

Release notes for Obnam2

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This file summarizes changes between releases of the second generation of Obnam, the backup software. The software is technically called “obnam2” to distinguish it from the first generation of Obnam, which ended in 2017 with version number 1.22.

1 Version 0.7.0, released 2022-01-04

1.1 Breaking changes

- No known breaking changes in this release.

1.2 New or changed features

- Command that retrieve and use backups from the server now verify that the backup’s schema is compatible with the running version of Obnam. This means, for example, that `obnam restore` won’t try to restore a backup it doesn’t know it can restore.

1.3 Internal changes

- Update Subplot step bindings with types for captures to allow Subplot to verify that embedded files in `obnam.md` are actually used.
- Tidy up code in various ways.
- The Obnam release process now has a step to run `cargo update` after the crate’s version number has been updated, so that the `Cargo.lock` file gets updated.

1.4 Changes to documentation

- The `obnam` crate now documents all exported symbols. This should make the crate somewhat less hostile to use.
- The minimum supported Rust version is whatever is going to be in the next Debian stable release (code name bookworm).

1.5 Thank you

Several people have helped with this release, with changes or feedback.

- Alexander Batischev
- Lars Wirzenius

(Our apologies to anyone who's been forgotten.)

2 Version 0.6.0, released 2021-11-20

2.1 Breaking changes

- We no longer test Obnam with Debian 10 (buster) in our continuous integration system. The current Debian stable release, Debian 11 (bullseye), is tested.

2.2 New or changed features

- It is now an error if the backup root directory doesn't exist or can't be read. This applies only to the backup roots. Other files and directories may go missing or be unreadable, and Obnam only warns about that, to allow making backups of live systems where files change during the backup.

2.3 Internal changes

- There is now a new “many files” benchmark.

2.4 Changes to documentation

- We've started a decision log for big, important project decisions.

2.5 Thank you

Several people have helped with this release, with changes or feedback.

- Alexander Batischev
- Lars Wirzenius

(Our apologies to anyone who's been forgotten.)

3 Version 0.5.0, released 2021-11-20

3.1 Experimental version

This is an experimental release, and is not meant to be relied on for recovery of important data. The purpose of this release is to get new features into the hands of intrepid people who want to try out new things.

3.2 Breaking changes

- Obnam is now licensed under the GNU Affero General Public License, version 3 or later. This mainly affects the Obnam chunk server, which has a network API.
- The Obnam client now stores the version of the database schema in the per-backup SQLite database. This allows the client to recognize when a backup was made with an incompatible version of the client. This, in turn, paves way for us to safely making changes that older versions of the client do not understand.

As a result, the backups made with this version may silently break older versions of the client. However, this should be the last time such silent breakage happens.

3.3 New or changed features

- Obnam now restore metadata of restored symlinks correctly.
- Obnam’s handling of `CACHEDIR.TAG` files is more secure against an attacker adding such files in directories getting backed up.
- Progress bars so bars for different phases of the backup do not interfere with each other anymore.
- The client now has the “obnam resolve” subcommand to resolve a generation label (such as “latest”) into a generation ID. The labels may point at different commits over time, the IDs never change.
- The client now has the “obnam chunkify” subcommand to compute checksums of chunks of files. For now, this is for doing performance benchmarks, but may eventually evolve into a way to experiment how parameters affect sizes of chunks and the ability of the Obnam client to find duplicate data.
- A build problem on macOS, where `chmod` needs a different type of integer, was fixed.

3.4 Internal changes

- Obnam was migrated to using Docker in GitLab CI and using the new Debian stable release (version 11, code name bullseye).
- The Obnam client is now asynchronous code. This is a foundation for making the client be faster in the future. This has temporarily made the client slower in some cases.
- There is now a simple policy on what is required for changes to be merge, in the `DONE.md` file.

- There have been updates to use newer versions of dependencies, refactoring of code to be clearer and more tidy, as well as bug fixes in the test suite.

3.5 Changes to documentation

- The tutorial now explains the passphrases are ephemeral.

3.6 Thank you

Several people have helped with this release, with changes or feedback.

- Alexander Batischev
- Daniel Silverstone
- Lars Wirzenius
- Ossi Herrala

(Our apologies to anyone who's been forgotten.)

4 Version 0.4.0, released 2021-06-06

4.1 Experimental version

This is an experimental release, and is not meant to be relied on for recovery of important data. The purpose of this release is to get new features into the hands of intrepid people who want to try out new things.

4.2 Breaking changes

This release introduces use of encryption in Subplot. Encryption is not optional, and the new `obnam init` command must always be used before the first backup to generate an encryption key.

