Genesys Quality Management 8.1

Upgrade Guide

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Table of Contents

Chapter

1 Introduction

This chapter provides an overview of this document, identifies the primary audience, introduces document conventions, and lists related reference information.

This chapter contains the following sections:

Document Purpose

This document describes the process of upgrading from an earlier Genesys GQM or Genesys Call Recording product version (see document content for compatibility information).

Advanced configuration, clustering and integration with third party applications are described in other documents - for example *Call Recording Administration Guide* and related Whitepapers.

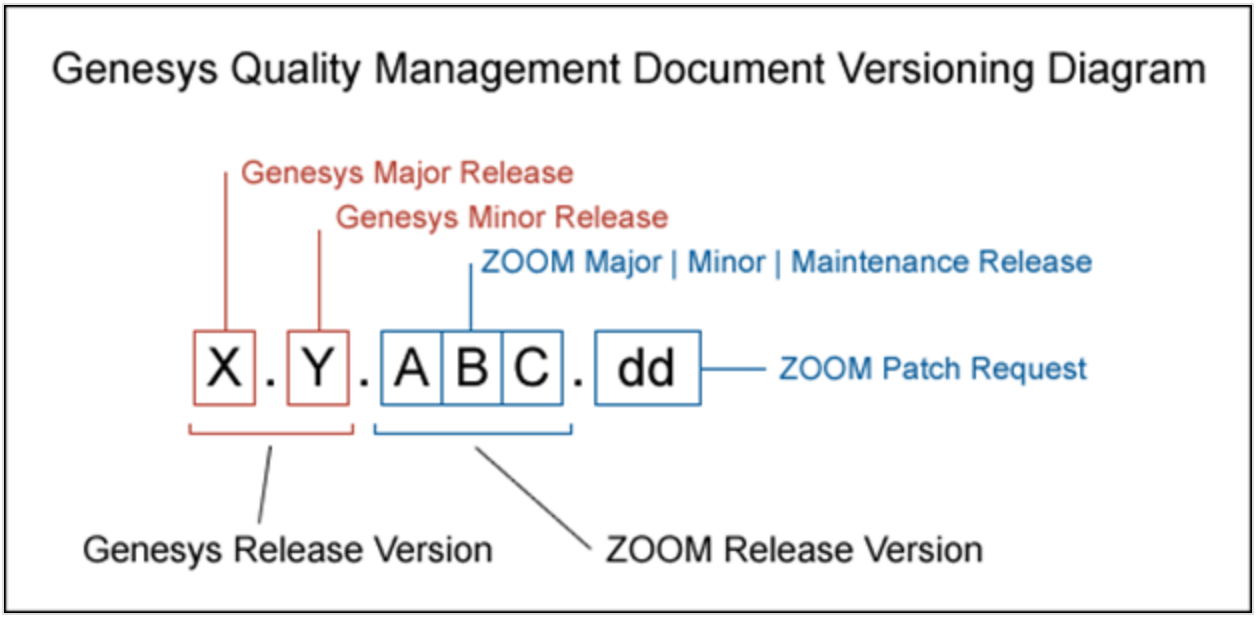
Audience

This document is intended for system engineers and administrators responsible for installation and upgrading of Genesys GQM.

Document Version

The Genesys Quality Management products are provided by a partnership between Genesys and ZOOM International. The Genesys Quality Management products use a versioning format that represents a combination/joining of the versions used by these two separate entities. Although the Genesys Quality Management products and documentation use this combined versioning format, in much of the software and logs you will see the ZOOM versioning alone. You need to be aware of this, for example, when communicating with Technical Support.

The version for this document is based on the structure shown in the following diagram:



Typographical Conventions

Names of functions and buttons are in bold. For example: **Upload**.

File names, file paths, command parameters and scripts launched from the command line are in `non-proportional font`.

Referred documents are in italics. For example: see the document *This is a Document* for more information.

```
Code is placed on a gray background and bordered
```

Hyperlinks are shown in blue and underlined: http://genesyslab.com/support/contact.

Expected Knowledge

Readers of this document are expected to have the following skills or knowledge:

- Basic knowledge of the Genesys Call Recording system features and functionality.
- Knowledge of RedHat Enterprise Linux installation and configuration.

- Linux system administration skills.
- Network administration skills.

Chapter

2 Overview

Genesys GQM 8.1.50x has a command-line based upgrade/migration utility wizard, for upgrading the following GQM / Call Recording versions:

Existing Installation Version	Target Migration Version
GQM 8.0.46x, 8.0.47x, 8.0.48x	GQM 8.1.49x
GQM 8.0.46x, 8.0.47x, 8.0.48x, 8.1.49x	GQM 8.1.500

Table 1: Common Examples of Migration

Other combinations of migration can be performed, including downgrades between versions for maintenance purposes.

The Upgrade Wizard

The upgrade wizard only supports migration from or to GQM or Call Recording installations that use the default embedded PostgreSQL database. Oracle is not currently supported by the wizard. Please refer to the Using Oracle Guide for the procedures for installing and migrating to an Oracle database-based GQM installation.

