Esia Upgrade - Debian 10 to Debian 11

Introduction

The upgrade process depends very much on the customisation that has been done on your Esia in terms of plugins.

The more plugins you have added, the more likely these plugins are to fail after the update. It is therefore all the more important to respect the backup process in addition to the snapshot in order to avoid having to perform a rollback.

The rest of the tutorial covers :

- **2. Prerequisites** Necessary to start the update.
- **3. Updating process** Steps required to complete the update.
- **4. Troubleshooting** Troubleshooting: Refer to this chapter only if you encounter a problem in point 3.
- **5. Cleaning** To recover disk space after the update.

It is highly recommended, if not necessary, to have read this tutorial at least 1 time in its entirety before starting the production update.

Prerequisites

Before starting the update, all of the following points must be met:

- Have an internet connection to download the update packages.
- **Make a snapshot of the VM beforehand** in order to quickly return to the previous state in the event of MAJOR problems.
- Make a backup of certain Esia files. To avoid having to rollback the snapshot in the event of a SMALL problem. **This step is NECESSARY in the event of a support call. See point 3.1.1 « Make a backup of your Esia »**

Update steps

Pre-update preparation

The following 3 steps should be carried out in the desired order.

Make a backup of your Esia

This will avoid having to return to the snapshot in the event of a simple plugin error or similar. Plugin errors are sometimes unavoidable and make this task necessary.

The steps are :

Check that you have enough disk space for the backup using the command :

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```
df -h /root
```

The disk space required for the backup depends on your Esia. But if you use less than 50% of your disk space. You are sure to have enough.

backup.sh

```bash
#!/bin/bash
cd /
mkdir -p /root/BACKUP_ESIA
su postgres -c pg_dumpall > /root/BACKUP_ESIA/pg_database.sql
cp -r /usr/local/esia/plugins /root/BACKUP_ESIA/plugins
cp -r /usr/local/esia/public_html /root/BACKUP_ESIA/public_html
cp -r /etc/apache2 /root/BACKUP_ESIA/apache2
cp -r /etc/esia /root/BACKUP_ESIA/esia_conf
iptables-save > /root/BACKUP_ESIA/iptables.txt
dpkg -l > /root/BACKUP_ESIA/version.txt
```

You can check whether the backup was successful by entering the following command:

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```
du -sh /root/BACKUP_ESIA/*
```

Examples:

On a small esia

```
root@debian-buster:~# cd /
root@debian-buster:/# mkdir -p /root/BACKUP_ESIA
root@debian-buster:/# su postgres -c pg_dumpall >
/root/BACKUP_ESIA/pg_database.sql
root@debian-buster:/# cp -r /usr/local/esia/plugins
/root/BACKUP_ESIA/plugins
root@debian-buster:/# cp -r /usr/local/esia/public_html
/root/BACKUP_ESIA/public_html
root@debian-buster:/# cp -r /etc/apache2 /root/BACKUP_ESIA/apache2
```

```
root@debian-buster:/# cp -r /etc/esia /root/BACKUP_ESIA/esia_conf
root@debian-buster:/# iptables-save > /root/BACKUP_ESIA/iptables.txt
root@debian-buster:/# dpkg -l > /root/BACKUP_ESIA/version.txt
root@debian-buster:/# du -sh /root/BACKUP_ESIA/*
652K /root/BACKUP_ESIA/apache2
32K /root/BACKUP_ESIA/esia_conf
4,0K /root/BACKUP_ESIA/iptables.txt
660K /root/BACKUP_ESIA/pg_database.sql
7.9M /root/BACKUP_ESIA/plugins
23M /root/BACKUP_ESIA/public_html
96K /root/BACKUP_ESIA/version.txt
root@debian-buster:/#
```