Starting with this version of Obnam, there is no support at all for cleartext backups any more. A backup, or backup repository, made with a previous version of Obnam **will not work** with this version: you can't list backups in a repository, you can't restore a backup, and you can't make a new backup. You need to start over from scratch, by emptying the server's chunk directory. Eventually, Obnam will stop having such breaking, throw-away-everything changes, but it will take time to build that functionality.

Note: this version add only a very rudimentary approach to encryption. It is only meant to protect the backups from the server operator snooping via the server file system. It doesn't protect against most other threats, including the server operator replacing parts of backups on the server. Future versions of Obnam will add more protection.

4.3 New or changed features

- Obnam now by default excludes directories that are marked with a CACHEDIR.TAG file. Set `exclude_cache_tag_directories` to `false` in the configuration file to disable the feature. See the Cache Directory Tagging Specification¹ for details of the tag file.
- You can now use *tilde notation* in the configuration file, in fields for specifying backup root directories or the log file. This makes it easier to files relative to the user's home directory:

```
server_url: https://obnam-server
roots:
  - ~/Maildirs
  ~ ~/src/obnam
log: ~/log/obnam.log
```

- Alexander Batischev changed the code that queries the SQL database to return an iterator, instead of an array of result. This means that if, for example, a backup generation has a very large number of files, Obnam no longer needs to keep all of them in memory at once.
- Various error messages are now clearer and more useful. For example, if there is a problem reading a file, the name of the file is included in the error message.

4.4 Internal changes

- Alexander Batischev added support for GitLab CI, which means that changes are tested automatically before they are merged. This will make development a little smoother in the future.

4.5 Changes to documentation

- Tigran Zakoyan made a logo for Obnam. It is currently only used on the website², but will find more use later. For example, some stickers could be made.

4.6 Thank you

Several people have helped with this release, with changes or feedback. I want to especially mention the following, in order by first name, with apologies to anyone I have inadvertently forgotten: Alexander Batischev, Daniel Silverstone, Neal Walfield, Tigran Zakoyan.

¹<https://bford.info/cachedir/>

²<https://obnam.org/>

5 Version 0.3.1, released 2021-03-23

This is a minor release to work around a bug in Subplot, which prevented the 0.3.0 release to have a Debian package built. The workaround is to rewrite a small table in the “Filenames” section as a list.

6 Version 0.3.0, released 2021-03-14

6.1 Breaking changes

- The format of the data stored on the backup repository has changed. The new version can’t restore old backups: old generations are now useless. You’ll have to start over. Sorry.

6.2 New or changed features

- New `obnam config` sub-command writes out the actual configuration that the program users, as read from the configuration file.
- The client configuration now has default values for all configuration fields that can reasonably have them. For example, it is no longer necessary to explicitly set a chunk size.
- Only known fields are now allowed in configuration files. Unknown fields cause an error.
- It is now possible to back up multiple, distinct directories with one client configuration. The `root` configuration is now `roots`, and is a list of directories.
- Problems in backing up a file no longer terminate the backup run. Instead, the problem is reported at the end of the backup run, as a warning.
- The client now requires an HTTPS URL for the server. Plain HTTP is now rejected. The TLS certificate for the server is verified by default, but that can be turned off.
- The client progress reporting is now a little clearer.
- Unix domain sockets and named pipes (FIFO files) are now backed up and restored.
- The names of the user and group owning a file are backed up, but not restored.
- On the Obnam server, the Ansible playbook now installs a cron job to renew the Let’s Encrypt TLS certificate.

6.3 Bugs fixed

- Temporary files created during backup runs are now automatically deleted, even if the Obnam client crashes.
- Symbolic links are now backed up and restored correctly. Previously Obnam followed the link when backing up and created the link wrongly.
- The Ansible playbook to provision an Obnam server now enables the systemd unit so that the Obnam server process starts automatically after a reboot.

6.4 Changes to documentation

- A tutorial has been added.

The Obnam subplot (`obnam.md`), which describes the requirements, acceptance criteria, and architecture of the software, has some improvements:

- a discussion of why Obnam doesn't use content-addressable storage
- a description of the logical structure of backups as stored on the backup server
- a rudimentary first sketch of a threat model: the operator of the backup server reads the backed up data
- an initial plan for adding support for encryption to backups; this is known to be simplistic and inadequate, but the goal is to get started, and then iterate to get something acceptable, even if that takes months

6.5 Thank you

Several people have helped with this release, with changes or feedback. I want to especially mention the following, with apologies to anyone I have inadvertently forgotten: Alexander Batischev, Ossi Herrala, Daniel Silverstone, Neal Walfield.

7 Version 0.2.2, released 2021-01-29

This is the first release of Obnam2. It can just barely make and restore backups. It's ready for a light trial, but not for real use. There's no encryption, and backups can't be deleted yet. Restores of the entire backup work.