Reducing Downtime Due to Upgrading

Where there is only a limited maintenance downtime window for a GQM or Call Recording upgrade (for instance two hours) and there is a large database which will take several days to fully migrate, it is possible to upgrade the installation and migrate the existing database to the new version afterwards. This allows recording to begin immediately after the upgrade without losing any calls and the process is not delayed while the database is being migrated. Once the database is fully migrated, the data will become available.

This option decreases maintenance downtime by upgrading the system Call Recording packages first (installing a newer version to replace an older installation). Once the upgrade (installation) is done, setup can be performed and recording can start to a new empty database. When it is confirmed that all calls are recording, migration of database records can start in the background (or moving MP3 files back to the server from network storage). This migration process can take from several hours to several days (depending on the size of the database). When the migration is complete, the new and migrated databases can be synchronized. Afterwards, Call Recording can be stopped and the databases switched. When this switchover is complete, Call Recording can be restarted with complete database records. Deleting the old databases will free disk space.

Features

- The upgrade wizard always performs a complete file / data backup before commencing the upgrade operation.
- Both interactive and command-line (CLI) modes are available; the latter enables batch processing scenarios.
- All target installs require only the installation ISO / DVD to be accessible on a Linux mount point; all patches are included within the installation's database directory.
- All configured remote storage mount points remain available during and after the update process has finished.
- All update actions are logged to a file in the `/home` directory, that is : `/home/callrec_upgrade.log`.

Limitations

The current upgrade wizard has the following known limitations:

- A reboot is recommended after the upgrade is complete.
- A number of settings are not migrated, including maintenance tool preferences (such as for **Archive**, **Backup**), so these should be manually recorded and re-entered after upgrade is complete. These tasks are noted in the Pre-Upgrade tasks section of this guide.
- User permissions in Call Recording and Quality Manager are not removed during an upgrade.
- Manually (or independently) upgraded software packages on the server can cause problems for the upgrade wizard. For example, if security patches have been applied to the PostgreSQL database client since the original GQM installation, the upgrade wizard may stop with an error when attempting to upgrade this software. In this case, please contact Support.

Important:

There is a known issue with servers equipped with iSCSI storage devices, which causes the upgrade process to fail. Please contact Support at: http://genesyslab.com/support/contact for more information.

Requirements

The upgrade wizard requires the following for correct operation:

- Execution from a Linux root account via the server CLI or an SSH client.
- Access to the mounted installation ISO / DVD containing the target GQM installation files.
- The wizard must be run on each individual server in a cluster configuration.
- Enough storage space available locally (~500 MB for a single server installation with no database data).

It is recommended but not required that all GQM services are running when the upgrade starts. This enables the wizard to gather the information it requires.

Principles of Operation

The Call Recording configuration files are always backed up before upgrading begins, while by default, media files are not backed up, since they are not affected by the upgrade. This can be changed using the 'backup exclude file' included with the upgrade wizard scripts – see the Pre-Upgrade Tasks section.

Depending on the type of installation being upgraded, the upgrade wizard will behave differently in Interactive Mode regarding database data backup. Database backup behavior is categorized by the following scenarios of the existing Call Recording / GQM installation:

- **Single (standalone) server**, containing local PostgreSQL embedded database and local operational Call Recording Configuration Service.
  Behavior: if database backup is requested, backs up and restores ONLY the configured Call Recording database – any other databases present will NOT be restored!
- **Cluster server #1**, containing local PostgreSQL embedded database, Call Recording configuration files, but no local operational Call Recording Configuration Service.
  Behavior: if database backup is requested, allows user to select one or more databases to be backed up and restored.
- **Cluster server #2**, containing local operational Call Recording Configuration Service, but no local database.
  Behavior: no request for database backup.
- **Cluster server #3**, containing only Call Recording configuration files (such as for a dedicated recorder or decoder server).
  Behavior: no request for database backup.

The following diagram represents this database backup decision logic:

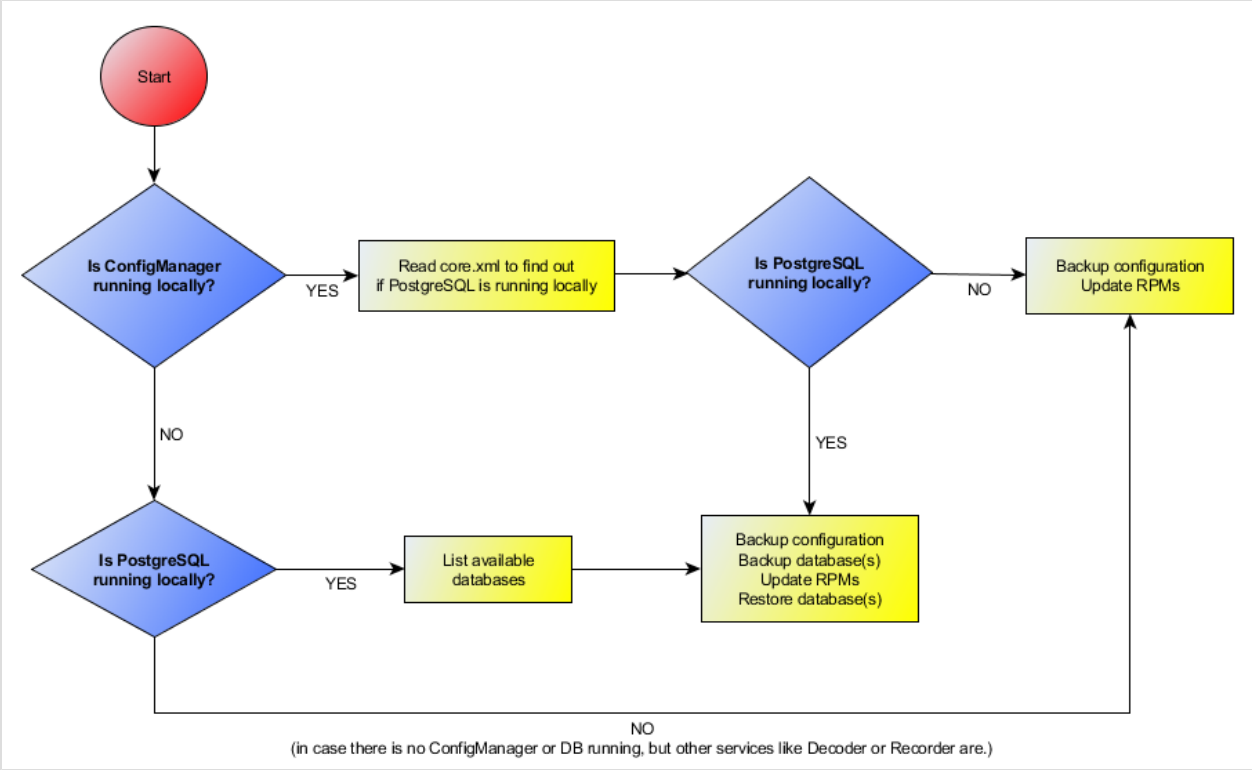


Figure 1: Upgrade Process - Database Backup Scenario Logic

Important:

Ensure databases are backed up!

During upgrade, the server software modules (RPMs) are upgraded, which includes the PostgreSQL database server, if installed. If databases are not backed up either during upgrade wizard operation or manually beforehand, they cannot be restored after a database server update.

Chapter

3 Pre-Upgrade Tasks

The following tasks should be performed before running the upgrade wizard.

- Note down the **Maintenance Tool** settings (**Global**, **Archive**, **Backup**, **Restore**, **Delete**, **Synchro**, **Delete**, **Relocation**) on the **Settings > Configuration > Maintenance** screen in the Call Recording Web GUI. The current version of the upgrade wizard does not migrate these settings, so they will need to be restored manually in the Web GUI after upgrading is complete.
- For installations using custom file paths (i.e. not the Call Recording 'default' paths of `/opt/callrec/...` for audio and video data files), modify the paths in the `backup_exclude_file` (included in the upgrade directory), which contains all paths for directories that should not be backed up during the upgrade.
  The following is the default contents of this file (which follows the `rsync` utility syntax):

```
- /data/calls/
- /data/pcap/
- /data/psql/
```

- The upgrade wizard does not back up media by default (as indicated by the exclude file above), since only the system and configuration files are updated. The following directories and resources are backed up:
  `/opt/callrec`, `/etc` directories.
  PostgreSQL configuration files.
  PostgreSQL data dump files (these may be extremely large if you have a high volume of calls).
- Ensure that you have enough storage space available locally before running the upgrade scripts (~500 MB for a single server installation with no database data).

Important:

From GQM version 8.1.49x upwards, the `/opt/callrec/etc/callrec.conf.defaults` file has been introduced to ensure consistency in user settings between upgrades and releases. The core Call Recording configuration file at `/opt/callrec/etc/callrec.conf` can be modified by Call Recording administrators and will not be overwritten during upgrades from version 8.1.49x onwards.

Chapter

4 Obtaining the Upgrade Wizard

The following sections describe the upgrade media available.

This chapter contains the following sections:

GQM Installation DVD

On the GQM installation DVD/ISO (from GQM 8.0.48x upwards) the upgrade wizard is available as an executable script (in the `/upgrade` directory at the root of the DVD). It is only necessary to mount this DVD/ISO; the upgrade wizard will run directly from the wizard, referencing the DVD for other resource files as necessary.

- Mount the DVD or ISO image.

```
mount /dev/cdrom /media/cdrom
```

Tip:

The mount command arguments may vary for your setup; depending on the device connected, the mount command could be: `mount /dev/cdrecorder /media/cdrom` [or other variation – consult your device documentation]
The `/media/cdrom` location needs to be an existing directory on your system, and can be created using the command: `mkdir /media/cdrom`

- Change directory to the upgrade directory on the mounted DVD / ISO and check the directory contents.

```
cd /media/cdrom/upgrade
ls
[backup_exclude_file  database_updates     upgrade_script.sh
 backup_script.sh     global_functions.sh  upgrade_scripts]
```

Chapter

5 Running the Upgrade Wizard

The upgrade wizard can be run in two modes; interactive mode (requires user input) and 'batch' or CLI mode (all relevant command line parameters are provided when executing the wizard, enabling unattended upgrade operations to be performed).

