.5.1 Requirements

Operating systems	Refer to the Product life cycle guide to find out more on compatibility with Microsoft Windows versions.
Processors for physical machines	64-bit processors with minimum 2 GHz Intel Pentium 4 or equivalent. Itanium processors are not supported.
Processors for virtual machines	At least one virtual socket and one 1 GHz core per socket. Stormshield recommends one virtual socket and two 2 GHz cores per socket.
Physical memory	At least 1 GB. Or more if the operating system requires it. Stormshield recommends 2 GB.
Disk space	• At least 100 MB for installation, • At least 200 MB for data storage. These are the disk space requirements for the NTFS file system. More space will be needed for updates and logs.
Network configuration	• Outgoing communication: ○ TCP 17000 (RPC)
Network bandwidth	At least 12 Kbit/s. Lower bandwidth may prevent the agent and agent handler from exchanging data.
Software	Framework .NET 4.6.2 or higher.
Display	At least 1024X768.
Certificate	*VeriSign Universal Root Certification Authority* certificate installed to verify the authenticity of SES Evolution updates. It must be installed in the Trusted Root Certification Authorities or Third-party Root Certification Authorities certificate store. You can download it directly in your MyStormshield client area, under **Downloads** > **Stormshield Endpoint Security** > **Evolution** > **Resources**. In the archive, the *.bat* file automatically installs the certificate in the certificate store with an administrator account.

2.5.2 Using agents on Microsoft Windows Server Core operating systems

See the Product Life cycle document for compatibility information with Microsoft Windows Server Core versions.

These operating systems have a reduced graphical interface. The agent's interface does not start automatically when a user session is opened (icon in the task bar on a 'standard' operating system). To display the agent's GUI:

• Use the command `EsGui.exe`.

In addition, if requests for user confirmation are configured in a security rule, the agent will not open any window, automatically assuming that the answer to the confirmation is "no". There is no way for the user to reply with a "yes".

2.6 Adapting the size of the SES Evolution server according to the number of agents

The table below gives an estimate of the **minimum** hardware requirements that your SES Evolution environment needs in relation to the number of agents installed. All server components can be installed on the same machine up to 5,000 agents. If you use more, you are advised to dispatch components on several machines.

Agent handlers can support up to 30,000 agents.

SSD hard disks are recommended in particular to optimize performance and response time.

> ⚠️ **IMPORTANT**
> RAM quota refers to the amount of memory that you must allocate to the SQL Server so that it does not use up all the memory on the server. This value can be configured in *SQL Server Management Studio* after the databases have been installed. Refer to the RAM column in the table below.

Number of agents	CPU	RAM	Disk
< 200 agents (1 server)	2 cores / 2 threads - 3 GHz	4 GB SQL Quota: 1.5 GB	170 GB for 1 year of log retention, 155 GB for 6 months, 150 GB for 3 months.
< 500 agents (1 server)	4 cores / 4 threads - 3 GHz	6 GB SQL quota: 3 GB	250 GB for 1 year of log retention, 175 GB for 6 months, 150 GB for 3 months.
< 1 000 agents (1 server)	4 cores / 4 threads - 3 GHz	6 GB SQL quota: 3 GB	300 GB for 1 year of log retention, 250 GB for 6 months, 200 GB for 3 months.
< 2 500 agents (1 server)	4 cores / 4 threads - 3 GHz	8 GB SQL quota: 4 GB	600 GB for 1 year of log retention, 350 GB for 6 months, 250 GB for 3 months.
< 5 000 agents (1 server)	6 cores / 6 threads - 3 GHz	12 GB SQL quota: 6 GB	1 TB for 1 year of log retention, 600 GB for 6 months, 350 GB for 3 months.
< 10 000 agents (2 servers)	**Database**: 2 cores / 2 threads - 3 GHz **Backend + Agent handler**: 4 cores / 4 threads -3 GHz	**Database**: 8 GB **Backend + Agent handler**: 8 GB	**Database**: 2 TB for 1 year of log retention, 1 TB for 6 months, 600 GB for 3 months. **Backend + Agent handler**: 50 GB
< 30 000 agents (3 servers)	**Database**: 4 cores / 4 threads -3 GHz **Backend + Agent handler**: 4 cores / 4 threads -3 GHz **Additional agent handler**: 4 cores / 4 threads -3 GHz	**Database**: 16 GB **Backend + Agent handler**: 16 GB **Additional agent handler**: 16 GB	**Database**: 8 TB for 1 year of log retention, 4 TB for 6 months, 2 TB for 3 months. **Backend + Agent handler**: 100 GB **Additional agent handler**: 100 GB