On an Esia with 150 nodes/1800 services

```
root@enterprise-v3:~# cd /
root@enterprise-v3:/# mkdir -p /root/BACKUP_ESIA
root@enterprise-v3:/# su postgres -c pg_dumpall >
/root/BACKUP_ESIA/pg_database.sql
root@enterprise-v3:/# cp -r /usr/local/esia/plugins
/root/BACKUP_ESIA/plugins
root@enterprise-v3:/# cp -r /usr/local/esia/public_html
/root/BACKUP_ESIA/public_html
root@enterprise-v3:/# cp -r /etc/apache2 /root/BACKUP_ESIA/apache2
root@enterprise-v3:/# cp -r /etc/esia /root/BACKUP_ESIA/esia_conf
root@enterprise-v3:/# iptables-save > /root/BACKUP_ESIA/iptables.txt
root@enterprise-v3:/# dpkg -l > /root/BACKUP_ESIA/version.txt
root@enterprise-v3:/# du -sh /root/BACKUP_ESIA/*
692K /root/BACKUP_ESIA/apache2
32K /root/BACKUP_ESIA/esia_conf
4,0K /root/BACKUP_ESIA/iptables.txt
22M /root/BACKUP_ESIA/pg_database.sql
9,1M /root/BACKUP_ESIA/plugins
604M /root/BACKUP_ESIA/public_html
116K /root/BACKUP_ESIA/version.txt
root@enterprise-v3:/#
```

In the event of an error, files/directories are missing or empty

```
root@debian-buster:/# cd /
root@debian-buster:/# mkdir -p /root/BACKUP_ESIA
root@debian-buster:/# su postgres -c pg_dumpall >
/root/BACKUP_ESIA/pg_database.sql
pg_dumpall: could not connect to database "template1": could not connect to
server: No such file or directory
   Is the server running locally and accepting
   connections on Unix domain socket "/var/run/postgresql/.s.PGSQL.5432"?
root@debian-buster:/# cp -r /usr/local/esia/plugins
/root/BACKUP_ESIA/plugins
root@debian-buster:/# cp -r /usr/local/esia/public_html
/root/BACKUP_ESIA/public_html
```

```
root@debian-buster:/# cp -r /etc/apache2 /root/BACKUP_ESIA/apache2
root@debian-buster:/# cp -r /etc/esia /root/BACKUP_ESIA/esia_conf
root@debian-buster:/# iptables-save > /root/BACKUP_ESIA/iptables.txt
root@debian-buster:/# dpkg -l > /root/BACKUP_ESIA/version.txt
root@debian-buster:/# du -sh /root/BACKUP_ESIA/*
652K /root/BACKUP_ESIA/apache2
32K /root/BACKUP_ESIA/esia_conf
4,0K /root/BACKUP_ESIA/iptables.txt
0 /root/BACKUP_ESIA/pg_database.sql
7.9M /root/BACKUP_ESIA/plugins
23M /root/BACKUP_ESIA/public_html
96K /root/BACKUP_ESIA/version.txt
root@debian-buster:/#
```

Make a snapshot of the VM

In order to come back quickly in case of a complete crash.

Disable the alerting system

To avoid receiving false positives during the update.

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```
chmod -x /usr/local/esia/plugins/alerting/*
```

Updating

Updating works like this:

1. Modify the package source file to indicate that you are switching to bullseye (command **sed**)
2. Update the system database containing the list of packages (command **apt update**)
3. Update the system (**apt dist-upgrade**). Before executing this command, we strongly recommend that you note the time and check the current status of your alerts. This will help you later to check whether the Esia plugins are working correctly after the update.

Prepare the update :

Check the source apt file, using the following command:

copy

```
cat /etc/apt/sources.list
```

You should get the following lines:

```
deb http://deb.debian.org/debian buster main contrib non-free
deb-src http://deb.debian.org/debian buster main contrib non-free
deb http://stable.repository.esia-sa.com/esia buster contrib non-free
```

If necessary, edit the file with the nano command (ctrl + o to save and ctrl +x to exit).

copy

```
nano /etc/apt/sources.list
```

We are now going to replace all the busters with bullseye and update the list of packages.

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```
sed -i s/buster/bullseye/g /etc/apt/sources.list
sed -i s#bullseye\/updates#bullseye-security#g
/etc/apt/sources.list
apt update
```