This chapter contains the following sections:

Interactive Mode

The interactive upgrade process is performed as follows, when logged in via the server console (CLI) or SSH remote session with root permissions:

Start the upgrade wizard shell script

```
sh upgrade_script.sh
```

Enter the required target version to update to (without square brackets):

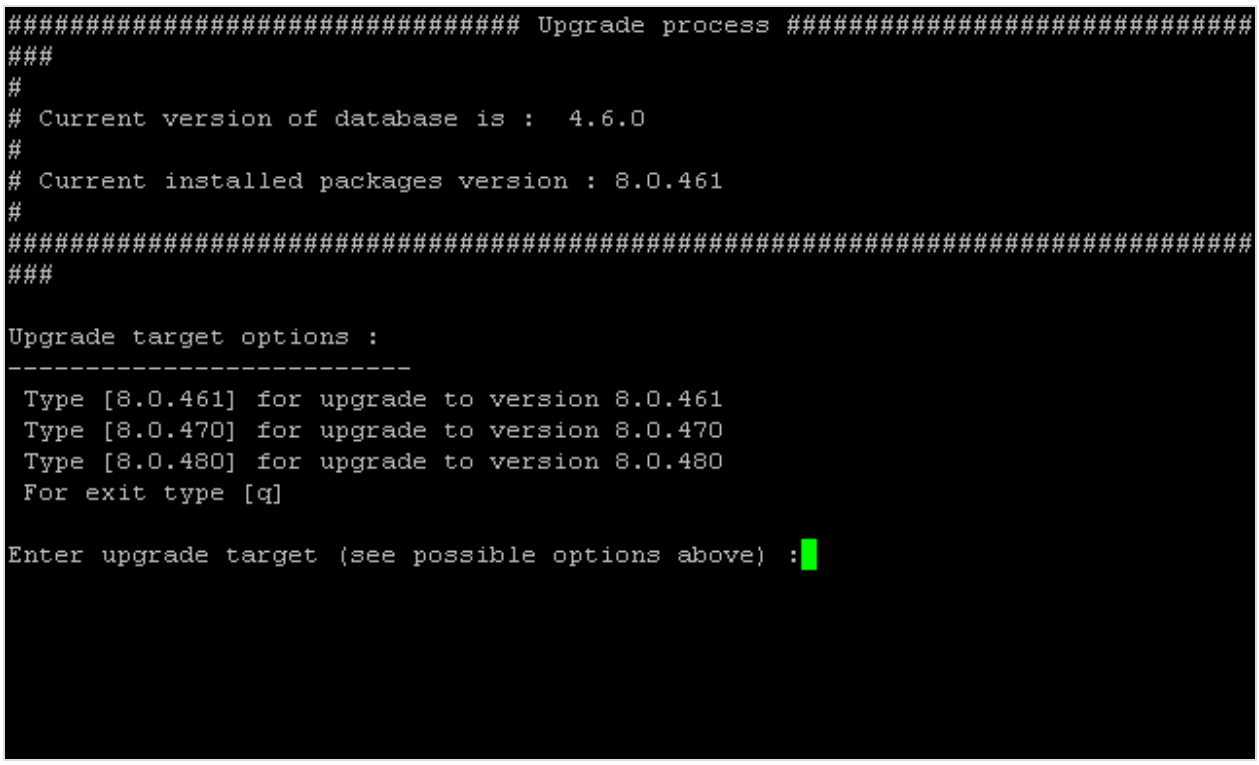


Figure 2: Upgrade wizard - selecting an upgrade target

Select a backup directory for current configuration data (default is `/home/backup/`). Ensure that any custom directory has enough storage space. If the backup directory is different to the default (`/home/backup`), it must already exist before running this wizard, with full read/write permissions for the script (`750`).

