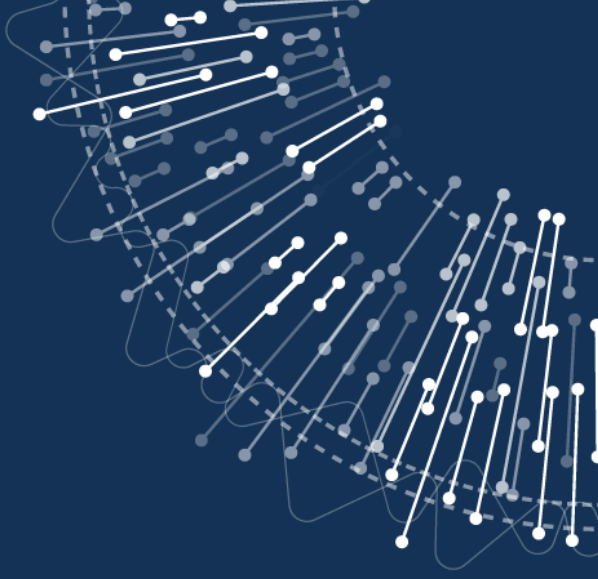

CYBERTEC: PGEE PATCHING AND UPDATE POLICIES

Document version: 1.1
Last change: 2025-03-31

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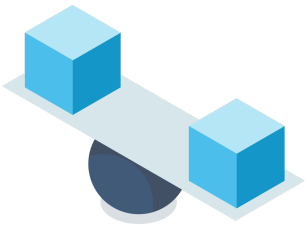
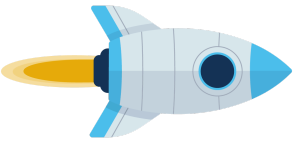
PURPOSE OF THIS DOCUMENT

CYBERTEC is a leading provider of PostgreSQL based solutions that have been optimized for critical workloads, which have to guarantee:

Security



Stability



Business Continuity

Ensuring those guarantees requires a mechanism to handle software issues and lifecycle management as a whole.

This document describes how we handle patch management and updates for our customers around the world.

HANDLING POSTGRESQL / PGEE VERSIONS

Before we dive into the technical details, it is important to understand the structure of a PostgreSQL / PGEE version number.

UNDERSTANDING POSTGRESQL VERSION NUMBERS

A PostgreSQL version number consists of various main components:

- Major version
- Minor release
- Optional: patch and revision.

What does this mean in real life?

POSTGRESQL MAJOR VERSION:

The major version represents the most significant change to the database's core functionality. It typically occurs when a new major release is targeted, such as from 16.x to 17.x.

Major versions contain significant improvements over previous major releases and offer new functionality, as well as important performance improvements, over the previous major release. Major releases are typically available once a year.

POSTGRESQL MINOR VERSION:

The minor version represents incremental improvements or bug fixes **within the same major version**. Minor releases can include:

Security fixes (CVEs)

Bug fixes

Minor issues (typos in documentation, etc.)

It is important to know that minor versions do not add new SQL syntax or any other additional features - all those changes are only available in major versions.

When does a minor release happen?

- In case enough small fixes are available
- As soon as security problems are discovered
- In case data corruption is possible

OPTIONAL: PATCH VERSIONS

Patch versions represent smaller patches that address specific issues or bugs. These are typically included in minor releases to improve stability and reliability. Patch versions are often created for packaging needs - they are not officially released by the community, but are made by:

- **CYBERTEC PostgreSQL Support**
- Operating system packages
  - Debian / Ubuntu
  - RedHat
  - etc.

These packages provide critical fixes ahead of scheduled minor releases.

PGEE: ENTERPRISE POSTGRESQL VERSIONING

CYBERTEC PGEE (CYBERTEC PostgreSQL Enterprise Edition) **adds important features** to PostgreSQL, which are crucial to high-end deployments while integrating with our cutting-edge **PostgreSQL 24x7 support**.

As part of CYBERTEC support, we offer customers fast roundtrips and quick fixes. To facilitate this, PGEE follows a strict versioning pattern.

The following listing shows the general layout of a PGEE package name on RedHat based systems:

```
postgresql17-ee-server-17.0-EE.rhel9.cybertec1.x86_64.rpm
postgresql17-ee-server-17.0-EE.rhel9.cybertec2.x86_64.rpm

postgresql17-ee-server-17.2-EE.rhel9.cybertec1.x86_64.rpm

postgresql17-ee-server-17.4-EE.rhel9.cybertec1.x86_64.rpm
```

What we see here are 3 sample versions of PGEE:

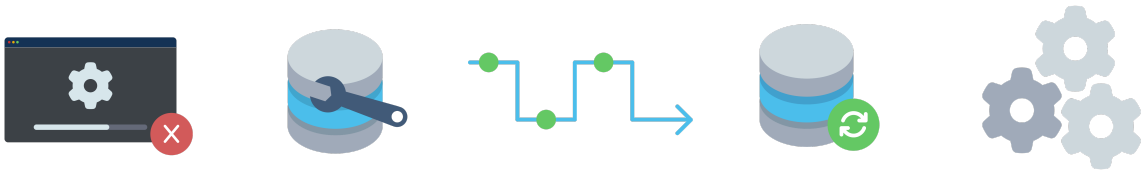
- 17.0: comes in two incarnations
- 17.2: shows a new minor release
- 17.4: one additional minor release

The important part is that 17.0 is released in two incarnations. “cybertec1” is the initial version. “cybertec2” contains fixes for “cybertec1” and has been created to quickly meet the needs of customers (= bugfixes, important security issues ahead of a new minor release).

