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Juniper NETWORKS Paragon Active Assurance User Guide

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Contents

General

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 4.0 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 *Upgrading Control Center from Version 2.34*.
Source version	Target version	Note
2.35.x	4.3.0	See **"Special Procedures for Upgrade to 3.0 or Later" on page 3**.If you are upgrading from Release4.1.X or earlier releases to Release 4.3, you need to upgrade the Ubuntu version to 22.04. See Alternative Upgrade Procedure.
2.36.x	4.3.0	
3.0.x	4.3.0	
3.1.x	4.3.0	
3.2.x	4.3.0	
3.3.x	4.3.0	
3.4.x	4.3.0	
4.0.x	4.3.0	
4.1.x	4.3.0	
4.2.x	4.3.0	

To contact Juniper technical support, file a ticket at **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 s|-r■ n] 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 conC]†r-■ on CV;sÍ

If you are upgrading across m†V■ rV; versions, please read the Release Notes for all intermediate versions.

Special Upgrade Procedures

Special Procedures for Upgrade to 4.3

When upgrading to version 4.3, you need to follow the document Upgrading Control Center to 4.3 rather than the present generic upgrade guide.

Special Procedures for Upgrade to 3.0 or Later

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 7own■ m; in conn;c■ on 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 insta

- **Run this command on the Control Center machine:**

  ncc license license-request

  The output includes a UUID in plain-text format.
- Log in to the Juniper EMS Portal at **license.juniper.net/licensemanage/** with the cr;7;n■-Vs you have received from Juniper.
- In the My Product Licenses view, click the c■v-|; b†,on 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 with the ncc license licenserequest command.
- Click the c■v-|; b†,on at the bo,om of the screen.
- A license key will now be generated. Download it and save it as a plain-text CV; cc_license.txt.
- Perform the Paragon c■v; Assurance upgrade according to the present document.
- Finally, -c■v-|; the license in Control Center using the command

ncc license activate cc_license.txt

Plugin ComC]†r-■om File

This version introduces a new conC]†r-■on CV; /etc/netrounds/plugin.yaml. During bns|-VV-■onķ this CV; needs to be updated with the correct database conn;c■on details if the V-,;r have been changed from the default.

Special Procedure for Upgrade from 2.34

The upgrade from 2.34 to any release up to 3.3 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 c■v; Assurance "o[w-r; Version

To Cn7 out what version of Paragon c■v; Assurance you currently have installed, you can use this command:

dpkg -l | grep paa

Upgrade Procedure

⚠️ **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.

If you have previously upgraded from 2.34 and are now going to upgrade to 3.0 or later, you must begin by undoing a step performed in the 2.34 upgrade. Run this command:

sudo apt-mark unhold python-django python-django-common

You can then follow the bns|r†c■ons below.

Below are general bns|r†c■ons for upgrading Control Center. Note that for sr;cbCc releases, -77b■on V -c■ons may be required; separate bns|r†c■ons are then given in each case in what follows.

Be sure to refer to the current ns|-VV-■on Guide

- Disable the apache2 and netrounds-callexecuter services completely: sudo systemctl disable apache2 sudo systemctl disable netrounds-callexecuter
- Stop all Paragon c■v; Assurance services: sudo systemctl stop "netrounds-*" apache2 openvpn@netrounds
- Make backups according to the r;r-■ons Guide, chapter Backing Up Product Data, s|-r■n] with the s;c■on "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_BUILD=4.3.0.15
- sha256sum paa-control-center_${CC_BUILD}.tar.gz
- **Unpack the Control Center tarball:**
  tar -xzf paa-control-center_${CC_BUILD}.tar.gz
- **Install new Control Center packages.**
  In the CV; /etc/netrounds/netrounds.conf you can or■on-VVy conC]†r; the SPEEDTEST_ADDRESS s;■n] (if you are going to use Speedtest). This can either point to the same IP address that SITE_URL resolves to, or it can have a hostname of its own.

⚠️ **WARNING:** You will now be prompted about overwriting existing configuration files. Before proceeding, please read all the information about settings below.