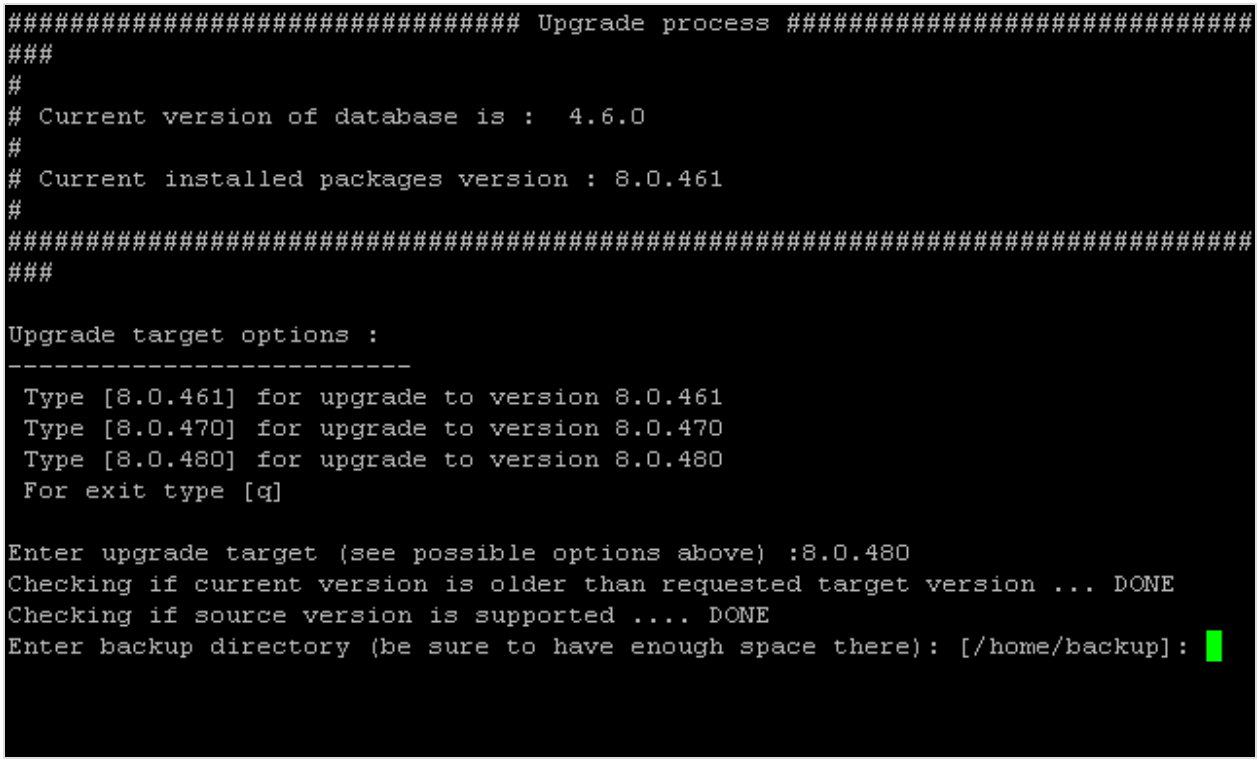


Figure 3: Upgrade wizard - selecting a backup directory

Choose whether to perform a complete database dump (`yes` or `no`); default is `yes`:

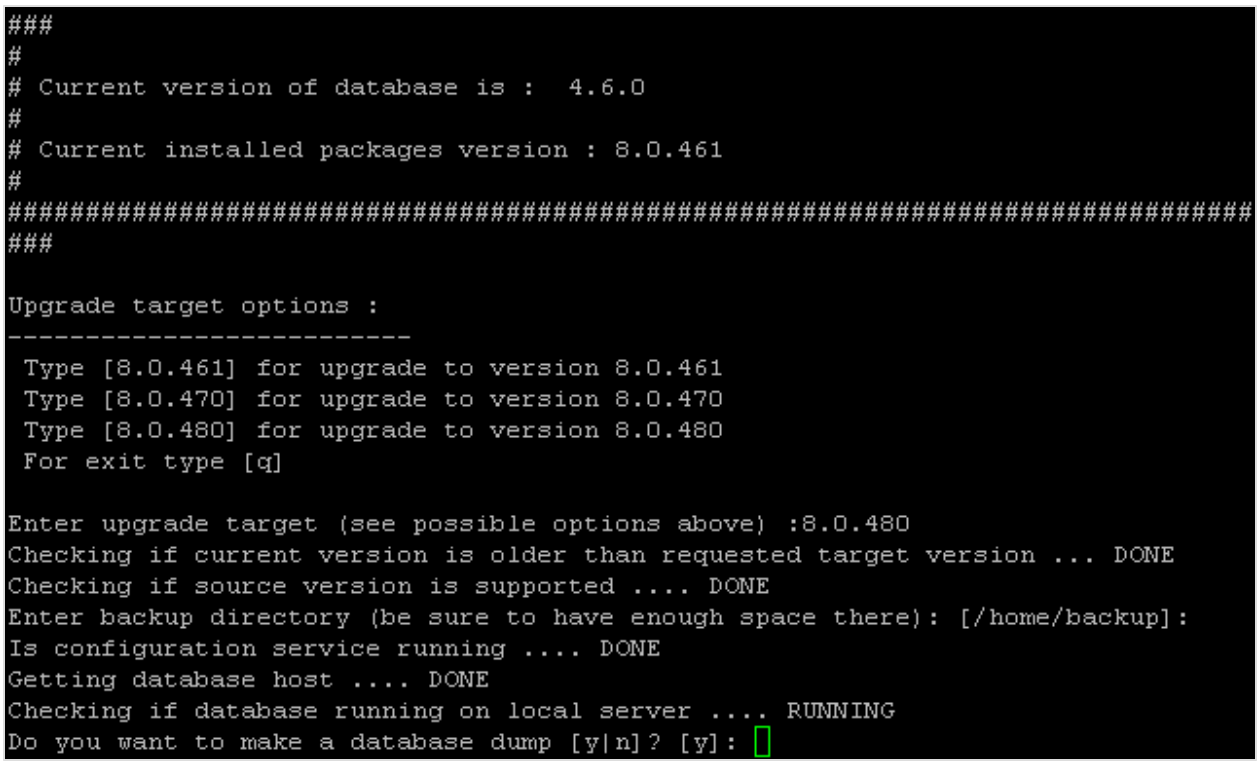


Figure 4: Upgrade wizard - choosing to make a database dump

Important:

Answering `no` at this database dump prompt will effectively delete all your existing databases and data during the upgrade! If a database is not backed up, it cannot be restored after the upgrade is complete.