Example

```
root@debian-buster:/# sed -i s/buster/bullseye/g /etc/apt/sources.list
root@debian-buster:/# sed -i s#bullseye\/updates#bullseye-security#g
/etc/apt/sources.list
root@debian-buster:/# apt update
Get:1 http://10.8.0.9 bullseye InRelease [2,271 B]
Get:2 http://10.8.0.9 bullseye/contrib amd64 Packages [7,200 B]
Get:3 http://10.8.0.9 bullseye/non-free amd64 Packages [1,963 B]
Ign http://10.8.0.9 bullseye/contrib Translation-en_US
Ign http://10.8.0.9 bullseye/contrib Translation-en
Ign http://10.8.0.9 bullseye/non-free Translation-en_US
Ign http://10.8.0.9 bullseye/non-free Translation-en
Ign http://ftp.be.debian.org bullseye InRelease
Get:4 http://ftp.be.debian.org bullseye Release.gpg [2,410 B]
Get:5 http://ftp.be.debian.org bullseye Release [118 kB]
Get:6 http://ftp.be.debian.org bullseye/main amd64 Packages [7,080 kB]
Get:7 http://ftp.be.debian.org bullseye/main Translation-en [5,377 kB]
Fetched 12.6 MB in 2s (4,354 kB/s)
Reading package lists... Done
root@debian-buster:/#
```

Check the current state of your system:

1. Make a screenshot of the state of your nodes and services.

2. Note what time it is.

3. Check system disk space using the command below:

copy

```
df -h |grep -v tmpfs|grep -v udev|grep -v /boot
```

Example:

```
root@enterprise-v3:/# df -h |grep -v tmpfs|grep -v udev|grep -v /boot
File system Size Used Available Uti% Mounted on
/dev/mapper/buster--students--vg-root 19G 7,7G 9,9G 44% /
root@enterprise-v3:/#
```

Running the update :

To download the ESIA + OS update

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```
apt -d dist-upgrade
```

Before confirming, check that you have enough disk space:

Then run the following command to apply and configure the packages:

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```
apt dist-upgrade
```

In the example below, 392 MB + 935 MB will be required during installation.

```
498 upgraded, 148 newly installed, 5 to remove and 0 not upgraded.
Need to get 0 B/323 MB of archives.
After this operation, 652 MB of additional disk space will be used.
Do you want to continue? [Y/n]
```

- For all questions, leave the default answer.

- For the question about **GRUB** it is important not to make a mistake and to tick the correct **the correct VM boot disk**. Otherwise the VM may stop booting.

Examples of questions asked

Answer with "Yes" then ENTER

The default answer is always 'N', so all you have to do is press ENTER.

The update is complete

If there are any errors on **esia-rcm**wait for the update to finish and then go to the troubleshooting

section ⇒ Python libraries repository inaccessible

Post-update restart of important modules

Disable the alerting system again

Updating Esia automatically reactivates the alerting system. As long as you do not activate the Esia licence, you will not receive any alerts. However, once the licence has been activated, you may receive false positives.

It is therefore advisable to re-execute the following command before activating the licence.

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```
chmod -x /usr/local/esia/plugins/alerting/*
```

Remove the old Debian buster packages

This step is necessary, in addition to saving disk space, keeping old versions of packages could :

- Cause bugs in Esia
- Cause problems in future updates.

It is therefore strongly recommended that you carry out this step even if your Esia is now working correctly. In addition, it also helps to highlight problems/bugs that could occur later at random.

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```
apt autoremove
```

Then confirm the deletion.

Updating your Esia database

Use the following commands to update your database. Your Esia is currently running without this step. But if you ignore it, problems will occur in future updates.

Check the presence of the databases :

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```
pg_lsclusters
```

Example

```
root@debian-buster:/# pg_lsclusters
Ver Cluster Port Status Owner Data directory Log file
11 main 5432 online postgres /var/lib/postgresql/11/main
/var/log/postgresql/postgresql-11-main.log
13 main 5433 online postgres /var/lib/postgresql/13/main
/var/log/postgresql/postgresql-13-main.log
```

root@debian-buster:/# Delete the new database

copy

```
        pg_dropcluster 13 main --stop
        pg_lsclusters
```

⚠ For the **pg_dropcluster** be sure to set **13** and not 11! *It's vicious!*

Example

```
root@debian-buster:/# pg_dropcluster 13 main --stop
Redirecting stop request to systemctl
root@debian-buster:/# pg_lsclusters
Ver Cluster Port Status Owner Data directory Log file
11 main 5432 online postgres /var/lib/postgresql/11/main
/var/log/postgresql/postgresql-11-main.log
root@debian-buster:/#
```

Copy the old database (from your Esia) to the new version

copy

```
        pg_upgradecluster 11 main
        pg_lsclusters
```

The first command takes some time to run. Once completed, the **pg_lscluster** shows this:

Example