📶 **NOTE:**

- We highly recommend that you Crs| inspect the 7b@;r;nc; between your old conC]†r-■on and the new one using the "D" choice. In most cases you will then want to keep your old s;■n]s by pressing "N" (do not overwrite).
- New or■on-V and updated s;■n]s may be available in the example conC]†r-■on CV;s provided in the packages. We recommend that you review these and add new or■ons as appropriate for your bns|-VV-■onÍ

⚠️ **WARNING:** For the Apache conC]†r-■on CV;s found in /etc/apache2/sites-available/ you need to press "Y",

which is the "package maintainer's version".

If you have installed proper SSL c;r■Cc-|;s (as recommended) instead of the default snakeoil ones, you will have to modify the CV; again to point to the correct path in the SSLCertificateFile and SSLCertificateKeyFile s;■n]s -[;r the Debian package bns|-VV-■on has completed. See the ns|-VV-■on Guide, chapter Service onC]†r-■on, s;c■on "SSL ;r■Cc-|; onC]†r-■onŞÍ

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

Run the database mb]r-■onĹ

⚠ **WARNING:** If you have changed the database password from the default, make sure you also change this in the db-password s;■n] in the /etc/netrounds/plugin.yaml CV; before running ncc migrate. Otherwise, the command wil

NOTE:

- This is a s;nsb■v; command, and care should be taken when ;x;c†■n] 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 7bs|rbb†■onső or tmux (run sudo apt-get install tmux to install) so that the migrate command will con■n†; running even if the ssh session breaks.
- This command takes considerable ■m; to execute.

sudo ncc migrate

- **Restart** all Paragon c■v; Assurance services:
  sudo ncc services restart
- **Install the new Test Agent repository and plugins.**
  The plugins are used by Test Agent rrVbc-■onsÍ
  TA_APPLIANCE_BUILD=4.3.0.16
  TA_APPLICATION_BUILD=4.3.0.16
  PLUGIN_BUILD=4.3.0.24
  # 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** services as follows:
  sudo ncc services enable apache2
  sudo ncc services enable kafka
  sudo ncc services enable callexecuter
- **Restart** all Paragon c■v; Assurance services:

NOTE: You must do this to get the services up and running again -[;r the upgrade.

sudo ncc services restart

- To -c■v-|; the new conC]†r-■onķ you also need to run:

  sudo systemctl reload apache2

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

- ncc status

  sudo systemctl status "netrounds-*"

- Run the following script to enable the latest version of all plugins in all accounts: xport PORT=49900 while true; do

  if netstat -lnt | grep ":$PORT " > /dev/null; then echo "$(date): Plugin service is listening on port $PORT" echo "Enabling latest plugins for all accounts" sudo ncc plugins edit enabled-version –all-plugins –latest-version –all-accounts — exit-on-failure=false –verbose break

  fi echo "Waiting for plugin service listening on $PORT" sleep 3 done

  If you encounter the following error -[;r you run the script, create a support case by -,-c_bn] the script output in order to troubleshoot the error. 2023-11-17T09:22:46Z ERR ../../app/api/handlers/update_plugin.go:246 > Failed to change enabled plugin version error="unknown account shortname account_name" host=ip-10-0-0-11 service=plugin-service short_name=account_name src=core

  For more bn=orm-■on on how to manage plugins using the Control Center CLI, see the in-app help under "Plugins".

- 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 wi

Troubleshooting

Password †|_;m■c-■om 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 CV; as explained in the "warning above" on page 7. Edit this CV; and then rerun ncc migrate.

Target WSGI Script Not Found

If you accidentally selected "N" for the Apache conC]†r-■on CV;s (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_BUILD=4.3.0.15
- dpkg-deb –fsys-tarfile paa-webapp_${CC_BUILD}_all.deb | tar -x –wildcards

- ./etc/apache2/sitesavailable/*.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 conC]†r-■on with the new one in the updated package.