The behavior of the upgrade wizard at this point is dependent on the type of existing installation that is being upgraded (standalone server or cluster – see Principles of Operation).

If no Call Recording Configuration Service is currently present on the server (that is the server is part of a cluster) and you chose to perform a database dump in the last step, the list of existing databases will now be displayed, each with an index number, to enable you to specify database(s) to back up.

Enter one of the following:

- the index number of the database that you wish to back up (for example: 1).
- `a` – to back up all databases displayed.
- `n` – to back up no databases displayed (cancels backup operation – no databases will be restored after upgrading is complete!).

The wizard will continue to allow individual databases to be chosen for backup until either all have been selected, or `n` is pressed.

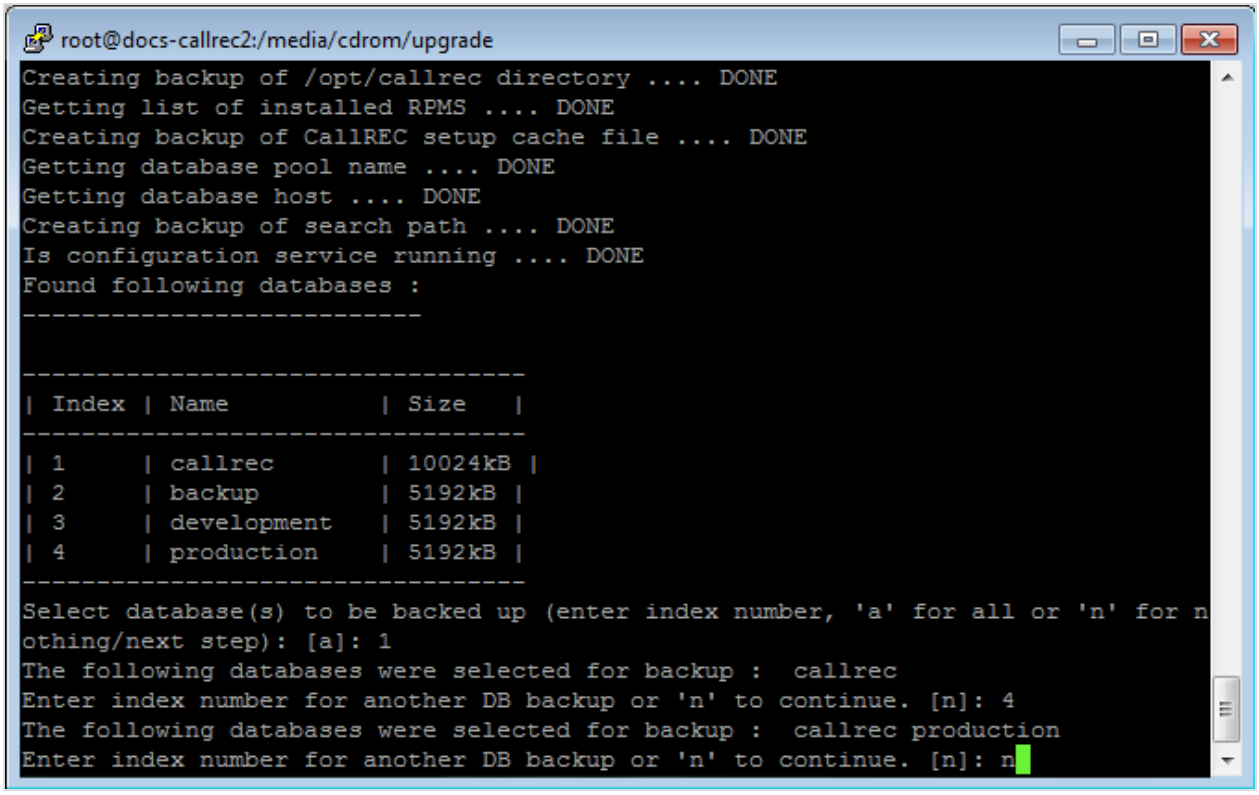


Figure 5: Upgrade wizard - selecting databases for backup (cluster installations only)

The wizard will now begin the upgrade process. This may take several hours, depending on the size of database and file stores. At this point the screen may appear to be frozen, while the upgrade wizard is creating the database dumps.