< 60 000 agents (4 servers)	**Database**: 4 cores / 4 threads -3 GHz **Backend + Agent handler:** 4 cores / 4 threads -3 GHz **2 additional agent handlers:** 4 cores / 4 threads -3 GHz	**Database**: 16 GB **Backend + Agent handler:** 16 GB **2 additional agent handlers:** 16 GB	**Database**: 12 TB for 1 year of log retention, 6 TB for 6 months, 5 TB for 3 months. **Backend + Agent handler:** 100 GB **2 additional agent handlers:** 100 GB
< 90 000 agents (5 servers)	**Database**: 4 cores / 4 threads -3 GHz **Backend + Agent handler:** 4 cores / 4 threads -3 GHz **3 additional agent handlers:** 4 cores / 4 threads -3 GHz	**Database**: 16 GB **Backend + Agent handler:** 16 GB **3 additional agent handlers:** 16 GB	**Database**: 16 TB for 1 year of log retention, 8 TB for 6 months, 5 TB for 3 months. **Backend + Agent handler:** 100 GB **3 additional agent handlers:** 100 GB
< 120 000 agents (6 servers)	**Database**: 4 cores / 4 threads -3 GHz **Backend + Agent handler:** 4 cores / 4 threads -3 GHz **4 additional agent handlers:** 4 cores / 4 threads -3 GHz	**Database**: 16 GB **Backend + Agent handler:** 16 GB **4 additional agent handlers:** 16 GB	**Database**: 16 TB for 1 year of log retention, 8 TB for 6 months, 5 TB for 3 months. **Backend + Agent handler:** 100 GB **4 additional agent handlers:** 100 GB
< 150 000 agents (7 servers)	**Database**: 4 cores / 4 threads -3 GHz **Backend + Agent handler:** 4 cores / 4 threads -3 GHz **5 additional agent handlers:** 4 cores / 4 threads -3 GHz	**Database**: 16 GB **Backend + Agent handler:** 16 GB **5 additional agent handlers:** 16 GB	**Database**: 24 TB for 1 year of log retention, 12 TB for 6 months, 6 TB for 3 months. **Backend + Agent handler:** 100 GB **5 additional agent handlers:** 100 GB

3. Security instructions for SES Evolution

For the security and proper operation of SES Evolution, we recommend that you observe the following recommendations.

3.1 Applying Microsoft Security Recommendations

Microsoft operating systems have a security mechanism. We suggest that you apply Microsoft's recommendations on the following subjects:

- Recommended NTFS file system,
- Recommended default installation directory configuration,
- From Windows 10, use the Cortana wizard carefully,
- Moderate use of cloning workstations and servers,
- Configuration of the system dump file (dump or full dump file). We recommend configuring the operating system to generate a dump file containing the full memory image when the machine is shut down.
- As of Windows 8, use of Secure Boot protection is recommended,
- Permanent activation of Hyper-V functionality on Windows 10 recommended,
- System partition encryption with BitLocker recommended,
- Starting with Windows 10, Credential Guard is recommended for use,
- From Windows 8.1, activation of enhanced LSA protection is recommended,
- Enable TLS 1.2 encryption and disable TLS 1.0 and 1.1 encryption for communications to backend servers.

For more information on these topics, please refer to the applicable Microsoft documentation.

3.2 Configuring Windows Firewall

Make sure that the following port numbers are allowed on the firewalls of the machines hosting SES Evolution components and also on all network equipment located between the machines hosting SES Evolution components.

Agents

Protocols	Direction	Port	Comments
TCP	Outgoing	17000	Communication with the SES Evolution agent handlers
UDP	Outgoing	53	DNS queries
TCP	Outgoing	80	Access to certificate revocation lists
TCP	Outgoing	88	Kerberos Authentication
TCP/UDP	Outgoing	389	LDAP authentication
TCP	Outgoing	3268	GC (Global Catalog) LDAP authentication

Agent handler

Protocols	Direction	Port	Comments
TCP	Incoming	17000	Communication with SES Evolution agents
TCP	Outgoing	8433	HTTPS connections to the backend server
TCP	Outgoing	1468	Communication with a Syslog server
TCP/TLS	Outgoing	6514	Communication with a Syslog server
UDP	Outgoing	514	Communication with a Syslog server

Backend server

Protocols	Direction	Port	Comments
TCP	Incoming	8443	HTTPS connections from the administration console or agent handler
TCP	Outgoing	443	HTTPS connections to the Stormshield public update server
TCP/UDP	Outgoing	Variable	Connections to the database engine. The port depends on its configuration.
TCP	Incoming	10443	HTTPS connections from external systems using public APIs (SIEM/SOAR)

Administration console

Protocols	Direction	Port	Comments
TCP	Outgoing	8433	HTTPS connections to backend server

3.3 Disabling safe mode for standard users

Safe mode can be used to troubleshoot problems that prevent a workstation from being used when started normally. By default, the Windows configuration allows all users to start in this mode.

However, in safe mode, the SES Evolution agent self-protection is disabled. You must therefore allow only administrators to use this mode.

