

# Paragon Active Assurance Upgrade Guide

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RELEASE  
3.2

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# General

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## Upgrade Paths

If you are upgrading from an old Netrounds version, the following steps are essential:

- Upgrading from version 2.34 to replace Ubuntu 16.04 with Ubuntu 18.04.
- Upgrading to version 3.1 to start using a Juniper license.

The following upgrade paths are recommended:

Source version	Target version	Note
< 2.28.99	2.28.99	For these upgrades, please contact Juniper support (see below).
2.28.99	2.29.2	
2.29.2	2.34.4	–
2.30.x	2.34.4	
2.31.x	2.34.4	
2.32.0	2.34.4	
2.33.x	2.34.4	
2.34.x	2.35.6	See <i>Upgrading Control Center from Version 2.34.</i>

*(Continued)*

Source version	Target version	Note
2.35.x	3.2.2	See " <a href="#">Special Procedures for Upgrade to 3.x</a> " on page 3.
2.36.x	3.2.2	
3.0.x	3.2.2	

To contact Juniper technical support, file a ticket at [support.juniper.net/support/requesting-support](https://support.juniper.net/support/requesting-support).

Please also contact technical support whenever you want to upgrade from a version or between versions that are EoS.

## Release Notes

Before starting the upgrade, please always read the Release Notes for the version you are upgrading to. These notes describe new features and also inform you of important under-the-hood changes such as new configuration files.

If you are upgrading across multiple versions, please read the Release Notes for all intermediate versions.

# Special Upgrade Procedures

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## Special Procedures for Upgrade to 3.x

### Obtaining a License

On upgrading to version 3.0 or later, you need a new license from Juniper Networks to be able to use the product.

To prevent Control Center downtime in connection with the upgrade, we recommend that you obtain the new license before doing the upgrade. To get the license from the Juniper EMS Portal, you need to provide the UUID of the system where Control Center is installed. For this, a special command is needed.

- Run this command on the Control Center machine:

```
sudo cat /sys/class/dmi/id/product_uuid
```

This returns a plain-text UUID.

- Log in to the Juniper EMS Portal at [license.juniper.net/licensemanage/](https://license.juniper.net/licensemanage/) with the credentials you have received from Juniper.
- In the **My Product Licenses** view, click the **Activate** button for the relevant license.
- In the dialog that appears, under **SW Version**, leave the default choice **3.0 and Above**.
- Under **Universal Unique ID (UUID)**, enter the UUID string you generated in Control Center.
- Click the **Activate** button at the bottom of the screen.
- A license key will now be generated. Download it and save it as a plain-text file `cc_license.txt`.
- Perform the Paragon Active Assurance upgrade according to the present document.
- Finally, activate the license in Control Center using the command

```
ncc license activate cc_license.txt
```

### Plugin Configuration File

This version introduces a new configuration file `/etc/netrounds/plugin.yaml`. During installation, this file needs to be updated with the correct database connection details if the latter have been changed from the default.

## Special Procedure for Upgrade from 2.34

The upgrade from 2.34 to a later version involves an Ubuntu upgrade from version 16.04 to version 18.04. It is covered in the document *Upgrading Control Center from Version 2.34*.

## Finding Out Your Paragon Active Assurance Software Version

To find out what version of Paragon Active Assurance you currently have installed, you can use this command:

```
dpkg -l | grep paa
```

## Upgrade Procedure

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**WARNING:** If you are upgrading from 2.34, please make sure you use the special upgrade procedure described in the document *Upgrading Netrounds Control Center from Version 2.34*.

Below are general instructions for upgrading Control Center. Note that for specific releases, additional actions may be required; separate instructions are then given in each case in what follows.

Be sure to refer to the current *Installation Guide*.

- **Disable** the `apache2` and `netrounds-callexecuter` services completely:

```
sudo systemctl disable apache2
sudo systemctl disable netrounds-callexecuter
```

- **Stop** all Paragon Active Assurance services:

```
sudo systemctl stop "netrounds-*" apache2 openvpn@netrounds
```

- **Make backups** according to the Operations Guide, chapter Backing Up Product Data, starting with the section "Backing Up the PostgreSQL Database".
- **Verify the integrity** of the tarball containing the new Control Center version:

```
# Compute the checksum for the tar file and verify that it is equal to the SHA256
# checksum provided on the download page
export CC_VERSION=3.2.2
sha256sum paa-control-center_${CC_VERSION}.tar.gz
```

- **Unpack the Control Center tarball:**

```
tar -xzf paa-control-center_${CC_VERSION}.tar.gz
```

- **Install new Control Center packages:**

```
sudo apt-get update
sudo apt-get install ./paa-control-center_${CC_VERSION}/*.deb
```

You will be asked how to proceed with the configuration files. In most cases you will want to keep your old settings. We recommend that you inspect the difference between your old configuration and the new one using the "D" choice.

New optional and updated settings may be available in the example configuration files provided in the packages. Feel free to review these and add new options as appropriate for your installation.



**WARNING:** For the file `/etc/netrounds/netrounds.conf` you need to choose "Y" in order to pick up the mandatory new `SPEEDTEST_ADDRESS` setting. Therefore, if you have made other

modifications to this file, be sure to first copy those and reinsert them afterwards. As a side note, we may mention that the `STRICT_TRANSPORT_SECURITY_HEADER` setting has been removed.