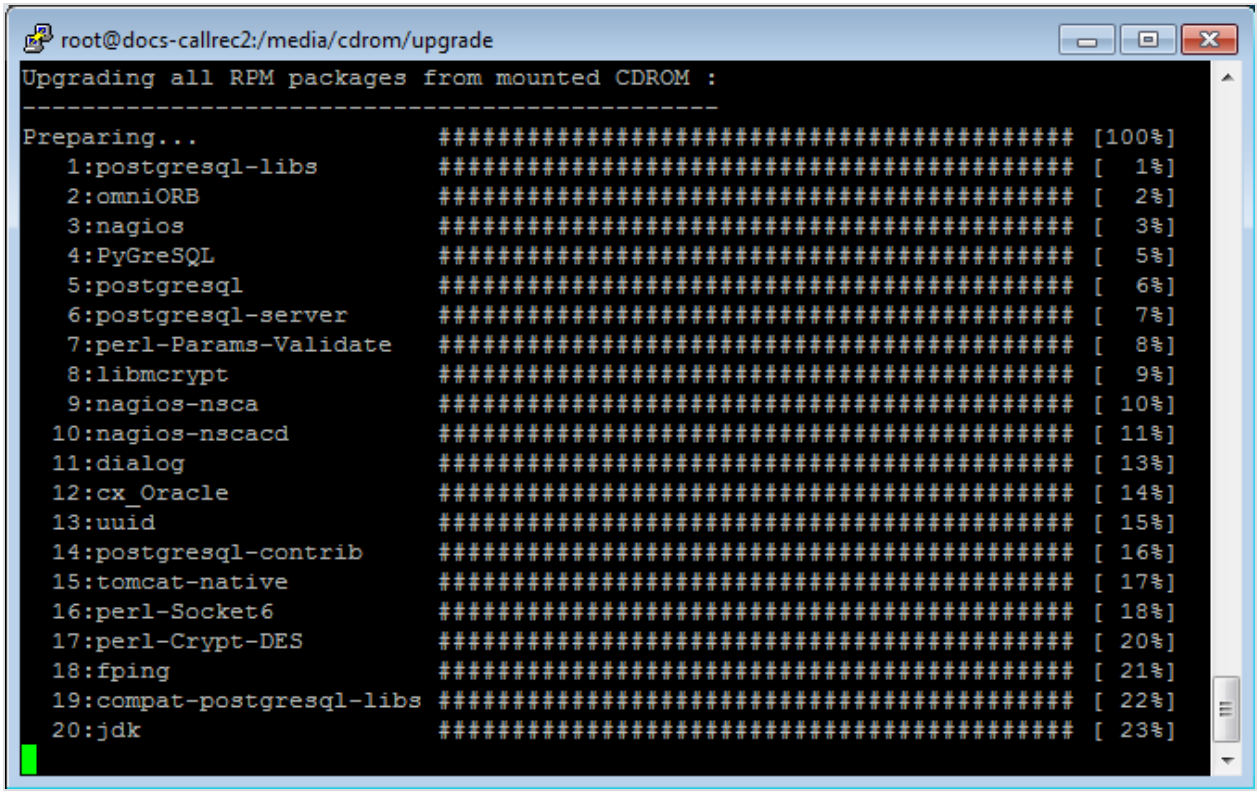


Figure 6: Upgrade wizard - upgrading in progress

When complete, the wizard will show an appropriate success message and exit. If the wizard stops responding (check the process state using the `top` command), or shows a failure error, please contact Support.