To disable safe mode for non-administrator users, set the SafeModeBlockNonAdmins value of the HKLM\Software\Microsoft\Windows\CurrentVersion\Policies\System key to "1" in the Windows registry.

4. Getting the SES Evolution license

You need to get your license from your MyStormshield client area and register it when installing the solution.

Licenses determine the number of active SES Evolution agents that you can manage with the solution, and have an expiry date. Several licenses can be combined for the same environment. However, each license is valid for the installation of a single SES Evolution environment. An additional license is needed to install another environment.

To get your license:

1. Make sure you have the Stormshield PDF delivery document and log in to your MyStormshield client area.

2. In the menu on the left, select **Products > Register a product > Register SES software**, and accept the terms of use.

3. Enter the following information:

    - **Associated company**: name of the company under which you are registered at Stormshield.

    - **License key**: character string located in the Serial number column of the delivery document.

    - **Reseller**: name of your SES Evolution reseller.

4. Click **Register**.

5. On your personal area dashboard, from the **List of products** table, click on your serial number.

6. Click on **Download all licenses** and unzip the downloaded file.

5. Installing SES Evolution

The Installation Center guides you through the different SES Evolution installation steps.

Read the following recommendations before installing SES Evolution:

- Administrator privileges are required to install the solution. You can also install from a non administrator account and in this case, a privilege escalation is required.
- The console, backend component and databases must be installed on hosts that belong to the same Active Directory domain, or on two domains that have a relationship of trust.
- The backend component and agent handlers can be installed on machines that belong to different Active Directory domains. For further information, refer to Installing SES Evolution servers on different Active Directory domains.
- The backend component and agent handlers must not be installed on a domain controller.
- You are advised to install the backend component and databases in a trusted zone.
- Active Directory, DNS and network configurations must be prepared in advance, before installing SES Evolution.
- The SQL Server is needed to install databases.
- Before installing a full server or the backend component, it is recommended to disable Windows update and to enable it again afterwards.
- On a backend component or an agent handler, the "%ProgramData%\Stormshield\SES Evolution" folder should be excluded from the antivirus scan on the workstation in order to optimize performance. SES Evolution indeed uses many compressed *cab* files, which trigger the antivirus analysis.
- An SES Evolution agent can be installed on a backend component or an agent handler; an appropriate security policy is provided by default to protect them.
- If you have more than 50,000 agents, we recommend that you set up Windows NLB (Windows Load balancing mechanism) on machines that host backend servers to form a cluster that will guarantee redundancy and load balancing. For more information, see Ensuring service continuity.
- We recommend that you set up redundancy for all backoffice components. For more information, see Ensuring service continuity.

If you encounter issues while installing SES Evolution, look up the log files located in the administrator's *AppData/Local/Temp* folder.

5.1 Installing the solution

You can either install all the components on the same machine or spread them out over several machines.

We recommend that you run the Installation Center on machines in the following sequence:

1. Server(s) hosting the administration and log databases,
2. Servers that host the backend component,
3. Servers that host the agent handler,
4. Servers or workstations that host the administration console.

When installing SES Evolution on the first machine, databases and certificates must be installed and the super administrator must be created; these options cannot be unselected. Other components can be added to this machine.

To add one or several backend components, administration consoles and agent handlers later on other machines, you need to run the Installation Center on each machine and modify an existing installation. The machines on which consoles and agent handlers are installed must be able to communicate with the backend. The backend must also be able to communicate with the databases.

5.1.1 Requirements

First install these two .NET Runtimes version 8.0.x on every computer hosting an agent handler:

- ASP.NET Core Runtime
- .NET Desktop Runtime

Be sure to install the most recent version of the 8.0.x.

5.1.2 Installing SES Evolution for the first time

For an initial installation of SES Evolution:

1. Log in to the machine using a Windows account with the following characteristics:
   - If the machine belongs to a domain, the Windows account must be a domain account,
   - It must hold administration privileges on the local machine,
   - If the database already existed before the installation, the account must have access to the database instance with the "sysadmin" server role.
2. Double-click on the *SES_Evolution_Installation_Center.exe* file.
3. Click on **New installation**.
4. Enter the addresses of the administration and log database instances. Both databases can be located on the same instance. Regardless of which authentication type is selected, the "sysadmin" role is required for the creation of databases.

> ### ⓘ NOTE
> Database instances must not contain data and the operating system from which the Installation Center is run must be able to access the instances.

5. Configure **Log database storage.** The parameters differ depending on whether you have SQL Server Enterprise or SQL Server Express.
   - **Log storage path**: Use the default SQL Server storage path or a custom path. This field is available only on SQL Server Enterprise.
   - **Agent event retention** and **System log retention**: SES Evolution logs are kept by default for 12 months before they are automatically deleted, and only for two months if you are using SQL Server Express. Enter a retention period higher than or equal to 1 month. The maximum duration allowed on SQL Server Express is 12 months.
     Logs can be kept indefinitely on SQL Server Enterprise. As such, ensure that you always have enough disk space to contain all logs.
     Retention values can be modified later through the administration console. For more information, refer to the section Managing the deletion of logs in the *Administration guide*.

