Documentation

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Information about Libreboot releases can be found at release.html. Always check libreboot.org for updates. New releases of Libreboot are announced in the news section of the website.

Answers to Frequently Asked Questions about Libreboot.

Installing libreboot

- What systems can I use libreboot on?
- How to install libreboot

Installing operating systems

- How to install GNU+Linux on a libreboot system
- How to install BSD on a libreboot system

Information for developers

- How to compile the libreboot source code
- Depthcharge payload
- GRUB payload

Other information

- Miscellaneous
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About the libreboot project

Libreboot is a free and Open Source BIOS or UEFI replacement, initialising the hardware and booting your operating system. We are a member of the Peers Community project, an organisation that supports Free Software.

Libreboot is a coreboot distribution (distro) with proprietary software removed, intended to be a free (libre) 'BIOS' replacement for your computer. The project is aimed at users, attempting to make coreboot as easy to use as possible.

Libreboot has many practical advantages over proprietary boot firmware, such as faster boot speeds and better security. You can install GNU+Linux with encrypted /boot/, verify GPG signatures on your kernel, put a kernel in the flash chip and more.

The libreboot project has three main goals:

- *Recommend and distribute only free software*. Coreboot distributes certain pieces of proprietary software which is needed on some systems. Examples can include things like CPU microcode updates, memory initialization blobs and so on. The coreboot project sometimes recommends adding more blobs which it does not distribute, such as the Video BIOS or Intel's *Management Engine*. However, a lot of dedicated and talented individuals in coreboot work hard to replace these blobs

whenever possible.
- *Support as much hardware as possible!* Libreboot supports less hardware than coreboot, because most systems from coreboot still require certain proprietary software to work properly. Libreboot is an attempt to support as much hardware as possible, without any proprietary software.
- *Make coreboot easy to use*. Coreboot is notoriously difficult to install, due to an overall lack of user-focussed documentation and support. Most people will simply give up before attempting to install coreboot.

Libreboot attempts to bridge this divide by providing a build system automating much of the coreboot image creation and customization. Secondly, the project produces documentation aimed at non-technical users. Thirdly, the project attempts to provide excellent user support via mailing lists and IRC.

Libreboot already comes with a payload (GRUB), flashrom and other needed parts. Everything is fully integrated, in a way where most of the complicated steps that are otherwise required, are instead done for the user in advance.

You can download ROM images for your libreboot system and install them without having to build anything from source. If, however, you are interested in building your own image, the build system makes it relatively easy to do so.

Libreboot is a coreboot distribution, not a coreboot fork

Libreboot is not a fork of coreboot. Every so often, the project re-bases on the latest version of coreboot, with the number of custom patches in use minimized.

All new coreboot development should be done in coreboot (upstream), not libreboot! Libreboot is about deblobbing and packaging coreboot in a user-friendly way, where most work is already done for the user.

For example, if you wanted to add a new board to libreboot, you should add it to coreboot first. Libreboot will automatically receive your code at a later date, when it updates itself.

The deblobbed coreboot tree used in libreboot is referred to as *coreboot-libre*, to distinguish it as a component of *libreboot*.

Libreboot is a ‘stable’ version of coreboot

- Coreboot uses the rolling release model, which means that it is not guaranteed to be stable, or to even work at all on a given day. Coreboot does have a strict code review process, but being such a large project with so many contributors, regressions are always possible.
- Libreboot freezes on a particular revision of coreboot, making sure that everything works properly, making fixes on top of that and repeating this during each subsequent update to a later version of coreboot. By doing this, it provides a stronger guarantee to the user that the firmware will be reliable, and not break their system.

How do I know what version I’m running?

If you are at least 127 commits after release 20150518 (commit message *build/roms/helper: add version information to CBFS*) (or you have any *upstream* stable release of libreboot after 20150518), then you can press C at the GRUB console, and use this command to find out what version of libreboot you have:

```
cat (cbfsdisk)/lbversion
```

This will also work on non-release images (the version string is automatically generated, using `git describe --tags HEAD`), built from the git repository. A file named `version` will also be included in the archives that you

downloaded (if you are using release archives).

If it exists, you can also extract this `lbversion` file by using the `cbfstool` utility which libreboot includes, from a ROM image that you either dumped or haven't flashed yet. In your distribution, run cbfstool on your ROM image (`libreboot.rom`, in this example):

```
$ ./cbfstool libreboot.rom extract -n lbversion -f lbversion
```

You will now have a file, named `lbversion`, which you can read in whatever program it is that you use for reading/writing text files.

For git, it's easy. Just check the git log.

For releases on or below 20150518, or snapshots generated from the git repository below 127 commits after 20150518, you can find a file named *commitid* inside the archives. If you are using pre-built ROM images from the libreboot project, you can press C in GRUB for access to the terminal, and then run this command:

```
lscoreboot
```

You may find a date in here, detailing when that ROM image was built. For pre-built images distributed by the libreboot project, this is a rough approximation of what version you have, because the version numbers are dated, and the release archives are typically built on the same day as the release; you can correlate that with the release information in release.html.

For 20160818, note that the lbversion file was missing from CBFS on GRUB images. You can still find out what libreboot version you have by comparing checksums of image dumps (with the descriptor blanked out with 00s, and the same done to the ROMs from the release archive, if you are on a GM45 laptop).

There may also be a ChangeLog file included in your release archive, so that you can look in there to figure out what version you have.

You can also check the documentation that came with your archives, and in *docs/release.html* will be the information about the version of libreboot that you are using.

Generally speaking, it is advisable to use the latest version of libreboot.