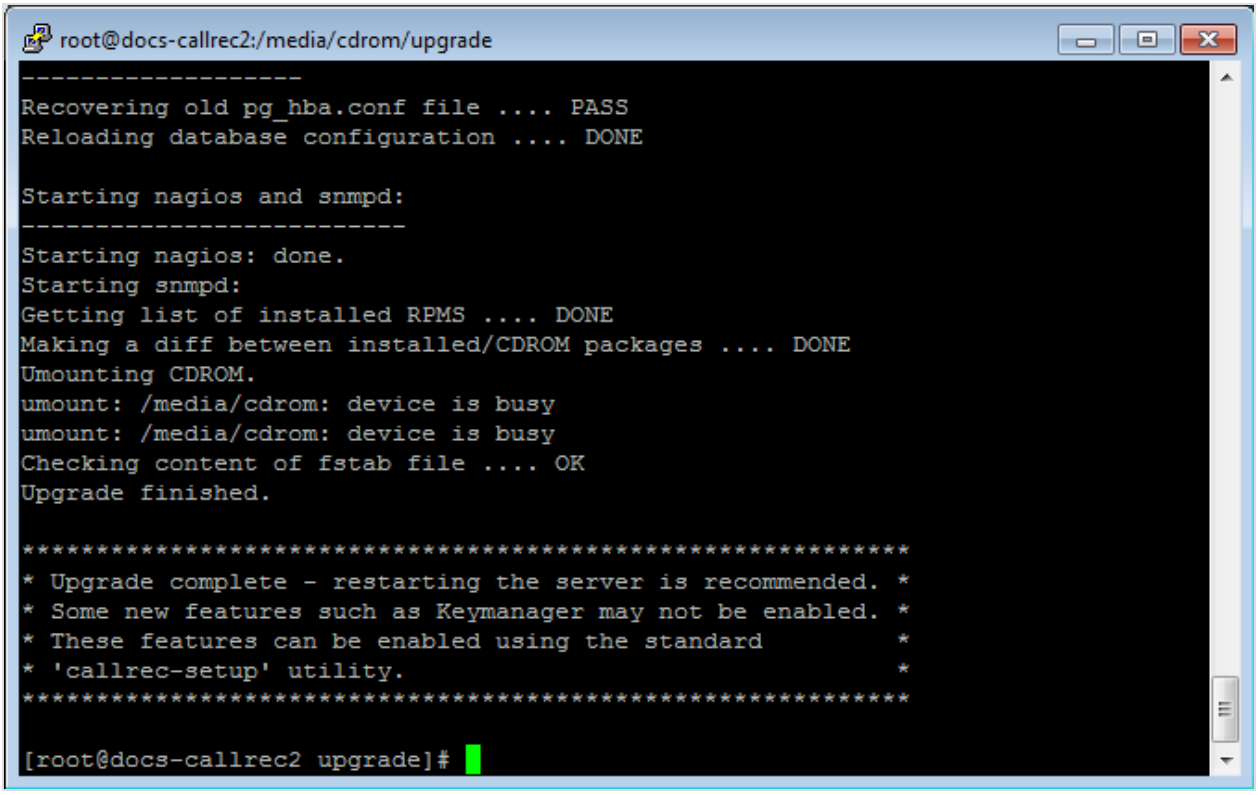


Figure 7: Upgrade wizard - upgrade successful

CLI Mode

The upgrade utility can be run as part of a batch (non-interactive) process from the command line as follows:

```
sh upgrade_script.sh [TARGET_VERSION] [BACKUP_DIR_PATH]
[dodump|nodump]
```

The command line parameters are:

- `TARGET_VERSION`: the version that you want to upgrade to (that is the version contained on the installation DVD / ISO); for example: 8.1.500.
- `BACKUP_DIR_PATH`: full path to an existing directory, for storage of backup files created during the upgrade process; for example: `/home/backup`. **This directory must exist before running the script, with full read/write permissions for the script (750).**
- `dodump` [or] `nodump`: specify whether to create a database backup file or not (respectively) before starting the upgrade process.
- `-h` [or] `--help`: display the above help information.

Entering no parameters will start up the interactive upgrade mode, as described earlier.

Important:

Specifying `nodump` as a parameter will **effectively delete all your existing databases and data** during the upgrade! If a database is not backed up, it cannot be restored after the upgrade is complete.

Example:

```
sh upgrade_script.sh 8.1.500 /home/backup dodump
```

Chapter

6 Post Upgrade Tasks

After successful completion of the upgrade wizard, the Call Recording Web GUI should be accessible at the same URL, with the same user accounts and passwords available.

However, the following tasks should be performed before the upgraded installation goes live.

- Ensure correct Call Recording and Quality Manager licenses are uploaded via their respective Web GUIs (see the Call Recording Administration Guide and Quality Manager Administration Guide).
- Re-enter the **Maintenance Tool** settings in the Web GUI (**Settings** > **Configuration** > **Maintenance**), since these are not migrated by the upgrade wizard at present.
- Ensure that the roles and permissions are set up correctly on the upgraded version (rights are not removed from existing installations during an upgrade). Ensure also that any new roles or permissions included in the newer GQM version are assigned within the upgraded Call Recording and Quality Manager applications.

Recording Rules Database Constraint

For installations that are older than GQM 8.0.47x and have a large number of recording rules, version 8.0.47x introduced a new database constraint, preventing the creation of rules with a priority greater than `1000`:

```
CONSTRAINT valid_priority CHECK (priority >= 0 AND priority < 1000)
```

This database patch is not currently applied to earlier installations that are upgraded to GQM 8.0.47x or above, so this must be performed as follows:

- In a PostgreSQL database editor, check if all existing recording rules have a priority value under `1000`. If they do, then this constraint can be patched in directly.
- If recording rules exist that have a priority value of `1000` or over, they must be manually fixed with a value below `1000` before the patch can be applied.

Migration from Quality Manager 8.0.46x to 8.0.47x or above

From Quality Manager 8.0.47x, a new Quality Manager database user was added to the GQM database schema. If you are migrating from version 8.0.46x, you must run the `scorecard_user.sql` script, which will add the new user as required. Migrations from Quality Manager 4.7 and above automatically include the Quality Manager user.

- Run the script as the root user in the CLI as follows, for PostgreSQL and Oracle databases:

PostgreSQL

Replace `<db_user>`, `<host>` and `<database>` with the correct values for your implementation:

```
psql -U <db_user> -h <host> -d <database> -f /opt/callrec/bin/scorecard_
user.sql
```

Oracle

Replace `<system_user>`, `<system_passwd>`, `<host>` and `<database>` with the correct values for your implementation:

```
sqlplus <system_user>/<system_passwd>@//<host>/<database>
@/opt/callrec/bin/oracle/scorecard_user.sql
```

Chapter

7 Request Technical Support

Technical Support from VARs

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