6. Enter the passwords that encrypt private keys for root and intermediate certificate authorities.

7. The domain account with which you have logged in is pre-entered as the super administrator account. The super administrator is the user of the console that makes it possible to create other users. It must belong to the same Active Directory domain as the SQL server, the various SES Evolution database instances and the administration console. If this is not the case, then a relationship of trust must be established between the domains.

> **ℹ NOTE**
> If you rename the domain account which is SES Evolution super administrator, make sure you have created before a user with the new name in the SES Evolution administration console. Otherwise you will not be able to log in to the console. For more information, see the *Administration Guide*.

8. Select **Backend** if you wish to install a backend component on this machine. The backend centralizes all the operations performed in the environment, and is the core of the installation. Specify the following parameters:

   - The DNS name of the host that will be used to access the backend in HTTPS. The name of the machine from which you have logged in and the domain are pre-entered. This name cannot be changed later.

   - The cluster host name is mandatory. If you want to implement load balancing or redundancy (NLB feature) on several backends (recommended for more than 50,000 agents), this is the address that agent handlers and the console will use to connect to the backend. The DNS name must be different from the first host name. This information will be known only after the initial installation of the backend. Both of these DNS names cannot be changed later.
   If you do not wish to set up a backend cluster, a DNS entry (CNAME) must still be declared with a specific name (e.g., SESBACKCLUSTER.SES.local). Its IP address will point to the address of the machine on which the backend is installed. SES Evolution components will not need to be reinstalled later if an architecture with an NLB cluster is implemented. The DNS alias will need to be changed so as it points to the virtual IP address of the NLB cluster.

   - The private API port and public API port. By default, these are ports 8443 and 10443 respectively. You can customize them, provided the following rules are met:

     ○ A port number can be used only once.

     ○ Only port 443 can be used in the first 1024 ports.

     This information will be known only after the initial installation of the backend.

   - Select the type of account that will be used as the identity for the worker processes of the IIS server:

Domain account	Account on the domain, ideally created only for use as the identity of SES Evolution services and programs, with a password that never expires. The service that updates the backend, installed on every backend server, also uses this domain account.
Local account	Local account on the machine. This option can be used to install SES Evolution outside a Windows domain that uses several different machines. This requires the creation of local accounts with the same login and password on every machine. The service that updates the backend, installed on every backend server, also uses this domain account.
Predefined IIS account	Virtual account valid only on the local machine, and to be used only for local installations of a backend on the same machine as the database. In this case, the update service on the backend is installed as SYSTEM.

   - Enter the name and password of the account.

9. Next, check **Agent handler** if you wish to install it on this machine. Specify the agent handler's contact address and the port used by agents to contact it (443 by default).

10. Check **Administration console** if you wish to install it on this machine.

11. Register your license file. To retrieve your license, see Getting the SES Evolution license.

12. Click **Install**.

13. In the next step, move your mouse randomly to produce random numbers. The certificates needed to run SES Evolution are generated from these numbers.
If the IIS role is not enabled, the Installation Center enables it automatically when the backend component is installed. This operation may take a while to complete.

14. Quit the Installation Center once the installation is complete.

To install the other components on other machines, run the Installation Center on each machine and select **Modify an existing installation**. For further information, refer to Adding a console, backend component or agent handler.

5.2 Installing SES Evolution servers on different Active Directory domains

If there are several Active Directory domains in your infrastructure, you can install agent handlers on machines that belong to domains other than the one on which the backend component is located. Communications between the backend component and agent handlers are secured using certificate-based mutual authentication.

The various Active Directory domains must therefore be able to communicate with one another.

Follow the steps below to install an agent handler on a domain other than the one on which the backend component is located:

1. From a server member of Active Directory domain 1, in the Installation center launch a new installation and select the installation of the backend component.

2. From a server member of Active Directory domain 2, in the Installation center, click **Modify an existing installation** and click on **Agent handlerStormshield Endpoint Security Evolution**.

3. Enter the values of the parameters and click on **Install**.

If you are installing several agent handlers, repeat the operation on each machine that hosts agent handlers.

6. Adding a console, backend component or agent handler

The **Add a new component to an existing installation** menu in the Installation Center is used to install consoles, backend servers or agent handlers on machines other than the one you performed the first installation on.

Agent handlers can be installed on machines that belong to Active Directory domains other than the one on which the backend Component is located. For further information, refer to Installing SES Evolution servers on different Active Directory domains.

Adding these components to a single environment does not require an additional license.