**WARNING:** For the Apache configuration files found in

`/etc/apache2/sites-available/`

you need to choose "Y", which is the "package maintainer's version".

If you have installed proper SSL certificates (as recommended) instead of the default snakeoil ones, you will have to modify the file again to point to the correct path in the `SSLCertificateFile` and `SSLCertificateKeyFile` settings after the Debian package installation has completed. See the Installation Guide, chapter Service Configuration, section "SSL Certificate Configuration".

- **Run the database migration:**



**WARNING:** If you have changed the database password from the default, make sure you also change this in the `db-password` setting in the `/etc/netrounds/plugin.yaml` file before running `ncc migrate`. Otherwise, the command will fail.

**NOTE:** This is a sensitive command, and care should be taken when executing it on a remote machine. In such a scenario it is strongly recommended that you use a program like `screen` (generally installed by default on popular Linux distributions) or `tmux` (run `sudo apt-get install tmux` to install) so that the migrate command will continue running even if the ssh session breaks.

**NOTE:** This command takes considerable time to execute.

```
sudo ncc migrate
```

- **Install the new Test Agent repository and plugins.**



The plugins are used by Test Agent Applications.

```
TA_APPLIANCE_BUILD=3.2.2.19
TA_APPLICATION_BUILD=3.2.1.2
PLUGIN_BUILD=3.2.1-66

# Compute checksums for the repositories and verify that they match the
# SHA256 checksums provided on the download page
sha256sum paa-test-agent_${TA_APPLIANCE_BUILD}_all.deb
sha256sum paa-test-agent-application_${TA_APPLICATION_BUILD}_all.deb
sha256sum paa-test-agent-plugins_${PLUGIN_BUILD}_all.deb

# Start the installation
sudo apt-get install ./paa-test-agent_${TA_APPLIANCE_BUILD}_all.deb
sudo apt-get install ./paa-test-agent-application_${TA_APPLICATION_BUILD}_all.deb
sudo apt-get install ./paa-test-agent-plugins_${PLUGIN_BUILD}_all.deb
```

- **Enable** the apache2, kafka, and netrounds-callexecuter services:

```
sudo systemctl enable apache2
sudo systemctl enable kafka
sudo systemctl enable netrounds-callexecuter
```

- **Start** all Paragon Active Assurance services:

**NOTE:** You must do this to get the services up and running again after the upgrade.

```
sudo systemctl start --all "netrounds-*" apache2 kafka openvpn@netrounds
```

- To activate the new configuration, you also need to run:

```
sudo systemctl reload apache2
```

- Check that the system is up and running with the commands

```
sudo ncc status
sudo systemctl status "netrounds-*
```

- Log in to the Control Center GUI and go to the **Test Agents** view. Next to each Test Agent for which an upgrade is available, an up-arrow icon appears. Click that icon to go ahead with the upgrade.

## Troubleshooting

### Password Authentication Failed For User

If the `ncc migrate` command fails with an error message

```
Failed to connect to database error="pq: password authentication failed for user
\"netrounds\"" db-host=localhost db-name=paa-plugins db-port=5432 ...
```

you must update the variable `db-password` in the `/etc/netrounds/plugin.yaml` file as explained in the ["warning above" on page 6](#). Edit this file and then rerun `ncc migrate`.

### Target WSGI Script Not Found

If you accidentally selected "N" for the Apache configuration files (see ["this step above" on page 6](#)) and got an error message like the one below

```
[wsgi:error] [pid 29401:tid 140567451211520] [client 127.0.0.1:37172] Target WSGI script not
found or unable to stat: /usr/lib/python2.7/dist-packages/netrounds/wsgi.py
```

run the following commands to get back on track:

```
export CC_VERSION=3.2.2
dpkg-deb --fsys-tarfile paa-webapp_${CC_VERSION}_all.deb | tar -x --wildcards ./etc/apache2/
sites-available/*.conf --strip-components 4
sudo mv netrounds*.conf /etc/apache2/sites-available/
sudo chown -R root:root /etc/apache2/sites-available/
sudo systemctl reload apache2
```

This overwrites the old configuration with the new one in the updated package.

Again, if you have installed proper SSL certificates (as recommended) instead of the default snakeoil ones, you will have to modify the file again to point to the correct path in the `SSLCertificateFile` and `SSLCertificateKeyFile` settings after the Debian package installation has completed. See the Installation Guide, chapter Service Configuration, section "SSL Certificate Configuration".

## Rollback in Case of Failed Upgrade

If a Control Center upgrade fails, here is how to return the system to its state immediately before the upgrade:

- Make a clean Ubuntu installation according to the Installation Guide, chapter Installing Required OS and Software.
- Install the version of Control Center that you were using before the upgrade. Again, follow the Installation Guide, chapter Installing Control Center and Related Tasks.
- Recover your data from backup as explained in the Lifecycle Management Guide, chapter Restoring Product Data from Backup.

## Note on Control Center YANG Models

Upgrading Control Center, and specifically the `netrounds-confd_<version>_all.deb` package, may replace the Control Center YANG model with a newer version. This is relevant for orchestration solutions which rely on that YANG model and on the NETCONF & YANG API. The Control Center YANG model `netrounds-ncc.yang` is found under `/opt/netrounds-confd/`.

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