```
root@debian-buster:/# pg_lsclusters
Ver Cluster Port Status Owner Data directory Log file
11 main 5433 down postgres /var/lib/postgresql/11/main
/var/log/postgresql/postgresql-11-main.log
13 main 5432 online postgres /var/lib/postgresql/13/main
/var/log/postgresql/postgresql-13-main.log
```

```
root@debian-buster:/#
```

Then check that your web interface is working correctly.

Getting the Esia web interface to work

After installation, you need to run the following commands to get the web interface working again.

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```
a2dismod php7.3
a2enmod php7.4
service apache2 restart
apt remove php7.3
apt autoremove
```

Go to your Esia main web page

After the update, connect to your Esia server and refresh your browser cache (ctrl +F5 in Firefox). The menu button bugs will be corrected.

Essential tasks at the end of the update

Check if your VM restarts

Restart your VM and check that the restart works. A configuration error in GRUB or in the system update could mean that the VM no longer starts. Or that certain Esia services do not restart automatically.

It is necessary to perform this operation as long as the snapshot is sufficient to avoid losing too much data.

To reboot cleanly, enter the following command:

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```
shutdown -r now
```

Check the status of your services

Some monitoring plugins may no longer work after the update. This is often the case when additional plugins have been manually installed. It is therefore advisable to check that these plugins are working in 2 ways:

Method 1: Check the status of nodes and services

Compare the current status of your nodes and services with the screenshot taken earlier. If there is a small or minimal difference, then the update has probably gone well.
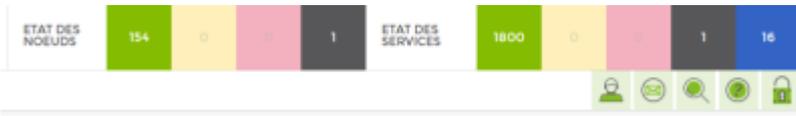
If there is a large difference, either :

- There have been breakdowns in your infrastructure.
- Some of your plugins are no longer working after the update. (If this is the case, please contact our support team)

Method 2: Check for new alerts

Go to the current alerts page. If you have a lot of alerts, sort them by date.

You should have noted the start time of the update. Use this information to check the alerts that took place afterwards. For the most part, within 10 minutes of :

- licence activation.
- reboot of the machine.

These alerts can be caused by :

- A problem in your infrastructure.
- A malfunction of the plugin after the update.

Example:

The 7:36 update probably caused the 7:44 error in one of the plugins:
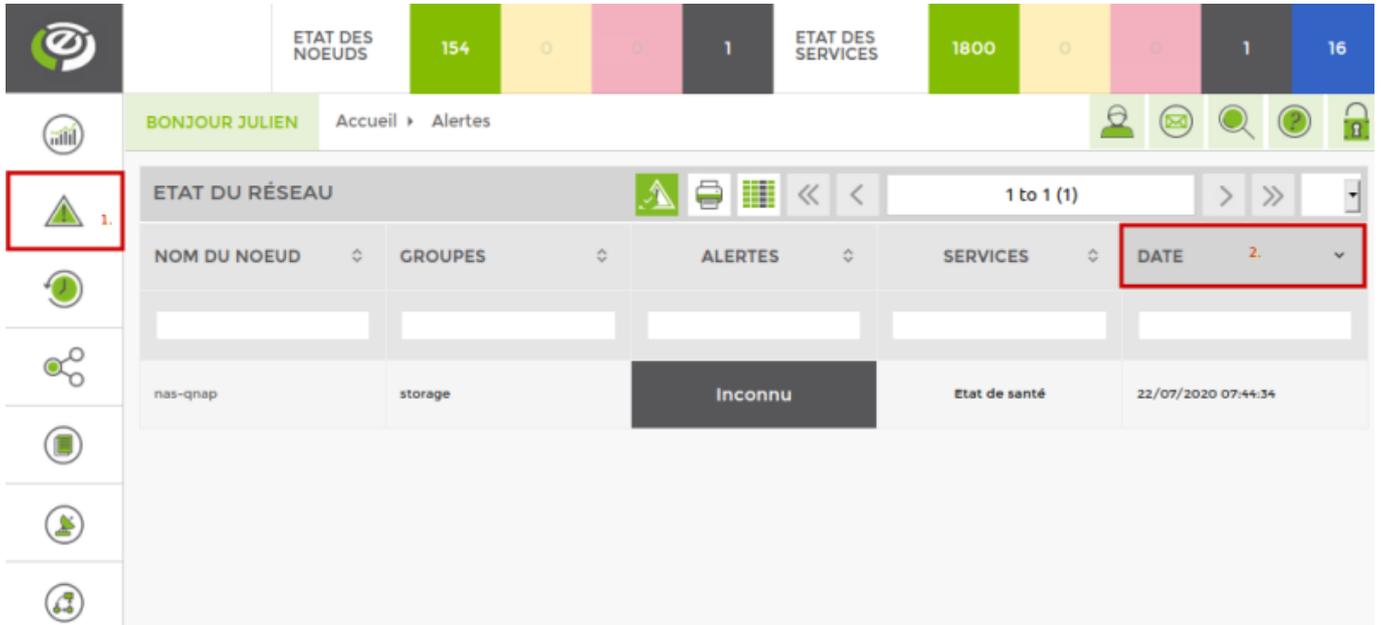
Reactivate the alerting system

Once your Esia is working properly, don't forget to reactivate alerting:

Activation :

[copy](#)