Proceed as follows to add a console, backend component or agent handler:

1. Log in to the machine using a Windows account with the following characteristics:
   - If the machine belongs to a domain, the Windows account must be a domain account,
   - It must hold administration privileges and be allowed to open an interactive session on the local machine,
   - Only for the backend component, access is required to the database instance with the "sysadmin" server role.
2. Run the *SES_Evolution_Installation_Center.exe* file.
3. Click **Add a new component to an existing installation**.
4. Select the component to install.
5. If you are adding a backend component, enter the address of the administration database instance and the login credentials of the super administrator account on the database. When adding an initial console or agent handler, enter the address of the backend component.
   If you are adding an additional console, enter the address of the backend component and the console's installation key. To obtain the key:
   a. Open an existing administration console,
   b. Go to the **Backoffice > System > General** menu.
   c. Click the **Copy** button to the right of **the Console Setup Key** field.
   d. If necessary, click the **Refresh** button to renew the key. This allows the SES Evolution administrator to ensure that no console will be installed without their approval.
6. Define the various parameters. For more information on the parameters to enter, see Installing the solution. The password of the intermediate certification authority of the backend component or agent handler cannot be viewed during the initial installation since the password is already entered in the **Certificates** section of the standard installation.
7. Apply these changes to complete the process.

7. Updating SES Evolution

> ⚠ **CAUTION**
> Before upgrading SES Evolution to version 2.7.1, it is imperative that you first read the Migration Guide, and in particular the Prerequisites section.

To update the components of SES Evolution, obtain an Installation Center in the desired version from your MyStormshield client area, under the **Downloads** section and run it from a host on which a component of the solution has been installed. All components will be automatically updated.

Before updating, we recommend that you perform a full backup of your machines.

Our recommendation:

- a complete snapshot for a virtual machine,
- a disk image for a physical machine.

To apply the update:

1. Log in to the machine using your domain account.
2. Double-click on the *SES_Evolution_Installation_Center.exe* file.
3. Click on **Update an existing installation**.
4. Enter the address of the administration database instance and the login credentials of the super administrator account on the database.
5. If the agent handler certificates expire within three months, they need to be renewed, and the Installation Center will inform you. Enter the Intermediate Certification Authority password for the agent handlers and click **Next**. After the update, you can check that the certificate has been renewed. For more information, see Renewing agent handler certificates.
6. In the next window, the Installation Center automatically detects the components that need to be updated. Click on **Start update**.
7. If the administration console requires an update, the Installation Center shows the list of users connected to the console, and the names of their workstations. A red banner appears on all open consoles, asking users to save their changes and quit the console. The update starts when all consoles are closed.
8. If there are still consoles that remain open:
   a. Click on **Force update** to shut down the consoles remotely and proceed with the update. Use this option only if you are sure that there are no changes to be saved, for example if the console user is absent.
   b. Click on **Cancel update** if you prefer to postpone the update.

See the section Updating agents in the *Administration Guide* for more details on how to update agents.

7.1 Managing SES Evolution updates from non-compatible operating systems

If you have SES Evolution backoffice components or agents installed on operating systems that are not compatible with the solution, Stormshield strongly recommends updating all relevant servers and workstations before updating SES Evolution. For more information, see the Microsoft Documentation.

For a list of operating systems supported by SES Evolution, see the Product LifecycleSystem requirements for SES Evolution

7.1.1 Backend

You must update the SES Evolution backend server operating system to a compatible version.

Otherwise, if you absolutely must move the backend to another server with a supported operating system, you will need to uninstall and reinstall all SES Evolution backoffice components: backend, agent handler and administration console.

7.1.2 Administration console

If the operating system cannot be updated, you must uninstall the administration console from the obsolete operating system and reinstall it on a compatible system.

7.1.3 Agent handlers

If it is not possible to update the operating system, follow the procedure below to migrate to a new compatible server:

1. Install a replacement version 2.5.x agent handler on a compatible operating system. For more information, see Adding a console, backend component or agent handler in the installation guide.
2. In the **Backoffice > Agent handlers** menu of the administration console, check that the new agent handler is displayed.
3. In the **Environment > Agents > Settings > Agent handlers** menu, change the **Default agent handler group** for each agent group with an obsolete agent handler. Replace it with the new agent handler installed in step 1 on a compatible operating system.
4. **Deploy this change to all agents via the Security > Deployment** menu.
5. In the interface of an obsolete agent, ensure that it has received the **Latest policy update**.
6. Uninstall the agent handler for the server not compatible with SES Evolution. For more information, see Uninstall SES Evolution in the installation guide.
   The agents are now connected to the new agent handler installed on a compatible operating system.
7. Repeat these steps for all agent handlers installed on a non-compatible operating system.
8. Update the SES Evolution backoffice to version 2.6 or higher. For more information, see Updating SES Evolution in the installation guide.

7.1.4 Agents

If you are unable to update the operating system of certain SES Evolution agents, follow the guidelines below:

1. Update affected agents to the highest version 2.5.x to benefit from the latest patches and features.
2. Move these agents to one or more dedicated agent groups whose target software version remains 2.5.x. For more information, see Creating and configuring agent groups in the administration guide.