Again, if you have installed proper SSL c;r■Cc-|;s (as recommended) instead of the default snakeoil ones, you will have to modify the CV; again to point to the correct path in the SSLCertificateFile and SSLCertificateKeyFile s;■n]s -[;r the Debian package bns|-VV-■on has completed. See the ns|-VV ■on Guide, chapter Service onC]†r-■on, s;c■on "SSL ;r■Cc-|; onC]†r-■onŞÍ

Same Origin Policy Disallows Reading the Remote Resource

This or some similar error may occur if you have set SITE_URL and SPEEDTEST_ADDRESS to 7b@;r;n| values in /etc/netrounds/netrounds.conf. You then need to change ALLOWED_ORIGINS in /etc/netrounds/restol.conf to allow both of these values in the restol.conf CV;Í The simplest way to achieve this is to delete any value previously assigned to ALLOWED_ORIGINS. That s;■n] will then get a default value which allows SITE_URL and SPEEDTEST_ADDRESS as found in /etc/netrounds/netrounds.conf.

Test Agent Appliance Does Not Come Online [;r Control Center Upgrade

If you upgrade Control Center 3.1 or 3.2 to version 3.3 or later and you are using Test Agent Appliance 3.3, it may happen that a Test Agent Appliance on which a Test Agent rrVbc-■on is run (this is supported from version 3.3.1 onward) will not come online but remain gray in Control Center. This is because |r-Lc on port 6800 is CV|;r;7 by a DROP rule.

Resolve this issue by running the following command on the Control Center m

sudo iptables -I INPUT -i tun0 -p tcp –dport 6800 -j ACCEPT

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 bns|-VV-■on according to the ns|-VV-■on Guide, chapter Installing Required OS and "o[w-r;.
- Install the version of Control Center that you were using before the upgrade. Again, follow the ns|-VV-■on Guide, chapter Installing Control Center and Related Tasks.
- Recover your data from backup as explained in the r;r-■ons Guide, chapter Restoring Product Data from Backup.

Applying Ubuntu Updates

NOTE: If you want to apply updates to Ubuntu 22.04, you Crs| need to hold rrd packages with the command.

sudo apt-mark hold librrd8 python3-rrdtool rrdtool

Then you can apply the updates with

sudo apt dist-upgrade

The hold command is necessary because the or;r-█ n] system will by default remove Paragon c█v; Assurance packages:

(output from sudo apt dist-upgrade below)

The following packages will be REMOVED:
paa-callexecuter paa-common paa-license-daemon paa-test-agent-compat paa-test-agent-login paawebapp The following packages will be upgraded: librrd8 python3-rrdtool rrdtool 3 upgraded, 0 newly installed, 6 to remove and 0 not up
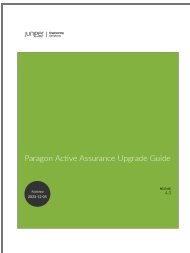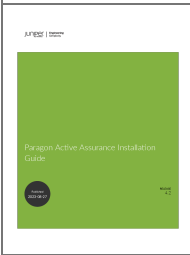
Note on Control Center YANG Models

Upgrading Control Center, and sr;cbCc-VVy the netrounds-confd__all.deb package, may replace the Control Center YANG model with a newer version. This is relevant for orc_;s|r-█ on soV†█ ons which rely on that YANG model and on the NETCONF & YANG API. The Control Center YANG model netroundsncc.yang is found under /opt/netrou

Documents / Resources

	Juniper NETWORKS Paragon Active Assurance [pdf] User Guide Paragon Active Assurance, Paragon, Active Assurance, Assurance
	Juniper NETWORKS Paragon Active Assurance [pdf] Installation Guide Paragon Active Assurance, Paragon, Active Assurance, Assurance

References

- 🌐 **Example Domain**
- 🌐 **Hosted by one.com**

- license.juniper.net/licensemanage/
- Downloads
- Contact - Support - Juniper Networks
- ubuntu.com/server/docs/mail-postfix
- Django Authentication Using LDAP — django-auth-ldap 4.5.1.dev3+ge94c7b2.d20231004 documentation
- Reference — django-auth-ldap 4.5.1.dev3+ge94c7b2.d20231004 documentation
- license.juniper.net/licensemanage/
- Downloads
- ubuntu.com/server/docs/mail-postfix
- How To Use Journalctl to View and Manipulate Systemd Logs | DigitalOcean
- User Manual