```
chmod +x /usr/local/esia/plugins/alerting/*
```

Check if it is activated :

[copy](#)

```
ls --color -l /usr/local/esia/plugins/alerting/*
```

In the examples below, the green colour indicates that the scripts are executable. They are therefore activated.

Examples :

Alerting disabled

Alerting on

Now you need to check that you are receiving the alert emails.

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```
/usr/local/esia/plugins/alerting/send_mail_html.pl -e min -t
<votre adresse mail> -D
```

Check whether an email has arrived in your inbox.

Troubleshooting

All units are disconnected

The configuration of Esia's internal firewall may have removed the connection authorisation for the unitys. Type the following command line

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```
iptables -L
```

If you don't find a line like:

```
ACCEPT tcp -- anywhere anywhere tcp dpt:2080
```

Type the following commands to open the port and save the configuration:

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```
iptables -A INPUT -p tcp -m tcp --dport 2080 -j ACCEPT
iptables-save > /etc/iptables.rules
```

The web page is inaccessible

Configuring php7 in Apache

Have you run the following command?

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```
a2dismod php7.3
a2enmod php7.4
service apache2 restart
```

Check the status of the Apache2 service

copy

```
service apache2 status
```

Example of a stopped Apache2 service :

Example of a started Apache2 service :

Try to restart the Apache2 service

copy

```
service apache2 start
service apache2 status
```

Python libraries repository inaccessible

If the **esia-rcm** package does not install correctly, it is probably because it does not know how to install its Python dependencies. Check that the server can reach **pypi.org** in http. If you can give it this access, skip the next step.

Install python dependencies manually

If you can't give access to **pypi.org**you can install the missing libraries manually. From a PC with Internet access, download the following files:

- pyspnego-0.10.2-py3-none-any.whl
- pypsrp-0.8.1-py3-none-any.whl

Then transfer them to the Esia server and type the following commands:

⚠ For **apt** commands, be sure to read what it is going to do before validating and check that it is not going to delete any esia packages!

copy

```
apt install python3-cryptography
```

copy

```
pip install pyspnego-0.10.2-py3-none-any.whl
pip install pypsrp-0.8.1-py3-none-any.whl
```

Finalising the installation of esia-rcm

Relaunch apt dist-upgrade to finish configuring the esia-rcm package.

⚠ For **apt** commands, be sure to read what it is going to do before validating and check that it is not going to delete any esia packages!

copy

```
apt dist-upgrade
```

Check that the package is installed and configured correctly:

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```
dpkg -l | grep esia-rcm
```

This should be displayed (the package name must be preceded by the tag **ii**) :

```
root@debian-bullseye:~# dpkg -l | grep esia-rcm
ii esia-rcm 0.0.3+1r0 all Remote Control Manager
```

Cleaning

This little clean-up is not compulsory. It saves a lot of disk space. It is advisable to carry out the following steps once you are sure that everything has gone smoothly. You may even want to**wait several days** after the update.

- Delete the snapshot
- Deleting the backup

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    ```
    rm -R /root/BACKUP_ESIA/
    ```

- Delete the old database (BE CAREFUL to set 11)

    copy

    ```
    pg_dropcluster 11 main
    ```

From:
https://wiki.esia-sa.com/ - **Esia Wiki**

Permanent link:
https://wiki.esia-sa.com/en/advanced/update_esia_deb10-11

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