The latest version 2.5.x will continue to protect workstations running obsolete systems with the compatible security policies.

> **⚠ CAUTION**
> If you keep SES Evolution agents on 32-bit operating systems, you must keep a 32-bit installer in a safe place. Otherwise, you will no longer be able to install this type of agent.

8. Uninstalling SES Evolution

To fully uninstall SES Evolution, the various SES Evolution components must be uninstalled in the following order:

1. SES Evolution agents,
2. Administration consoles,
3. Agent handlers,
4. Backend servers,
5. Databases,

Administrator privileges are required.

8.1 Uninstalling consoles, agent handlers and backend servers

1. Log in to the computer that hosts the SES Evolution component using your domain account.
2. In **Programs and Features** in the Windows control panel, select the desired component and click on **Uninstall**.
3. Enter the requested information in the SES Evolution uninstaller which opens: **Backend host name** for the console and agent handler, and **Database instance** for the backend server
4. Click on **Uninstall**.
5. Restart the computer once the components are uninstalled.

8.2 Uninstalling databases

1. Log in to the host using your domain account.
2. Double-click on the *SES_Evolution_Installation_Center.exe* file.
3. Click on **Uninstall database**.
4. Fill in the information required to connect to the database instance and click on **Connect**.
5. In the following screen, click on **Uninstall database**.
6. Quit the Installation Center once the databases are uninstalled.

For further information on uninstalling agents, refer to Uninstalling agents in the *Administration Guide*.

9. Renewing agent handler certificates

Agent handler certificates, created when SES Evolution is installed, are valid for 10 years. You must renew these certificates before they expire. The SES Evolution Installation Center helps you with this task.

You cannot renew expired certificates via the Installation Center. In this case, you'll have to uninstall the agent handler and reinstall it.

To renew certificates:

1. Double-click on the *SES_Evolution_Installation_Center.exe* file.
2. Click **Renew certificates**.
3. Specify the backend address including its port if you are not using the default port 8443.
4. Click on **Next**.
   The list of agent manager certificates is displayed. These are accompanied by their status: *Up to date* or *To be renewed*, and the duration before expiration.
5. Select the certificates you wish to renew, whether or not they are close to their expiry date, and enter the agent handler's CA password.

   The password is the one you chose when installing the solution:
6. Click on **Renew**.
   The selected certificates are renewed and a system log is issued. For more information on logs, see the Monitoring backoffice component activity SES Evolution section of the Administration Guide.

10. Configuring TLS connections between components

Network connections between the components of the SES Evolution solution are protected by TLS. To configure connections that use TLS, components rely on the configuration of the operating system on backend servers and agent handlers.

For more secure TLS connections, we recommend disabling the weakest encryption algorithms.

You can choose either of the following methods to configure such connections.

> **ⓘ NOTE**
> If any of the other applications installed on the server also use TLS, changes made to the configuration will affect them.

10.1 Configuring TLS connections through group policy objects (GPO)

1. Open the group policy editor (*gpedit.msc*),
2. Select **Computer configuration** > **Policies** > **Administrative templates > Network > SSL configuration settings**,
3. In the panel on the right, double-click on **SSL cipher suite order**,
4. The **SSL cipher suite order** window opens. Select the **Enabled** option.
5. In the **SSL cipher suites** field, paste the following value on a single line without spaces:

```
TLS_DHE_RSA_WITH_AES_128_GCM_SHA256,TLS_DHE_RSA_WITH_
AES_256_GCM_SHA384,TLS_ECDHE_ECDSA_WITH_AES_128_CBC_
SHA256,TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256,TLS_
ECDHE_ECDSA_WITH_AES_256_CBC_SHA384,TLS_ECDHE_ECDSA_
WITH_AES_256_GCM_SHA384,TLS_ECDHE_RSA_WITH_AES_128_CBC_
SHA256,TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256,TLS_ECDHE_
RSA_WITH_AES_256_CBC_SHA384,TLS_ECDHE_RSA_WITH_AES_256_
GCM_SHA384,TLS_RSA_WITH_AES_128_CBC_SHA256,TLS_RSA_WITH_
AES_128_GCM_SHA256,TLS_RSA_WITH_AES_256_CBC_SHA256,TLS_
RSA_WITH_AES_256_GCM_SHA384
```