> “All minor versions contain ALL previous bugfixes.”

There is no such thing as a “patch” - customers will always receive a ready-to-use version. When moving from one minor version to the next one, there is no need to install the intermediate versions - users can directly proceed to the latest minor version.

Our process offers various key advantages over legacy databases:



NO patch management | NO conflicting fixes | Clear update path | Easy updates | High-level of automation

In the next section, we will understand how updates can be done in real life.

UPGRADING AND "PATCHING"

Upgrading PGEE is simple and can be done without major downtime requirements.
The process is described for:

- Debian / Ubuntu systems
- RedHat based systems

Follow the steps in the next sections to handle the transition.

DEBIAN / UBUNTU SYSTEMS

On Ubuntu / Debian, consider the following listing:

```
$ sudo apt update
Get:4 https://deb.cybertec-postgresql.com/pgee
      bookworm InRelease [4369 B]
Get:5 https://deb.cybertec-postgresql.com/pgee
      bookworm/main amd64 Packages [366 kB]
6 packages can be upgraded.
      Run 'apt list --upgradable' to see them.

$ sudo apt upgrade
The following packages will be upgraded:
  libpq5
  postgresql-17ee postgresql-client-17ee
  postgresql-client-common
  postgresql-common postgresql-common-ee
6 upgraded, 0 newly installed, 0 to remove and 0 not upgraded.
...
Unpacking postgresql-17ee (17.4ee1.4.1-1.pgee12+1)
    over (17.2ee1.4.1-1.pgee12+1) ...
Setting up postgresql-17ee (17.4ee1.4.1-1.pgee12+1) ...

$ psql --version
psql (postgresql) 17.4 ee 1.4.1
     (debian 17.4ee1.4.1-1.pgee12+1)
```

The system has been updated to the latest version successfully.
Mind that Debian / Ubuntu restart the services automatically.

REDHAT BASED SYSTEMS

On RedHat based systems, consider the following listing:

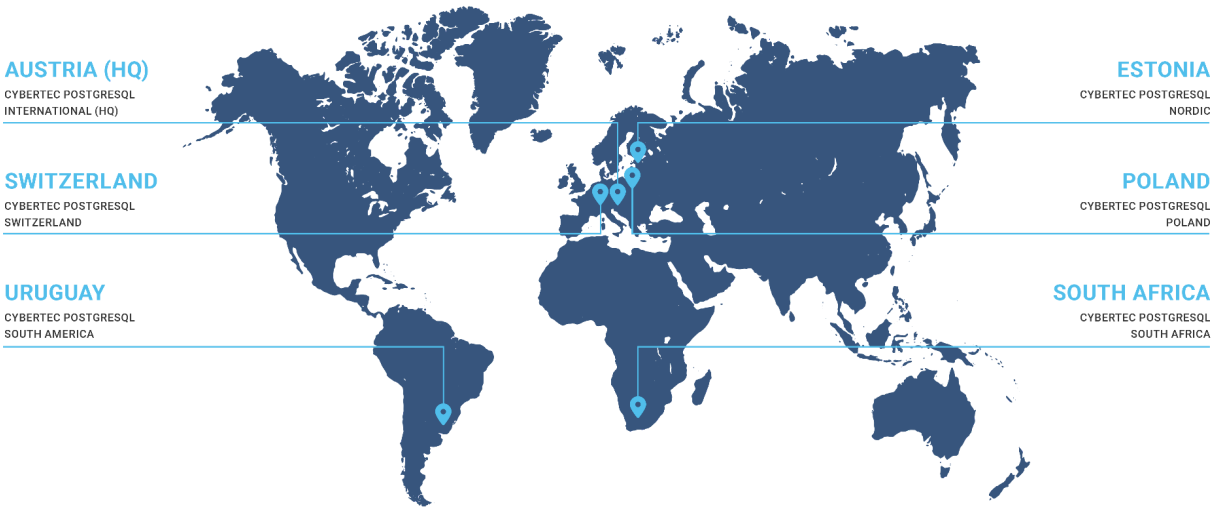
```
$ sudo yum update
…

$ sudo yum upgrade
CYBERTEC PostgreSQL 17 for RHEL/CentOS 9 - x86_64
...
Transaction Summary
================================================================
Upgrade  3 Packages

Running transaction
Upgrading          :
     postgresql17-ee-libs-17.4-EE.rhel9.cybertec1.x86_64
  Upgrading        :
     postgresql17-ee-17.4-EE.rhel9.cybertec1.x86_64
  Upgrading        :
     postgresql17-ee-server-17.4-EE.rhel9.cybertec1.x86_64

Complete!
```

Your system has been upgraded successfully. RedHat has automatically restarted the service for you - there are no additional steps necessary.



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If you need further information

For more information, or if you have any questions about our range of products, tools and services, contact us. There's no obligation—send us an inquiry via email or give us a call.

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VERSION HISTORY

Version	Effective Date	Description	Author	Reviewed By	Approved By
1.0	2025-03-14	Documentation	Hans-Jürgen Schönig	Christoph Berg	
1.1	2025-03-31	Proofreading & design review	Sarah Gruber	Scarlett Riggs	Andrea Schantl-Weiß