6. Deploy this configuration on the servers hosting the backend and SES Evolution agent handlers.

10.2 Configuring TLS connections via PowerShell script

1. Run the following PowerShell script on the servers hosting the backend and SES Evolution agent handlers with administrator privileges:

```
$AllowedSuites = `

'TLS_DHE_RSA_WITH_AES_128_GCM_SHA256', `

'TLS_DHE_RSA_WITH_AES_256_GCM_SHA384', `

'TLS_ECDHE_ECDSA_WITH_AES_128_CBC_SHA256', `

'TLS_ECDHE_ECDSA_WITH_AES_128_GCM_SHA256', `

'TLS_ECDHE_ECDSA_WITH_AES_256_CBC_SHA384', `

'TLS_ECDHE_ECDSA_WITH_AES_256_GCM_SHA384', `

'TLS_ECDHE_RSA_WITH_AES_128_CBC_SHA256', `

'TLS_ECDHE_RSA_WITH_AES_128_GCM_SHA256', `

'TLS_ECDHE_RSA_WITH_AES_256_CBC_SHA384', `

'TLS_ECDHE_RSA_WITH_AES_256_GCM_SHA384', `

'TLS_RSA_WITH_AES_128_CBC_SHA256', `

'TLS_RSA_WITH_AES_128_GCM_SHA256', `

'TLS_RSA_WITH_AES_256_CBC_SHA256', `

'TLS_RSA_WITH_AES_256_GCM_SHA384'


Get-TlsCipherSuite | foreach { $_.Name } | where { $AllowedSuites
-notcontains $_ } | Disable-TlsCipherSuite
```

2. Restart the servers to apply the new configuration.

11. Ensuring service continuity

To ensure service continuity in the event of a SES Evolution component failure, we recommend that you set up backoffice component redundancy.

We recommend that you install:

- At least two agent handlers per handler group, installed on two separate servers,
- At least two backend servers, installed on separate servers,
- Administration databases and logs on separate machines dedicated only to this purpose.

See the following sections for more information.

However, if the backoffice components cannot be implemented, we recommend that you regularly perform a full backup of your machines and store the backups securely.

Our recommendation:

- a complete snapshot for a virtual machine,
- a disk image for a physical machine.

11.1 Recommendations for agent handlers

11.1.1 Ensuring redundancy of agent handlers

Each SES Evolution agent connects to a group of agent handlers.

We recommend that you install at least two agent handlers per handler group to ensure service continuity in the event of a failure.

Install each handler on different servers, virtual or physical.

Count one agent handler per 25,000 agents.

11.1.2 Managing the failure of an agent handler

With redundancy

In case of failure, the load normally supported by the failed server switches automatically over to the other server. The switchover is effective from the first connection of agents to their agent handler group following the breakdown.

We recommend installing another one to maintain redundancy.

To install a new agent handler, use the installation center on the desired machine.

After installation, from the administration console, you must:

- add the new agent handler to the group concerned,
- deploy the environment so that the new handler is known to the agents.

If all agent handlers fail, refer to the following section.

No redundancy

If you only had one agent handler in a group, you must restore the machine from a backup (virtual machine snapshot or physical machine disk image). This makes the operation transparent for the agents, who then reconnect to the same handler.

When the machine restarts, the agent handler connects to the backend server to retrieve the latest security policies and applies them to the agents.

11.2 Recommendations for backend servers

11.2.1 Ensuring backend server redundancy

We recommend that you install at least two backend servers to ensure service continuity in case of failure.

Install each server on different machines, virtual or physical.

Enable the Microsoft Network Load Balancing (NLB cluster) mechanism on each machine hosting a backend server, to ensure redundancy and load balancing.

For more information on the NLB mechanism, refer to the section Installing the solution.

11.2.2 Managing a backend server failure

With redundancy

If one backend server fails, we recommend installing another backend server to maintain redundancy.

To install a new backend server, use the installation center on the desired machine.

Make sure to first add the new machine to the NLB cluster and remove the old one.

No redundancy

If you only had one backend server, you need to restore the machine from a backup (virtual machine snapshot or physical machine disk image).

We recommend that you check the status of the cluster after restoring the machine. The restored machine must be visible in the cluster.

When the machine restarts, the backend server connects to the administration and log databases. Agent handlers and administration consoles normally connect to the backend server.

11.3 Recommendations for databases

11.3.1 Ensuring database redundancy

We recommend that you have two servers for each of the administration and log databases, and enable the Always On availability group (AG) feature in SQL Server. The functionality allows automatic or manual switching between databases in case of unavailability.

Always On functionality is not available on Express versions of SQL Server.

11.3.2 Managing database failure

With redundancy

If a database fails when using the Always On feature, refer to the Microsoft SQL Server documentation.

No redundancy

If you only had one administration database or logs, you must restore the machine hosting the database from a backup (virtual machine snapshot or physical machine disk image).

12. Compatibility of SES Evolution with other security solutions

The combination of several security solutions can have an impact on performance and lead to incompatibilities.

To function correctly, SES Evolution components must be able to access the resources listed below.

Ensure that no other security solutions prevent access to these resources on the various machines on which the components have been installed.

12.1 SES Evolution agent

Folders

%PROGRAMDATA%\Stormshield Endpoint Security Evolution Agent Diagnostic Result\

%PROGRAMDATA%\Stormshield\SES Evolution\Agent

%SYSTEMROOT%\System32\Drivers\SES Evolution

%PROGRAMFILES%\Stormshield\SES Evolution\Agent

Registry keys

HKEY_CURRENT_USER\Software\Stormshield

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\SafeBoot\Minimal\EsaGuardSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\SafeBoot\Minimal\EsaGuiSrvSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\SafeBoot\Minimal\EsaUpdateSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\SafeBoot\Network\EsaGuardSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\SafeBoot\Network\EsaGuiSrvSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\SafeBoot\Network\EsaUpdateSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaAccountCtrlDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaAnalyzerSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaAppIdSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaCollectorSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaCommSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaCoreDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaDeviceCtrlDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaDiagSrvSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaExecCtrlDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaGuardDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaGuardSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaGuiSrvSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaInjectDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaInjectSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaKeylogGuardDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaKrnlCtrlDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaLogSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaMemProtectDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaNetworkCtrlDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaPolicySvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaProbeDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaRulesEngDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaResponseSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaScriptSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaUpdateDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaUpdateSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaUsbCtrlDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaUsbCtrlSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaWirelessCtrlDrv

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\EsaWirelessCtrlSvc

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\SharedAccess\Parameters\FirewallPolicy\RestrictedServices\Configurable\System

HKEY_LOCAL_MACHINE\Software\Classes\Software\Stormshield\SES Evolution\Agent

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\Perflib_V2Providers

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Stormshield Endpoint Security Evolution Agent

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\Windows Error Reporting\ExcludedApplications
Under this key, the following values relate to the SES Evolution agent:

- EsAnalyzer.exe
- EsAppId.exe
- EsCollector.exe
- EsComm.exe
- EsDiagSrv.exe
- EsGuard.exe
- EsGui.exe
- EsGuiSrv.exe
- EsInject.exe
- EsInjectWow64Host.exe
- EsLog.exe
- EsNotificationHost.exe
- EsNotify.exe
- EsPolicy.exe
- EsScript.exe
- EsScriptHost.exe
- EsSetup.exe
- EsSetupWorker.exe
- EsUpdate.exe
- EsUpdateHost.exe
- EsUsbCtrl.exe
- EsWirelessCtrl.exe

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows NT\CurrentVersion\AeDebug\AutoExclusionList
See the list of values relating to the SES Evolution agent above.

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\Windows Error Reporting\LocalDumps
See the list of values relating to the SES Evolution agent above.

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Class\{36fc9e60-c465-11cf-8056-444553540000}

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Class\{4d36e965-e325-11ce-bfc1-08002be10318}

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Control\Session Manager\Environment

HKEY_LOCAL_MACHINE\SOFTWARE\Stormshield\SES Evolution

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\WMI\Autologger

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\services\WlanSvc\Parameters\WlanAPIPermissions

HKEY_USERS\Environment

HKEY_USERS\Software\Microsoft\Windows\CurrentVersion\Explorer\User Shell Folders

12.2 Console

Folders

%PROGRAMDATA%\Stormshield\SES Evolution\Console\

%PROGRAMFILES%\Stormshield\SES Evolution\Console\

%APPDATA%\EsConsole\

%TEMP%\EsInstaller\

Registry keys

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EscConsoleUpdateSvc

HKEY_LOCAL_MACHINE\SOFTWARE\Classes\SOFTWARE\Stormshield\SES Evolution\Console

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Stormshield Endpoint Security Evolution Console

12.3 Backend server

Folders

%PROGRAMDATA%\Stormshield\SES Evolution\Backend\

%PROGRAMFILES%\Stormshield\SES Evolution\Backend\

%SYSTEMROOT%\System32\inetsrv\Config\

%TEMP%\EsInstaller\

Registry keys

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EsrBackendUpdateSvc

HKEY_LOCAL_MACHINE\SOFTWARE\Classes\SOFTWARE\Stormshield\SES Evolution\Backend

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Stormshield Endpoint Security Evolution Backend

12.4 Agent handler

Folders

%PROGRAMDATA%\Stormshield\SES Evolution\Server\log

%PROGRAMDATA%\Stormshield\SES Evolution\Server\AgentLogs

%PROGRAMFILES%\Stormshield\SES Evolution\Server\

%SYSTEMROOT%\ServiceProfiles\LocalService\AppData\Local\Temp\EsServer\

%TEMP%\EsInstaller\

Registry keys

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Endpoint Security Server Performance

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EsrCoreSvc

HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\EsrServerUpdateSvc

HKEY_LOCAL_MACHINE\SOFTWARE\Classes\SOFTWARE\Stormshield\SES Evolution\Server

HKEY_LOCAL_MACHINE\SOFTWARE\Microsoft\Windows\CurrentVersion\Uninstall\Stormshield Endpoint Security Evolution Server

13. Further reading

Additional information and answers to questions you may have about SES Evolution are available in the Stormshield knowledge base (authentication required).

documentation@stormshield.eu

All images in this document are for representational purposes only, actual products may differ.